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Contents



1 Foreword

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

Congratulations on your new **ADRIA Motorhome**.

We have designed and built your vehicle so that travelling with your "home away from home" will be very enjoyable.

1.1 Before your first journey

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

1.2 Notes on this instruction manual

- Please understand that we reserve the right to alter the technical system, the form and the equipment. Our vehicles are being continuously developed. Therefore, no claims can be made against **ADRIA** on the basis of the contents of this instruction manual. The equipment which was known and included at the time of going to press is described in this manual. This instruction manual is valid only insofar as the vehicle corresponds to the state of the equipment described therein.
- The models may have different equipment (standard equipment, special equipment and accessories). The standard equipment is described in this instruction manual. You will also find descriptions of the special equipment and accessories in this instruction manual insofar as explanations are required. Please also pay attention to the enclosed separate instruction manuals of the special equipment or accessory manufacturers.
- 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 nonobservance of the instruction manual.

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1.3 Maintenance and repair

- Please contact your local **ADRIA** dealer for all service and repair work as well as special questions.
 - The employees of your authorised workshop will be pleased to provide advice and assistance.
 - Only original parts ensure the quality and operational readiness of your vehicle.
 - If service work is neglected or performed incorrectly, we will be unable to meet our warranty obligations according to our warranty conditions.
- Please fill in the following data of your vehicle:
 - These are of special significance when you have questions concerning ordering original parts.
- Check the nameplates for the data of your vehicle.

Vehicle data	
Model:	
Year of construction:	
Vehicle identification number:	-----
Bodywork number:	ZY1 -----
Bodywork key number:	FW _ _ _

We wish you unlimited enjoyment in your leisure time with your new **ADRIA** motorhome.

Executive Board

2 Safety

2.1 Safety instructions

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



Important!

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

2.1.1 Explanation of symbols



Danger!

Type of danger

- ▲ Avoidance

This type of safety warning warns of an **imminently pending danger** that could jeopardise the life and health of persons. Nonobservance 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.



Important!

Important

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

2.2 General safety instructions

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

2.3 Safety instructions for driving on public roads

- The vehicle must be registered.
- The driver of the vehicle must have the required driving license.
- The installation of accessories changes the dimensions, the total weight as well as the road behaviour 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 firm seating of the wheel nuts after 50 kph and then in 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 skylights. Latch the refrigerator door securing device.
- Stow away the sink board (special equipment), the loft bed ladder (special equipment), the table and/or other loose pieces of equipment safe and secure.
- Retract or fold down antennas (special accessory).
- Switch off the awning light (special equipment).
- Retract the entrance step (special equipment).
- Close and lock all outer doors and flaps.
- In winter, clear the roof from snow and ice before starting the journey.
- Persons as well as pets must be seated on seats equipped with suitable restraining devices while travelling in the vehicle.
- Vehicles from 3.5 t to 7.5 t are designed for a maximum speed of 100 kph. This maximum speed must not be exceeded, not even when a higher speed is allowed in the country being visited.
- When parking the vehicle, apply the parking brake up to the maximum possible end position.
- Place wheel chocks (special accessory) under the wheels when parking the vehicle on inclines or slopes.
- Have the vehicle brake system checked and repaired by an authorised workshop only.
- When the vehicle is transported by rail or on a lorry, it must be loaded in the driving direction.

2.3.1 Driving the motorhome

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

2.4 Official technical inspections

2.4.1 Motorhome - general inspections



Important!

Please observe the regulations for the applicable country of registration.

2.4.2 Checking the gas system

The liquid 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. 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 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 (special accessories) must be carried in the vehicles at all times:

- First aid kit
- Warning triangle
- A warning light must also be carried in vehicles above 3.5 t.
- A wheel chock must also be carried in vehicles above 4.0 t.
- A warning vest for each passenger should be carried in all 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!
 - Ventilate 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 and on ferries or in garages!
 - Close all quick-action stop valves and the shut-off valve on the gas cylinder.



Danger!

Risk of suffocation

- ▲ Never cover the forced ventilation in the skylights and in the floor area nor the mushroom ventilators in order to ensure continuous exchange of air in the vehicle.
Caution: 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 liquid gas system was inspected at the factory by a technical expert.
 - The gas system must be inspected again every two years and after making any modifications and repairs (Chapter 2.4.2).
 - Installations and modifications to the gas system may be performed only by an authorised workshop.



Important!

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

2.5.1 Gas stove



Danger!

Risk of suffocation

- ▲ In regular operation of the gas stove there exists acute danger to life due to lack of oxygen and the possibly generated odourless and toxic carbon monoxide (CO)!
- ▲ Always ensure good ventilation when the gas stove is in operation. Always keep a window, a skylight or the door open.
- ▲ Never use the gas stove for heating.



Danger!

Risk of poisoning

- ▲ If a flame of the gas stove extinguishes, unburned gas flows out for a short time until the flame failure device reacts and, together with the oxygen, generates an explosive mixture inside the vehicle!
- ▲ Watch the flames while using the cooker!
- ▲ When finished, shut the respective quick-action stop valve.

2.5.2 Gas cylinder compartment

Check each time before using the gas:

- ➔ Store the gas cylinders exclusively in the gas cylinder compartment. They must stand upright and fastened so that they are unable to turn or tilt.
- ➔ The gas cylinder compartment must be sealed against the interior of the vehicle and must have a vent hole in or directly above the floor plate. This vent hole must have a minimum cross-section of 100 cm² and must not be covered.
- ➔ Use only pressure regulators with safety valves! Other regulators are not allowed!
- ➔ 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 Truma SecuMotion/MonoControl CS (special equipment) should be tightened with the enclosed plastic wrench.
- ➔ For temperatures below 5 °C, a de-icing system for regulators (e.g. accessory Eis-Ex) must be used.
- ➔ Do not operate or store any current-storage devices (e.g. batteries) or devices that could be the source of ignition in the gas cylinder compartment.
- ➔ Electric lines routed through the gas cylinder compartment have to be insulated and must not be connected with terminals; have the work performed by an authorised workshop.
- ➔ Do not use the gas cylinder compartment as storage space.
- ➔ Secure the gas cylinder compartment against unauthorised 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 every two years! The inspection must be confirmed on the inspection certificate according to the DVGW [German Technical and Scientific Association on Gas and Water] worksheet G 607. The operator has to initiate the inspection.
- The exhaust gas pipe must be fitted tightly to both the gas heater as well as the cowl and must be sealed. It may not show any evidence of damage.
- The exhaust gas routing of the gas heater must be installed ascending over its complete length and fitted tightly with clamps. If required, install exhaust gas pipe supports.
- Before placing the gas heater 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 gas appliances are switched on that require the control knob to be pressed for lighting (e.g. gas stove), it must spring back automatically immediately after release.
- If no gas is being consumed during the journey, the shut-off valve on the gas cylinders **must** be closed.
- Close the respective quick-action stop valve when gas-operated appliances are not used.
- Close the shut-off 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 -32 °C, whereas butane gas gasifies only to approx. 0 °C.
- Gas appliances are not to be operated during refuelling, 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:

- Installations and modifications of the electrical system may only be performed by qualified personnel.
- 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. Use only original fuses with the values specified in the instruction manual from the respective manufacturer.
- Do not bridge or repair fuses.

2.6.1 Safety instructions for emergency power generator (special accessory)

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

For more information, see the separate instructions from the manufacturer.



Important!

We recommend the installation of a voltage monitor by your dealer.

2.7 Fire prevention

2.7.1 General fire prevention



Danger!

Fire risk

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



Important!

Always have a dry powder fire extinguisher (special accessory) filled with 1 kg minimum in your vehicle.

- The fire extinguisher must be close at hand.
- Read the instruction manual carefully and keep it close at hand.
- 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 shut-off valve on the gas cylinder.
- Switch off the electrical power supply; disconnect the vehicle from the mains.
- Call the fire brigade, sound the alarm.
- Fight the fire, if possible.

2.8 Safety instructions for the roof



Warning!

Risk of injury and of damage to the vehicle roof

- ▲ Standing or walking on the elevation of the alcove or the front opening hood of partially integrated vehicles is not allowed! Walking on the roof of the vehicle is permissible only in the rear area.
- ▲ Do not walk on roof structures or roof fittings, e.g.. roof hoods, roof railings etc.
- ▲ Clear snow and ice from the roof and from the skylights.
 - Use a ladder which is placed against the roof edge for this purpose.

2.9 Safety instructions for rear carrier systems (special accessories)



Warning!

Risk of injury and damage to the vehicle

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



Important!

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

2.10 Environmental tips

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.

3 Description & equipment

3.1 About this instruction manual

In the diagrams for explanation of the equipment, "black arrows" always stand for switching off or closing an equipment part and "white arrows" for switching on or opening.

3.2 Bodywork

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

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

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

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

3.3 Gas cylinder compartment

The lockable gas cylinder compartment is sealed against the vehicle interior (Chapter 11.2).

3.4 Interior furnishings

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

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

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

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

3.5 Kitchen

The kitchen unit consists of cooking stove, oven (special equipment), microwave oven (special equipment), sink and a refrigerator/freezer (Chapter 15).

Adequate storage space is provided.

An exhaust hood with or without lighting above the kitchen unit is available as special equipment.

3.6 Bathroom unit

Each vehicle has a bathroom unit (Chapter 8.12) with shower, sink and toilet (Chapter 16). The folding door, swinging door or curtain must be closed when taking a shower (Chapter 8.12).

3.7 Heater

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

3.8 Water and waste water

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

4 Placing into service

4.1 Registering the vehicle

Before the first journey, the vehicle must be registered according to national regulations and a license plate fitted. Vehicles may be operated in road traffic only when insurance cover exists. An EC approval exists for the vehicle.

4.2 Placing the vehicle into service for the first time



Warning!

Make sure to follow the safety instructions

- ▲ Carefully read and follow the safety instructions (Chapter 2.1) before placing the vehicle into service.
- ▲ Insurance coverage and warranty claims to the manufacturer become void when the safety instructions are not observed and followed.



Warning!

Accident hazard

- ▲ 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 placing 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.

4

Placing into service



5 Before the journey

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 vehicle gross weight rating.
- ▲ Check the tyre pressure (Chapter 22.2) at regular intervals. Tyres can burst when the tyre pressure is too low.



Warning!

Danger of overloading

- ▲ The gross weight rating 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 ready-to-drive condition according to EN 1646-2 (Chapter 22.3).
- Additional equipment installed in the factory and options increase the unladen weight and reduce the additional load.
- Determine the maximum additional load according to part 1 of the registration certificate and the list in the "Technical data" Chapter (Chapter 22.3).
- The additional load covers all other persons and the luggage.
- On vehicles with standard equipment, the outside of the roof and the rear area are not to be loaded.
 - Never exceed a height of 4 m and a width of 2.55 m with additional attachments.
 - 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 project beyond the vehicle silhouette on the side or rear.
 - Do not overload the vehicle. For weight information and Tables, see Chapter 22.3 and the registration certificate, part I.
- Pay attention to the correct axle load distribution. Roadability and tyre wear are directly affected by the axle load. Pay attention to the maximum axle loads (see registration certificate part I).
- Load the vehicle evenly on the right and left. The driving characteristics deteriorate when loading is uneven.
- Store heavy objects (e.g. tinned food, cutlery, dishes) in low-lying storage compartments and secure them against slipping.
- Stack light objects, e.g. clothes, in higher storage compartments or in the compartments below the seats.
- Always keep liquids in leak-proof containers in low-lying storage compartments.
- Load the bike rack (special accessory) with only 2 to 3 bikes at the most (50 kg maximum).

**Important!**

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

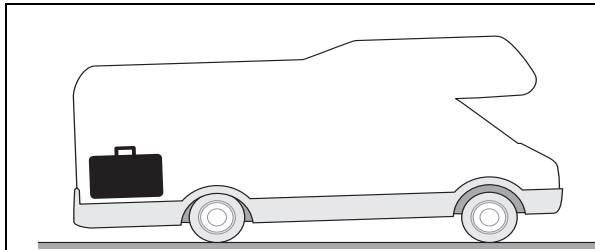


Fig. 1 Motorhome loaded incorrectly

MOTORHOME LOADED INCORRECTLY!

- Steerability and braking effect are reduced.

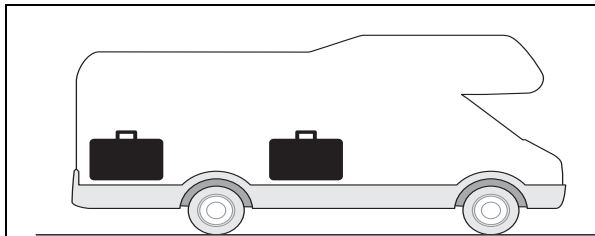


Fig. 2 Motorhome loaded correctly

MOTORHOME LOADED CORRECTLY!

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

**Important!**

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 Additional air suspension (special equipment)

**Caution!****Faults of the brake system or the air suspension**

- ▲ Minimum operating pressure: 0.8 bar
- ▲ Maximum operating pressure: 3.0 bar!
- ▲ Maximum pressure difference between right and left side: 0.5 bar

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

Checking or changing the operating pressure:

- ➔ The operating pressure can be checked and changed on the display panel underneath the driver's seat to meet the different load situations that may occur.

5.3 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 Tab. 22-1 in Chapter 22.2) 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 (special equipment).
 - The tyres overheat if the tyre pressure is too low which can cause the tyres to burst at high speed.
- Regularly check the tyres for even wear and damage (e.g. penetrated foreign objects, punctures, cuts, tears and bumps in the tyre sidewalls). Always have the damage repaired by a specialist.
- Regularly check the tread depth.
 - If the tread depth is too small, the risk of aquaplaning rises.
 - Comply with the minimum tread depth. Observe the regulations of the respective country. We recommend to change the tyre as from a tread depth of 4 mm.
- Always use tyres of the same construction, same brand and same type (summer and winter tyres). Do not forget the spare wheel (see Tab. 22-1 in Chapter 22.2).
- Regularly check the wheel nuts or bolts for firm seating.
- 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.
 - Hard or acute-angled impacts against kerbs or sharp-edged objects, for example stones, can damage 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 used 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.

5.4 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 21.2).

5.5 Spare keys

The following information is required for ordering a spare key:

Key for	Required information	To be obtained from
Basic vehicle	<ul style="list-style-type: none"> • Vehicle identification number: • Registration certificate part II • Code card, if applicable 	Service department of basic vehicle manufacturer
Bodywork (doors and flaps)	<ul style="list-style-type: none"> • Registration certificate part II • Key number 	Adria Service department

Tab. 5-1 Spare keys

5.6 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.

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

6 During the journey



Caution!

Risk of injury and damage to the vehicle

- ▲ During positioning manoeuvres, when driving through passageways, bridges, tunnels and with overhanging branches, observe the dimensions of the vehicle.
- ▲ Dimensions of the vehicle, see vehicle documents.
- ▲ Equipment and attachments change the weight and the dimensions.
- ▲ Vehicles from 3.5 t to 7.5 t are designed for a maximum speed of 100 kph. This maximum speed must not be exceeded, not even when a higher speed is allowed in the country being visited.



Important!

- Persons as well as pets must be seated on seats equipped with suitable restraining devices while travelling in the vehicle.
- While the motorhome is in motion, nobody may remain in the alcove, the beds and the bathroom unit.

Pay attention to the following during the journey:

- ➔ When starting to drive and still at slow speed, brake shortly to check the function of the brake system and the braking behaviour (exact tracking etc.).
- ➔ Adjust your driving technique to the vehicle size, drive with consideration and foresight.
- ➔ Drive slowly on poor roads.
- ➔ Drive downhill at the same speed as uphill.
- ➔ Switch to the next gear early enough.
- ➔ Avoid braking abruptly.
- ➔ Prevent jerky steering as this could cause the vehicle to swerve.
- ➔ When driving over bridges, you have to anticipate crosswind. Because of the vehicle size and height, the vehicle is more sensitive to crosswind than a passenger car.
- ➔ The vehicle can get into a turbulence when overtaking truck-trailer combinations. Light counter-steering compensates this effect.
- ➔ Do not underestimate the length of the vehicle.
- ➔ When turning into a road and when driving around bends, take the larger curve radius of the vehicle into consideration.
- ➔ The braking distance of the vehicle is considerably longer than that of a passenger car. Please increase the safety distance accordingly.
- ➔ When driving in reverse, always have a second person assist you because the rear view mirrors can distort the distances differently.
- ➔ At petrol stations or in garages, switch off all "open flames" operated with gas (also refrigerator or heater).

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 (special accessory) underneath the respective wheels,
- To prevent the vehicle swaying, lower the two corner steadies at the vehicle rear (special equipment). The crank can be found in the storage space that is accessible from the outside.
- Tighten the parking brake to the stop and engage the first gear.
- Secure the vehicle with the wheel chocks (special accessory) against rolling away.

7.2.1 Corner steadies (special equipment)



Warning!

Damage to vehicle

- ▲ Crank up the corner steadies completely before starting to drive.
 - When starting to drive, the chassis or the vehicle bottom could be damaged by extended corner steadies.
 - Torn off corner steadies could jeopardise other road users.

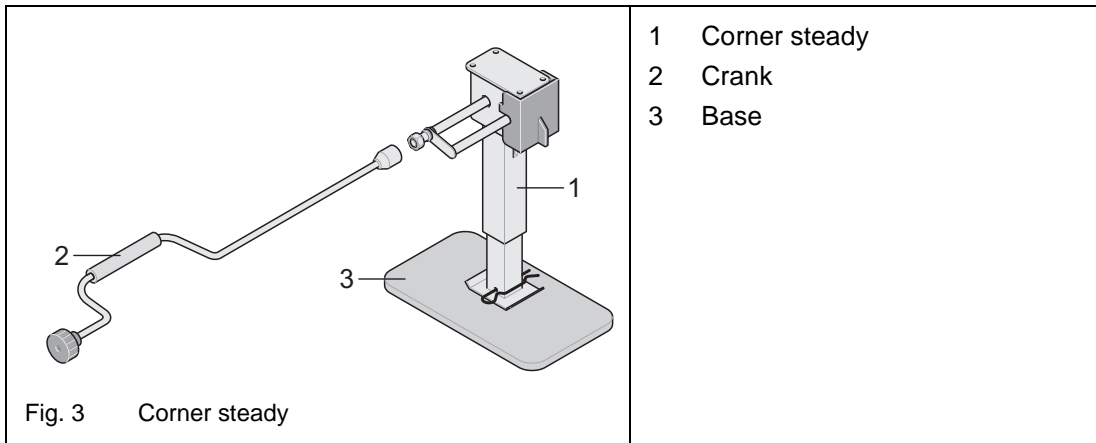


Caution!

Damage to vehicle frame

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

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



Extending the corner steady:

- ➔ Place the crank (Fig. 3/2) on the corner steady (Fig. 3/1).
- ➔ Turn the crank anticlockwise to extend the corner steady.



Important!

- Place a firm substructure (Fig. 3/3) underneath the base (Fig. 3/2) of the corner steadies when your vehicle is standing on soft ground such as grass or sand. This prevents sinking into the ground and facilitates the retraction of the corner steadies before starting to drive again.

7.2.2 Electrical connection

If 230 V supply is available at your parking area, the electrical appliances can be connected to this voltage supply (Chapter 10.1.1).

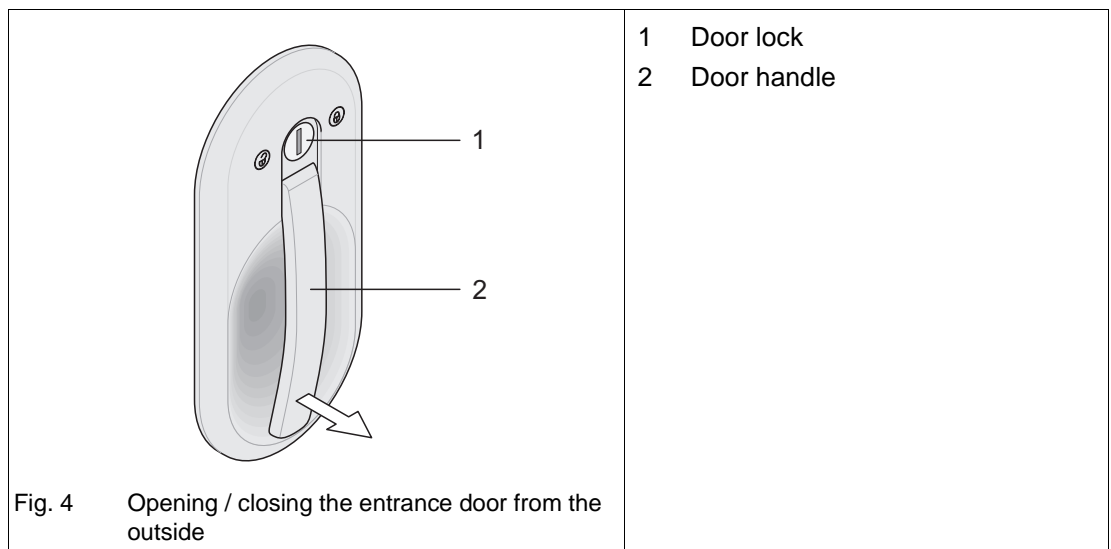
Observe the fuse protection of the voltage supply.

Some vehicles have their own living area battery (special equipment). On such vehicles, electrical appliances can also be used without the 230 V connection. The 12 V supply only functions when the 12 V voltage is switched on via the control panel. (Chapter 8.8).

8 Living

8.1 Entrance door

8.1.1 Opening / closing the door from the outside



Opening the door:

- ➔ Insert the key into the door lock (Fig. 4/1) and turn towards the "open lock" symbol to the stop.
- ➔ When released, the key returns to the initial position.
- ➔ Remove the key.
- ➔ Pull the door handle (Fig. 4/2) to open the door.

Closing the door:

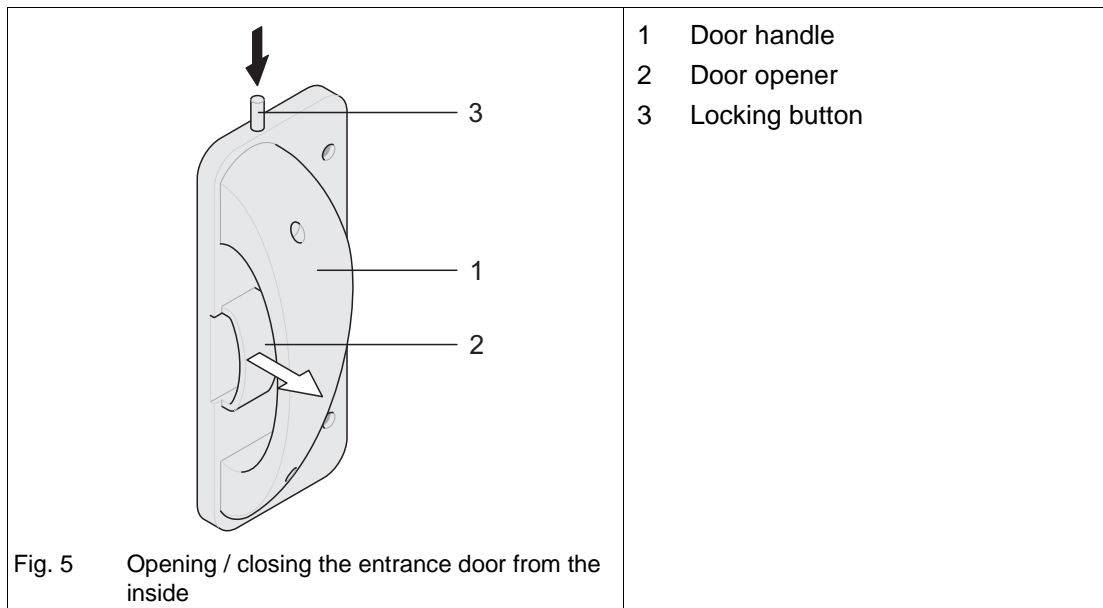
- ➔ Close the door until the door lock latches.
- ➔ Insert the key into the door lock (Fig. 4/1).
- ➔ Turn the key anticlockwise to the stop. If necessary, push the door lightly into the seals. When released, the key returns to the initial position.
- ➔ Remove the key.



Important!

On some models, the lock of the entrance door is connected to the central locking of the vehicle and can be locked or unlocked with the remote control.

8.1.2 Opening / closing the door from the inside



Opening / closing the door:

- ➔ Operate the door opener (Fig. 5/2) and open the door.
- ➔ When released, the door opener (Fig. 5/2) returns to its initial position.
- ➔ To close the door, pull the door handle (Fig. 5/1).

Locking the door:

- ➔ The locking button (Fig. 5/3) is at the top of the door handle (Fig. 5/1).
- ➔ To lock the door, push the locking button (Fig. 5/3) down into the door handle (Fig. 5/1).



Important!

When the entrance door is integrated into the central locking (additional equipment), the door can also be locked with the Lock button on the instrument panel.

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

- ▲ At night, condensation water could collect under the cushions. To dry the cushions (foamed material), place the cushions in an upright position and ventilate the vehicle thoroughly.

- Correct ventilation of the vehicle is the best prerequisite for agreeable living comfort.

- Each person gives off up to 35 g water per hour 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.
- Extreme weather conditions could cause the forming of condensed water inside the acrylic glass double window. With rising temperatures, the condensation water evaporates again and the window is cleared.

See Chapter 17 "Winter camping" for further details.

8.3 Hinged windows

8.3.1 General

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

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

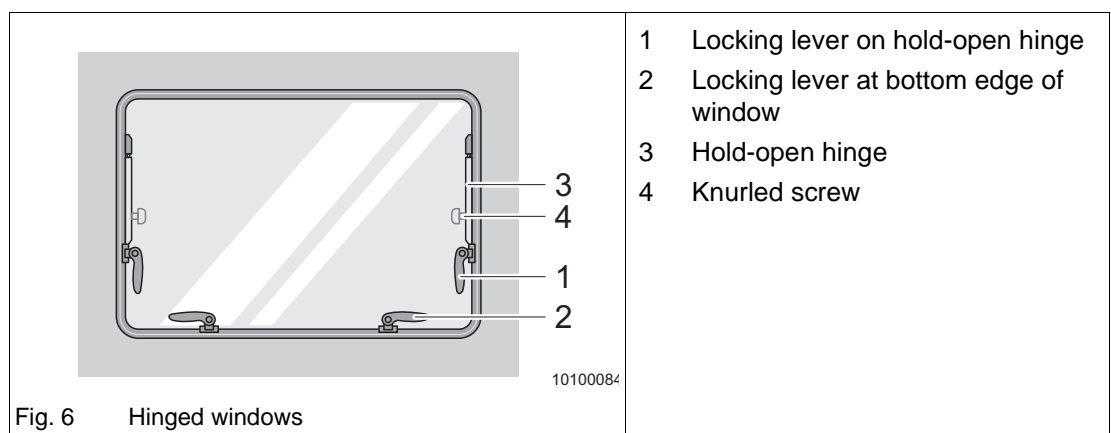


Fig. 6 Hinged windows

Opening the window:

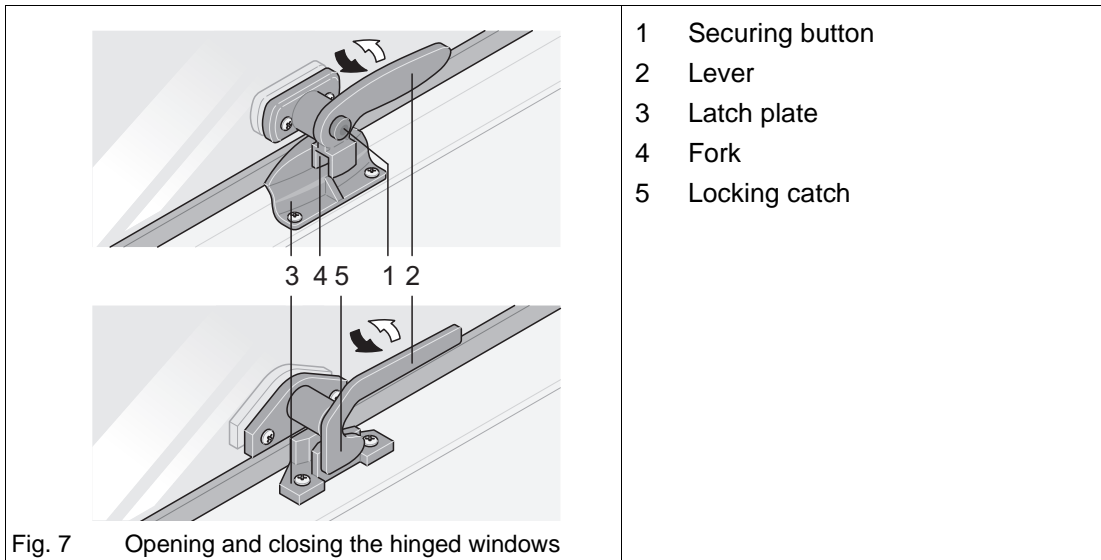
- ➔ Open the two locking levers (Fig. 6/1) on the hold-open hinges (Fig. 6/3) first.
- ➔ Then open the locking levers (Fig. 6/2) on the bottom edge of the window.
- ➔ Push the window to the outside until it has the desired opening width.
- ➔ Window with knurled screw: Tighten the knurled screw(s) (Fig. 6/4) clockwise when the hold-open hinge has reached the desired opening position.

Closing the window:

- ➔ Window with knurled screw: Hold the window pane with one hand and loosen the knurled screw(s) (Fig. 6/4) anticlockwise until the window can be slightly moved.
- ➔ Window with automatic hold-open hinges: Open the window until the lock is released.
- ➔ First close the locking levers on the bottom edge of the window.
- ➔ Afterwards, close the locking levers on the hold-open hinges.

8.3.2 Opening/closing the windows

To open and close the hinged windows, open or close all locking levers on the respective hinged window.



Opening the window:

- ➔ If the locking lever has a securing button (Fig. 7/1), press and hold down the securing button.
- ➔ Turn the lever (Fig. 7/2) to the middle of the window.
- ➔ Open all window locks.
- ➔ Open the window.

Closing the window:

- ➔ Close the window.
- ➔ If the locking lever has a securing button (Fig. 7/1), press and hold down the securing button.
- ➔ Turn the lever (Fig. 7/2) to the window frame.
- ➔ The fork (Fig. 7/4) of the lever (Fig. 7/2) closes completely on the inside of the latch plate (Fig. 7/3).

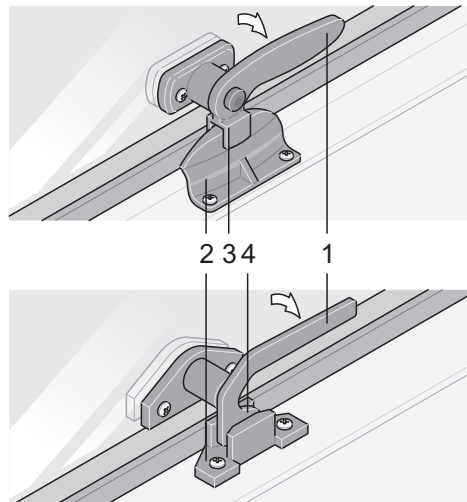
8.3.3 Permanent ventilation



Caution!

Cracks in the window

- ▲ For permanent ventilation, close only the levers (Fig. 6/2) at the bottom edge of the window in the "permanent ventilation" position, otherwise the window pane is bent. This could result in the formation of cracks in the acrylic glass window.
- ▲ Ensure all bottom catch bars are closed in the same position, otherwise, the window could be distorted.



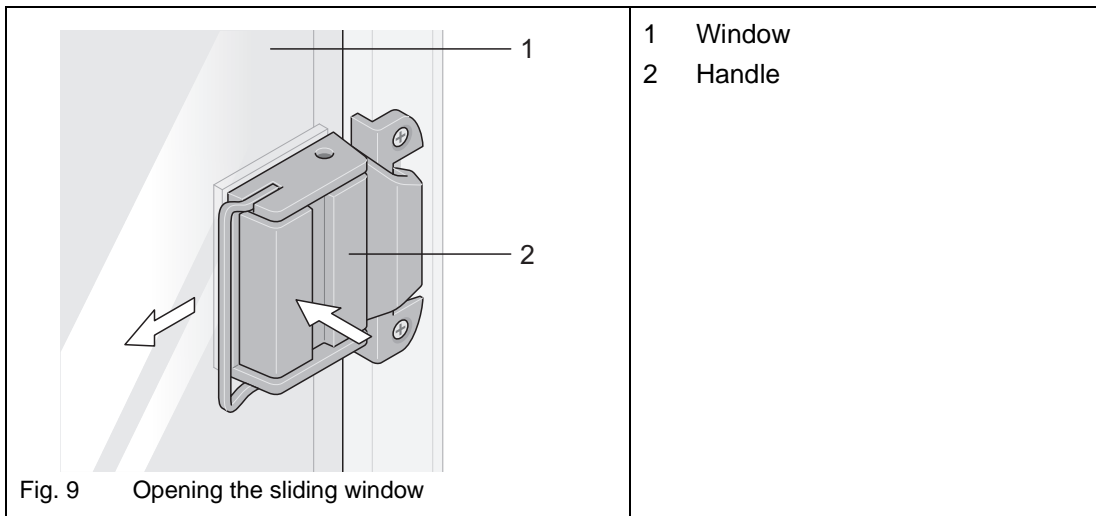
- 1 Lever
- 2 Latch plate
- 3 Fork
- 4 Locking catch

Fig. 8 Hinged window in permanent ventilation position

Setting the window to the "permanent ventilation" position

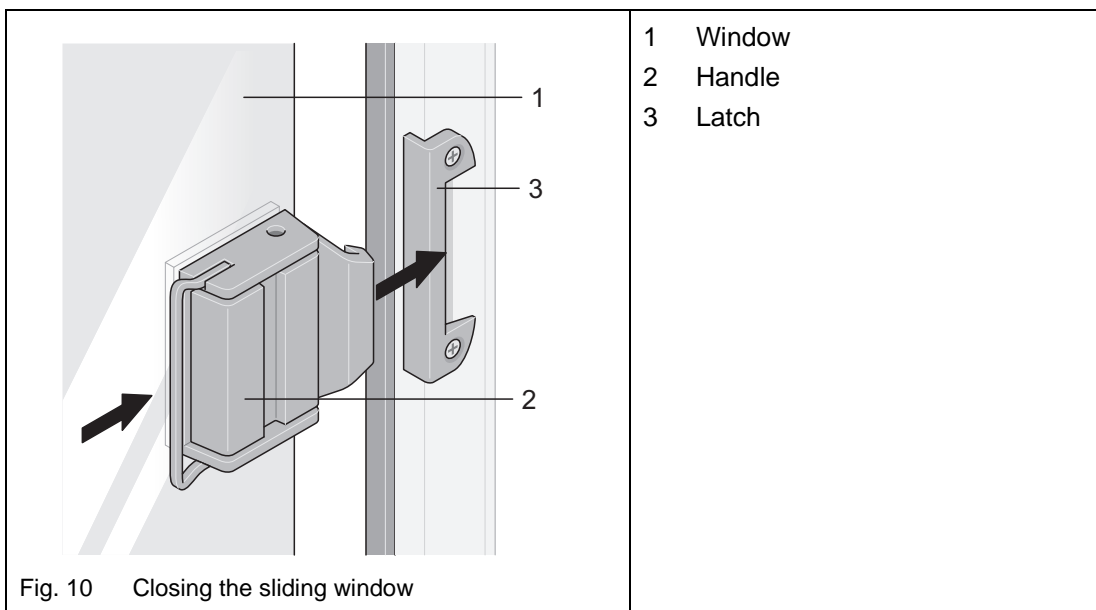
- ➔ Open the locking levers as described in Chapter 8.3.2.
- ➔ Pull the window back until it is almost closed
- ➔ With a locking lever (Fig. 8/1) **with** securing button, make sure the latch plate (Fig. 8/2) fits properly in the fork (Fig. 8/3) when closing the lever (Fig. 8/1).
- ➔ With a locking lever (Fig. 8/1) **without** securing button, make sure the locking catch (Fig. 8/4) fits properly in the recess of the locking plate (Fig. 8/2) when closing the lever (Fig. 8/1).

8.4 Sliding windows (special equipment)



Opening the sliding window:

- ➔ Press the handle (Fig. 9/2).
- ➔ Slide the window (Fig. 9/1) to the side.



Closing the sliding window:

- ➔ Push the window (Fig. 10/1) until it is closed and the handle (Fig. 10/2) latches into place in the catch (Fig. 10/3).

8.5 Window blinds and insect screens

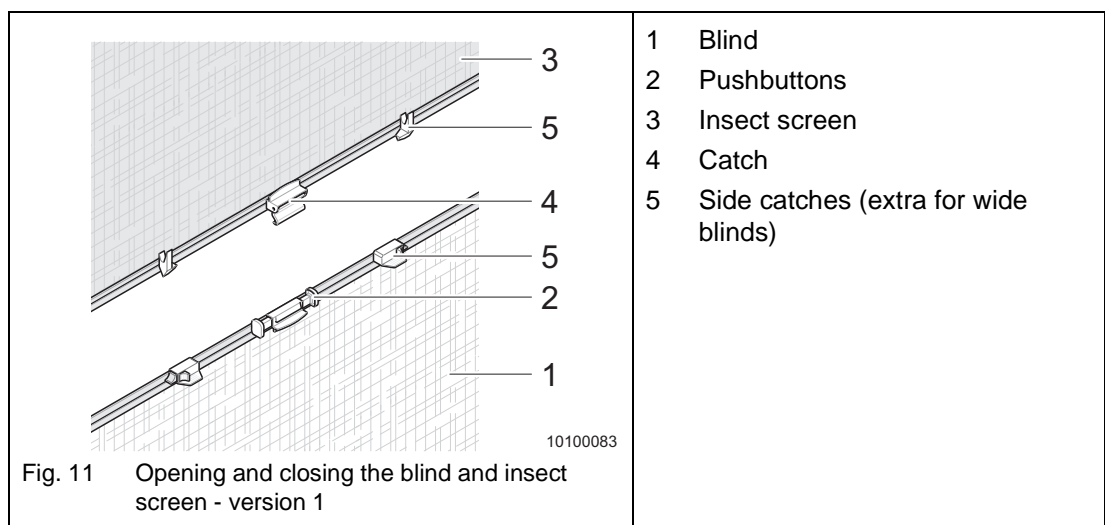
8.5.1 Blind and insect screen - version 1



Caution!

Damage to insect screen

- ▲ When you unlock the blind/insect screen, hold on to the insect screen (Fig. 11/3), otherwise it will snap up with spring tension. Snapping up could damage the screen spring and the insect screen.
- ▲ Only close the blind to a maximum of 75% during direct sunlight. Air must be able to circulate.



The 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 blind:

- ➔ Press the two pushbuttons (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 blind (Fig. 11/1).

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

Separating the insect screen from the blind:

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

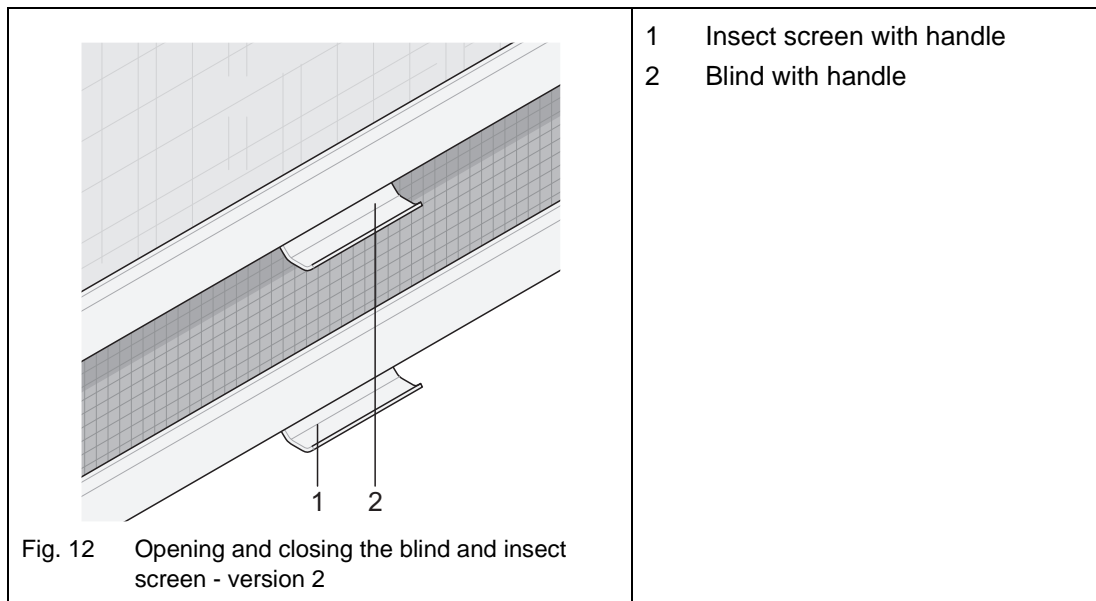
8.5.2 Blind and insect screen - version 2



Caution!

Damage to insect screen

- ▲ When you unlock the blind (Fig. 12/1) and insect screen (Fig. 12/2), hold on to them, otherwise they will snap up with spring tension. Snapping up could damage the screen spring and the blind/insect screen.



The blind (Fig. 12/1) and the insect screen (Fig. 12/2) are located in the upper part of the window frame and can be operated independently from each other.

Opening / closing the insect screen:

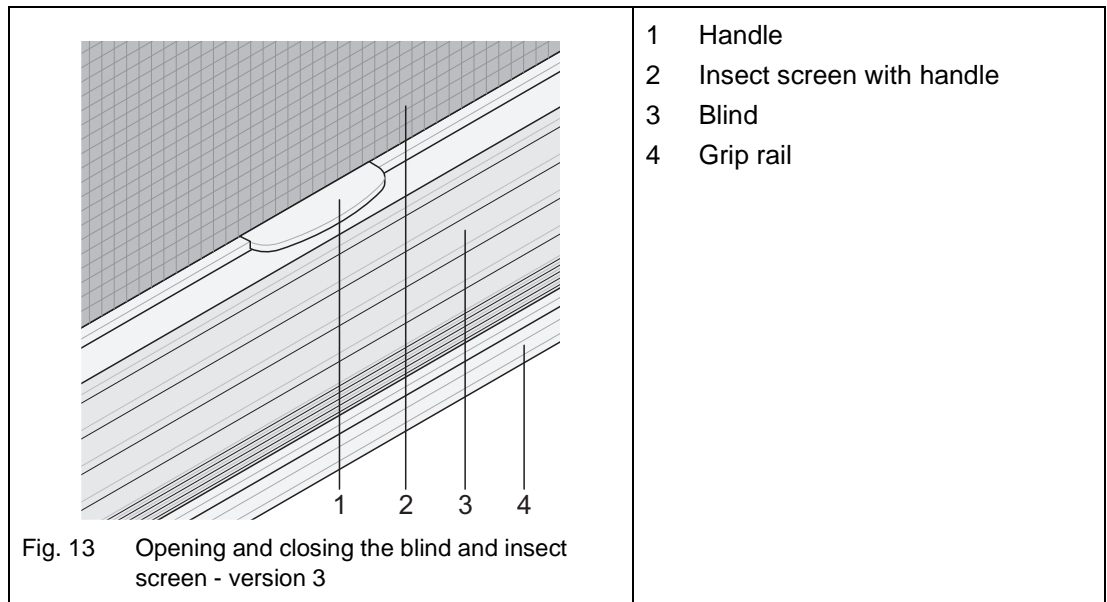
- ➔ Pull down the insect screen (Fig. 12/1) by the handle and hook it on both sides of the window frame into the latches.
- ➔ To unhook the insect screen from the latches, push the handle down and slightly pull it to the inside.

Opening / closing the blind:

- ➔ To close the blind (Fig. 12/2), the insect screen (Fig. 12/1) must first be closed. The blind (Fig. 12/2) has a restricting device so that it can be latched into place at different latching positions.
- ➔ Pull down the blind (Fig. 12/2) by the handle. When the blind is closed completely, hook the blind into the latches on both sides of the window frame.
- ➔ To unhook the blind from the latches, push the handle down and slightly pull it to the inside.

8.5.3 Blind and insect screen - version 3

The 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.



Opening / closing the blind:

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

The blind (Fig. 13/1) 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).

8.6 View protectors in the vehicle front



Caution!

Damage to view protector

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

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

8.6.1 Pleated windscreen view protector (special equipment)

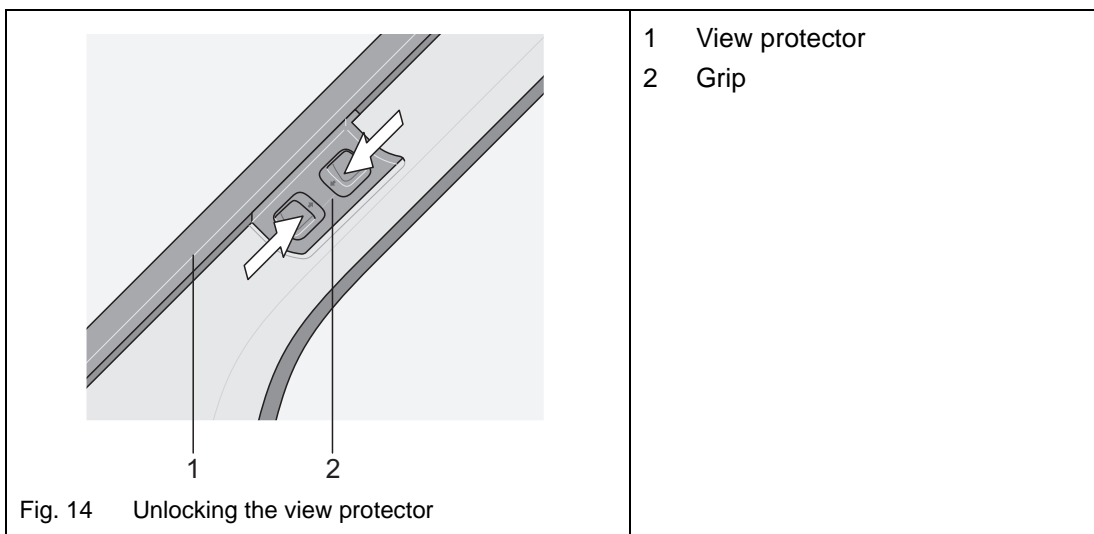
8.6.1.1 Version 1



Danger!

Accident hazard

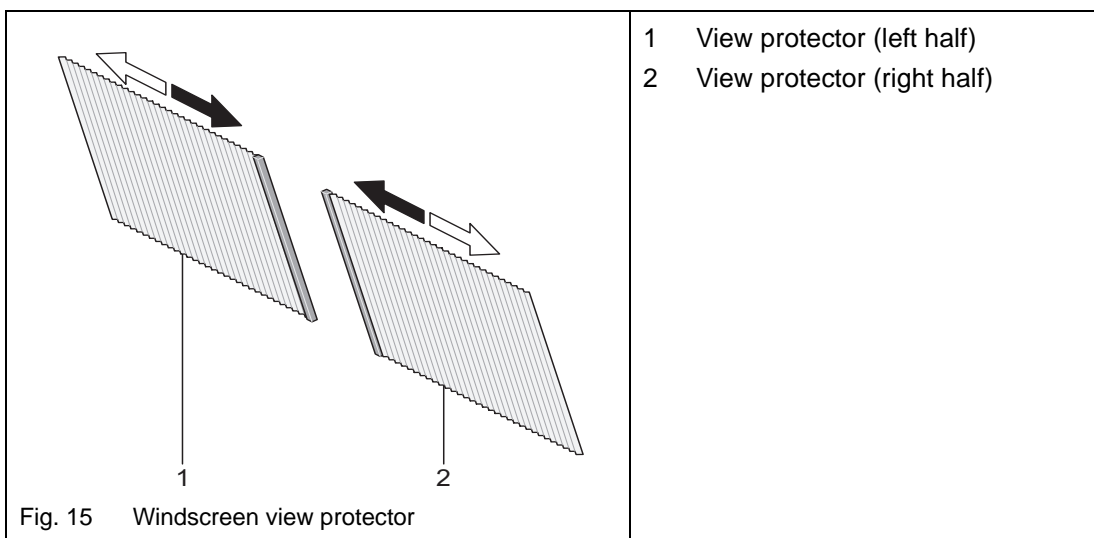
- ▲ If one or both windscreen halves are not locked, it is possible that the windscreen can become covered during certain driving manoeuvres.
- ➔ Lock the view protectors before starting the journey.



The view protector (Fig. 14/1) is located on the left and right of the windscreen.

Closing the view protector:

- ➔ Fold up both sunvisors.
- ➔ Unlock the view protector (Fig. 14/1) by pressing together both catch bars on the grip (Fig. 14/2) on both sides of the windscreen.



- ➔ Bring the interior rearview mirror into a position parallel to the windscreen.

- ➔ Hold each view protector (Fig. 15/1, 2) by the grip (Fig. 14/2).
- ➔ Slide both halves of the view protector (Fig. 15/1, 2) to the middle of the windscreen.

Opening the view protector:

- ➔ Hold each half of the view protector (Fig. 15/ 1, 2) by the grip (Fig. 14/2) and slide it back into the respective A column.
- ➔ Check that both halves of the open view protector can be locked again using the grip (Fig. 14/2).

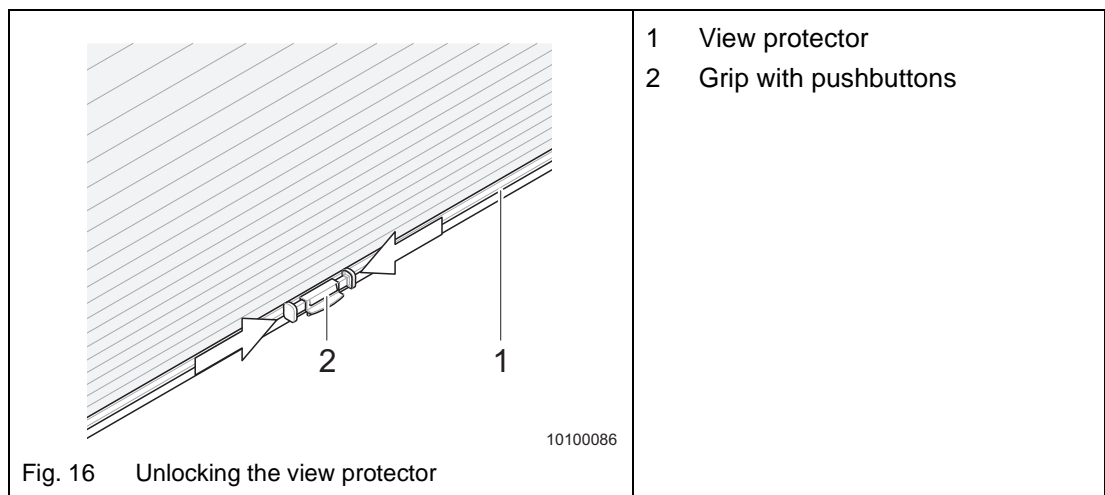
8.6.1.2 Version 2



Danger!

Accident hazard

- ▲ If you do not lock the blind, it is possible that the windscreen can become covered during certain driving manoeuvres.
- ➔ Lock the view protectors before starting the journey.



The view protector (Fig. 16/1) is located at the top of the windscreen.

Closing the view protector:

- ➔ Press the pushbuttons in the grip (Fig. 16/2) in the middle of the blind together.
- ➔ Slide the blind right down and release the pushbuttons.



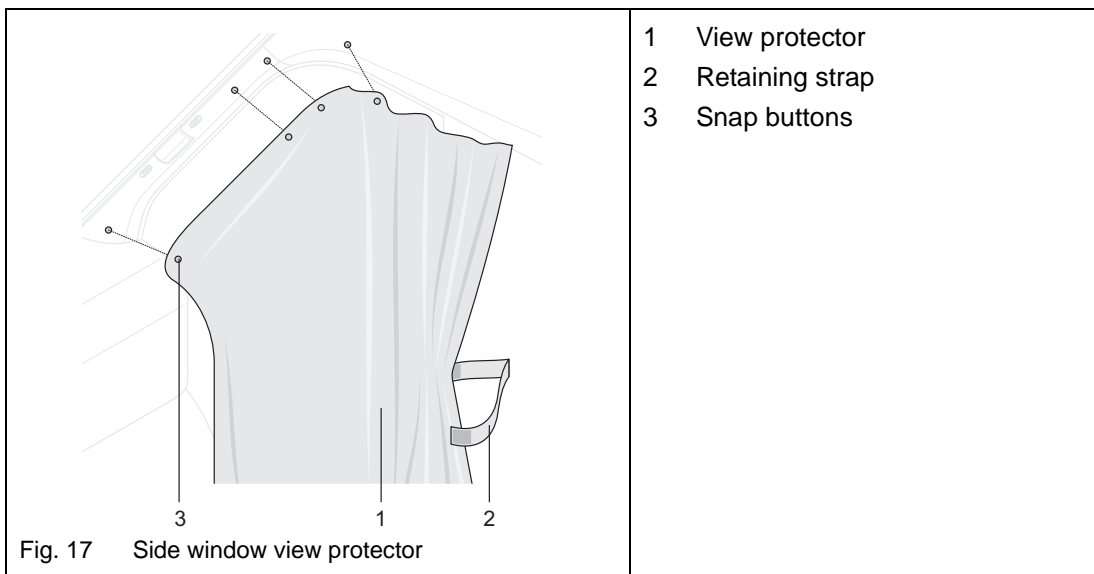
Important!

Some models have several locking positions so that the blind can also be used as sun protection.

Opening the view protector:

- ➔ Press the pushbuttons in the grip (Fig. 16/2) in the middle of the blind together.
- ➔ Slide the blind right up and release the pushbuttons.
- ➔ Check the catches are engaged in the grip (Fig. 16/2) when open.

8.6.2 Side window view protector



The view protectors (Fig. 17/1) are located at the rear edge of the respective side windows.

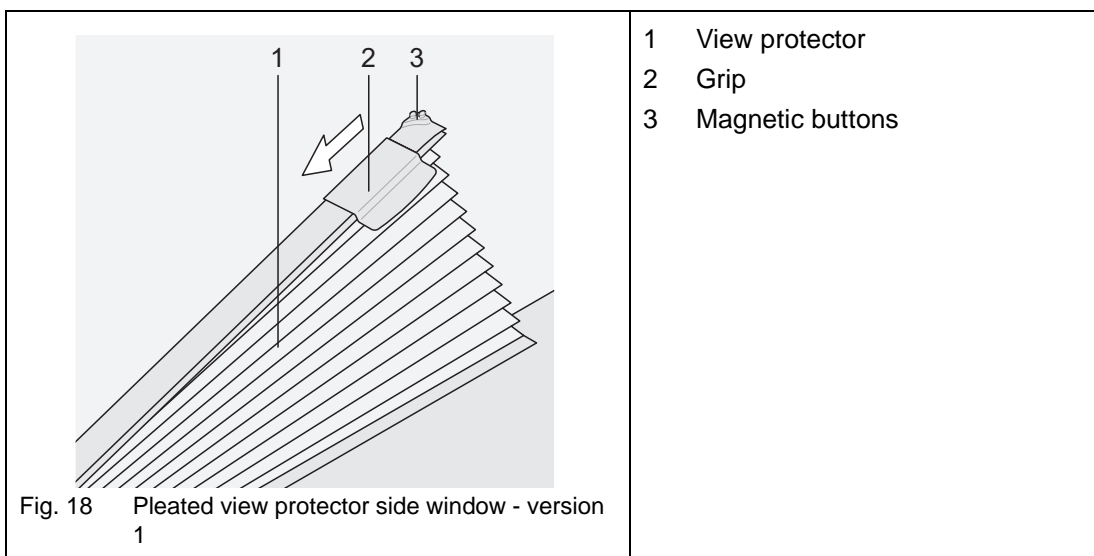
Closing the view protector:

- ➔ Loosen the Velcro fastener of the retaining strap (Fig. 17/2).
- ➔ Pull the view protector (Fig. 17/1) to the front and close the snap buttons (Fig. 17/3).

Close the view protector in reverse sequence.

8.6.3 Pleated side window view protectors (special equipment)

8.6.3.1 Version 1



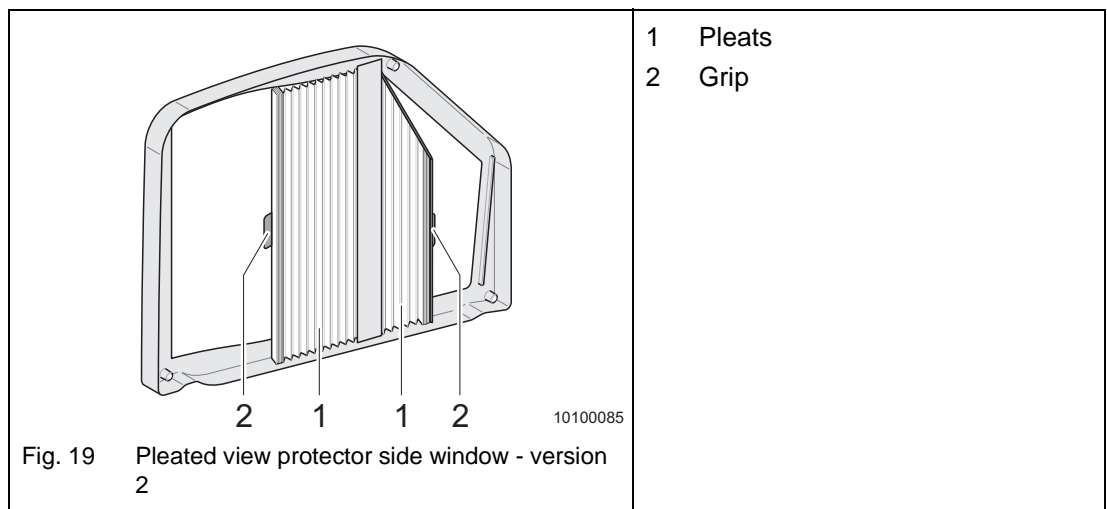
The pleated view protectors (Fig. 18/1) are integrated in the right and left door frames in the driver's cab.

Closing the pleated view protector:

- ➔ Slide the grip (Fig. 18/2) in the direction of the arrow. This unlocks the pleated view protector.
- ➔ Unfold the view protector (Fig. 18/1) and attach it to the window frame using the magnetic buttons (Fig. 18/3).

Close the view protector in reverse sequence.

8.6.3.2 Version 2



The pleated view protectors (Fig. 19/1) are integrated in the right and left door frames in the driver's cab.

Closing the pleated view protector:

- ➔ Pull the pleats firmly on both sides on the grip (Fig. 19/2).
- ➔ Slide the grip (Fig. 19/2) in arrow direction and lock it in on the opposite side.

Close the view protector in reverse sequence.

8.7 Roof openings

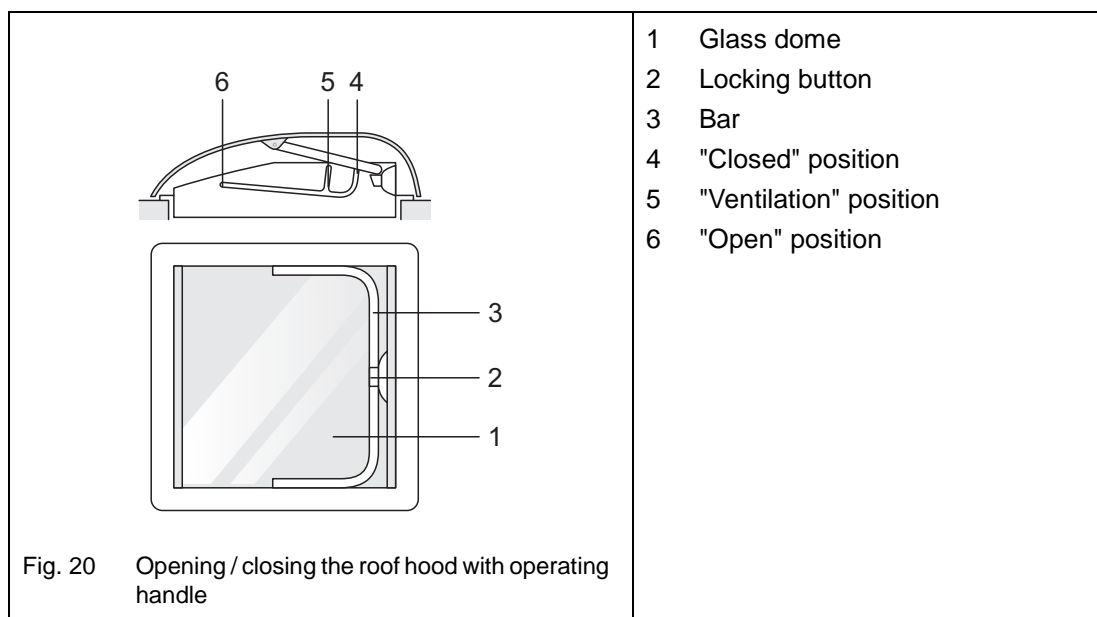
8.7.1 General

Important!

- Before starting the journey, check the roof openings for damage to the glass dome.
- Open the blind and insect screen before starting the journey.
- Close the roof openings before starting the journey.
- **ADRIA** recommends a **maximum** speed of **130 kph**.
- Do not open the roof openings by strong wind/storm, rain, hail, snowfall or outdoor temperatures under -10 °C.
- Make sure the opening area above the roof hood is free.
- 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.

8.7.2 Roof hood with operating bar (special equipment)

The roof hood with operating bar can be opened by tilting to one side.



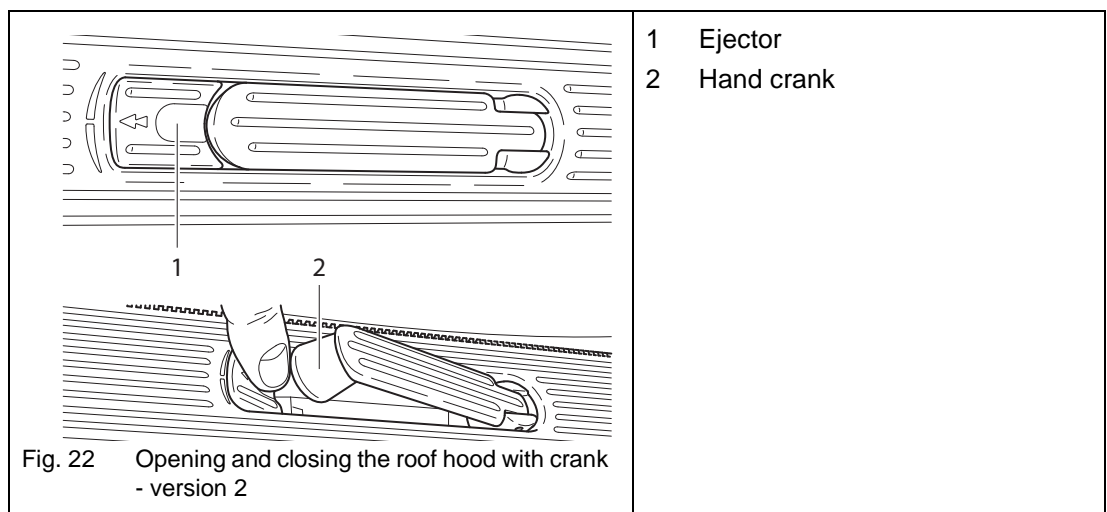
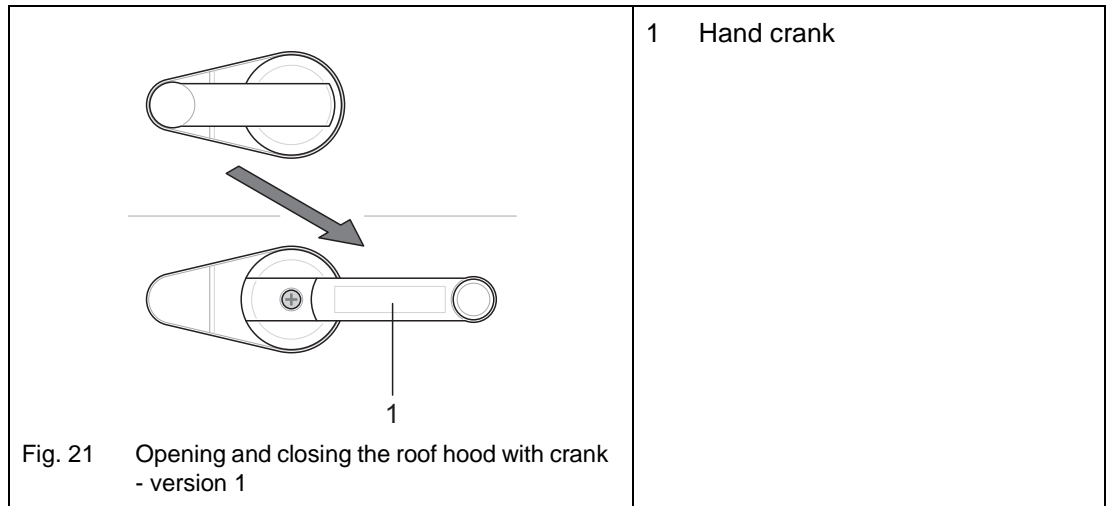
Opening the roof hood:

- ➔ To open the glass dome (Fig. 20/1), press the locking button (Fig. 20/2) and pull the bar (Fig. 20/3) downwards.
- ➔ Push the bar (Fig. 20/3) into the desired position. Possible positions are "Ventilation" (Fig. 20/5) or "Open" (Fig. 20/6).

Closing the roof hood:

- ➔ Push the bar (Fig. 20/3) in the direction of the locking button (Fig. 20/2) to close the roof hood.
- ➔ Press the locking button (Fig. 20/2) and push the bar (Fig. 20/3) into the "Closed" position.

8.7.3 Roof hood with crank operation (special equipment)



Opening the roof hood:

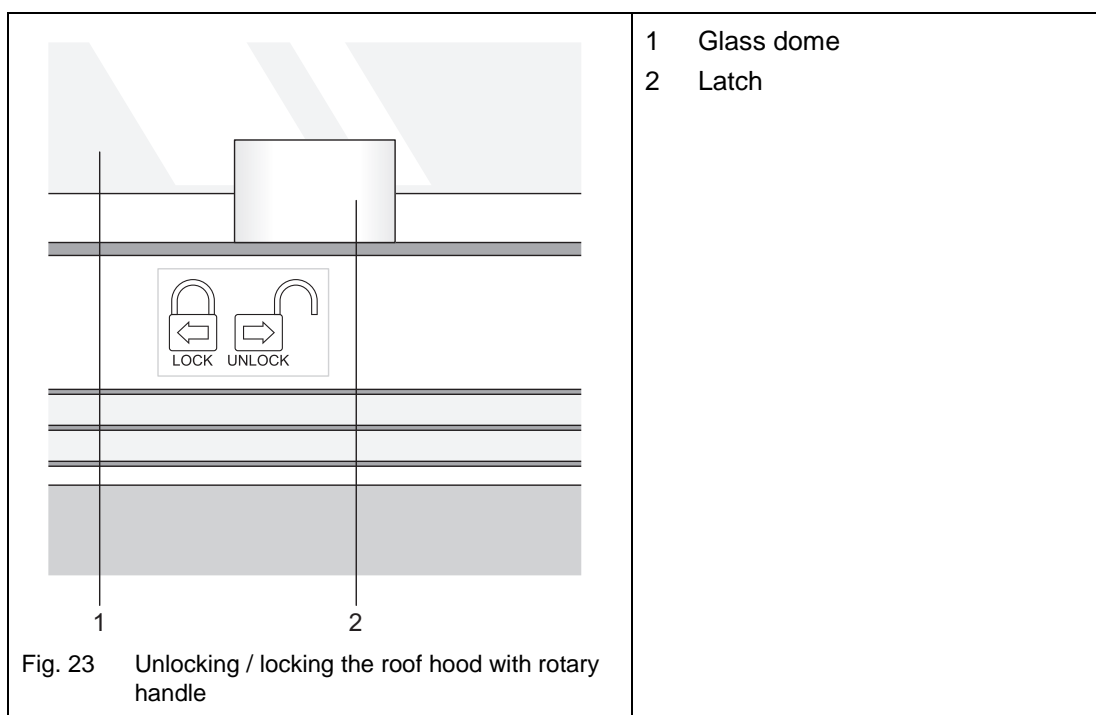
Some models are equipped with additional locking levers (Fig. 7).

- ➔ Press the ejector (Fig. 22/1) when necessary
- ➔ Swivel hand crank (Fig. 21/1) or (Fig. 22/2) out
- ➔ Turn the hand crank only until a resistance can be felt.
The roof hood is now in the maximum open position.
Any desired interim position is possible.

Closing the roof hood:

- ➔ Turn hand crank (Fig. 21/1) or (Fig. 22/2) until a resistance can be felt.
- ➔ 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 as required (Fig. 7).

8.7.4 Roof hood with rotary handle

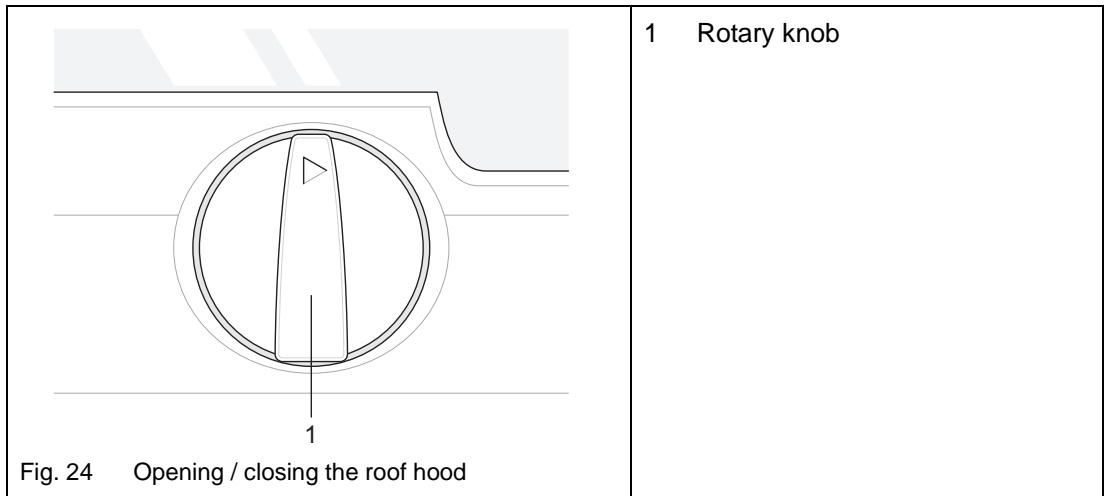


Unlocking the roof hood:

- ➔ Slide the catch bar (Fig. 23/2) of the roof hood to the "Unlock" position.

Locking the roof hood:

- ➔ Slide the catch bar (Fig. 23/2) to the "Lock" position when the glass dome (Fig. 23/1) is closed.



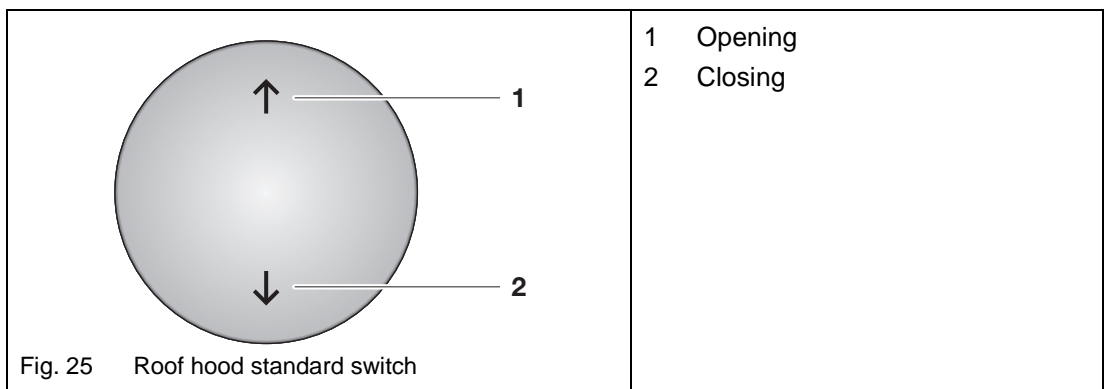
Opening the roof hood:

- ➔ Turn the rotary knob (Fig. 24/1) clockwise to open the glass dome.
- ➔ Turn the rotary knob only until a resistance can be felt.
The roof hood is now in the maximum open position. Any desired interim position is possible.

Closing the roof hood:

- ➔ Turn the rotary knob (Fig. 24/1) anticlockwise until a resistance can be felt.
- ➔ Then lock the roof hood.
- ➔ Check the locking by attempting to lift the glass dome by hand.

8.7.5 Roof hood with electric operation



Opening/closing the roof hood:

The roof hood is operated using the standard switch (Fig. 25).

- ➔ Press the switch up in arrow direction to open the roof hood (Fig. 25/1).
- ➔ Press the switch down in arrow direction to close the roof hood (Fig. 25/2).

Emergency locking:**Caution!****Damage to the roof hood**

- ▲ Do not move the vehicle when the roof hood can no longer be closed.
- ▲ Observe the separate manufacturer's instructions on emergency locking.

Closing the roof hood:

- ➔ If the malfunction is caused by electricity shortage, try to close the roof hood with a different power supply.

If it still cannot be closed:

- ➔ Check the separate manufacturer's instructions for assistance.
- ➔ Loosen the window-side hexagon head screws on the left and right on the hold-open hinges.
- ➔ Hold the pane and swivel the hold-open hinges down.
- ➔ Remove the locking caps in the cover.
- ➔ Lock the hood by hand.

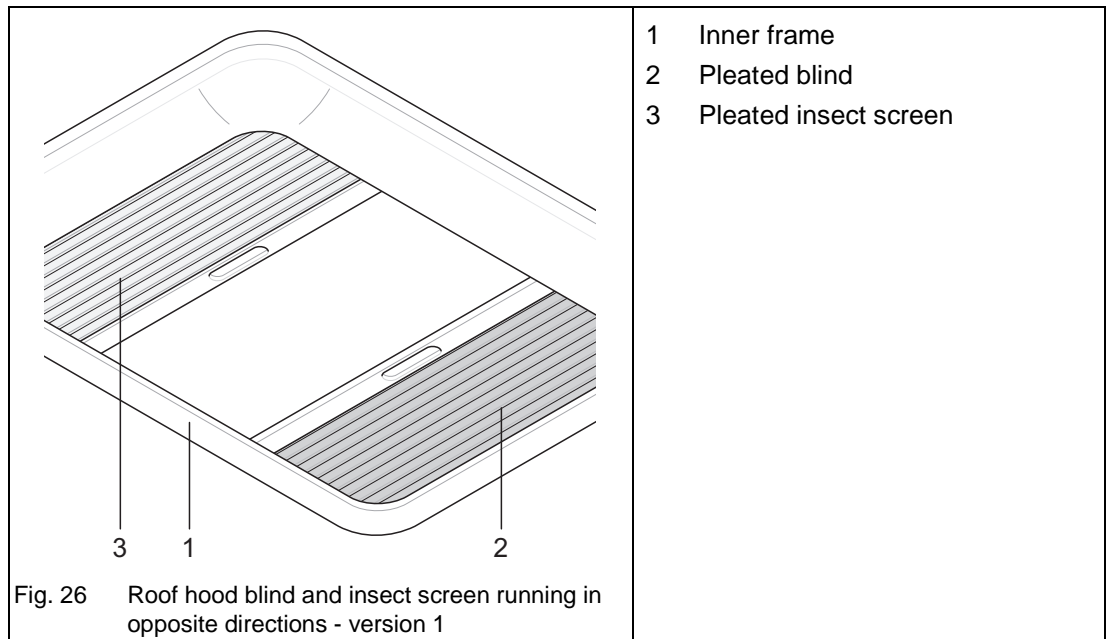
8.7.6 Roof hood blind and insect screens running in opposite directions

8.7.6.1 Version 1



Important!

- Both pleated blinds are continuously adjustable and can be operated together or separate from each other.
- Only close the pleated blind to a maximum of 75% during direct sunlight. Air must be able to circulate.



The pleated blind (Fig. 26/2) and the pleated insect screen (Fig. 26/3) are fitted in the inner frame (Fig. 26/1) of the roof hood.

Opening/closing the pleated blind or pleated insect screen:

- ➔ Reach into the recess of the end bar of the pleated blind (Fig. 26/2) or pleated insect screen (Fig. 26/3).
- ➔ Slide it to the desired position.

8.7.6.2 Version 2



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.



Important!

- The pleated blind is continuously adjustable.
- The insect screen (Fig. 27/3) can only be closed when the pleated blind (Fig. 27/2) is latched in.
- Only close the pleated blind to a maximum of 75% during direct sunlight. Air must be able to circulate.

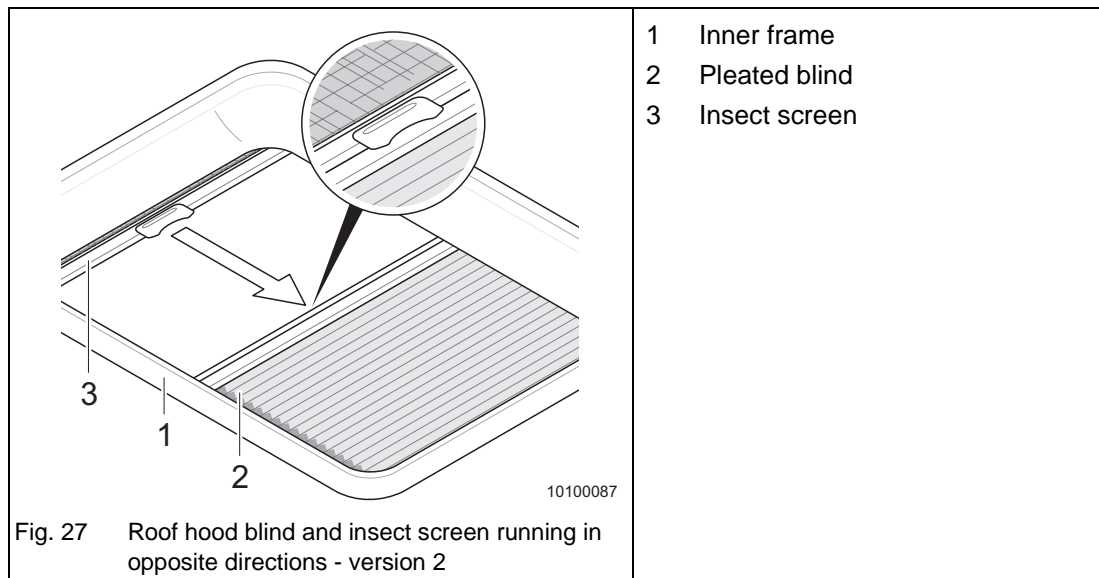


Fig. 27 Roof hood blind and insect screen running in opposite directions - version 2

The pleated blind (Fig. 27/2) and the insect screen (Fig. 27/3) are fitted in the inner frame (Fig. 27/1) of the roof hood.

Opening/closing the pleated blind or insect screen:

- ➔ Use the grip rail to slide the pleated blind to the desired position..
- ➔ To close the insect screen, slide the grip rail of the insect screen towards the grip rail of the pleated blind and latch it in.

Closing the insect screen:

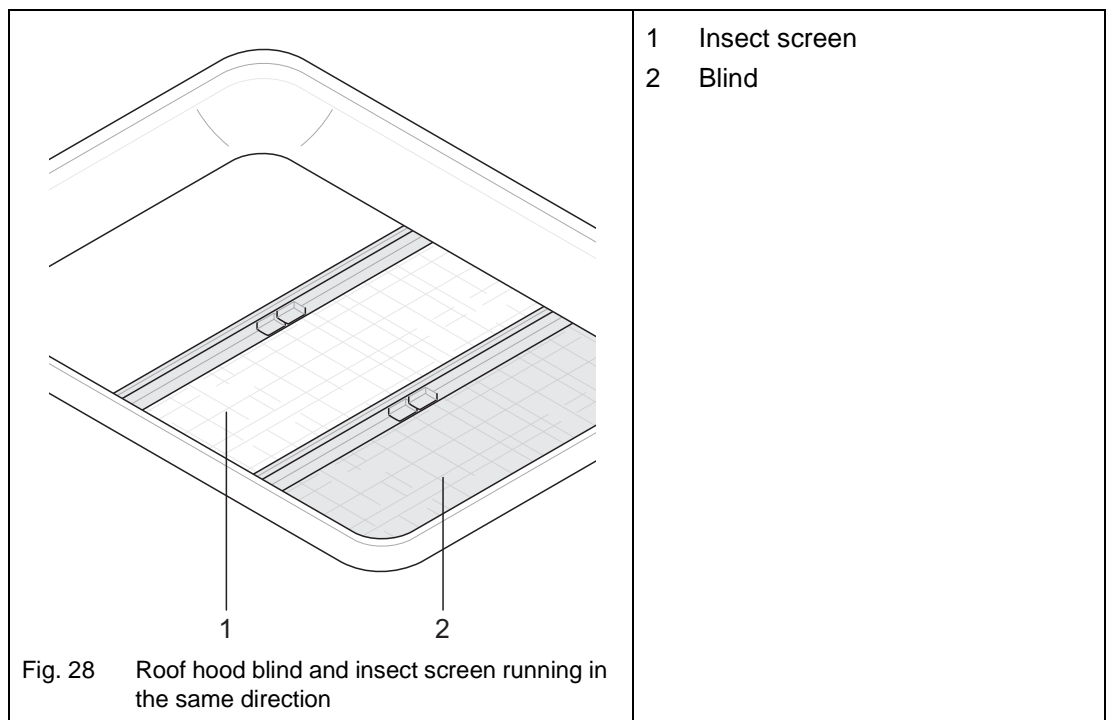
- ➔ Hold the insect screen tight.
- ➔ Press the lock of the insect screen and move the insect screen to the end position.

8.7.7 Roof hood blind and insect screen running in the same direction



Important!

- Both are adjustable and can be operated together or separate from each other.
- After releasing the grip, the blind is automatically clamped into place in the inner frame of the roof hood.
- Only close the blind to a maximum of 75% during direct sunlight. Air must be able to circulate.



The blind (Fig. 28/2) and the insect screen (Fig. 28/1) are fitted in the inner frame of the roof hood.

Opening/closing the blind or insect screen:

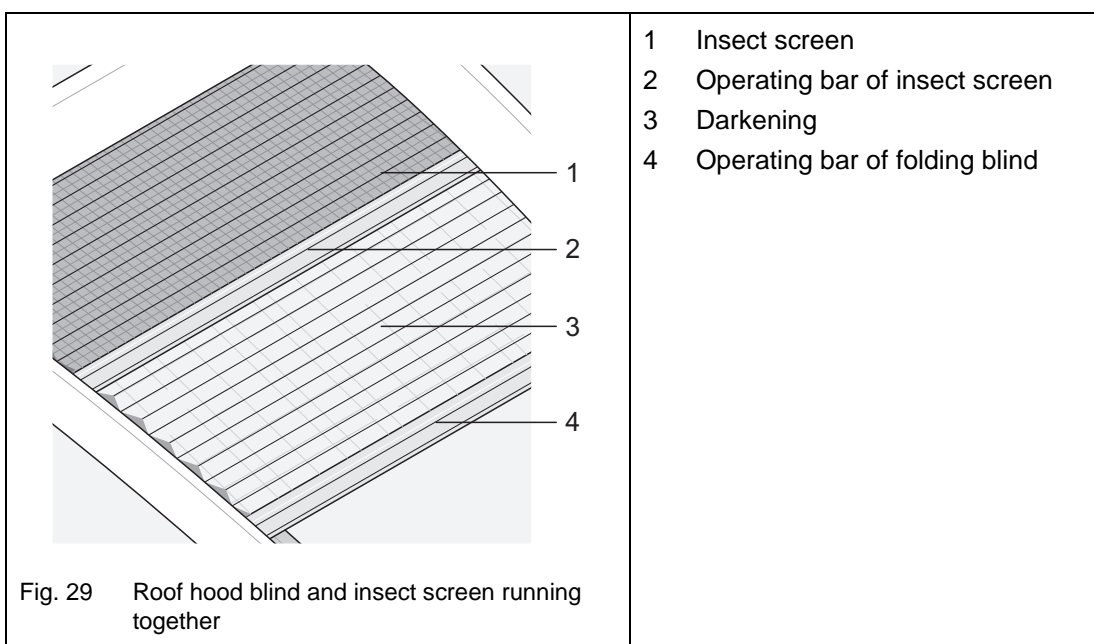
- ➔ Press the two halves of the grip of the blind (Fig. 28/2) or insect screen (Fig. 28/1) together.
- ➔ Slide it to the desired position.

8.7.8 Roof hood blind and insect screen running together



Important!

- 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.



Opening/closing the blind or insect screen:

The insect screen (Fig. 29/1) is firmly connected with the folding blind (Fig. 29/2). When the folding blind is opened, the insect screen may have to be moved as well.

- ➔ Hold the folding blind (Fig. 29/3) on the operating bar (Fig. 29/4).
- ➔ Slide it to the desired position.

8.7.9 Care of roof hoods

For information on the care of the roof hoods, please see the "Care" Chapter (Chapter 19.1.1).

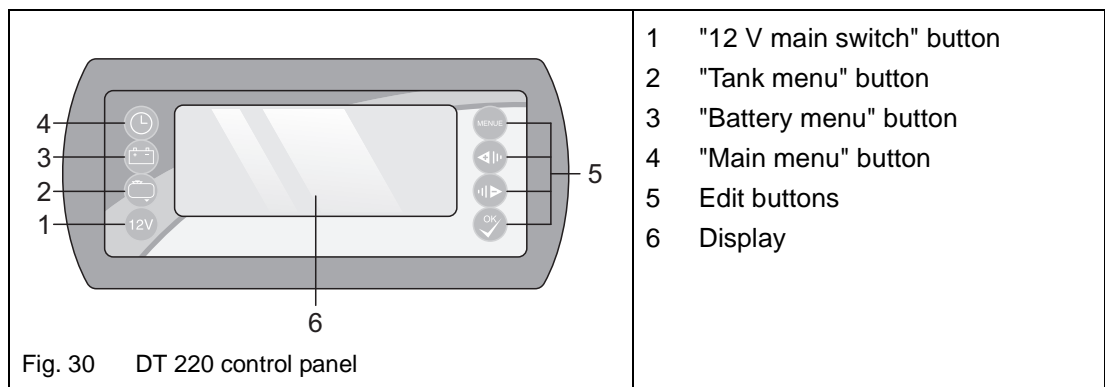
8.8 Control panel

Different control panels are installed in the vehicle depending on the model:

Battery voltage and, depending on the model, water tank and fuel tank levels can be queried via the control panels.

The control panels are located inside the vehicle.

8.8.1 DT 220 control panel



"12 V main switch" button:

- ➔ Press the "12 V main switch" button (Fig. 30/1) to switch the 12 V supply of the vehicle on or off.
- ➔ Switch off the main switch when you leave the vehicle for a longer period of time.



Important!

Note that the power supply continues to the entrance step and the awning light, for example, even with the main switch switched off.

"Tank menu" button:

- ➔ Press the "Tank menu" button (Fig. 30/2) to show or change the following values:
 - Water tank tank level
 - Waste water tank level

"Battery menu" button:

- ➔ Press the "Battery menu" button (Fig. 30/3) to show or change the following values:
 - Remaining capacity of the living area battery
 - Charging or discharging of the living area battery
 - Voltage of the living area battery
 - Voltage of the starter battery
 - Charging currents from the solar controller (option)

"Main menu" button:

- ➔ Press the "Main menu" button (Fig. 30/4) to show or change the following values:
 - Time
 - Inside temperature
 - Outside temperature
 - Date (day, month)

Edit buttons:

The edit buttons (Fig. 30/5) serve to set the various values (e.g. time).

Optical and acoustic alarms:

The purpose of the alarms is to call attention to various problems:

- Battery requires charging
- Tank full or empty
- etc.

For more information, see the separate instructions from the manufacturer.

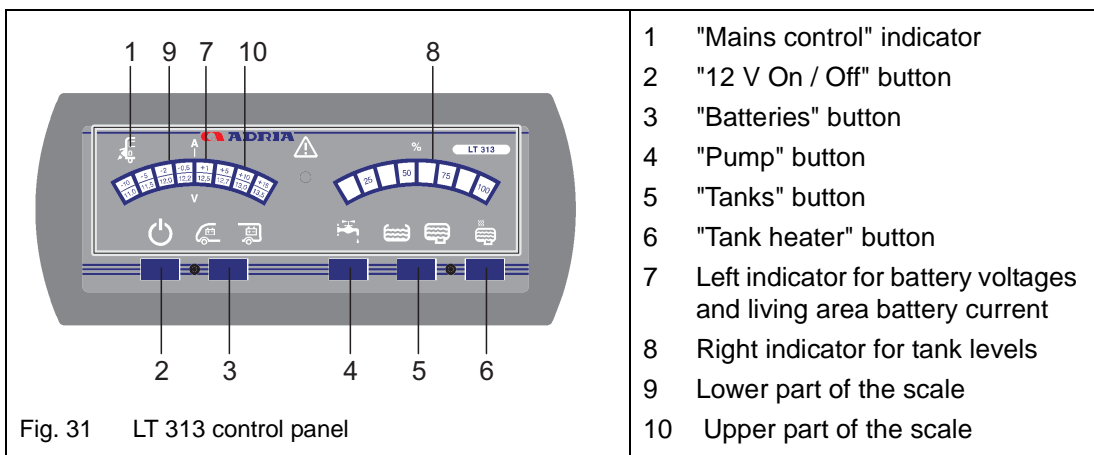
8.8.2 LT 313 control panel

Fig. 31 LT 313 control panel

"Mains control" indicator:

- ➔ Connect the connector for mains operation to the 230 V mains supply.
 - The "Mains control" indicator (Fig. 31/1) lights and the batteries are charged.
 - The "Mains control" lights also when the LED panel is switched off.

"12 V On / Off" button:

- ➔ Press the "12 V On / Off" button (Fig. 31/2) briefly to switch the supply voltage for the 12 V appliances on or off.
- ➔ Switch off the main switch when you leave the vehicle for a longer period of time.

**Important!**

Note that the power supply continues to the entrance step and the awning light, for example, even with the main switch switched off.

"Batteries" button:

- ➔ Switch on the LED panel (Fig. 31/2).
- ➔ Press the "Batteries" button (Fig. 31/3) once to indicate the voltage of the living area battery.
The battery voltage of the living area battery is indicated by the left indicator (Fig. 31/7) in the **lower** part of the scale (Fig. 31/9).
- ➔ Press the "Batteries" button (Fig. 31/3) again to indicate the current of the living area battery.
The current of the living area battery is indicated by the left indicator (Fig. 31/7) in the **upper** part of the scale (Fig. 31/10).
- ➔ Press the "Batteries" button (Fig. 31/3) again to indicate the voltage of the starter battery.
The battery voltage of the starter battery is indicated by the left indicator (Fig. 31/7) in the **lower** part of the scale (Fig. 31/9).



Important!

The indicator goes off after approx. 20 s when no button is pressed in this time.

"Pump" button:

- ➔ Switch on the LED panel (Fig. 31/2).
- ➔ Press the "Pump" button (Fig. 31/4) to switch the supply voltage for the water pump on or off.

The switched state is saved after the LED panel is switched off.

"Tanks" button:

- ➔ Press the "Tanks" button (Fig. 31/5) to indicate the level of the water tank.
- ➔ Press the "Tanks" button (Fig. 31/5) again to indicate the level of the waste water tank.

The tank levels of the tanks are shown in % by the right indicator (Fig. 31/8).



Important!

The values are no longer measured after the engine has been started. The last tank level is saved when the engine is started and indicated accordingly when queried.

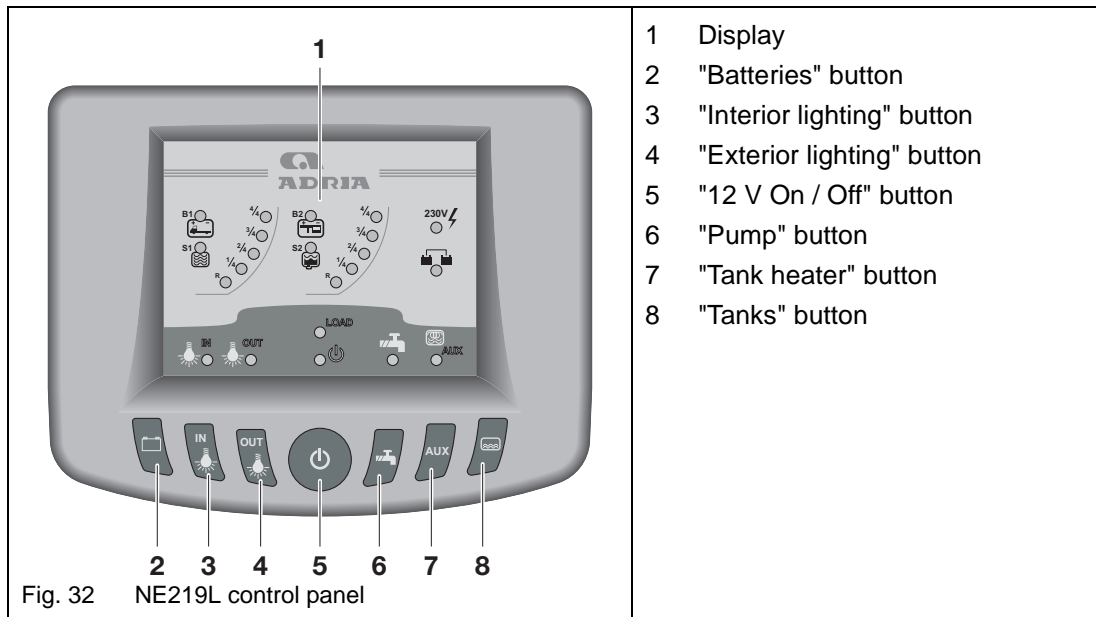
Alarms:

The purpose of the alarms is to call attention to various problems:

- Battery requires charging
- Tank full or empty
- etc.

For more information, see the separate instructions from the manufacturer.

8.8.3 NE219L control panel



"Batteries" button:

- ➔ Press the "Batteries" button (Fig. 32/2) to indicate the voltage of the starter battery (B1) and the living area battery (B2).



Important!

The indicator goes off after approx. 30 s when no button is pressed in this time.

"Interior lighting" button:

- ➔ Press the "Interior lighting" (Fig. 32/3) button to switch the interior lighting on or off.

"Exterior lighting" button:

- ➔ Press the "Exterior lighting" (Fig. 32/4) button to switch the exterior lighting on or off.

"12 V On / Off" button:

- ➔ Press and hold down the "12 V On/Off" button (Fig. 32/5) until the 12 V power supply is switched on or off.
- ➔ Switch the power supply off when you leave the vehicle for a longer period of time.



Important!

Note that the power supply continues to the entrance step and the awning light, for example, even with the main switch switched off.

"Pump" button:

- ➔ Press the "Pump" button (Fig. 32/6) to switch the supply voltage for the water pump on or off.
- ➔ Switch the power supply for the water pump off when you leave the vehicle for a longer period of time.

"Tank heater" button

- ➔ Press the "Tank heater" button (Fig. 32/7) to switch the waste water tank heater (special equipment) on or off.
- ➔ Switch the waste water tank heater off when you leave the vehicle for a longer period of time.

"Tanks" button:

- ➔ Press the "Tanks" button (Fig. 32/8) to indicate the levels of the water and waste water tanks.

Alarms:

The alarms call attention to various problems:

- The voltage of the starter battery (B1) is lower than 11 Volt or the voltage of living area battery (B2) is lower than 10 Volt.
- The water tank (S1) is empty or the waste water tank (S2) is full. An alarm is signalled in this case and the respective LED blinks.

For more information, see the separate instructions from the manufacturer.

8.9 Electrical entrance step (special equipment)

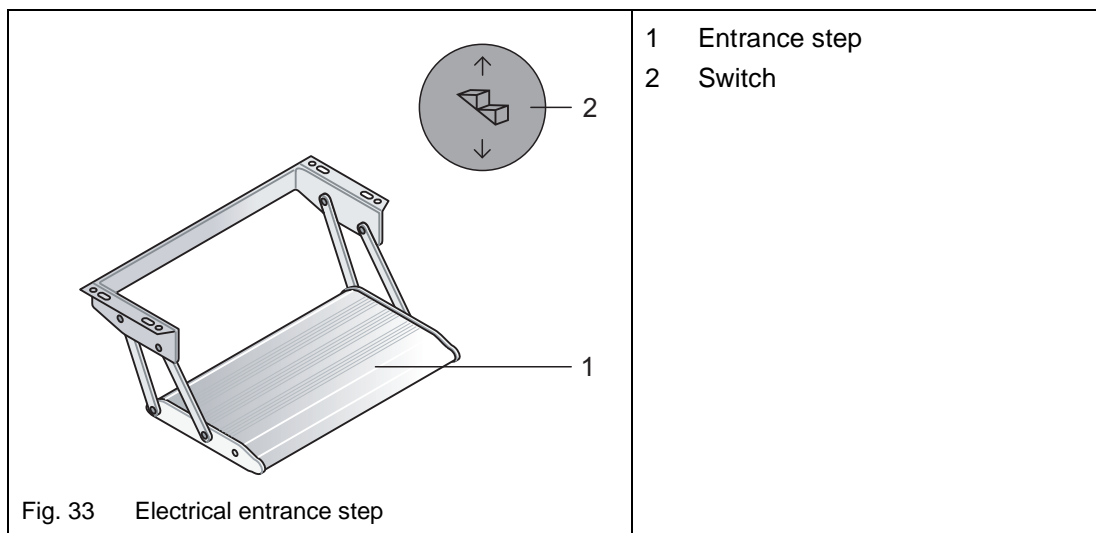
Some vehicles are equipped with an electrical entrance step.



Warning!

Accident hazard

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



Retracting or extending the electrical entrance step:

The switch (Fig. 33/2) for retraction or extension of the entrance step is located in the entrance area near the outer door.

- ➔ Tip the switch (Fig. 33/2) briefly in the lower area until the entrance step is extended (Fig. 33/1).
- ➔ Tip the switch (Fig. 33/2) briefly in the upper area until the entrance step is retracted (Fig. 33/1).

8.10 Seating group / table

The driver's and passenger's seats can be rotated, and the seating group can therefore be extended.

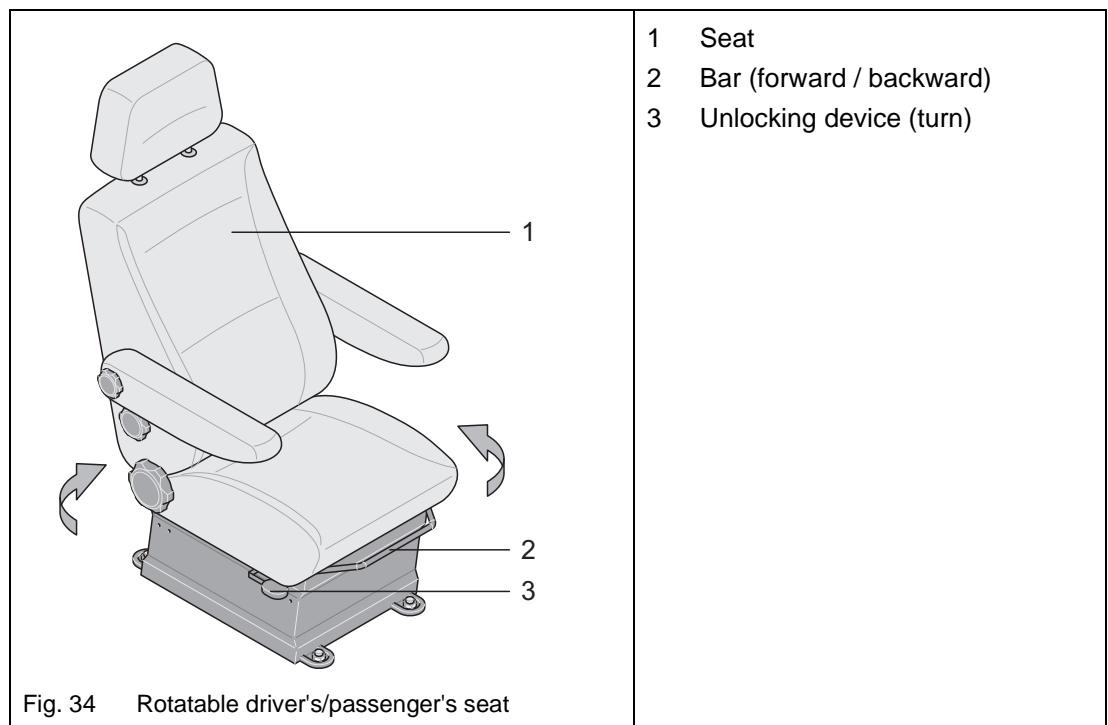
8.10.1 Rotatable driver's / passenger's seat (special equipment)



Danger!

Accident hazard when the driver's seat rotates while driving

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



- ➔ Actuate the unlocking device (Fig. 34/3) on the seat (Fig. 34/1).
- ➔ Adjust the inclination of the backrest and the seat position in longitudinal direction 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 adjustment when the vehicle is not secured from rolling away by other means.
- ➔ Now you can rotate the seat (Fig. 34/1) to the desired position.
- ➔ Before starting the journey, rotate the seat back to its initial position.
- ➔ Check the lock (Fig. 34/2) is engaged.

8.10.2 Seat bench



Danger!

Risk of injury

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



Important!

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.

The water tank is underneath the seat bench on some models (Chapter 12.1.1).

Servicing the water tank:

- ➔ Remove the cushions.
- ➔ Fold up the seat cushions to reach the service opening of the water tank.

8.10.3 Table



Warning!

Risk of burning and scalding

- ▲ 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.

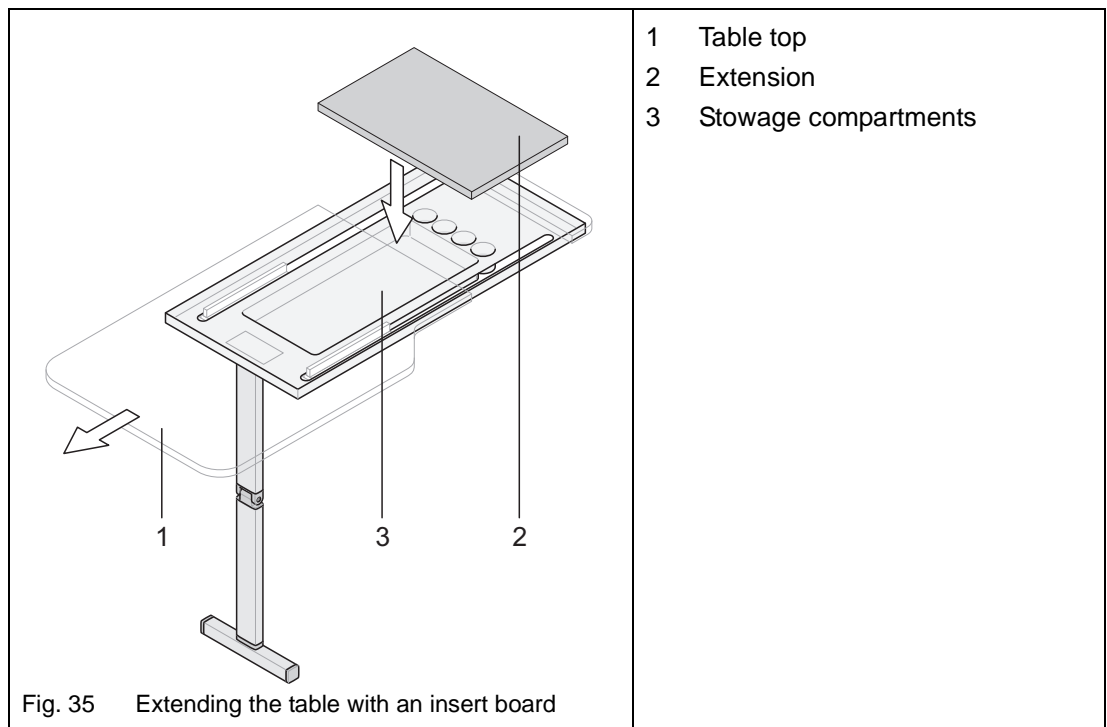


Warning!

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).

8.10.3.1 Extending the table with an insert board (special equipment)

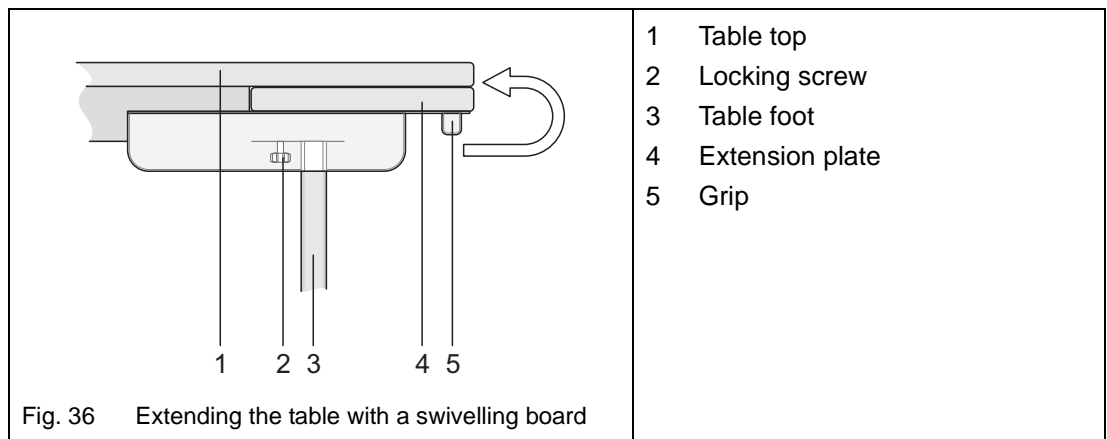


The table extension is stowed underneath the table.

- ➔ Loosen the retaining strap and take the table extension from the wall.
- ➔ Pull the table top (Fig. 35/1) firmly off the wall.
The table top is secured with a stop and cannot be pulled off the framework.
Storage compartments (Fig. 35/3) for cutlery, etc. are underneath the table top.
- ➔ Place the table extension (Fig. 35/2) onto the table framework and push the table top (Fig. 35/1) firmly towards the wall.

Stow away in reverse sequence.

8.10.3.2 Extending the table with a swivelling board



- ➔ Loosen the locking screw (Fig. 36/2) on the bottom of the table by turning it to the left.

- ➔ Using the grip (Fig. 36/5), pull out the extension plate (Fig. 36/4) from underneath the table.
 - ➔ Swivel the extension plate (Fig. 36/4) upwards.
- Stow away in reverse sequence.

8.11 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.

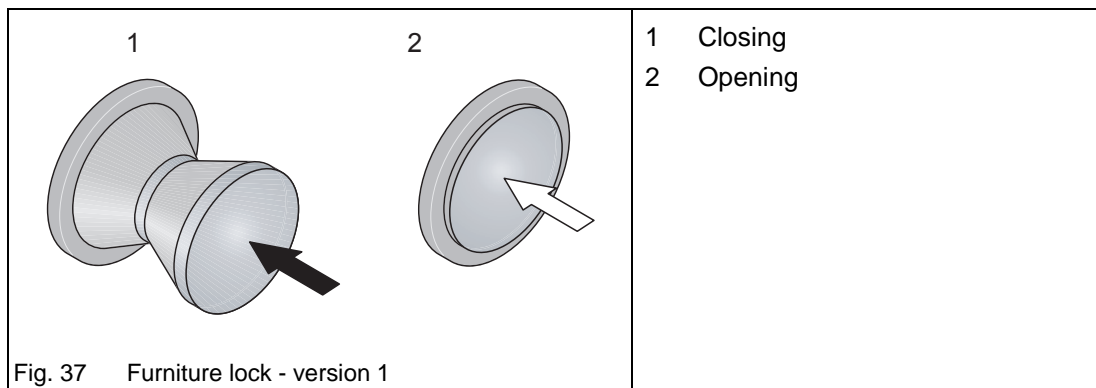
8.11.1 Furniture locks - version 1



Caution!

Risk of damage through cupboard or drawer contents flying around!

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



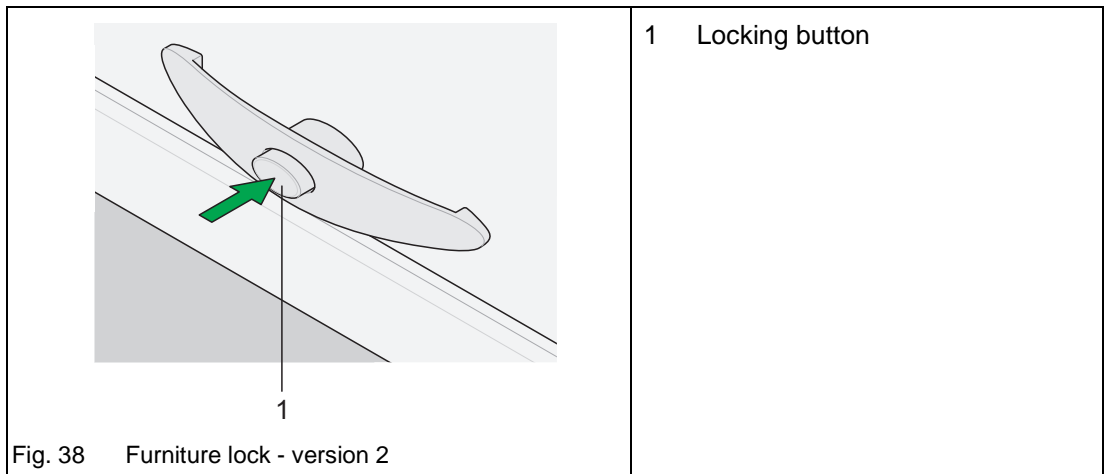
Opening:

- ➔ Press the locking button (Fig. 37/1), the button springs out. The lock is unlocked.
- ➔ Open the cabinet door, flap or drawer.

Closing:

- ➔ Close the cabinet door, cabinet flap or drawer.
- ➔ Push in the locking button until it latches into place (Fig. 37/2). The lock is locked.

8.11.2 Furniture locks - version 2



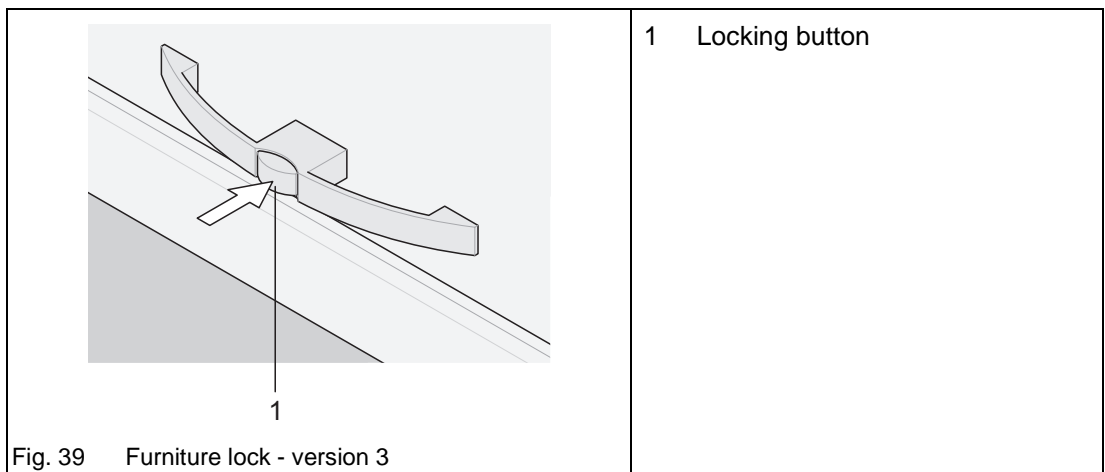
Opening:

- ➔ Press the locking button (Fig. 38/1), the button springs out. The lock is unlocked.
- ➔ Open the cabinet door, flap or drawer.

Closing:

- ➔ Close the cabinet door, cabinet flap or drawer.
- ➔ Push the locking button (Fig. 38/1) in until it latches into place. The lock is locked.

8.11.3 Furniture locks - version 3



Opening:

- ➔ Press the locking button (Fig. 39/1). The lock is unlocked.
- ➔ Open the cabinet door, flap or drawer.

Closing:

- ➔ Close the cabinet door, cabinet flap or drawer.
- ➔ Release the handle. The lock is locked.

8.12 Bathroom unit

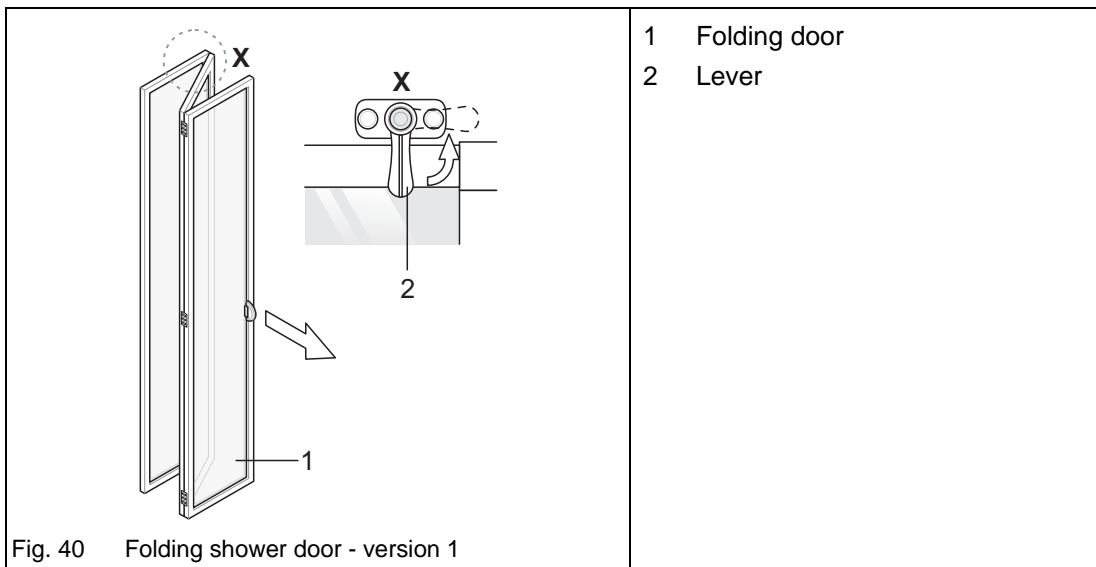
8.12.1 Folding shower door (special equipment) - version 1



Caution!

Damage to folding door or bathroom unit

- ▲ Secure the folding door (Fig. 40/1) with the lever (Fig. 40/2).
- ▲ If you leave the parking area with the vehicle and the folding door is not secured, it can open and close uncontrolled during cornering.



Closing:

- ➔ Unlock the lever (Fig. 40/2) before closing the folding door (Fig. 40/1).

Opening:

- ➔ Push the folding door (Fig. 40/1) open.
- ➔ Secure the door with the lever (Fig. 40/2).

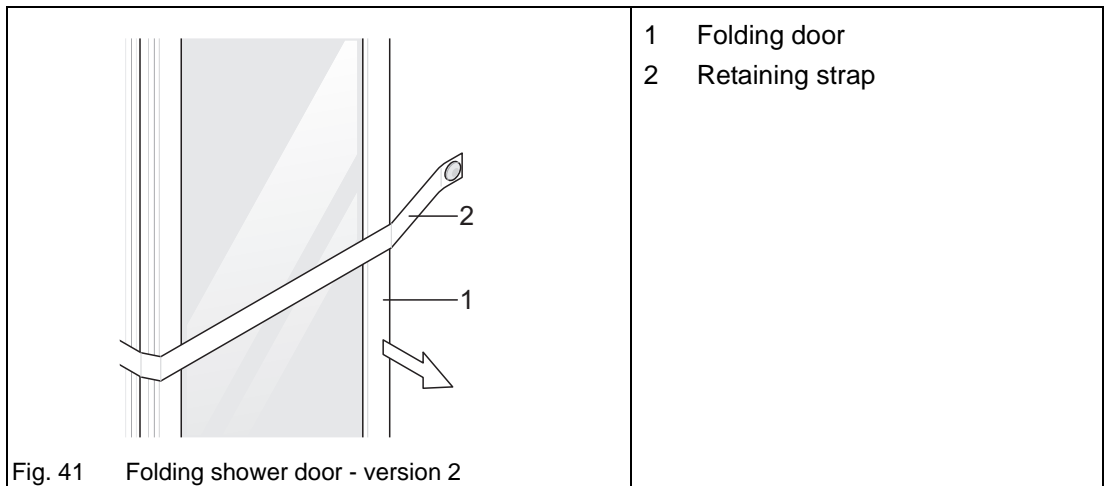
8.12.2 Folding shower door (special equipment) - version 2



Caution!

Damage to folding door or bathroom unit

- ▲ Secure the folding door (Fig. 41/1) with the retaining strap (Fig. 41/2).
- ▲ If you leave the parking area with the vehicle and the folding door is not secured, it can open and close uncontrolled during cornering.



Closing:

- ➔ Loosen the retaining strap (Fig. 41/2) before closing the folding door (Fig. 41/1).

Opening:

- ➔ Push the folding door (Fig. 41/1) open.
- ➔ Secure the door with the retaining strap (Fig. 41/2).

8.13 TV equipment (special equipment)



Caution!

Damage to the vehicle

- ▲ Before starting the journey, you always have to lower and lock the antenna.
- ▲ Retract, lay it flat and secure the satellite dish before starting the journey.
- ▲ Lock the antenna mast into place to prevent twisting of the satellite dish.



Caution!

Damage to the cables

- ▲ Make sure the cables always have enough room to move.



Caution!

Damage to the appliance

- ▲ Check all locking grips are engaged before each journey.
- ▲ Check that all locking screws and locking brackets are screwed tight before each journey.

The vehicle has been prepared for the installation of TV equipment:

- A location on the roof is intended for the installation of a satellite dish.
 - Antenna cables and sockets have already been installed.
- ➔ Check freedom of movement before the installation of an automatic antenna.



Important!

- For more information concerning the installation of TV equipment, contact your **ADRIA** dealer.
- For more information, see the separate manufacturer's operating instructions.

9 Sleeping arrangements

9.1 Beds in the rear of the vehicle and in the alcove

All beds in the vehicle rear and in the alcove are firmly installed and do not require preparation before use.



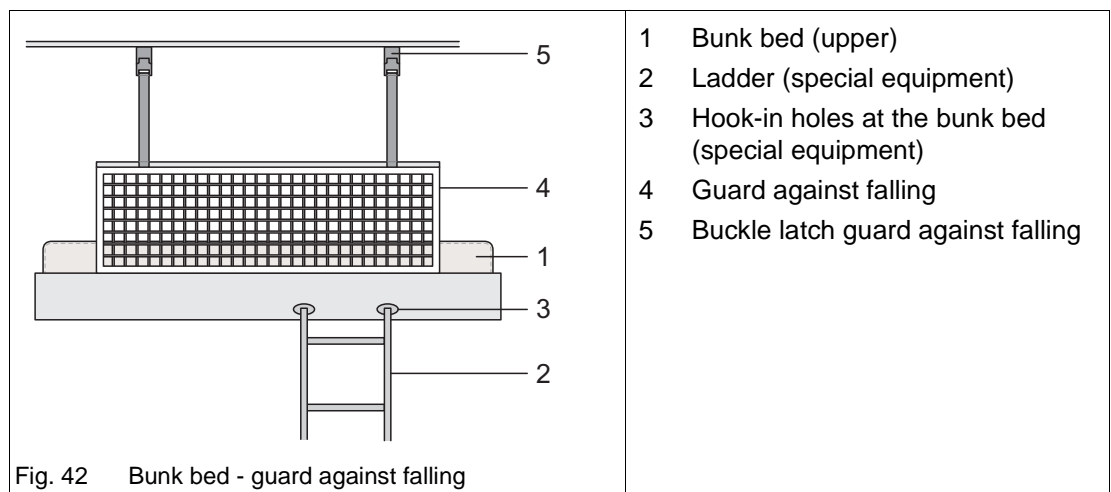
Warning!

Accident hazard

- ▲ Do not use beds to store luggage during the journey.
- ▲ Only leave the required bed linen on the bed during the journey.
- ▲ Never allow small children to remain in the 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.
- ▲ Only use the alcove bed and the upper bunk bed with the safety net hung in.
- ▲ The maximum load of the bunk bed is 70 kg.

9.1.1 Alcove beds and bunk beds (special equipment)

The vehicles are fitted with alcove beds and/or bunk beds depending on the model. The alcove and bunk beds can be used without conversion work.



- ➔ Use the ladder (Fig. 42/2) to climb into the alcove or upper bunk bed (Fig. 42/1).
- ➔ Hang the ladder (Fig. 42/2) into the hook-in holes provided (Fig. 42/3).
- ➔ Close the guard against falling (Fig. 42/4) with the buckle latches (Fig. 42/5) in the vehicle ceiling when anyone is in the bed (Fig. 42/1).

9.2 Lifting bed (special equipment)



Danger!

Type of danger

- ▲ Before the start of the journey, push up and secure the lifting bed.
- ▲ Do not use the lifting bed for storage of luggage during the journey.
- ▲ Lay only the required bed linen on the lifting bed during the journey.
- ▲ Never allow small children to remain in the lifting bed without supervision.
- ▲ For children of less than 6 years of age, ensure they cannot fall out of the lifting bed.
- ▲ Use separate children's beds or travel cots suitable for small children.
- ▲ Only use the lifting bed with the safety net hung in.
- ▲ Refer to the stickers on the lifting bed for the maximum load of the lifting bed.

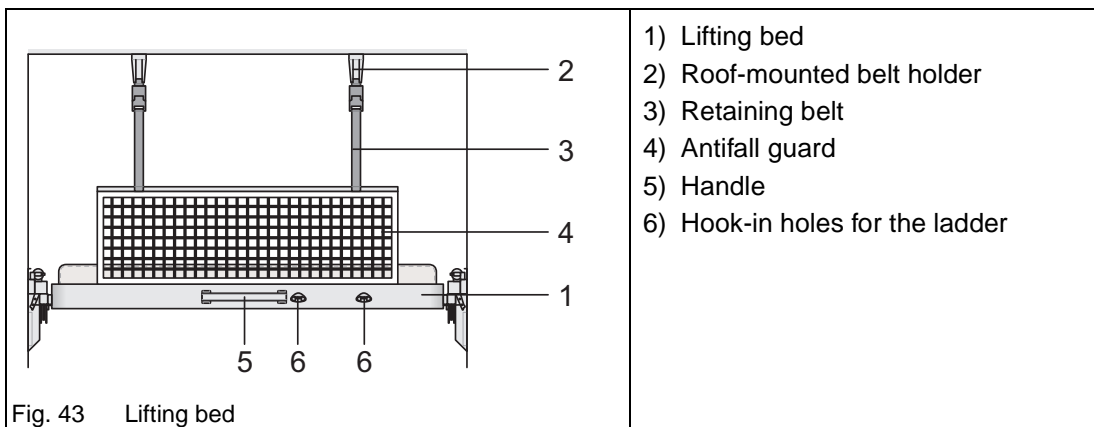


Important!

Keep the lowering area of the lifting bed free.

Depending on the model

- Fold the cab seats
- Remove the headrests on the backseat bench



Lowering the lifting bed:

- Shade the windows with view protectors.
- On lifting beds with electrical operation (special equipment), press the Down button on the remote control until the bed has reached the lowest position.
- On lifting beds with manual operation (Fig. 43/1), press the lifting bed down to the stop with both hands using the handle (Fig. 43/5).
 - At the left and right of the bed, a curtain is automatically unfolded as view protection.
- Hang the ladder into the hook-in holes (Fig. 43/6) on the lifting bed.
- Attach the antifall guard (Fig. 43/4) on the bed to the roof using the retaining belts (Fig. 43/3) and roof-mounted belt holders (Fig. 43/2).

Raising the lifting bed:

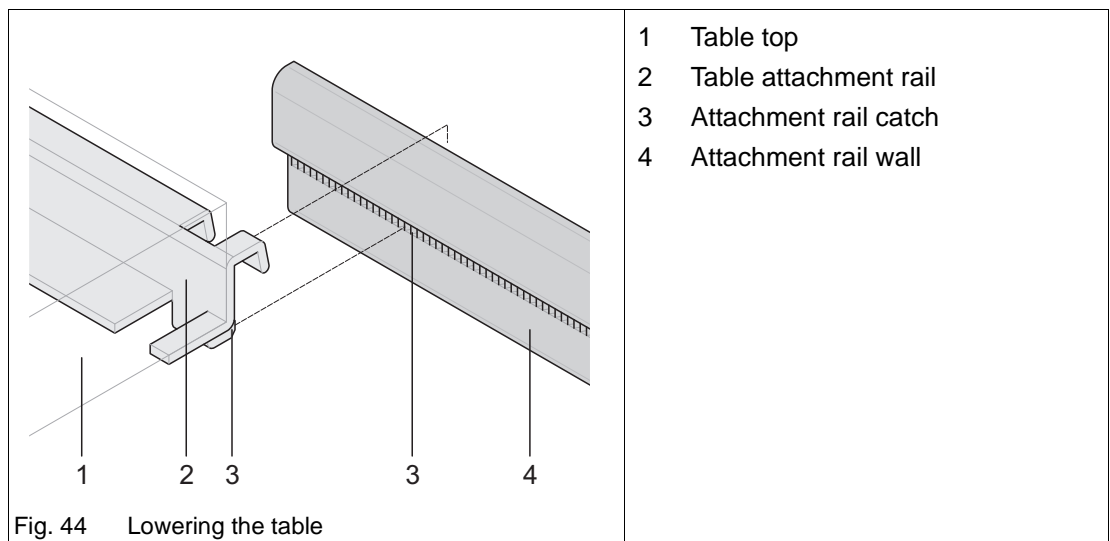
Raise the lifting bed in reverse sequence.

- ➔ Remove the antifall guard (Fig. 43/4) from the ceiling.
- ➔ Place the bed linen flat on the bed.
- ➔ Remove and stow the ladder.
- ➔ On lifting beds with electrical operation (special equipment), press the Up button on the remote control until the bed has reached the highest position.
- ➔ On lifting beds with manual operation, turn the handle upwards and push the lifting bed upwards to the stop
 - Ensure the curtain protection is not caught in the mechanical system of the lifting bed.

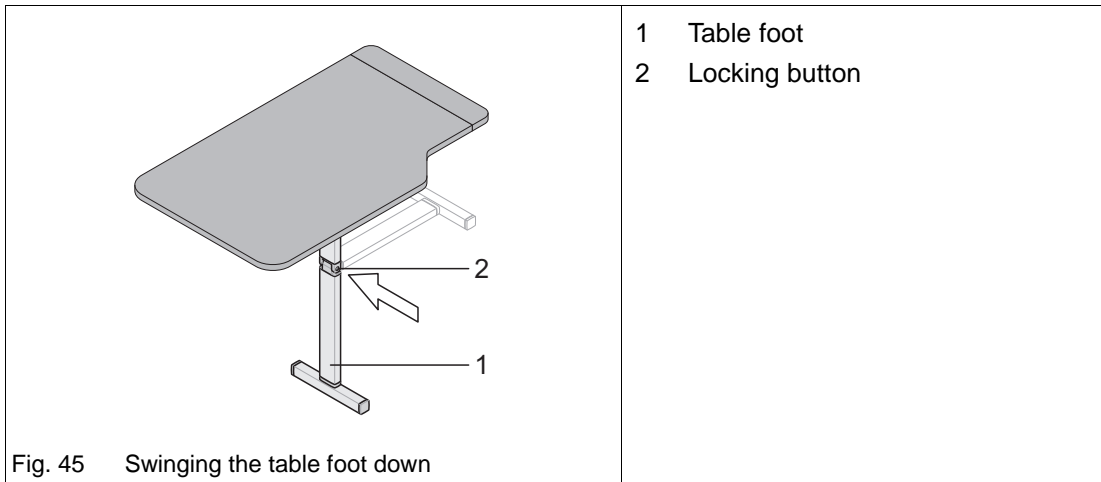
9.3 Converting the seating group into a bed

9.3.1 Lowering the table

9.3.1.1 Suspended table

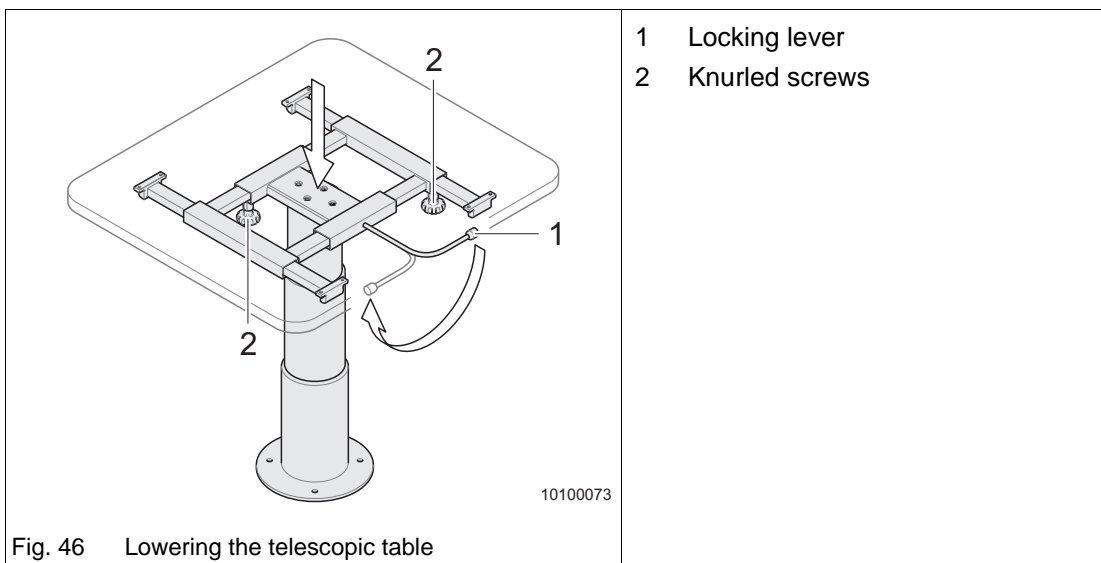


- ➔ Slightly lift the table top (Fig. 44/1) by the free end (approx. 30°). This unlocks the catch (Fig. 44/3).
- ➔ Lift the table top (Fig. 44/1) out of the upper attachment rail (Fig. 44/4).



- ➔ Press the locking button (Fig. 45/2) to unlock the table foot (Fig. 45/1).
- ➔ Swing the table foot down 90°.
- ➔ Then place the table in the bottom position against the seat.

9.3.1.2 Lowering the telescopic table



- ➔ Loosen both knurled screws (Fig. 46/2) for lengthwise and crosswise adjustment of the table top.
- ➔ Hold the table top with one hand in the middle of the table
- ➔ Turn the locking lever (Fig. 46/1) to the left with the other hand (unlocking).
- ➔ Push the table top down to the lowest position.
- ➔ Turn the locking lever (Fig. 46/1) to the right (locking).
- ➔ Slide the table top to the desired position and lock with the knurled screws (Fig. 46/2).

9.3.2 Converting the seating group into a bed in the driving direction

For vehicles with full dinette, the seating group can be converted into a bed in the driving direction:

Converting to a bed:

- ➔ Depending on the vehicle equipment, unlock the bench extensions and pull the extensions out to the side.
- ➔ Lower the table (Chapter 9.3.1).
- ➔ Depending on the vehicle equipment, insert the additional board near the wall between the seat benches.
- ➔ Push the seat cushions together and turn the backrest cushions over.
- ➔ There is a small gap between the cushions depending on the model. Fill the gap with an extra cushion.

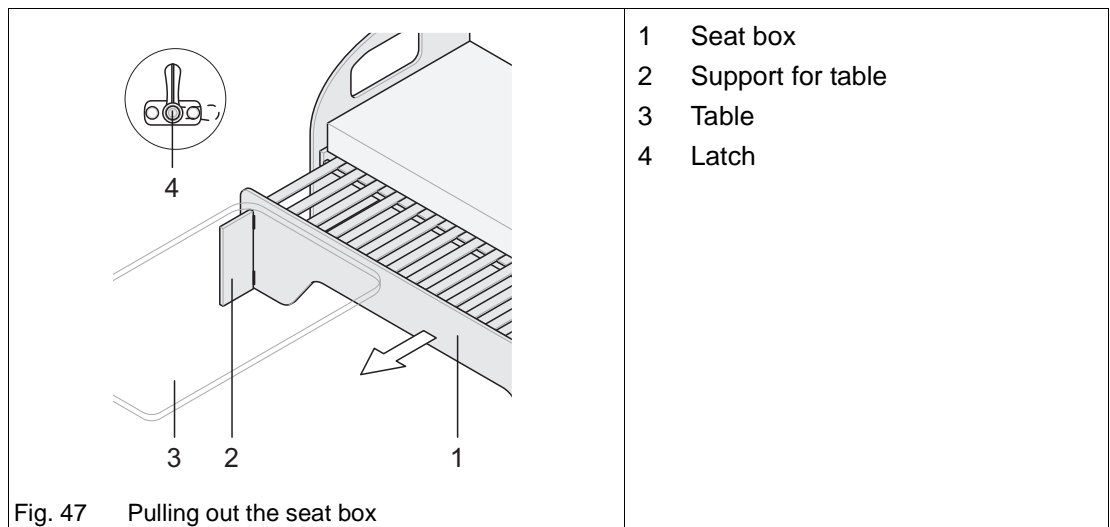
Re-conversion:

- ➔ Reconvert the seating group in reverse sequence.

9.3.3 Converting the seating group into a bed crosswise to the driving direction

On vehicles with a side seat on the passenger's side, the seating group can be converted into a single or double bed crosswise to the driving direction.

Converting the seat box on the passenger's side:



- ➔ Unlock the seat box.
 - The latch (Fig. 47/4) is located at the front of the seat box and must be turned by 90°.
- ➔ Then pull out the seat box (Fig. 47/1) to the stop.
- ➔ Unlock the table support (Fig. 47/2) and swivel the support by 90° into the corridor.

**Caution!****Material breakage**

- ▲ The table support must be swung out so that the table top can be supported.
- Lower the table (Chapter 9.3.1).
- Make a continuous lying area from the cushions of the seat bench and possibly an additional cushion.

Re-conversion:

- Reconvert the seating group in reverse sequence.

10 Power supply



Caution!

Short-circuit, corrosion and cable break

- ▲ For your own safety, have the electrical system checked at least once a year by an authorised workshop.

10.1 230 V power supply

The vehicle can be connected to an external power supply with 230 V which must be protected with a 30 mA ground-fault circuit breaker (fault current).

10.1.1 Making the electrical connection between the vehicle and the power source



Caution!

Danger of overheating of the cable on the cable reel

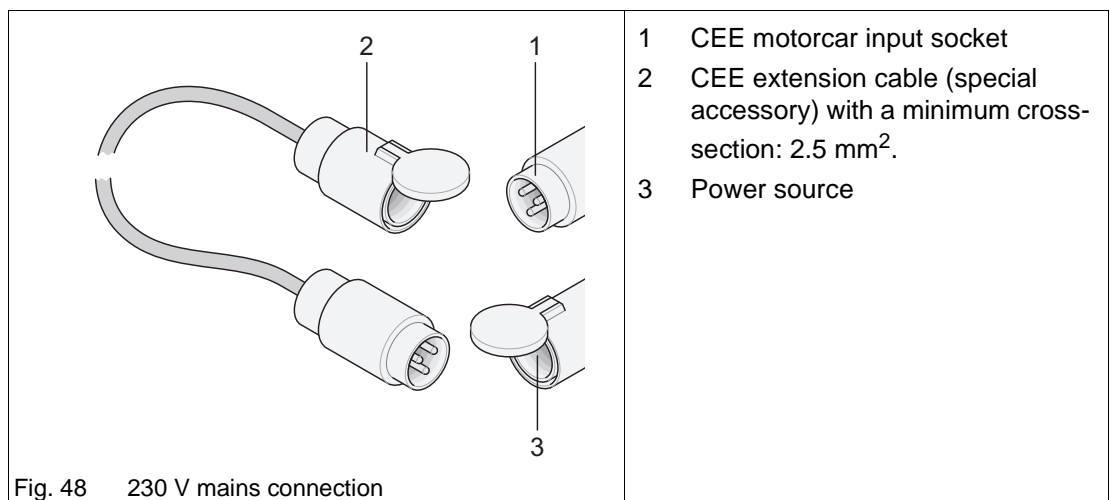
- ▲ Always unroll the cable completely from the cable reel. This prevents overheating of the cable.
- ▲ Use a cable reel with integrated overheat protection.



Important!

- Connectors and sockets do not fit in every country.
- It is possible that an adapter set is required for the country being visited.

The connection of the vehicle to the external 230 V power supply must be made with a rubber sheathed cable "H0 RN-F 3G 2.5 mm²" or an equivalent cable with connectors according to "IEC 309". The overall length of the electric cable should not exceed 25 m!



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 Fuse protection of the 230 V electric circuit in the vehicle

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

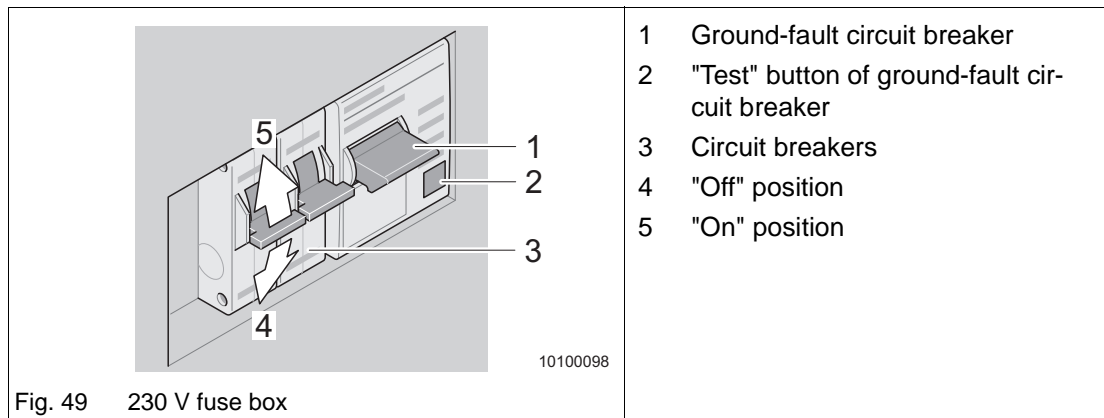
The ground-fault circuit breaker protects persons against electric shock if the insulation of electrical appliances is defective.



Important!

Check the ground-fault circuit breaker for fault-free operation monthly or, after a longer period of standstill of the vehicle, before starting each journey.

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



Checking the ground-fault circuit breaker:

- ➔ Press the "Test" button (Fig. 49/2) of the ground-fault circuit breaker with the 230 V power supply connected.
The ground-fault circuit breaker (Fig. 49/1) triggers, the switch handle springs to the "Off" position.
- ➔ Switch the handle of the ground-fault circuit breaker back to the "On" position after the successful test.

Switching on the circuit breaker:

- ➔ To switch on the circuit breaker (Fig. 49/3), push the switch handle upward.

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

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



Important!

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

10.3 Power supply - external generator (special accessory)



Caution!

Damage to vehicle electronics

- ▲ Voltage variations or voltage peaks must not occur.
- ▲ Make the connection from the generator to the vehicle only 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 more information, see the separate instructions from the manufacturer.

10.4 12 V power supply

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

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



Warning!

Risk of burns

- ▲ Do not touch the rear of the transformer/rectifier during operation. The rear of the transformer/rectifier becomes hot during operation.



Caution!

Damage to power supply unit

- ▲ 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 values specified in the separate instructions from the manufacturer.
- ▲ Replace defective fuses only when the transformer/rectifier has been de-energised.
- ▲ Do not lay any cables underneath the power supply unit due to the heat generation.

10.4.1.1 Transformer/rectifier EBL 226 / EBL 208 S

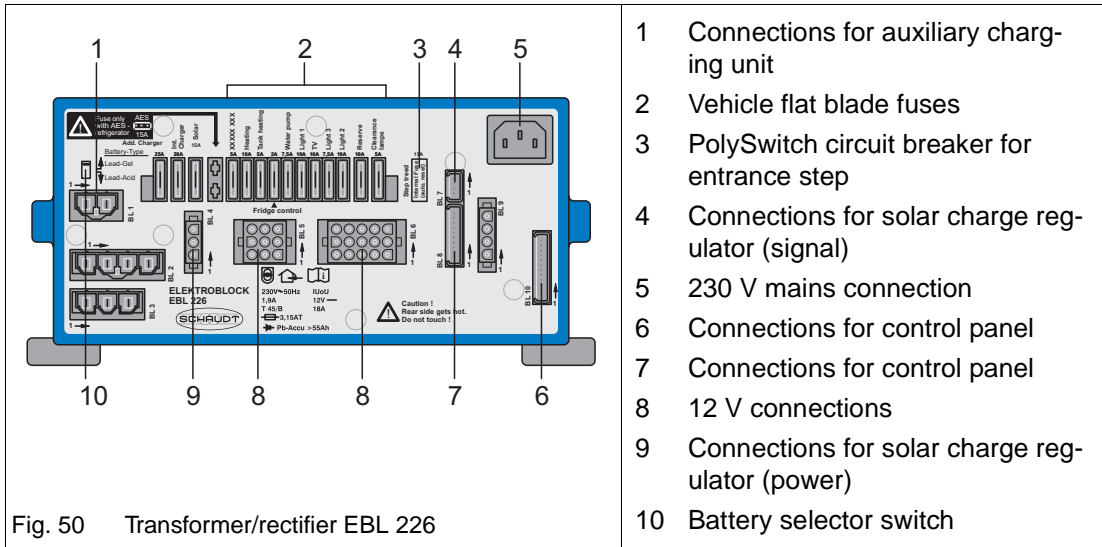


Fig. 50 Transformer/rectifier EBL 226

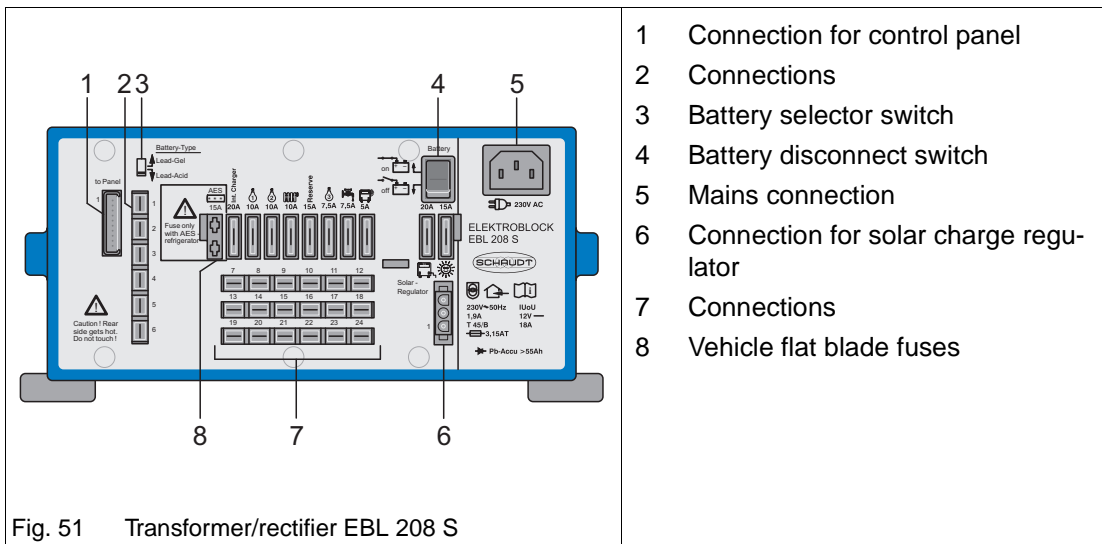


Fig. 51 Transformer/rectifier EBL 208 S

Before placing into service:

- ➔ Check the battery selector switch (Fig. 50/10) or (Fig. 51/3) is in the correct position.
- ➔ Make sure the living area battery is connected.

Placing into service:

- ➔ The system is switched on with the 12 V main switch on the control panel (see Chapter 8.8).

Vehicle flat blade fuses

- Insert the fuse for the AES refrigerator only when an AES refrigerator (special accessory) is connected. Otherwise, the living area battery can be completely discharged. Damage to the battery cannot be excluded.
- The flat blade fuses (Fig. 51/8) protect the different electric circuits. If required, remove the blue cover with the designation "FUSE" (optional) and check or replace all fuses.

Battery disconnect switch (EBL 208 S):

The battery disconnect switch (Fig. 51/4) disconnects the following connections from the living area battery:

- All 12-V appliances except the AES refrigerator and the entrance step
- The control panel

This prevents the slow discharge of the living area battery by quiescent current while the vehicle is placed out of service.

The batteries can still be charged by the transformer/rectifier, the generator or the solar charge regulator (special accessory) (Fig. 51/6) when the battery disconnect switch (Fig. 51/4) is switched off.

PolySwitch circuit breaker (EBL 226):

- The entrance step is protected with a self-resetting PolySwitch circuit breaker (Fig. 50/2).
- If a malfunction occurs, the PolySwitch circuit breaker interrupts the electric circuit. After the malfunction has been cleared, the fuse resets itself after approx. 1 minute.

Battery selector switch:

- Setting the battery selector switch (Fig. 50/10) or (Fig. 51/3) to the wrong position can damage the living area battery.
- Disconnect the transformer/rectifier from the mains before setting the battery selector switch (Fig. 50/10) or (Fig. 51/3) to a different position.

The option of switching over with the battery selector switch ensures optimum charging of the two battery types (lead-gel or lead-acid).

- Selection of lead-gel battery: Set the battery selector switch to "Lead-Gel".
 - Selection of lead-acid battery: Set the battery selector switch to "Lead-Acid".
- Use a thin object for the changeover (e.g. ball-point pen refill).

For more information, see the separate instructions from the manufacturer.

10.4.1.2 Transformer/rectifier NE 237

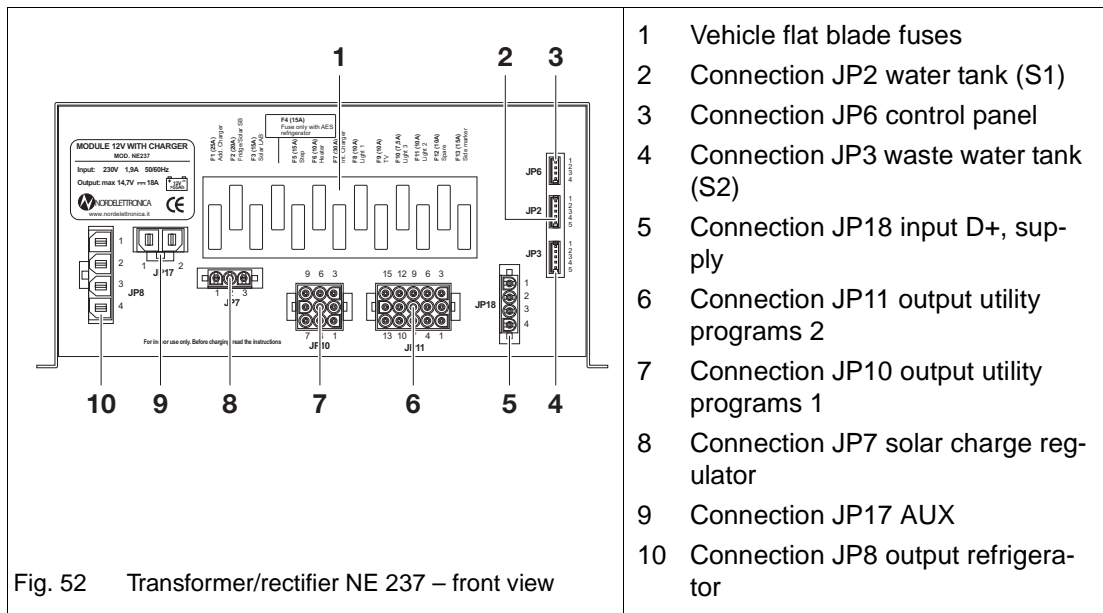


Fig. 52 Transformer/rectifier NE 237 – front view

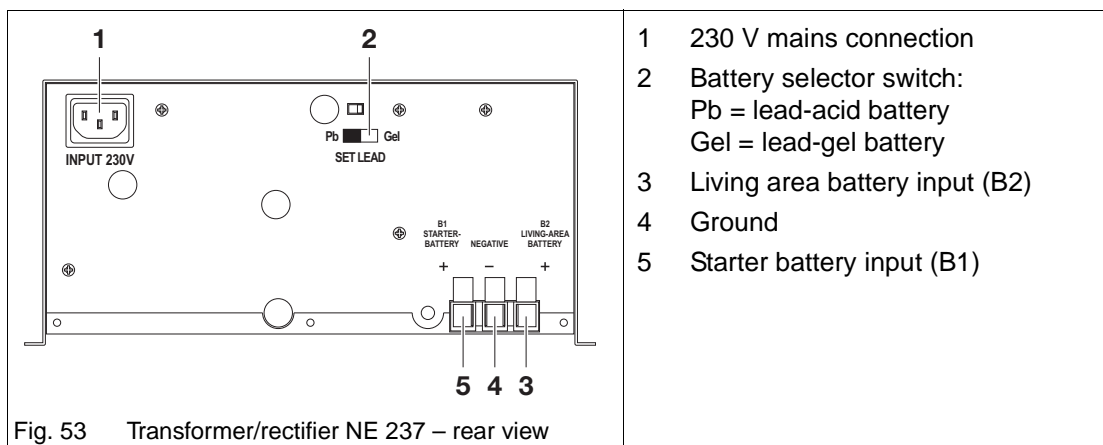


Fig. 53 Transformer/rectifier NE 237 – rear view

Before placing into service:

- ➔ Check the battery selector switch (Fig. 53/2) is in the correct position (Pb or gel).
- ➔ Make sure the starter battery (B1) and the living area battery (B2) are connected.

Placing into service:

- The system is switched on by means of the 12 Volt main switch on the control panel (see Chapter 8.8).

Flat blade fuses (NE237 – front view):

- The flat blade fuses (Fig. 52/1) protect the different electric circuits.

Battery selector switch (NE 237 – rear view):



Caution!

Damage to the living area battery

▲ If the battery selector switch (Fig. 53/2) is set to the wrong position, the living area battery could become damaged.

→ Disconnect the transformer/rectifier NE 237 from the mains before setting the battery selector switch (Fig. 53/2) to a different position.

The option to switch over to a special battery type using the battery selector switch ensures optimum charging of both battery types (lead-acid battery or lead-gel battery).

→ Selection of lead-acid battery: Set the battery selector switch to position "Pb".

→ Select the lead-gel or AGM battery: Set the battery selector switch to position "Gel".

→ Use a thin object for the changeover (e.g. ball-point pen refill).

For more information, see the separate instructions from the manufacturer.

10.4.2 Starter battery



Caution!

Discharging of starter battery

▲ The capacity of the starter battery is limited.

▲ The starting capability is affected if the power supply is provided for an extended period of time via the constant plus of the vehicle.

If the vehicle is connected to an external 230 V power source (Chapter 10.1.1), an automatic changeover from 12 V to 230 V / 12 V (power supply unit) occurs (Chapter 10.4.1).

10.4.3 Living area battery (special equipment)



Danger!

Deflagration

▲ The use of acid batteries as living area batteries in the vehicle is not allowed. Detonating gas can be created during the load process and lead to a gas explosion. The installation area is not equipped for accommodation of a lead-acid battery.

Gel or AGM batteries are 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.

The living area battery can be charged in two ways:

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

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

- By connection to the 230 V mains.

This charges the battery automatically. All major appliances must be switched off.

Regularly check the battery voltage with the control panel (Chapter 8.8):

- If the voltage is 12 V or higher or in the green area, everything is okay.
- If the voltage is less than 12 V or in the red area, switch off all appliances immediately and charge the battery. The minimum charging time should be 24 hours or better 48 hours. Overcharging is automatically prevented by the battery charger.
- If the "Battery alarm" warning light blinks, 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 3 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.



Important!

- Before and after each use of the vehicle, the battery should be charged with the battery charger, if possible, for more than 24 hours.
- If you are on the way for a longer journey, the battery should be "fully" charged at least once a month via the 230 V mains.
- If the vehicle is not used for a longer period of time, all appliances must be switched off (pay attention to hidden appliances, for example satellite system, tank heating, boiler safety valve, etc.). The easiest way to do this is to disconnect the plus pole directly on the battery. Charge the battery once a month with the built-in battery charger or a minimum of 24 hours.
- The warranty for the auxiliary battery is valid only when it is serviced properly.

10.4.4 Control panel

For more information on the control panels, see Chapter 8.8.

10.5 Fuses



Warning!

Risk of burns

- ▲ Replace defective fuses only when the power supply unit 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.

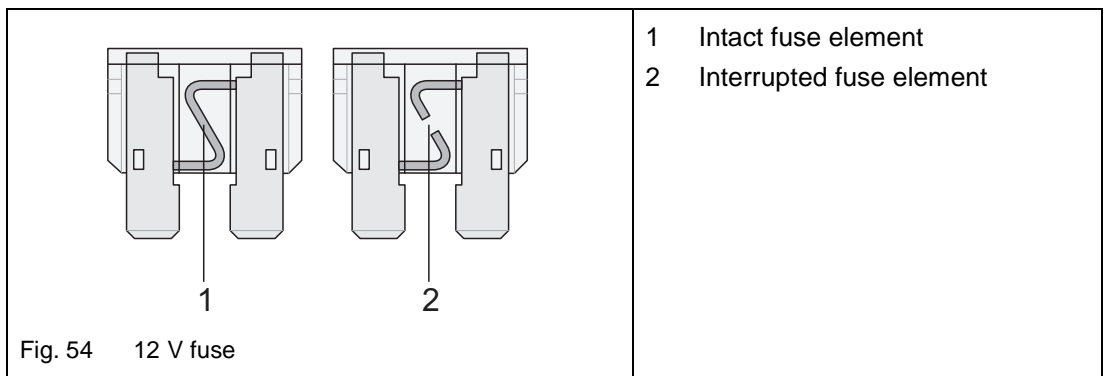
The electric fuses are accessible at different installation locations in the vehicle.

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 living area battery	Next to the living area battery
3 A	Violet	Fuses of Thetford toilet	In the housing frame of the Thetford cassette
20 A	Yellow	Fuse of refrigerator	Next to or in the transformer/rectifier
50 A	Red	Fuse of 12 V power supply unit	Next to the living area battery

Tab. 10-2 Fuses



Changing the fuses:

→ A fuse must be changed when the fuse element is interrupted (Fig. 54/2).

10.6 Electrical diagram

See the following electrical diagrams for the layout of the electrical components and wiring. These diagrams are required for possible repairs and maintenance.

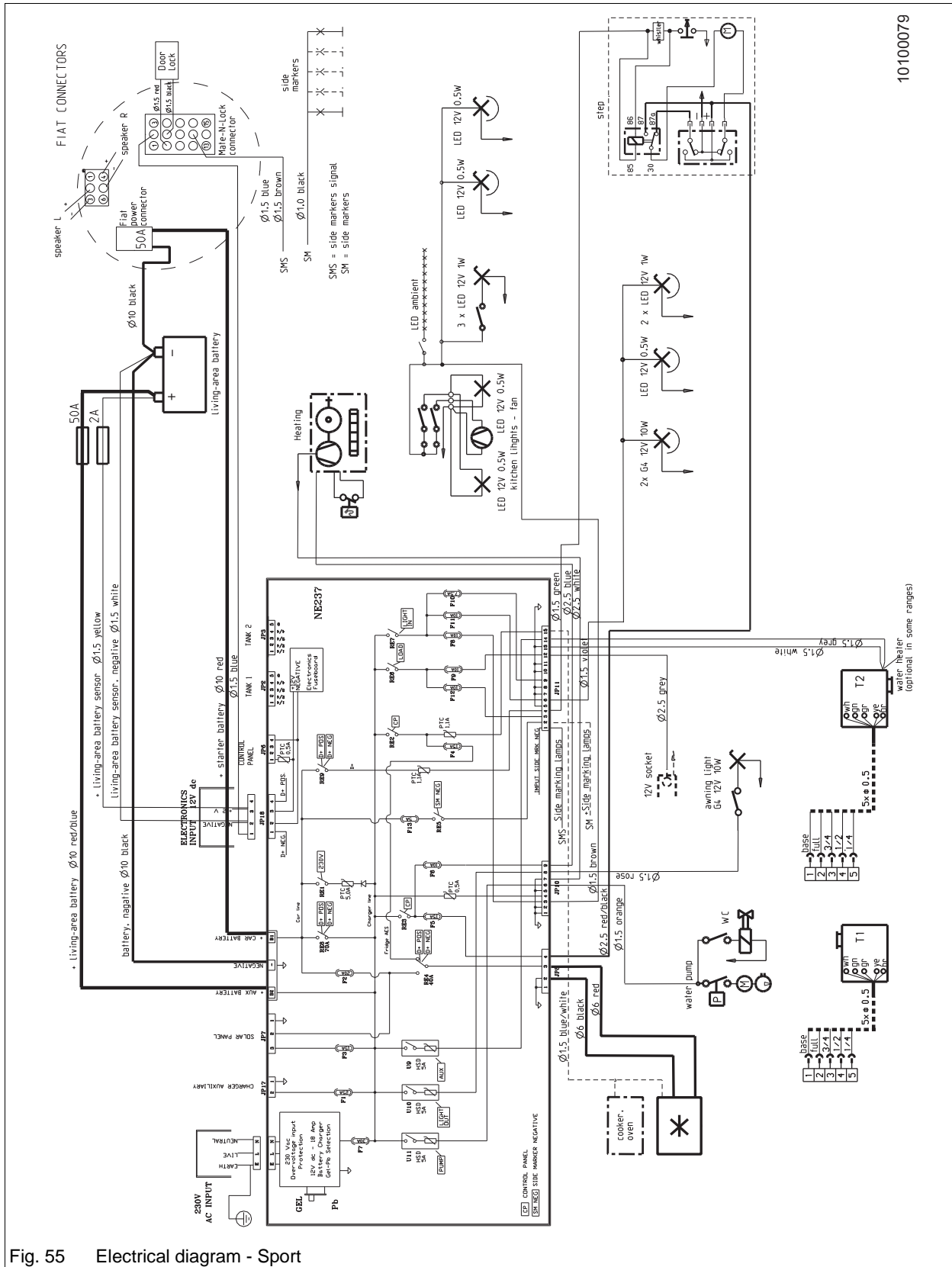


Caution!

Damage to the electrical system

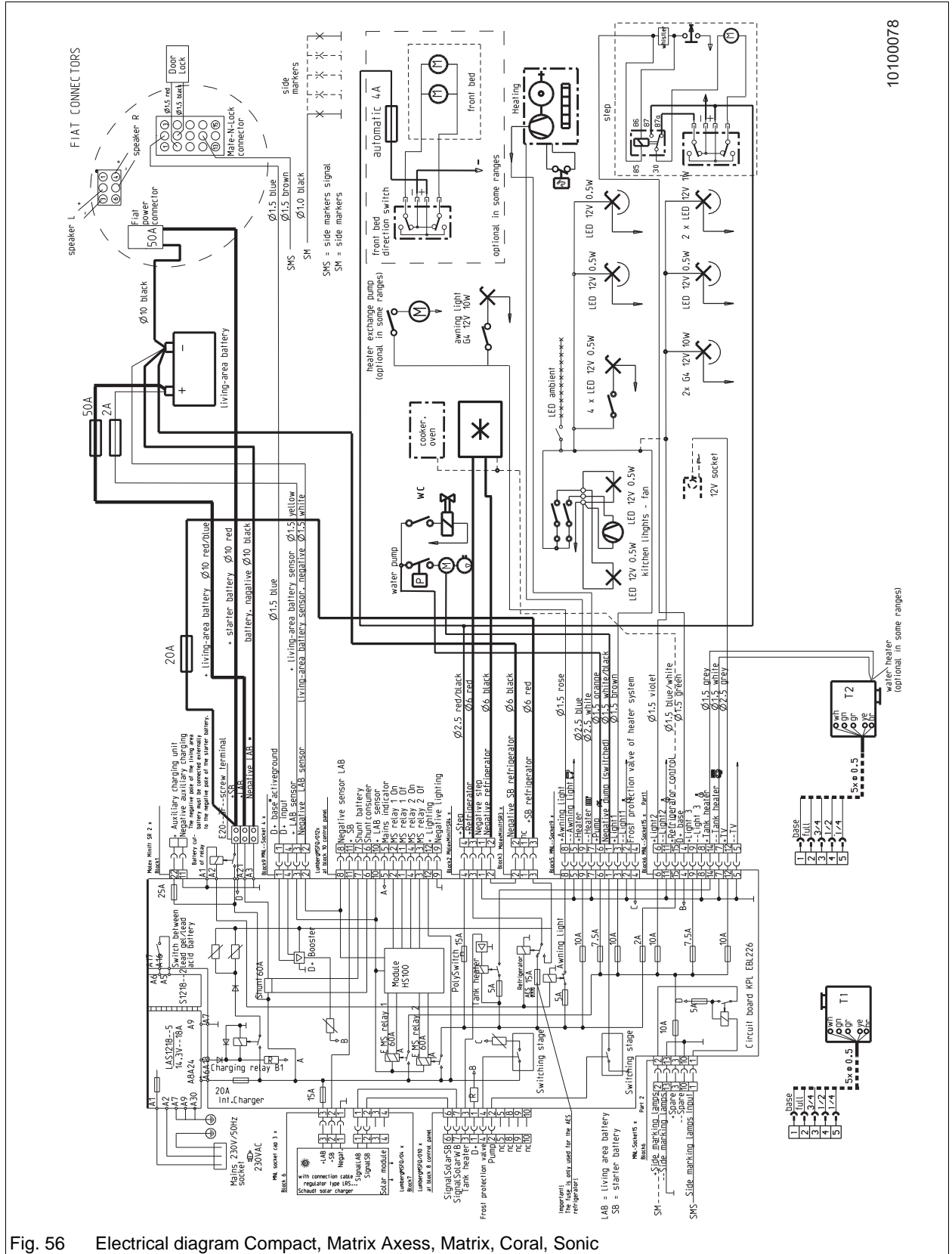
- ▲ Have maintenance and repair work performed by an authorised workshop.
- ▲ Improper maintenance and repair work voids your warranty claims.

10.6.1 Electrical diagram - Sport



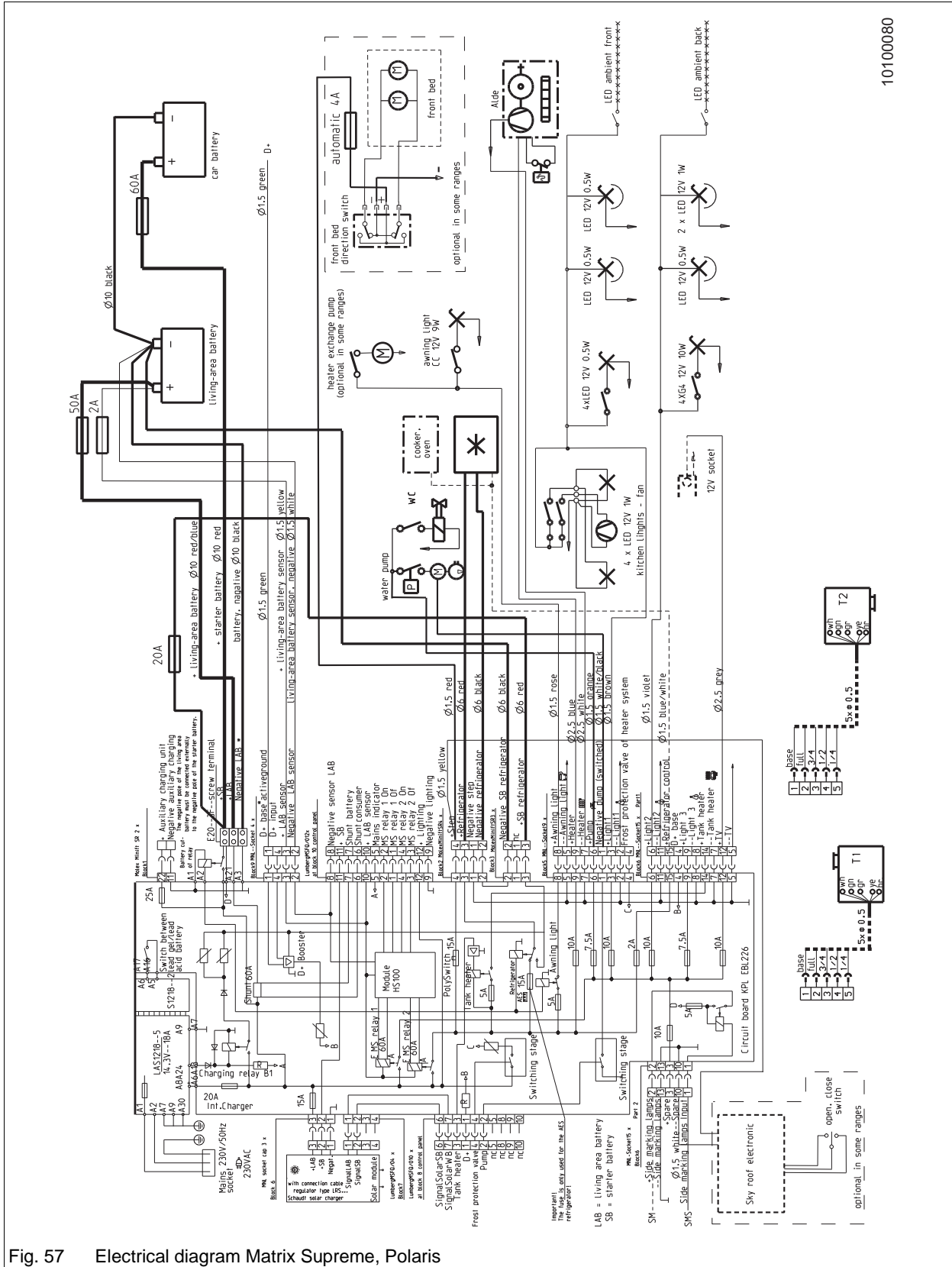
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10.6.2 Electrical diagram Compact, Matrix Axess, Matrix, Coral, Sonic



10100078

10.6.3 Electrical diagram Matrix Supreme, Polaris



10100080

11 Gas system

11.1 General information about the gas system

Familiarise yourself with the safety instructions for handling gas.

For general safety instructions concerning the topic of "gas", see the "Safety instructions for the gas system" (Chapter 2.5).



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!
 - Ventilate 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 and on ferries or in garages!
 - Close the quick-action stop valves
 - Close the gas cylinder valves



Warning!

Warning

- ▲ 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!

**Important!**

- 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 and possibly, depending on national regulations, an associated gas inspection sticker.
- 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 liquid 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 skylights and in the entrance nor the mushroom ventilators.
- When there is snowfall in winter, keep the forced ventilation free from ice and snow! (Chapter 17.3).

11.2 Gas cylinder compartment

**Caution!****Gas cylinder compartment**

- ▲ Always keep the forced ventilation in the floor free!
- ▲ Always keep gas cylinders upright and lashed.
- ▲ Do not use the gas cylinder compartment as storage space. Danger of fire!

The gas cylinder compartment is accessible from the outside only.

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

Secure the gas cylinder compartment against unauthorised access.

11.3 Gas types

The gas-operated appliances are operated with liquid gas (propane, butane or a mixture of both).

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 cylinder compartment.
- ➔ Lock the gas cylinder compartment securely against unauthorised 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 liquid 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 liquid 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 heater	170 - 490	g/h
Cooker	100 - 400	g/h
Refrigerator	10 - 25	g/h
Oven	50 - 200	g/h

Tab. 11-1 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 cylinder compartment 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 screw and protective cap.
- ▲ Always keep the screw and protective caps for connected gas cylinders available.
- ▲ 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. Risk of explosion!
- ▲ 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 cylinder compartment is designed for one or two 11 kg gas cylinders depending on the model.

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 Gas pressure regulator SecuMotion/MonoControl CS (special equipment)



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

- ▲ Perform a leak test on the connections of the high-pressure hose after changing the gas cylinders.
- ▲ Use a leak detector spray according to DIN EN 14291.



Important!

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

As an option, a Truma DuoComfort switch-over valve (special accessory) can be connected to the gas pressure regulator for the twin-cylinder system.

Use commercially available gas cylinders with 3 kg, 5 kg, 11 kg or 33 kg.

Always stand gas cylinders upright and secure them against falling over.

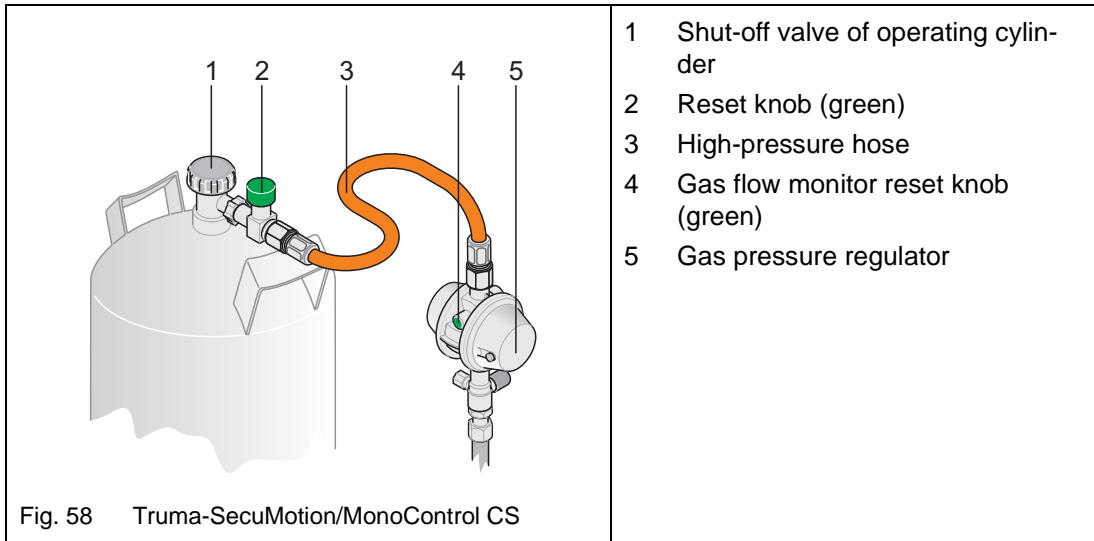
Do not kink or bend the high-pressure hose (Fig. 58/3) sharply!

11.6.1 Placing the SecuMotion/MonoControl CS into service



Important!

If not used for a longer period and with the gas cylinders closed, the SecuMotion/MonoControl CS can be switched off.



Placing the SecuMotion/MonoControl CS into service:

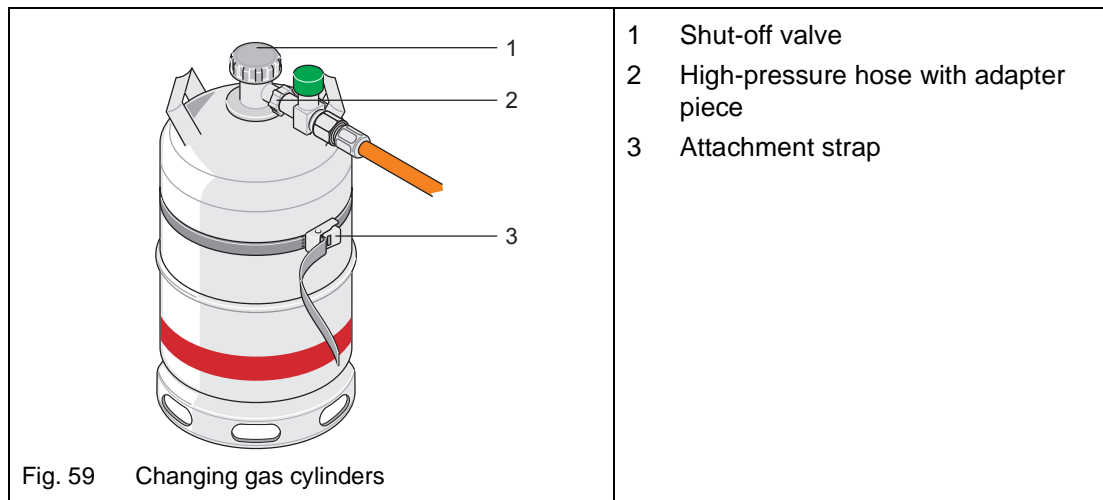
- ➔ Open the shut-off valve (Fig. 58/1) of the full gas cylinder.
- ➔ Press the reset knob (green button) (Fig. 58/2) on the high-pressure hose (Fig. 58/3) firmly and hold it depressed briefly.
- ➔ Hold the gas flow monitor reset knob (green button) (Fig. 58/4) on the gas pressure regulator (Fig. 58/5) depressed for approx. 5 seconds.
- ➔ If required, repeat the process.

The gas appliances can now be placed into service.

11.6.2 SecuMotion/MonoControl CS - changing gas cylinders

Use the screwing tool provided for screwing the high-pressure hose on and off.

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



Changing gas cylinders

- ➔ Close the shut-off valve (Fig. 59/1) of the empty gas cylinder.
- ➔ Unscrew the high-pressure hose with adapter piece (Fig. 59/2) from the gas cylinder or remove the plug-on adapter, if required.
- ➔ Replace the empty gas cylinder in the gas cylinder compartment by a full gas cylinder.
- ➔ Secure the gas cylinders against falling over with an attachment strap (Fig. 59/3).
- ➔ Screw the high-pressure hose with adapter piece (Fig. 59/2) to the full gas cylinder or insert the plug-on adapter.
- ➔ Open the shut-off valve of the full gas cylinder.
- ➔ Press the hose rupture protection and green gas flow monitor (Chapter 11.6.1).

11.6.3 SecuMotion/MonoControl CS - changing the high-pressure hose



Important!

Also replace the seal after every change of 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.

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

Changing the high-pressure hose:

- ➔ Close the shut-off valve (Fig. 59/1) of the gas cylinder.
- ➔ Unscrew the high-pressure hose from the adapter piece of the gas cylinder (Fig. 59/2) and from the regulator inlet or remove the plug-on adapters, if required.
- ➔ Screw a new high-pressure hose to the adapter piece of the gas cylinder (Fig. 59/2) and the regulator inlet, attach the plug-on adapter.
- ➔ Open the valve of the gas cylinder.
- ➔ Press the hose rupture protection and green gas flow monitor (Chapter 11.6.1).

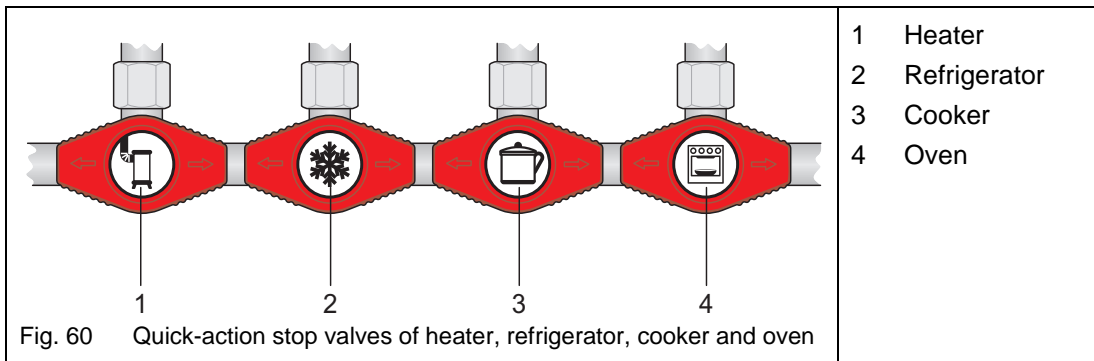
11.7 Quick-action stop valves



Important!

If the gas appliance is not used, the respective quick-action stop valve must be closed.

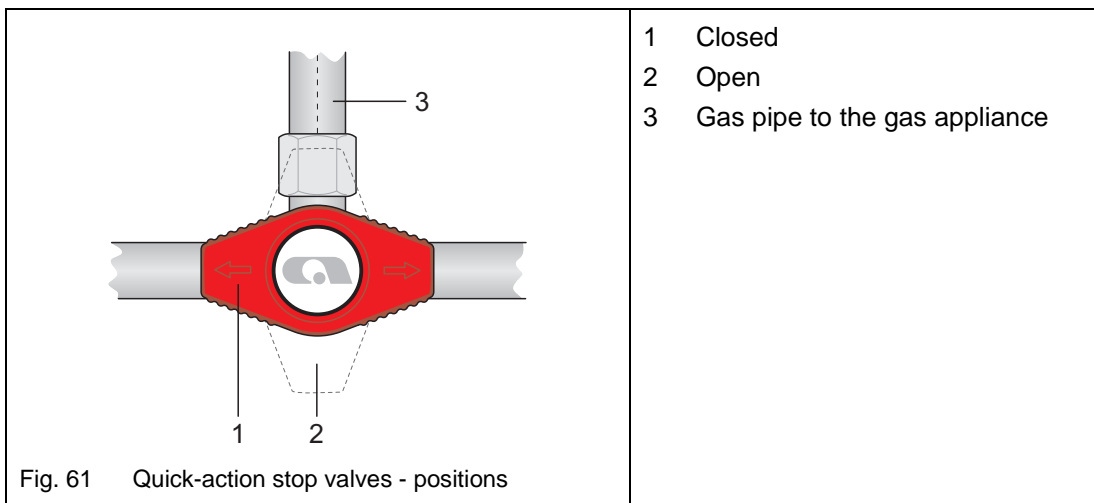
The gas distribution to the individual gas appliances is performed via the gas quick-action stop valves.



Each gas appliance has its own quick-action stop valve.

These are marked with suitable symbols to prevent mistakes:

- Heater (Fig. 60/1)
- Refrigerator (Fig. 60/2)
- Cooker (Fig. 60/3)
- Oven (Fig. 60/4)



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. 61/1): The arrows on the quick-action stop valve are positioned on the gas appliance crosswise to the direction of the gas pipe (Fig. 61/3).
 - Quick-action stop valve open (Fig. 61/2): The arrows on the quick-action stop valve are positioned in the direction of the gas pipe to the gas appliance (Fig. 61/3).

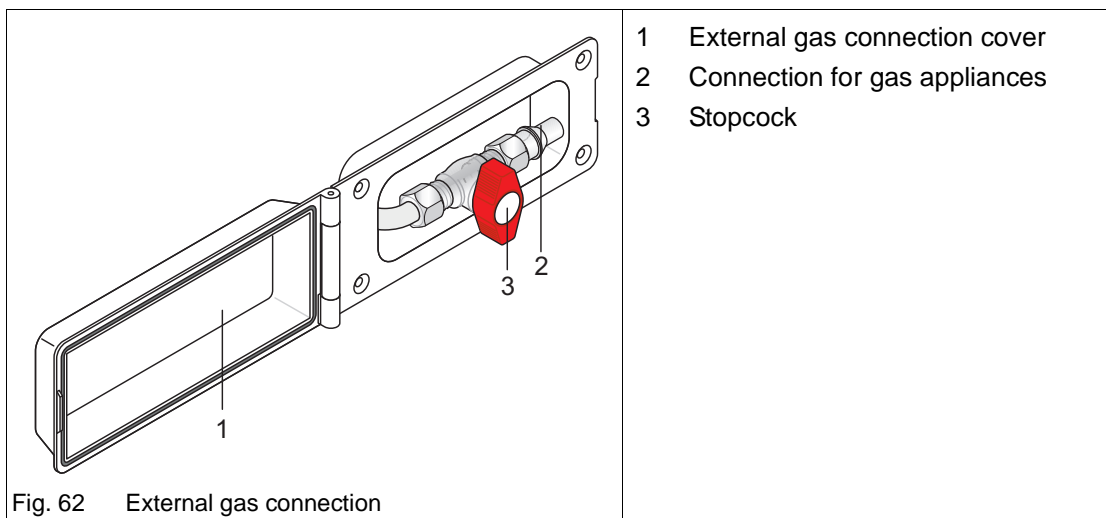
11.8 External gas connection (special accessory)



Danger!

Risk of explosion

- ▲ Only use a suitable adapter to connect to the external gas connection.
- ▲ Only connect gas appliances to the external gas connection that are designed for 30 mbar operating pressure.
- ▲ Check leak tightness of the external gas connection every time a gas appliance is connected. Gas escapes into the air when the gas connection leaks.
- ▲ Close the stopcock and main shut-off valve on the gas cylinder immediately when gas escapes and have the external gas connection checked by an approved specialist workshop.
- ▲ No fire, no smoking and no sparks when connecting a gas appliance to the external gas connection.
- ▲ Filling gas cylinders using the external gas connection is forbidden. Observe the information sticker.
- ▲ Always close the stopcock when no appliance is connected to the external gas connection.



Using the external gas connection:

- ➔ Open the flap for the external gas connection (Fig. 62/1)
- ➔ Attach a suitable adapter to the connection (Fig. 62/2).
- ➔ Open the stopcock (Fig. 62/3).

12 Water and waste water

12.1 Water supply



Warning!

Health hazard

- ▲ Formation of bacteria and algae in the water tank.
 - Change the water at regular intervals including the boiler contents (e.g. twice a week).
 - After the end of every journey or after 4 weeks at the latest, the water tank must be drained, cleaned thoroughly and left open (venting).
 - Thoroughly clean the hoses after the end of each journey.
 - Use disinfectant for the water tank.



Caution!

Damage to the water pump

- ▲ Pumps can run hot without water and can be damaged.
- ▲ Never run pumps when the water tank is empty!



Caution!

Damage to the environment

- ▲ Never drain tanks (water and waste water) in the open countryside!
- ▲ Empty tanks only at petrol stations, resting places, disposal stations or camping sites at the provided places.



Caution!

Damage due to frost

- ▲ When there is a risk of frost, drain the water system of the vehicle.

A water tank is fitted in the vehicle as standard. When a water tap is opened, the installed water pump is switched on when the pump on the control panel is switched on.

Using the water tank:

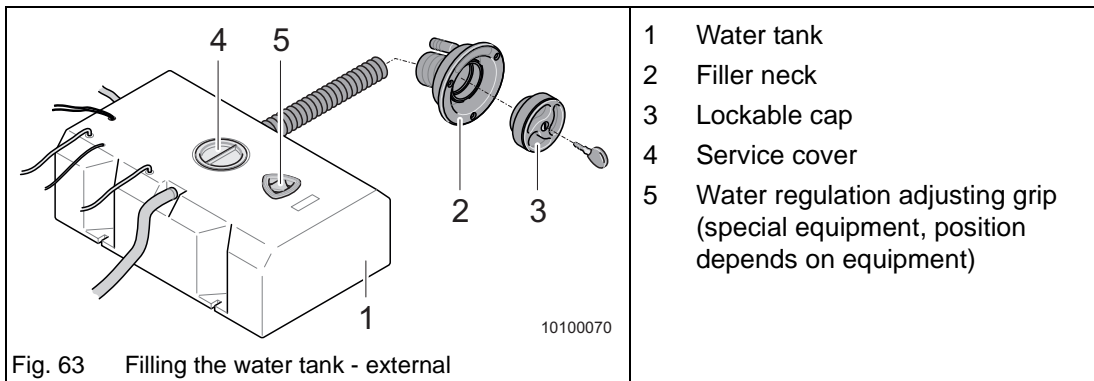
- Thoroughly clean the water tank before starting each journey.
- If possible, fill the water tank only just before staying overnight or at the destination of the journey.
- Avoid additional weight.
- Fill the water tank with drinking water only.

When the vehicle is placed out of service for an extended period of time or is not heated when there is a risk of frost, empty, clean and dry the entire water system (Chapter 12.3). Leave the water taps and drain cocks as well as all drain valves open.

We recommend to check the pipes every 6 months for leaks and to tighten the clamps as well as the connectors.

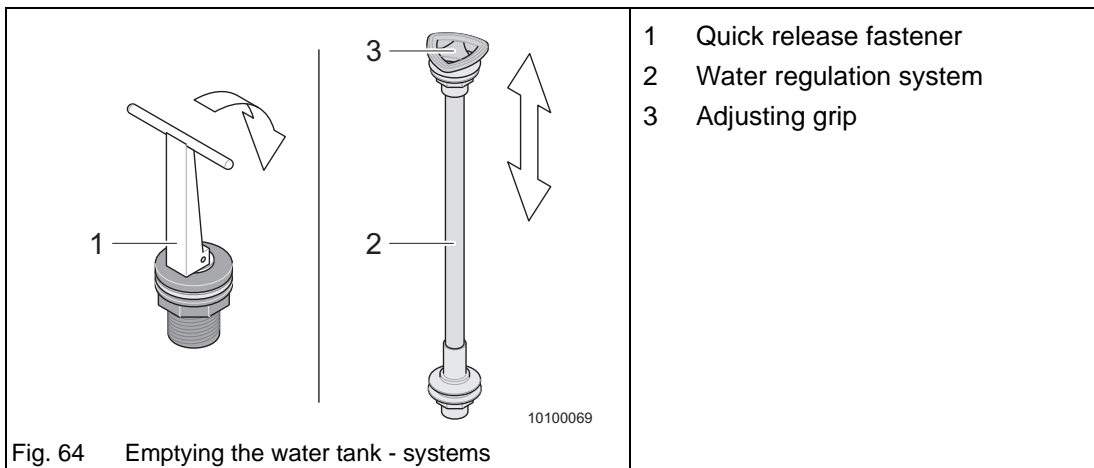
The water supply system corresponds to the state of technology (Directive 2002/72/EC).

12.1.1 Water tank



Filling the water tank (external):

- ➔ Switch the water pump off on the control panel (Chapter 8.8).
- ➔ Close the drain on the tank bottom.
 - Some models are fitted with a water regulation system (special equipment) (Fig. 64/2). An adjusting grip (Fig. 64/3)(Fig. 63/5) is positioned on the top side of the tank to regulate and drain the water.
 - Turn the grip clockwise to close the system and have all the water available for use.
 - Turn the grip anticlockwise until slight resistance is felt to set the water level to approx. 20 l (surplus water is drained off).
- ➔ Unlock and open the lockable cap (Fig. 63/3) on the filler neck (Fig. 63/2).
- ➔ Fill water with a water canister, a watering can or a hose into the water tank.
- ➔ Replace, close and lock the cap.



Draining/cleaning the water tank:

- ➔ Switch the water pump off on the control panel (Chapter 8.8).
- ➔ Open the drain plug on the tank bottom. To do this, depending on the system:
 - Either open the service cover (Fig. 63/4), fold the grip on the plug in the tank (Fig. 64/1) down and pull the plug out,
 - or turn the adjusting grip of the regulation system (Fig. 64/3) or (Fig. 63/5) anticlockwise to the stop.

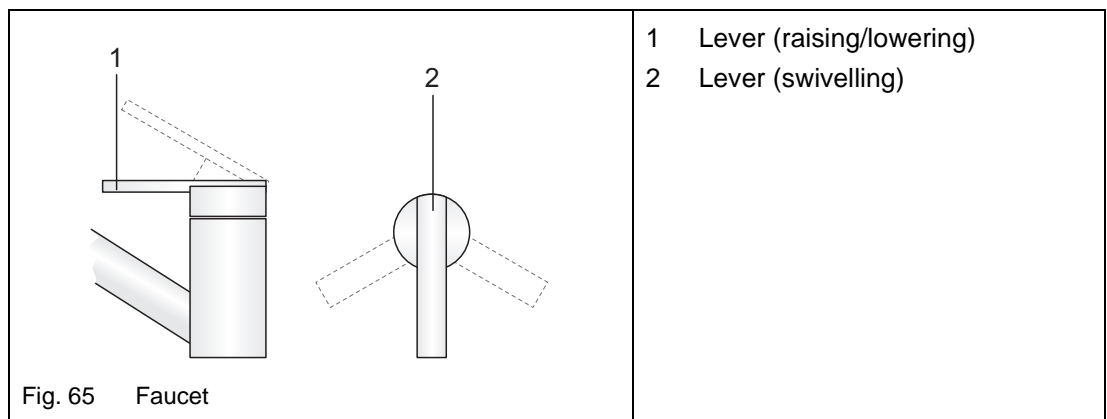
- ➔ Drain the water tank completely.
- ➔ Clean the inside of the tank.
- ➔ Close the plug in the tank bottom, and the service cover when necessary.

12.1.2 Faucet

Drawing of hot and cold water is performed with a single-lever faucet.

Depending on the installation position, the water temperature is controlled either by raising and lowering or swivelling the lever.

The switch on the faucet only works when the water supply is switched on on the control panel.



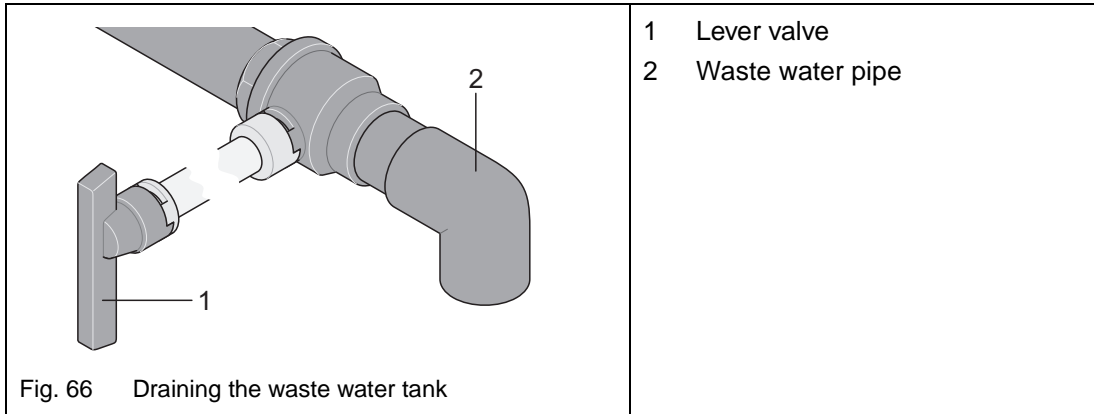
Operating the faucet:

- ➔ Move the lever (Fig. 65/1) upward to turn on the water pump.
Water is running.
- ➔ Adjust the desired temperature by swivelling the lever (Fig. 65/1).
- ➔ Lever in the "red" direction: The water becomes warmer.
- ➔ Lever in the "blue" direction: The water becomes cooler (minimum ambient temperature of the water tank).
- ➔ Push the lever (Fig. 65/1) fully downward to stop the water.

12.2 Waste water

The accruing waste water from the sink in the kitchen and the shower and the washbasin in the bathroom is collected centrally in the waste water tank.

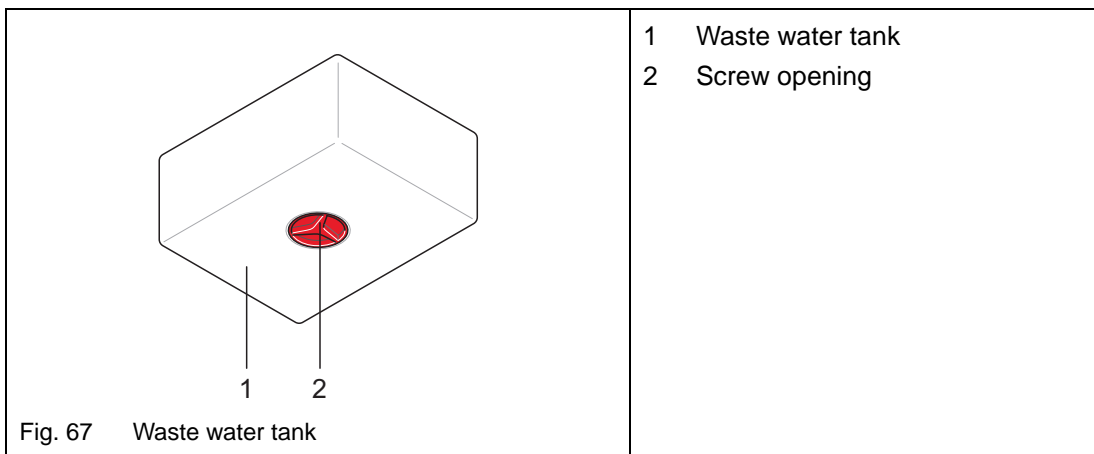
The drain pipe and the handle for the drain valve are located on the underside of the vehicle.



Emptying the waste water tank:

- ➔ Position the vehicle over the drain position so that the waste water from the waste water pipe (Fig. 66/2) can flow into a gully.
- ➔ Turn the lever (Fig. 66/1) to open the drain valve.
- ➔ When the tank is empty, close the drain valve again.

12.2.1 Waste water tank



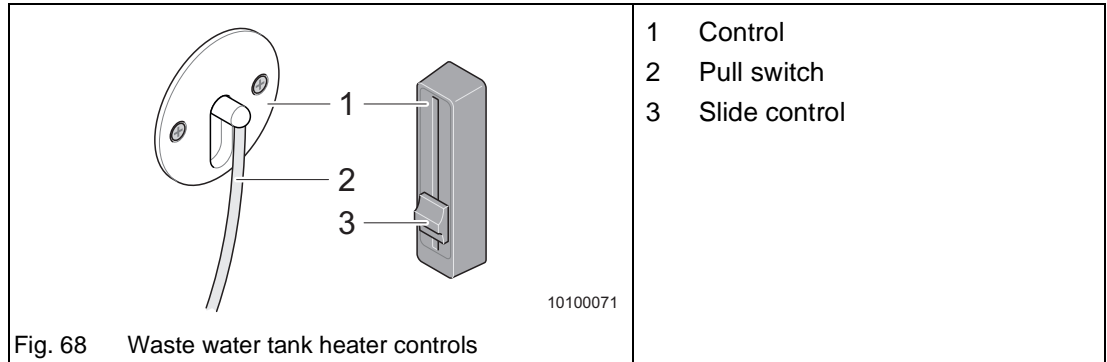
The waste water tank is also located on the underside of the vehicle. For thorough cleaning, the waste water tank of most models has a screw opening that is accessible from below. Stubborn soiling can thus be eliminated.

12.2.2 Waste water tank heater (special equipment)

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.

12.2.2.1 Circulating air waste water tank heater

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



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: Slide the control upwards (red arrow).
- ➔ Switching off: Slide the control downwards (blue arrow).

The installation position of the circulating air waste water tank heater depends on the model.

12.2.2.2 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 when the tank has been drained.

- ➔ Switch on the 12 V supply.
- ➔ Switch the tank heater on on the control panel.

If the tank heater is activated, it is automatically switched on when the temperature is below +5 °C.

12.3 Emptying the water system



Caution!

Damage due to frost

- ▲ Prevent frost damage to the water system.
- ▲ If the vehicle is not heated when there is a risk of frost (winter), damage to the components of the water or waste water system can occur due to the formation of ice. Drain all water-conducting components.

When the vehicle is placed out of service for an extended period of time or is not heated when there is a risk of frost, empty, clean and dry the entire water system. Leave the water taps and drain cocks as well as all drain valves open.

Draining the water supply:

- Switch the water pump and boiler off.
- Open all water taps to the center position.
- Empty the water tank (Chapter 12.1.1)
- Open the boiler safety valve (Chapter 13.1.7).
- The tank must be rinsed, cleaned and allowed to dry.
- On vehicles with pressure pump, switch the pump on for a short time to remove residual water.
- Leave all water taps open in the center position until the vehicle is placed into service again. The water pump may be switched on only when water has been filled.

Emptying the waste water system:

- Allow the waste water to flow into the waste water tank.
- Drain the waste water tank at the intended waste water disposal station.
- Drain the WC cassette.

13 Heater & hot water



Danger!

Risk of fire

- ▲ 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.



Danger!

Risk of explosion

- ▲ Never let unignited gas flow out.
- ▲ Switch the heater off before filling the fuel tank, when on ferries and in garages.



Danger!

Risk of poisoning

- ▲ Before placing the gas heater into service in winter operation, check the cowl on the vehicle roof is free from snow and ice.
- ▲ Check the exhaust gas pipe for damage before switching the heating on. Do not use the heater with a damaged exhaust gas pipe.
- ▲ Do not close off or cover the exhaust cowl.
- ▲ Use cowl extensions during winter camping, snow must not cover the exhaust cowl.
- ▲ Do not use the space behind the heating for storage.



Danger!

Risk of poisoning and suffocation from the exhaust cowl on the right vehicle side

- ▲ When the awning is in place and the heater operates in gas mode, the heater exhaust gases can collect under the awning. There exists the risk of poisoning and suffocation due to lack of oxygen and the possibly generated odourless and toxic carbon monoxide (CO).
- ▲ Ensure adequate ventilation!



Important!

- The heater can be run with gas during the journey when the gas supply is fitted with a SecuMotion/MonoControl CS gas pressure regulator (special equipment) (Chapter 11.6).
 - ➔ Before starting the journey, obtain information concerning special provisions of the country to be visited (EN 732).
- Observe the safety instructions for the gas system (Chapter 2.5 and Chapter 11.5).

Depending on the model, the gas heater fitted in your vehicle is supplied by different manufacturers and with differing functional scope. The heater system is used to heat the living area and for providing hot water.

13.1 Gas heater Truma Combi and Truma Combi E (special equipment)



Important!

- The function of Truma Combi and Truma Combi E is almost identical.
 - ➔ For the operation of Truma Combi E, the power must first be set with the power selector switch.
- When new heaters are placed into service for the first time, there is a light generation 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 to ventilate the motorhome thoroughly during this period.



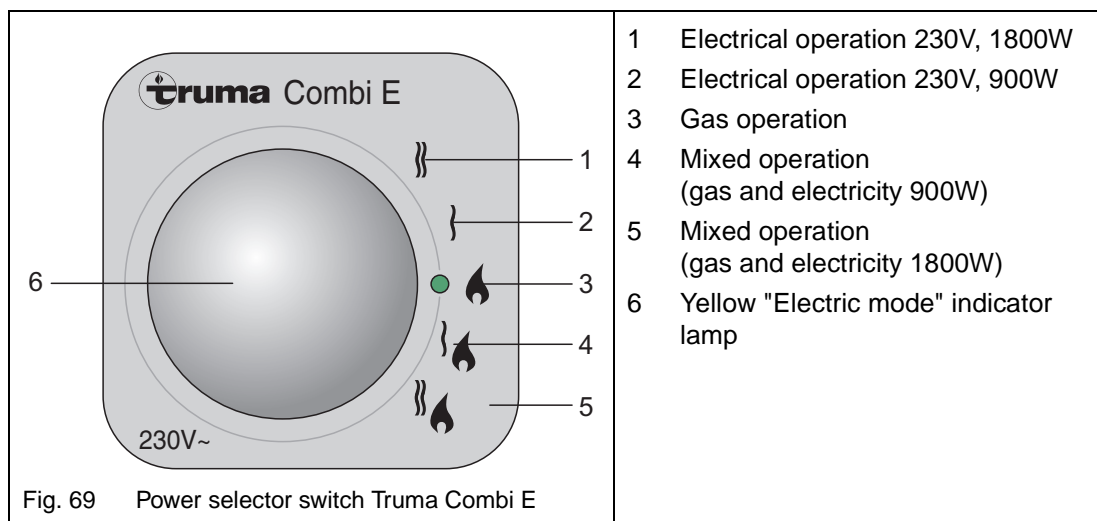
Important!

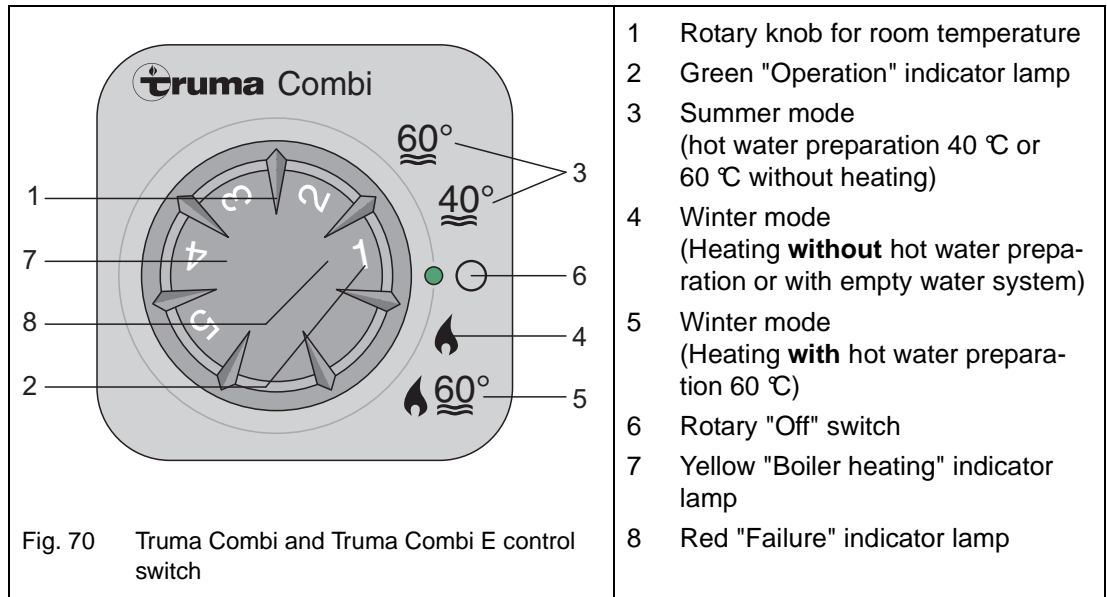
For more information, see the separate instructions from the manufacturer.

The Truma Combi and Truma Combi E liquid gas heaters are warm-air heaters with integrated hot-water boiler. The burner operates fan-supported which ensures trouble-free function even during the journey.

The Truma Combi E has additional heating rods for electrical operation. Three power selection options are therefore available for the operation of this appliance:

- Gas only for independent operation
- Electricity only (230 V) for stationary operation at a camping site
- Gas and electricity simultaneously (possible only in winter mode).





13.1.1 Placing into service



Important!

Heating is always possible in all operating modes (gas, electric and mixed operation) with and without water.

Check the following each time before placing the heater into service:

- Is the exhaust cowl free?
Otherwise remove the cover from the exhaust cowl.
- Is the shut-off valve of the gas cylinder open?
- Is the "Heater" quick-action stop valve on the distributor block open?

For electrical operation (Truma Combi E):

- Is the circuit protection for the 230V power supply at the camping site adequate? (900W - 3.9A / 1800W - 7.8A)
- Has the connecting cable been fully unwound from the cable reel?
- Is the 230 V circuit breaker in the vehicle switched on?

13.1.2 Summer mode

Important!

Mixed operation (gas and electricity) is not possible in summer mode. With this setting, the unit automatically selects electrical operation with the preselected electrical power of 900 W or 1800 W.

Preparing hot water:

Boiler must be filled with water (Chapter 13.1.8).

- ➔ Set to gas or electric operation on the power selector switch (Fig. 69) (only for Truma Combi E).
- ➔ Set the rotary switch to summer mode (Fig. 70/3) 40 °C or 60 °C.
- ➔ When the equipment is switched on, the green and the yellow indicator lamps (Fig. 70/7) go on.
- ➔ In electrical operation, the yellow indicator lamp (Fig. 69/6) on the power selector switch also goes on (only for Truma Combi E).
- ➔ When the set water temperature (40 °C / 60 °C) is reached, the burner is switched off and the yellow indicator lamp (Fig. 70/7) goes off.

13.1.3 Winter mode

13.1.3.1 Heating with hot water preparation:

Important!

The water can be heated to up to 60 °C depending on the heating power that is required to achieve the room temperature.

Boiler must be filled with water (Chapter 13.1.8).

- ➔ Set to the desired operating mode on the power selector switch (Fig. 69) (only for Truma Combi E).
- ➔ Set the rotary switch to "60 °C heating" (Fig. 70/5).
- ➔ Turn the rotary knob (Fig. 70/1) on the control panel to the desired thermostat setting (1-9) for room temperature.
- ➔ The green "On" indicator lamp (Fig. 70/2) and the yellow water heating indicator lamp (Fig. 70/7) on the control panel go on.
- ➔ In electrical operation, the yellow indicator lamp (Fig. 69/6) on the power selector switch also goes on (only for Truma Combi E).
- ➔ The unit gradually reduces the power until the selected room temperature is reached. If the room temperature has been reached but the water still has to be heated, the circulation fan switches off and the water continues to be heated to a temperature of 60 °C at the lowest power setting.
- ➔ The yellow indicator lamp (Fig. 70/7) is on during heating and goes off when the water temperature is reached (60 °C).

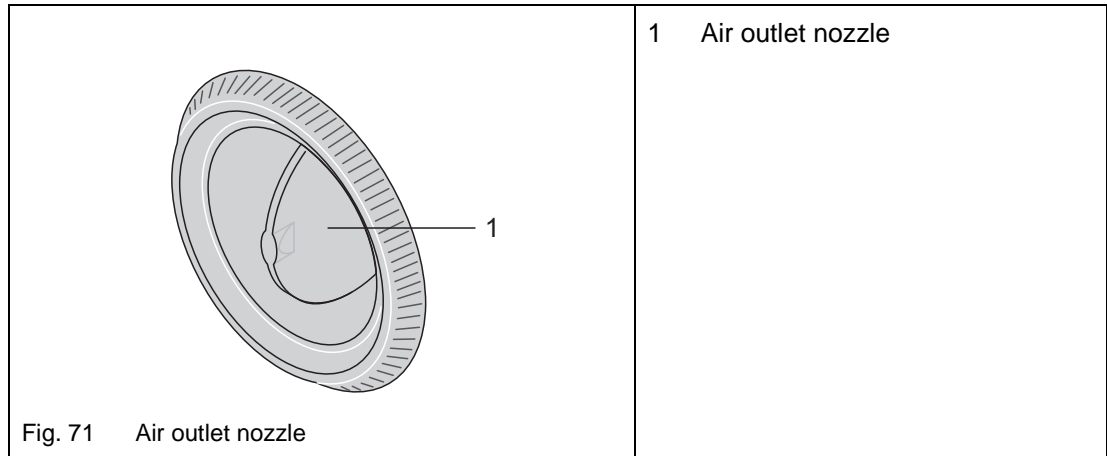
13.1.3.2 Heating without hot water preparation:



Important!

- When the boiler is filled, the water is automatically heated.
 - The water temperature is dependent on the specified heater performance and the duration of the heating for reaching the room temperature.
- ➔ Set to the desired operating mode on the power selector switch (Fig. 69) (Truma Combi E).
 - ➔ Set the rotary switch to "winter mode" (heating without hot water preparation) (Fig. 70/4).
 - ➔ Turn the rotary knob (Fig. 70/1) to the desired thermostat setting (1 to 5).
 - ➔ After the heater is switched on, the green "On" indicator lamp (Fig. 70/2) on the control switch goes on.
 - ➔ In electrical operation, the yellow indicator lamp (Fig. 69/6) on the power selector switch also goes on (only for Truma Combi E).
 - ➔ In this operating position, the yellow indicator lamp (Fig. 70/7) is only on at water temperatures less than 10 °C.
 - ➔ When the selected room temperature has been reached, the heater switches off, independent of the water temperature. If there is water in the boiler, it will also be heated in this mode of heating.

13.1.4 Heating properly



Several air outlet nozzles (Fig. 71/1) are built into the vehicle. Pipes and flexible hoses conduct the warm air to the 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. 71/1) so that the warm air escapes at the desired positions only.

Adjusting the air outlet nozzles:

- ➔ Fully open the air outlet nozzle (Fig. 71/1) to conduct the full warm air flow to the desired position.

The more the air outlet nozzle is closed (Fig. 71/1), the less warm air flows out.

The more air outlet nozzles are open, the less warm air flows out at the individual nozzles.

13.1.5 Switching off the gas heater

- Set the rotary switch to "Off" (Fig. 70/6).
- The fan can continue to run after switching off in order to utilise the residual heat. The green indicator lamp flashes.
- Close the "heater" quick-action stop valve 11.7.1 when the heater is not used for an extended period of time.
- Close the gas cylinder shut-off valve 11.6 when no other gas appliance is in operation.

13.1.6 Malfunctions



Important!

If a fault shut-off occurs during mixed operation when using Truma Combi E (e.g. because of an empty gas cylinder), the heater continues to run in electrical operation.

13.1.6.1 Gas operation fault

When the heater malfunctions in gas operation, the red indicator lamp (Fig. 70/8) is on.

See the Chapter 21.6 "Truma Combi faults" for possible causes.

- The fault is reset by switching the heater off and on with the control switch.

13.1.6.2 Electrical operation fault (Truma Combi E)

If a fault occurs in the heating during electrical operation, the yellow indicator lamp (Fig. 69/6) on the power selector switch goes off.

See the Chapter 21.6 "Truma Combi faults" for possible causes.

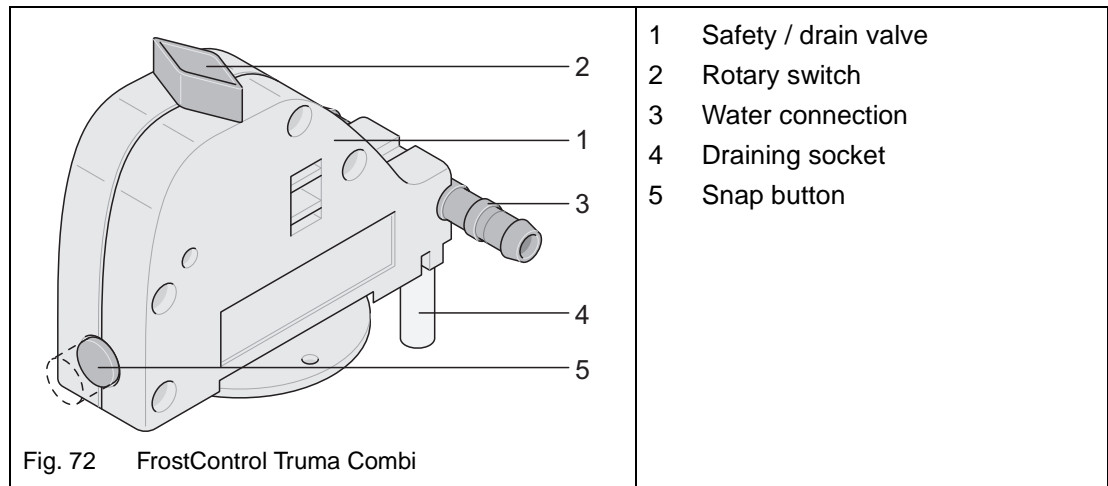


Important!

If the 230 V power supply is interrupted for short periods during operation (approx. 1 second), the heating will resume as normal.

13.1.7 FrostControl (safety / drain valve)

The safety / drain valve is near the heater.



"FrostControl" (Fig. 72/1) is a currentless safety/drain valve. When there is a danger of frost, it automatically drains the contents of the boiler through a draining socket (Fig. 72/4). If excessive pressure is present in the system, pressure will be automatically intermittently equalised through the pressure relief valve.

Closing the drain valve:

- Check if the rotary switch (Fig. 72/2) is set to "Operation" (parallel to the water connection (Fig. 72/3) and is engaged..
It can be manually closed with the snap button (Fig. 72/5) (pressed) and then the boiler filled only when the temperature at the drain valve is above approx. 7 °C.
- Set the heater to summer or winter mode (Chapter 13.1.2 or 13.1.3) and set the rotary switch (Fig. 72/2) of the valve (Fig. 72/1) to "Operation". The rotary switch must engage.
- Press the snap button (Fig. 72/5) into the valve until it engages ("closed" position).
- Always keep the drainage pipe (Fig. 72/4) of the safety / drain valve free from contamination (slush, ice, leaves, etc.).

Automatic opening of the drain valve:

When the temperature at the drain valve is below approx. 3 °C, the drain valve will open automatically, the snap button (Fig. 72/5) springs out and the supply of water of the motorhome drains out through the drainage pipe (Fig. 72/4).

Manual opening of the drain valve:

- Turn the rotary switch (Fig. 72/2) 180° until it engages.
The snap button (Fig. 72/5) springs out and the water drains out through the draining socket (Fig. 72/4).

13.1.8 Filling the water heater



Caution!

Damage to heater

- ▲ A pressure reduction valve must be used when connecting to a central public water supply. This prevents pressures above 2.8 bar in the water heater.



Important!

- If the temperature at the drain valve is below approx. 7 °C, you first have to switch on the heater to heat the installation area and the FrostControl. After a few minutes and when the temperature is above 7 °C, the drain valve can be closed.
- If just the cold water system is being operated without using the water heater, it is still filled with water. To avoid damage by frost, the water must be drained by operating the safety / drain valve - even when the water heater has not been used.

- ➔ Check the rotary switch of the "FrostControl" is set to "Operation" (parallel to the water connection).
- ➔ Close the drain valve by pushing in the snap button.
- ➔ Switch on the power for the water pump (main and/or pump switch).
- ➔ Open the hot water taps in the kitchen and the bathroom.
 - Set the temperature selector or single-lever faucets to "hot".
 - Leave faucets open until the air has been forced out of the water heater and water flows out of the faucets.

13.1.9 Draining the water heater

- ➔ Interrupt the power supply for the water pump.
- ➔ Open the hot water taps in the kitchen and the bathroom.
- ➔ Place a bucket underneath the outlet.
- ➔ Turn the rotary switch of the drain valve 90° until it engages (Fig. 72/2).
The water heater is now drained to the outside.
- ➔ Check the complete volume has been drained.

13.2 Gas heater Alde Compact (special equipment)



Caution!

Damage to heater

- ▲ Only authorised and qualified personnel may perform work on the electronic control panel of the central heating!



Important!

Central heating Alde Compact has an "ionizing flame control", i.e. if the flame goes out, the electronic control panel attempts to ignite the flame again. If the flame does not ignite within 10 seconds, the solenoid valve shuts off the gas supply and the electronic control panel.

→ Reset by switching the heater off and on again using the On/Off button (Fig. 73/8)



Important!

- When the set room temperature is below the actual room temperature, the heater runs automatically in summer mode and produces just warm water.
- The hot water is heated to approx. 50 °C in normal operation. If a larger amount of water is required, for example for taking a shower, the preselected temperature can be increased to approx. 65 °C by pressing the + button (Fig. 74/3). The heater switches back to normal operation after 30 minutes.
- For more information, see the separate instructions from the manufacturer.

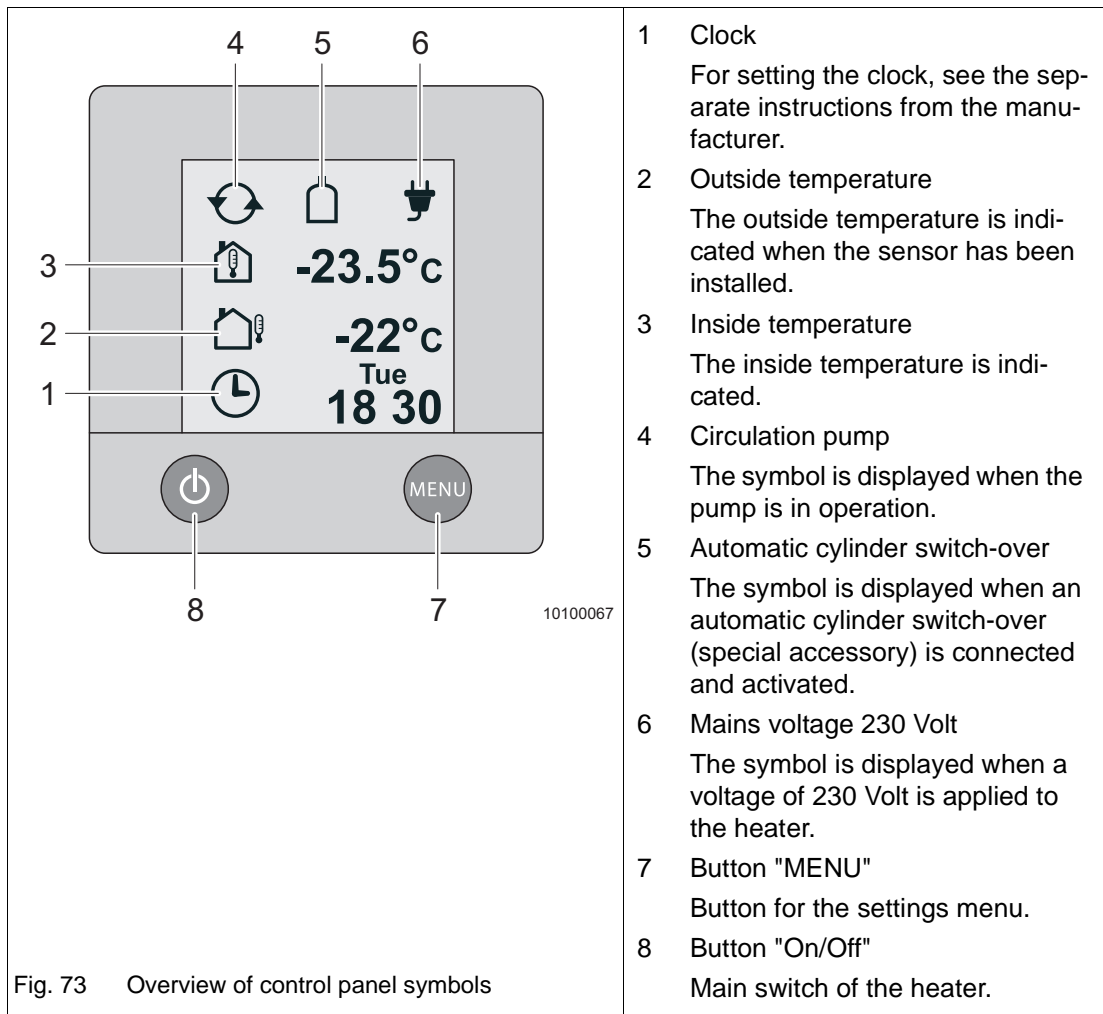
The liquid gas heater Alde Compact is a warm water heater with integrated warm water boiler. It also has heating rods for electronic operation so that three options are available for the energy source:

- Gas only - for independent operation
- Electricity only (230 V) for stationary operation at a camping site
- Gas and electricity at the same time (only possible in winter mode)

The radiators through which glycol fluid is pumped by a switch-on circulation pump are installed distributed in the motorhome so that a constant temperature is achieved in the whole interior of the motorhome.

The gas heater Alde Compact is controlled using the control panel. The control panel has a touch-sensitive display. Just pressing the display surface lightly serves to enter most of the settings.

The performed settings are automatically saved after ten seconds. After two minutes, the control panel switches automatically to standby when no buttons are pressed.



13.2.1 Placing into service



Important!

- Heating is always possible in all operating modes (gas, electric and mixed operation) with and without water.
- Heating with electricity is to be preferred to heating with gas.

Check the following each time before placing the heater into service:

In gas operation:

- ➔ Is the exhaust cowl free?
Otherwise remove the cover from the exhaust cowl.
- ➔ Is the shut-off valve of the gas cylinder open?
- ➔ Is the "Heater" quick-action stop valve on the distributor block open?

In electrical operation:

- ➔ Is the circuit protection for the 230V power supply at the camping site adequate? (1 kW ~ 4.4 A/2 kW ~ 8.7 A/3 kW ~ 13.1 A)?
- ➔ Has the connecting cable been fully unwound from the cable reel?

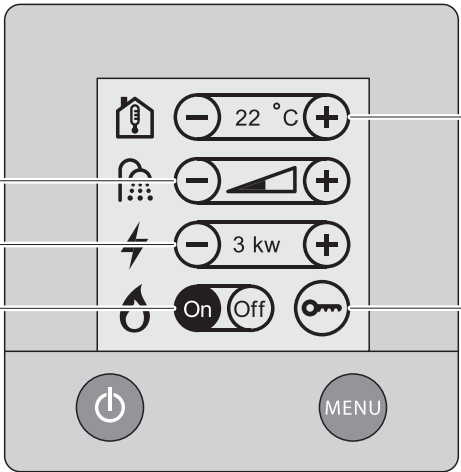
- ➔ Is the 230 V circuit breaker in the vehicle switched on?

Placing the heater into service:.

- ➔ Check the heater liquid level (Chapter 20.5.1).
- ➔ Press the "On/Off" button to start the heater (Fig. 74/8).
The Start screen is displayed. The heater starts with the settings used last.
- ➔ Control of central heating with the control panel (Fig. 74/1 to 5).

13.2.2 Settings

Press the "MENU" button to set the operating mode or temperature (Fig. 73/7). When the Menu button is actuated, background lighting comes on and the functions that can be set are displayed.

	<ol style="list-style-type: none"> 1 Heating with gas Press the "On" button to switch gas operation on. Press the "Off" button to switch gas operation off. 2 Heating with electricity Select the power (Off, 1 kW, 2 kW or 3 kW) by pressing the "+" or "-" button. Some heaters only have 1 kW or 2 kW. 3 Hot water temperature Press the "+" button to increase the hot water volume for 30 min. Press the "-" button to return to the basic settings for hot water before 30 min. have expired. 4 Room temperature Press the "+" button to increase the temperature. Press the "-" button to reduce the temperature. 5 Tools menu See the separate manufacturer's instructions for further settings.
<p>Fig. 74 Overview of control panel menu</p>	

13.2.3 Heat exchanger (special equipment)

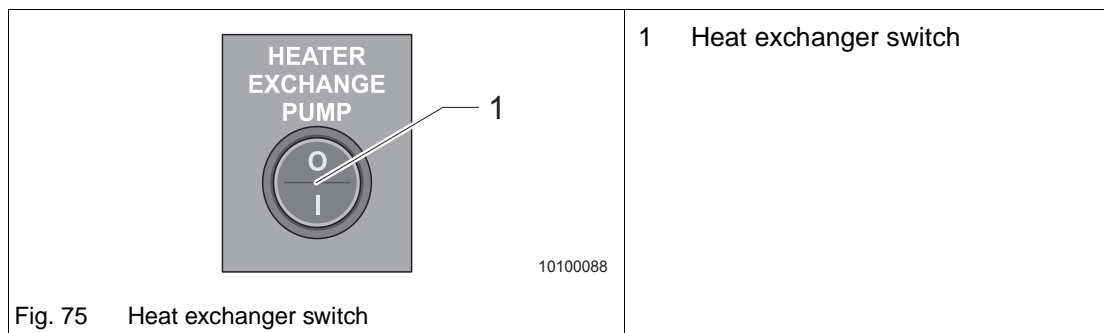
Depending on the vehicle equipment, the warm water heater Alde Compact can be connected to the engine cooling circuit using a heat exchanger.

Heating the living area during the journey:

- Switch the heater on (Chapter 13.2.1).
- Switch electrical operation (Fig. 74/2) and gas operation (Fig. 74/1) off on the control unit of the warm water heater Alde Compact (set to "Off").
- Set the temperature value (Fig. 74/4) on the control unit of the warm water heater Alde Compact higher than the actual room temperature.

This switches the circulation pump on and supplies warm water to the convectors in the living area.

Heating the coolant of the basic vehicle is standing still:



- Switch the heater on (Chapter 13.2.1).
- Switch heating operation on on the control panel of the warm water heater Alde Compact (Chapter 13.2.2).
- Switch the "Heat exchanger" switch (Fig. 75/1), next to the control panel "on".
The "Heat exchanger" switch switches the auxiliary circulation pump in the cooling circuit of the basic vehicle on and preheats the engine coolant.

13.3 Auxiliary heater (special equipment)



Caution!

Damage to heater

- ▲ Clogged or obstructed outlet openings (Fig. 76/3) can cause overheating of the heater.
- Keep the outlet openings of the heater free.

Some vehicles have an additional heater in the living area which is incorporated in the engine-coolant circuit. The second row of seats can be heated with this heater during the journey.

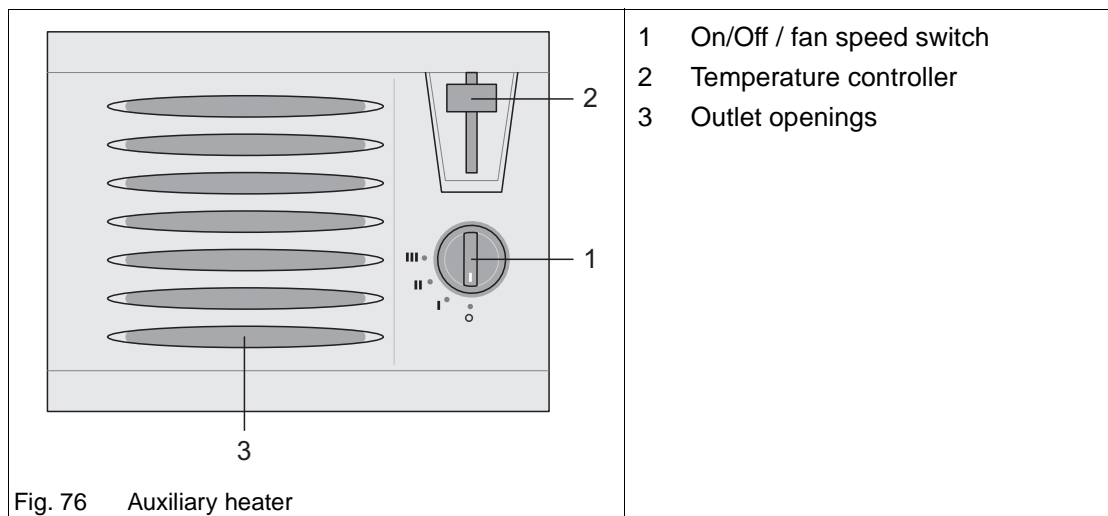


Fig. 76 Auxiliary heater

Using the auxiliary heater:

- Set the switch (Fig. 76/1) to positions "I -III" to switch on the heater.
- Slide the temperature controller (Fig. 76/2) to set an agreeable temperature.
- To switch the heater off, set the switch (Fig. 76/1) to the "0 position" again.

13.4 Floor heating (special equipment)

Depending on the model and special equipment, your vehicle has been fitted with floor heating. The floor heating serves to heat the floor surfaces in your vehicle slightly.

Electric heating foils are used in connection with a Truma warm air heater. Heating foils or warm water channels can be installed in vehicles with an Alde warm water heater.

13.4.1 Electrical floor heating



Danger!

Risk of electric shock or short-circuit

- ▲ Do not drill any holes or screw in any screws in the floor when the vehicle is fitted with electrical floor heating.



Danger!

Risk of overheating

- ▲ Do not cover the transformer.

The electrical floor heating can only be used 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.

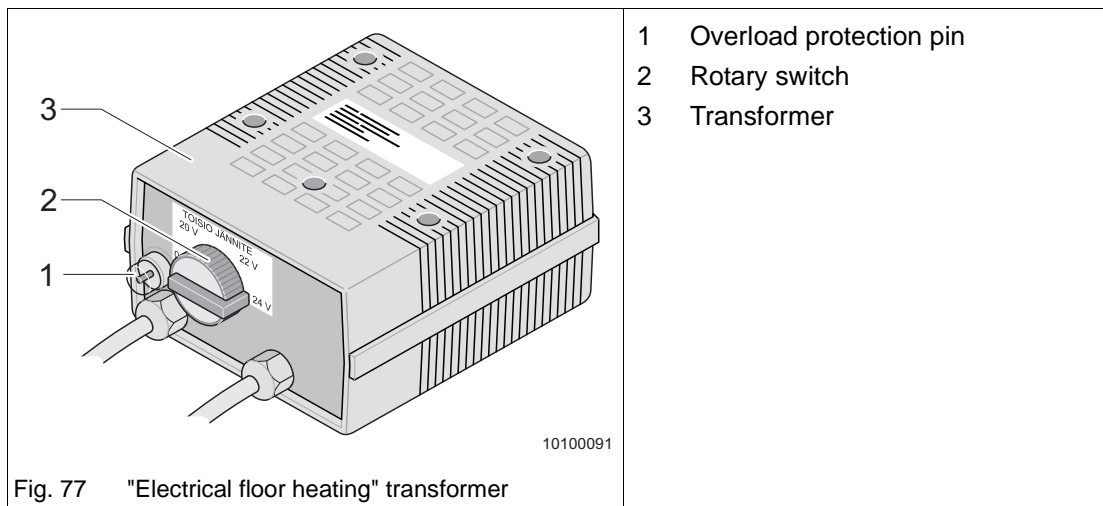


Fig. 77 "Electrical floor heating" transformer

The transformer (Fig. 77/3) for the electrical floor heating is fitted in either a bed box or in the garage depending on the model.

Using the electrical floor heating:

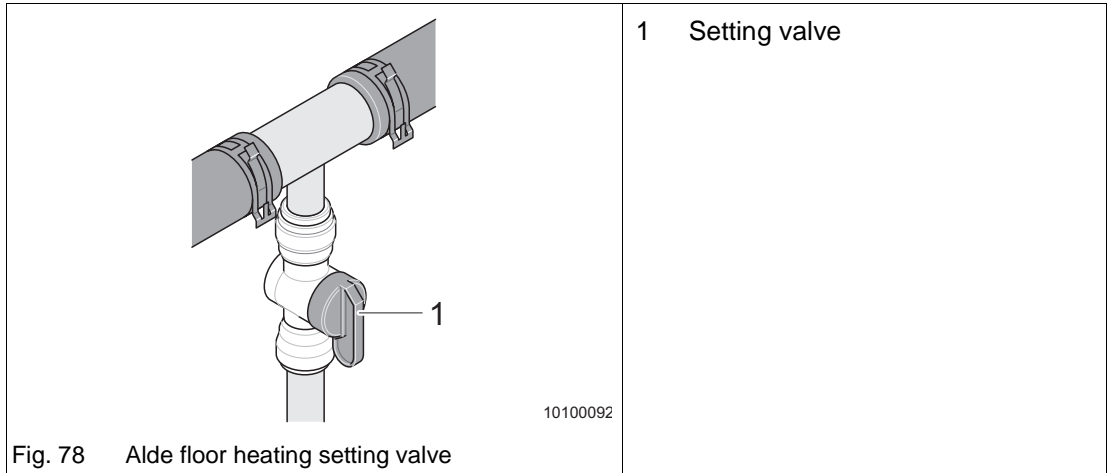
- ➔ Check the circuit protection for the 230V power supply at the camping site is adequate.(350 W - 1.5 A)
- ➔ Check the connection cable is wound off fully from the cable reel.
- ➔ Check the 230 V circuit breaker in the vehicle is switched on.
- ➔ Check the mains plug of the transformer is connected to a 230 V socket.
- ➔ Turn the rotary switch clockwise to the desired heating level to switch the floor heating on.
Select one of the heating levels (20 V, 22 V, 24 V) to set the heater performance.
- ➔ Turn the rotary switch anticlockwise to "0" to switch the floor heating off.

The electrical floor heating has an overload protection. The overload protection triggers when the transformer is overloaded. The pin (Fig. 77/1) springs out.

- ➔ When the transformer has cooled down, push the pin (Fig. 77/1) on the overload protection back in again.

13.4.2 Warm water floor heating

The floor heating runs automatically together with the warm water of the Alde warm water heater.



Placing into service:

- Open the setting valve in the bed box.

14 Cooking



Danger!

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

- ▲ Always open a window or a skylight as well when a gas stove or gas oven (special equipment) is switched on.
- ▲ Never cover the forced ventilation in the skylights and in the entrance as well as the mushroom ventilators.



Danger!

Risk of explosion

- ▲ Never allow the gas to flow out unburned because of the risk of explosion!
- ▲ If a flame of the gas stove extinguishes, unburned gas flows out until the flame failure device is activated and together with the oxygen generates an explosive mixture 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 stove

The gas stove is operated with liquid gas.

Observe the following when operating the gas stove:

- ➔ Always open a window or a skylight (Chapter 8.2).
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. Risk of injury!
- ➔ Never use the gas stove for heating.

Observe the following for the glass cover (special equipment):

- ➔ Do not apply pressure on the glass gas stove cover when closed.
- ➔ Do not close the glass cover while burners are still in operation or 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!

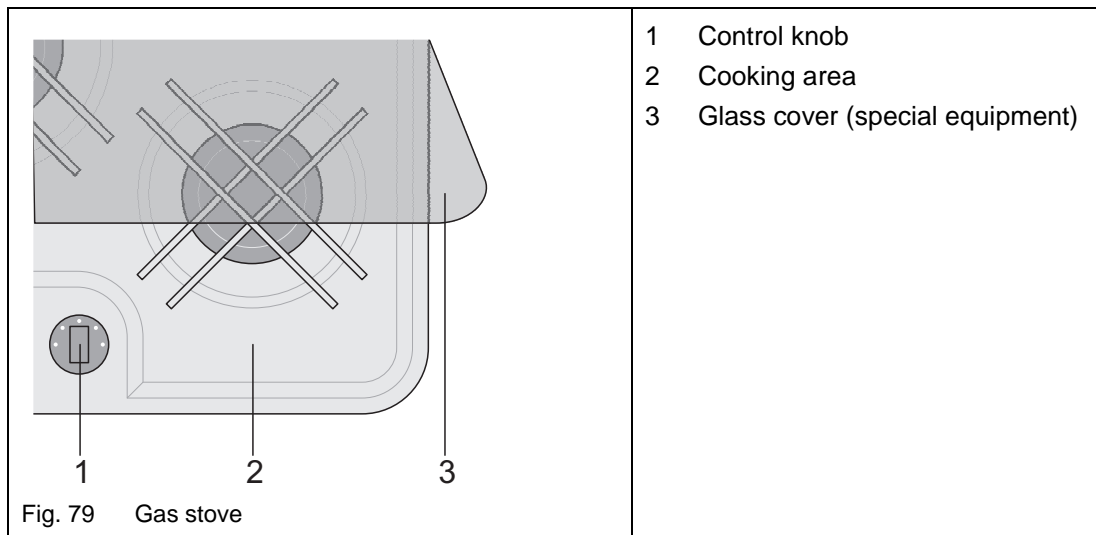
Defective cooking area

- ▲ 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.



Important!

- Always make sure the respective control knob is set to "Off" when you are finished using the cooking stove, the grill 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.



Switching the gas stove on:

- ➔ Clean the gas stove before placing it into service (Chapter 19.2.5).
- ➔ Lift the glass cover (Fig. 79/3, special equipment) of the cooking area (Fig. 79/2) up and, when necessary, fit the aluminium protective covers (special equipment).
- ➔ Open the gas cylinder shut-off valve (Fig. 59/1) and the quick-action stop valve (Fig. 61/3) on the distributor block.
- ➔ Turn the control knob (Fig. 79/1) of the desired cooking position (Fig. 79/2) to "large flame", press it and keep it depressed.
Gas flows out.
- ➔ Ignite the gas flowing out with a suitable device and keep the control knob (Fig. 79/1) depressed for approx. 10 seconds until the flame safety device keeps the gas supply open.
- ➔ If the flame goes out, repeat the process.
- ➔ Regulate the gas supply by turning the control knob to the "large flame" or "small flame" symbol.

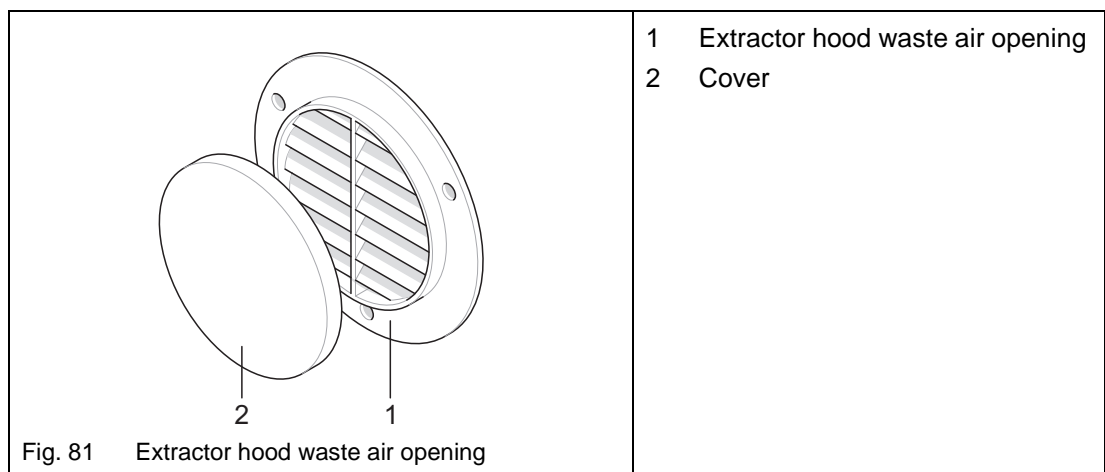
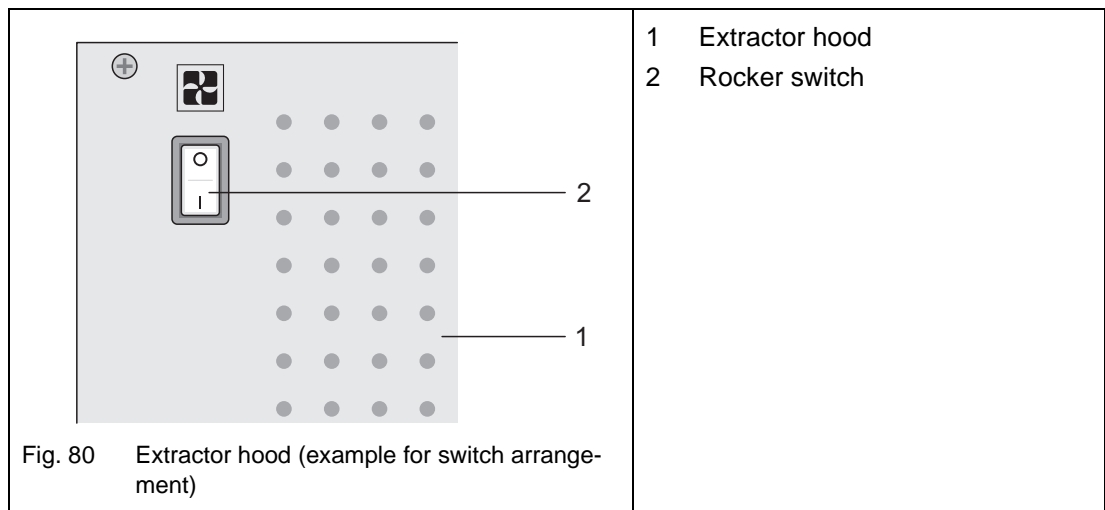
Switching the gas stove off:

- ➔ Turn the control knob (Fig. 79/1) clockwise to the "0" position.
The flame goes out and the flame safety device automatically shuts off the gas supply.
- ➔ Close the quick-action stop valve (Fig. 61/3).

For more information, see the separate instructions from the manufacturer.

14.1.2 Extractor hood (special equipment)

The extractor hood is located above the gas stove.



Using the extractor hood:

- ➔ Pull the cover (Fig. 81/2) on the outside from the waste air opening (Fig. 81/1).
- ➔ Use the rocker switch (Fig. 80/2) to switch the extractor hood on when cooking (Fig. 80/1). This prevents condensing water vapour and unpleasant odour in the vehicle.
- ➔ After switching off the extractor hood, reinstall the cover (Fig. 81/2) on the waste air opening (Fig. 81/1).

14.2 Gas oven (special equipment)



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

- ▲ Never use the oven for heating the motorhome!

The oven is operated with liquid gas.

- ➔ Clean the gas oven before placing it into service (Chapter 19.2.5).
- ➔ Ventilate the living area thoroughly (Chapter 8.2).

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.

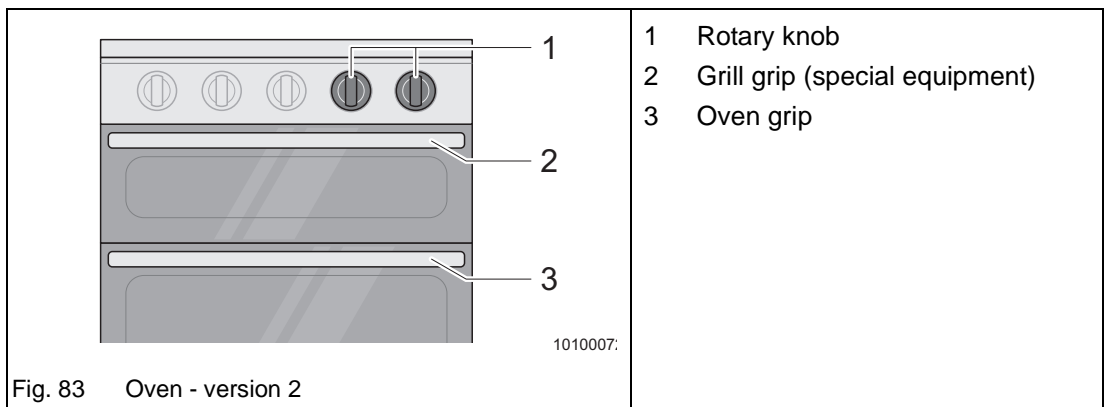
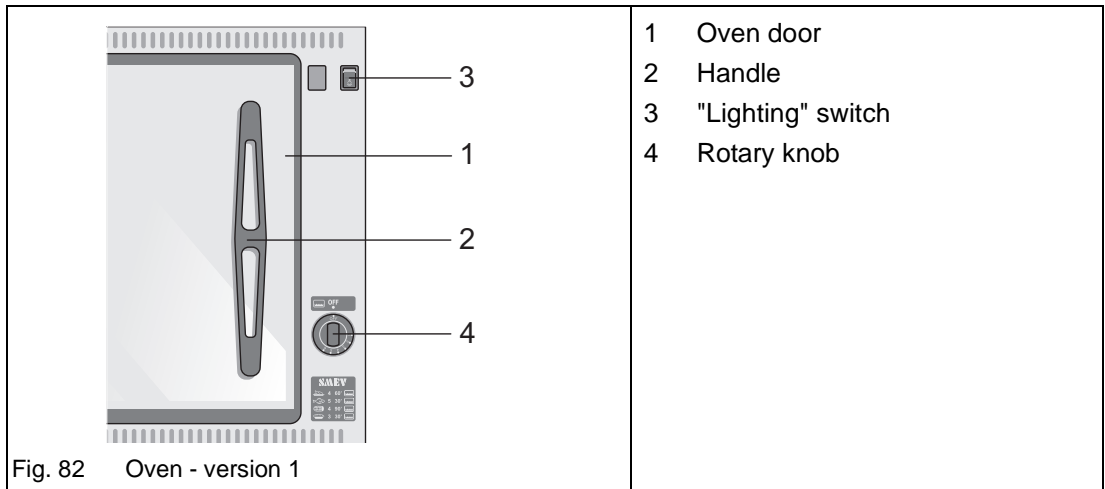
14.2.1 Operation



Important!

- Always make sure the respective control knob is set to "Off" when you are finished using the cooking stove, the grill 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 door open.

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



Some vehicles also have a grill fitted.



Important!

Keep the door open when using the grill.

Preparing to use:

- ➔ Open the shut-off valve of the gas cylinder (Chapter 11.6.1).
- ➔ Open the quick-action stop valve on the distributor block (Chapter 11.7.1).

Igniting the oven or grill:

- ➔ Completely open the oven or grill door.
- ➔ Press and hold the rotary knob and turn it to the desired ignition position (Grill: large flame/oven: highest level).
- ➔ Ignite the burner with a suitable gas lighter and keep the rotary knob pressed for approx. 5-10 seconds.
- ➔ 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. 14-1 Thermostat settings

15 Refrigerator & freezer compartment

The refrigerator and the freezer compartment form a mechanical unit.

To ensure optimum function, the appliance should stand level, if possible. However, it is also suitable for inclined positions to a certain degree.

The refrigerator and freezer compartment combination can be operated optionally with 230 V, 12 V or liquid gas.

Operation with 230 V or gas is recommended because these are most efficient.

Clean the refrigerator before placing 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.

Ensure the living area is well ventilated (Chapter 8.2).

The refrigerator is silent in operation.

The refrigerator takes a few hours to reach its operating temperature whereas the freezer compartment should be cold about one hour after switching the refrigerator on.

For more information, see the separate instructions from the manufacturer.



Important!

- Some Figures show special equipment which may not be installed in your vehicle.
- The refrigerator fitted in the vehicle runs according to the absorber principle. The higher the ambient temperature, the more warmth the refrigerator must dissipate. This is done via the refrigerator grille on the rear side of the refrigerator in the outer skin of the vehicle.
 - Open doors or windows can have a detrimental effect on air circulation depending on the model.
 - For higher temperatures, a circulation fan (special accessory) can be fitted to improve refrigerator efficiency.
 - It can be useful to remove the refrigerator grille in dry weather (without rain).
Caution: Always keep the refrigerator grille fitted during rain!

15.1 Controls

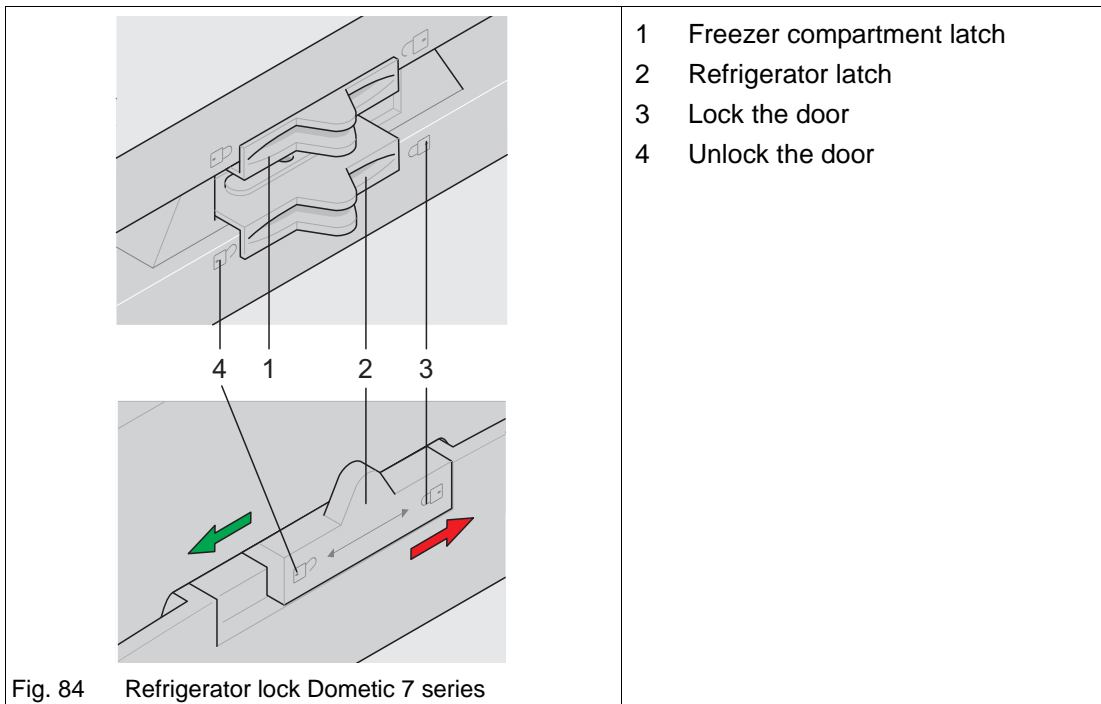
15.1.1 Opening and locking the door



Caution!

Damage to refrigerator door

▲ Always make sure the refrigerator door is correctly locked before moving the vehicle.

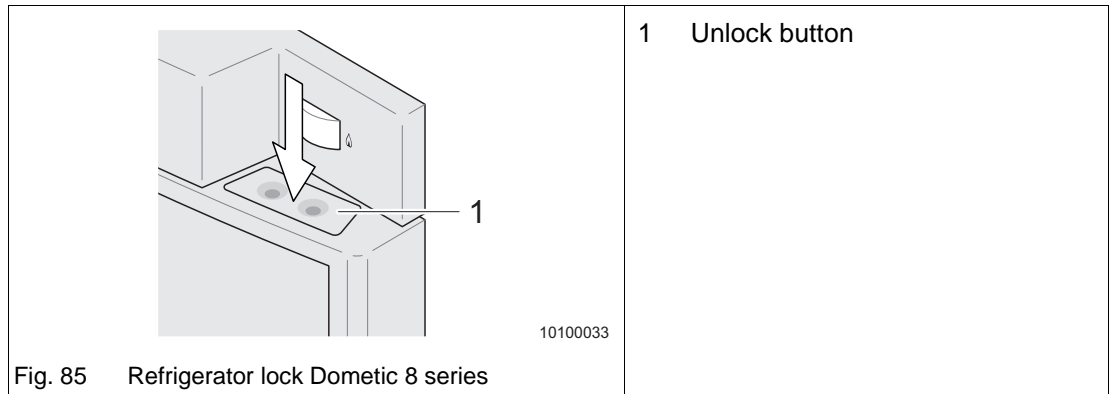


Opening the refrigerator Dometic 7 series:

- ➔ Slide latch (Fig. 84/1) or (Fig. 84/2) to the left (Fig. 84/4).
- ➔ Open the refrigerator door.

Closing the refrigerator Dometic 7 series:

- ➔ Close the refrigerator door.
- ➔ Slide latch (Fig. 84/1) or (Fig. 84/2) to the right (Fig. 84/3).
The refrigerator door is locked.

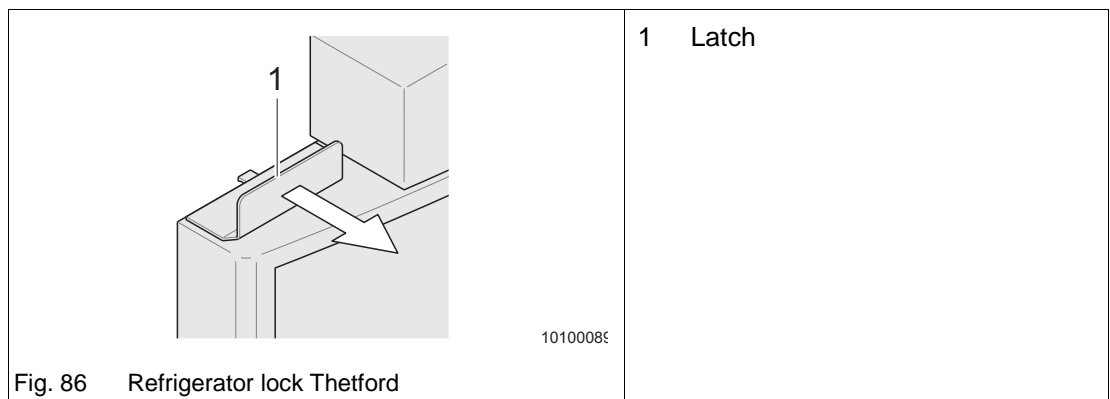


Opening the refrigerator Dometic 8 series:

- ➔ Press the unlock button (Fig. 85/1) down and open the refrigerator door.

Closing the refrigerator Dometic 8 series:

- ➔ An automatic lock is fitted on the refrigerator door. When you close the refrigerator door and press it on firmly, the door locks automatically.



Opening the Thetford refrigerator:

- ➔ Pull the latch (Fig. 86/1) and open the door.

Closing the Thetford refrigerator:

An automatic lock is fitted on the refrigerator door.

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

15.1.2 Temperature and energy selection

15.1.2.1 Dometic 7 series with automatic or manual mode selection system

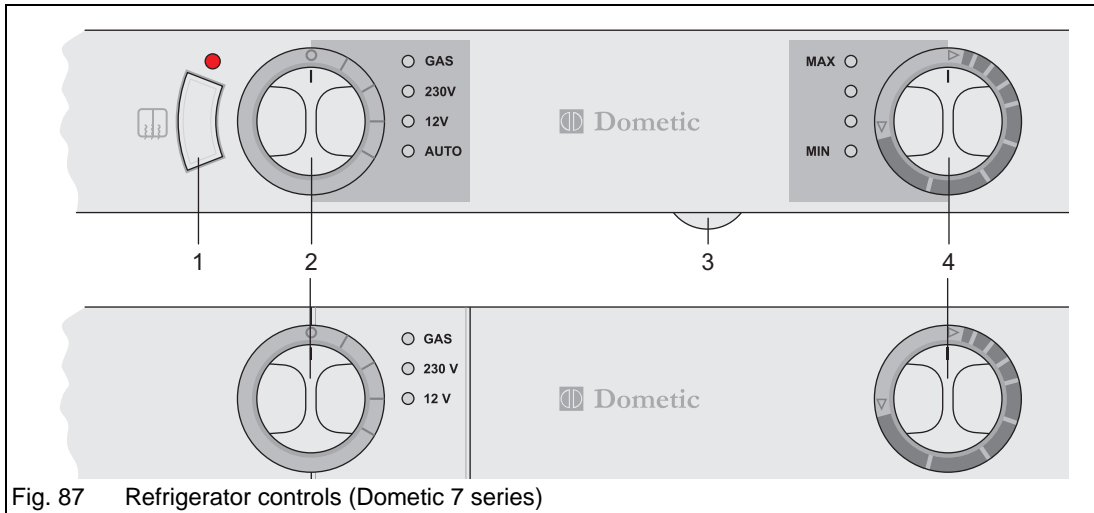


Fig. 87 Refrigerator controls (Dometic 7 series)

- 1 Frame heater switch
- 2 On/Off / energy selector button
- 3 Dimmer for LED indicator (accessible only when the door is open)
- 4 Gas / electric thermostat

For more information, see the separate instructions from the manufacturer.

15.1.2.2 Dometic 8 series with manual mode selection and automatic ignition MES

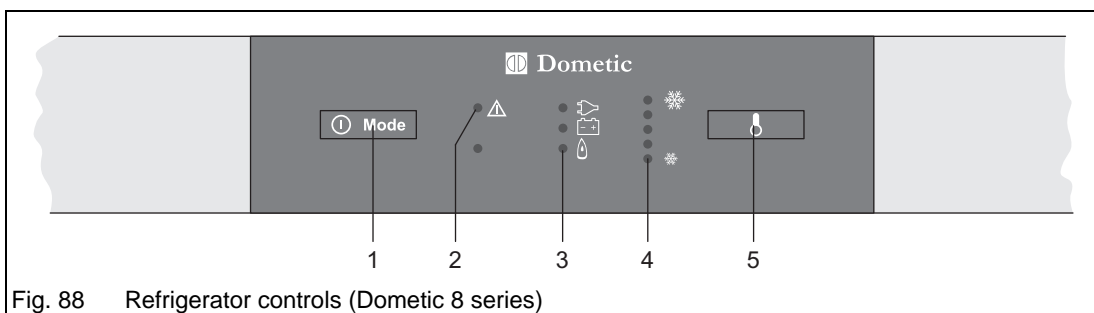


Fig. 88 Refrigerator controls (Dometic 8 series)

- 1 On/Off / mode selector button
- 2 "Malfunction" LED indicator
- 3 "Mode" LED indicator
- 4 "Temperature range" LED indicator
- 5 Temperature setting switch

For more information, see the separate instructions from the manufacturer.

15.1.2.3 Thetford Premium LCD

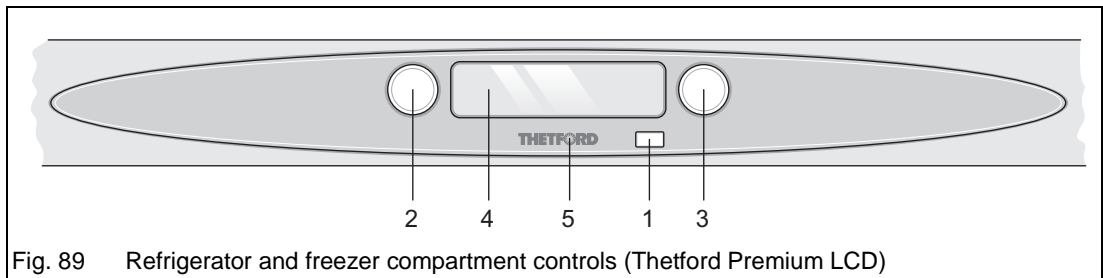


Fig. 89 Refrigerator and freezer compartment controls (Thetford Premium LCD)

- 1 Main switch
- 2 "Mode selector" switch
- 3 "Cooling capacity" selector switch
- 4 LCD display
- 5 "Mode" LED indicator

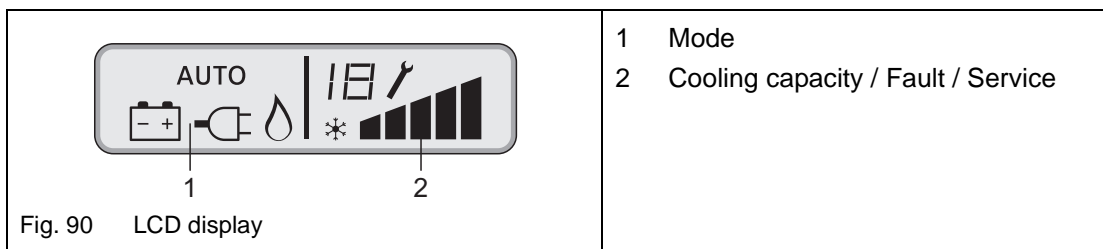


Fig. 90 LCD display

- 1 Mode
- 2 Cooling capacity / Fault / Service

For more information, see the separate instructions from the manufacturer.

15.2 Placing into service

15.2.1 Frame heater

Water drops can occur on the metal frame during the summer with high temperatures and high air humidity. Some models have a frame heater for the freezer compartment to prevent this.



Caution!

Battery discharge

- ▲ The frame heater continuously draws power from the 12 V DC supply. Observe the LED display during 12 V operation using the starter battery when the engine is switched off and the vehicle is parked. Switch off the frame heater.

Switching the frame heater on:

- ➔ Switch on the frame heater with the switch (Fig. 87/1).
The LED above the switch goes on when the frame heater is switched on.

15.2.2 12 V mode

The 12 V mode should be selected only while the engine is running.

15.2.3 230 V mode

Select the 230 V mode only when an external 230 V supply is connected.

Before starting the journey, obtain information on the voltage in the country to be visited.

15.2.4 Gas mode



Danger!

Risk of explosion at petrol stations!

- ▲ Open flames are prohibited at petrol stations!
- Switch the refrigerator off using the power selector switch!



Caution!

Using gas

- ▲ Only use liquid gas to run the refrigerator (Chapter 11.3).
- ▲ At altitudes of more than 1000 m above sea level, physical factors may cause problems with the ignition of the gas. This is not a malfunction!

Using the refrigerator with gas:

- Open the gas cylinder shut-off valve (Fig. 59/1) and the quick-action stop valve (Fig. 61/3) on the distributor block.
- Select mode "Gas" using the power selector switch.
- On refrigerators with manual power selection (MES), press the power selector switch (Fig. 88/1) resp. (Fig. 89/ 2) so often until "Gas mode" is selected. Ignition is then automatic.



Important!

On appliances with automatic power selection (AES or AUTO shown in the display), the priority sequence of the control electronics first selects GAS when neither of the electric power types are available.

For more information, see the separate instructions from the manufacturer.

15.2.5 Winter operation



Important!

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:

- Check regularly that the ventilation grilles have not been blocked by snow, ice, leaves or similar.

When the outside temperature drops below +8°C, the winter covers (special accessory) should be fitted to the ventilation grilles

This protects the refrigerator unit from excessively cold air.

For more information, see the separate instructions from the manufacturer.

15.3 Storing food

15.3.1 General information

- Switch the refrigerator on approx. 12 hours before storing food.
- Always store pre-cooled food only. When buying and transporting food, make sure the food is well pre-cooled. Use insulated bags for transport.
- Always open the refrigerator door just briefly.
- Always store the food separately and well packed (closed containers, aluminium foil, etc.).
- Never put hot food into the refrigerator. Always let it cool first.
- Store sensitive food directly near the fins.
- Bear in mind that the temperature inside a closed vehicle can rise significantly as a result of sun irradiation. This can affect the performance of the refrigerator.
- Pay attention to the unhindered air circulation of the refrigerator unit.

15.3.2 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!

15.4 Putting out of service



Important!

If the refrigerator is switched off for a longer period of time, the door should remain open somewhat. For this purpose, the lock has a special latching position.

For more information, see the separate instructions from the manufacturer.

16 Toilet



Caution!

Damage to the environment

- ▲ Use an environment-friendly and biodegradable chemical toilet additive for the toilet.
 - The ventilation will remove merely the odour but not germs and gases. Germs and gases can have a detrimental effect on the rubber seals.



Caution!

Material breakage

- ▲ Do not sit on the toilet lid.
 - The lid is not designed to bear the weight of a person and could break.



Important!

- Never add toilet fluid through the valve blade or the toilet bowl.
- 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.
- Empty the cassette and water tank when the vehicle is not heated and there is a risk of frost.

Whenever using the toilet:

- ➔ Every time you place the Thetford Cassette into service, perform all preparations according to the separate manufacturer's instruction manual.
- ➔ Before using the Thetford toilet for the first time, fill the water tank with fresh water (Chapter 12.1.1).
- ➔ Cover the bottom of the cassette with water and fill in environment-friendly and biodegradable toilet chemicals. Observe the manufacturer's instructions for the dosage. For environmental reasons, the toilet can also be used without chemical additives, however, this requires more frequent emptying of the cassette (Chapter 16.2).

16.1 Thetford Cassette C-200 S and C-260 S



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.

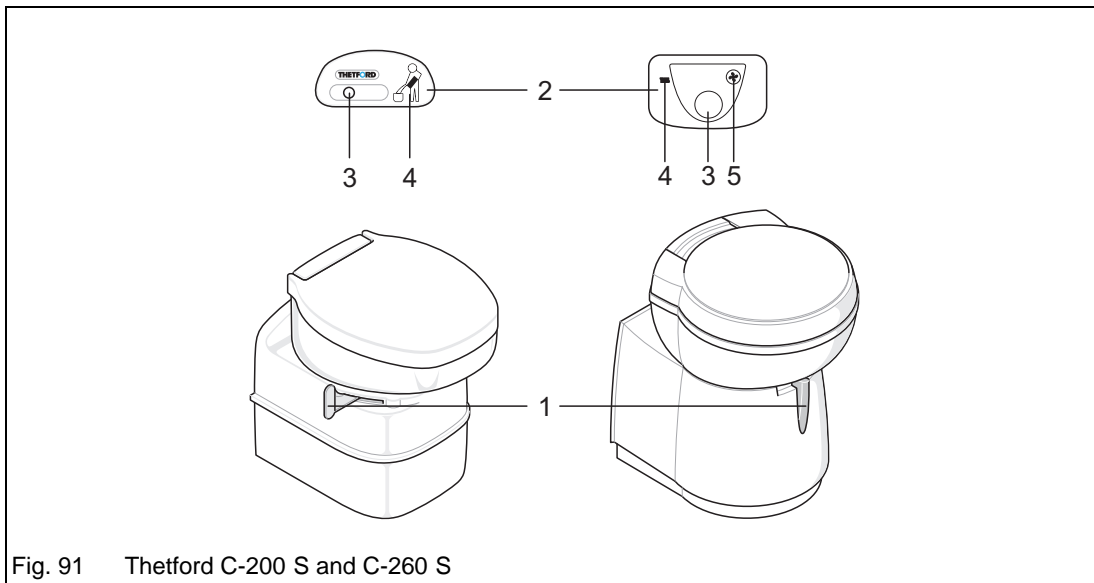


Fig. 91 Thetford C-200 S and C-260 S

- 1 Lever for opening the valve blade
- 2 Operator panel
- 3 Flush button
- 4 Waste level indicator
- 5 Automatic ventilator (special equipment)

Before use:

- ➔ Turn the toilet bowl to the desired position using both hands.
- ➔ Before flushing, use the lever (Fig. 91/1) to open the valve blade.
- ➔ To activate the control panel, press the flush button (Fig. 91/3) once.
- ➔ Run some water into the bowl by pressing the flush button again briefly.

After use:

- ➔ Push the lever (Fig. 91/1) to the side if the valve blade is still closed.
- ➔ Flush the toilet (Fig. 91/3) by pressing the flush button for several seconds (if necessary, reactivate the control panel (Fig. 91/2)).
- ➔ Close the valve blade with the lever (Fig. 91/1) after flushing.

For more information, see the separate instructions from the manufacturer.

16.2 Cassette

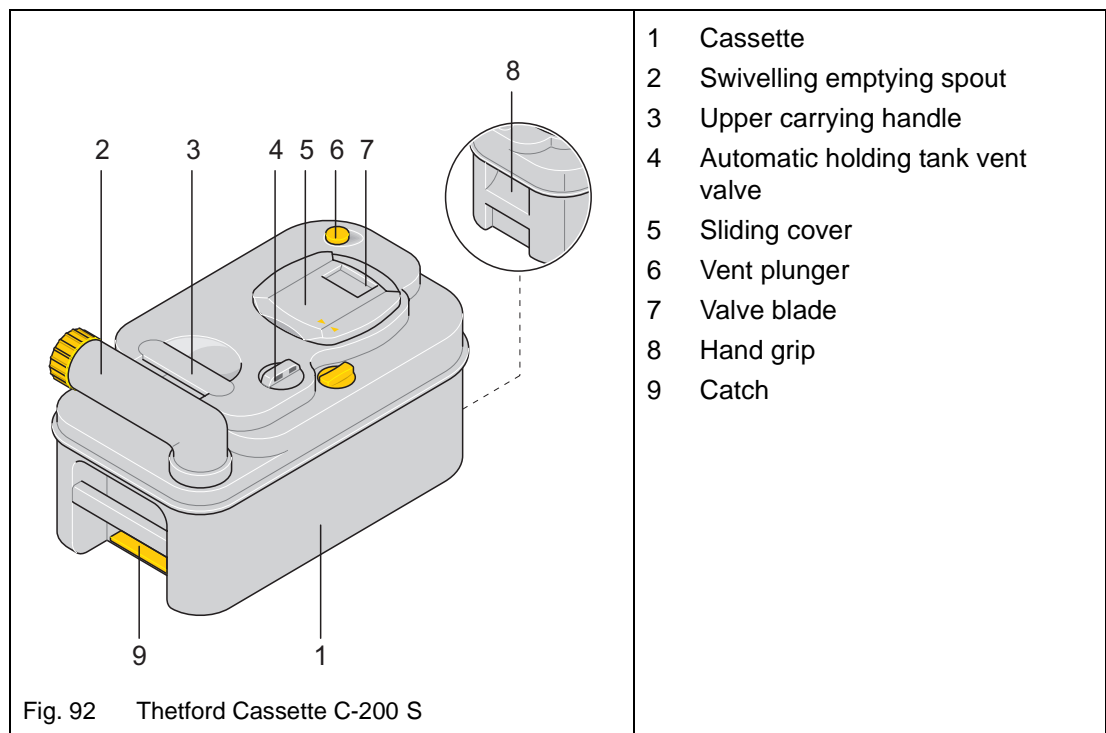


Caution!

Danger for the environment

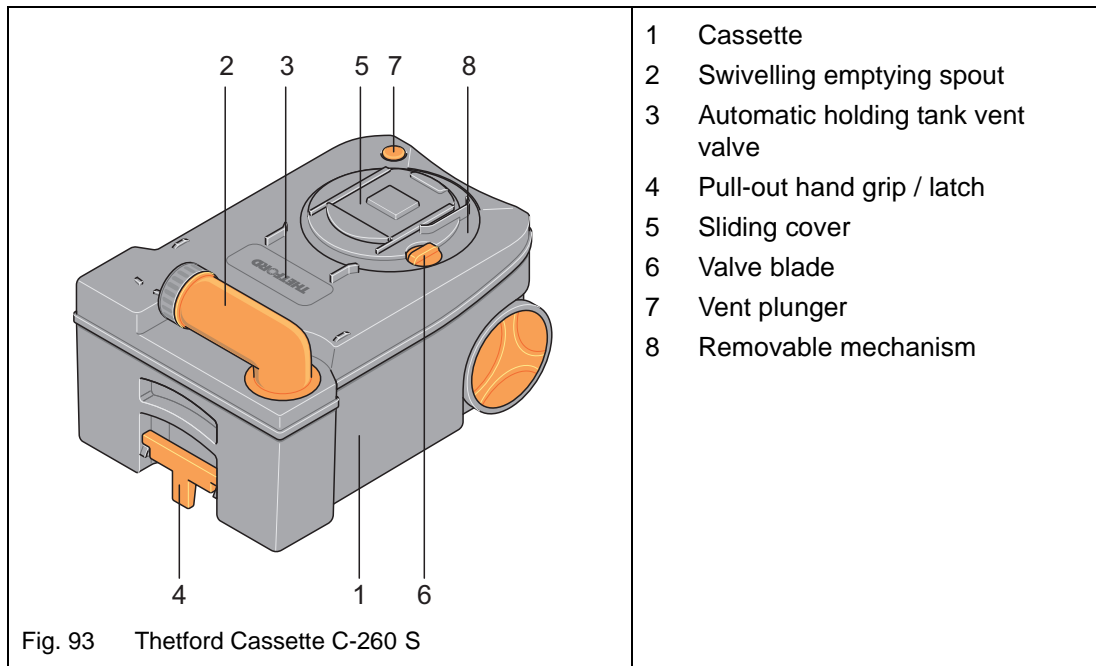
- ▲ Use an environment-friendly and biodegradable chemical toilet additive for the toilet.
- ▲ The cassette may be emptied only at camping sites with suitable waste water treatment plants or special waste disposal stations (e.g. at parking sites for camping vehicles).

16.2.1 Thetford Cassette C-200 S



The cassette (Fig. 92/1) has a capacity of approx. 17 l and should be emptied when the level indicator (Fig. 91/4) lights. Do not allow the cassette to become overfilled.

16.2.2 Thetford Cassette C-260 S



The cassette (Fig. 93/1) has a capacity of 18 l and should be emptied when the level indicator (Fig. 91/4) lights. Do not allow the cassette to become overfilled.

16.2.3 Emptying the cassette

Removing the cassette:

- ➔ Close the valve blade (Fig. 91/1) in the toilet compartment.
- ➔ Open the outer access door.
- ➔ Unlock the cassette using the latch (Fig. 92/9) or (Fig. 93/4) and take the cassette out.
- ➔ When the cassette is pulled out, the valve blade ((Fig. 92/7) or (Fig. 93/6) is closed hygienically by the sliding cover (Fig. 92/5) or (Fig. 93/5).

Emptying the cassette at disposal stations:

- ➔ Place the cassette upright. The emptying spout ((Fig. 92/2) or (Fig. 93/2) must point upwards.
- ➔ Turn the emptying spout ((Fig. 92/2 or (Fig. 93/2) upwards.
- ➔ Unscrew the cap from the emptying spout.
- ➔ C-200S: Lift the cassette with one hand on the upper carrying handle (Fig. 92/3); with the other hand on the hand grip (Fig. 92/8).
- ➔ On C-260 S: Pull the hand grip (Fig. 93/4) upward and take the cassette to the intended waste disposal station.
- ➔ Turn the cassette so that it is emptied.
- ➔ Press the vent plunger ((Fig. 92/6) or (Fig. 93/7) with the thumb of the other hand.
Press the vent plunger only when the emptying spout is pointed downwards. Pressing the vent plunger empties the tank without splashing.
- ➔ Thoroughly rinse the cassette with water.

- Also clean the valve blade with water.
- Then pour toilet fluid into the cassette.
The cap of the emptying spout has a measuring cup on the inside.
This decomposes the faeces quickly, prevents unpleasant smells in the cassette and keeps the inside of the tank clean.
- Fit the tank back in again.
- Close the access door.

For more information, see the separate instructions from the manufacturer.

16.3 Placing the toilet out of service



Important!

Empty the cassette and water tank when the vehicle is not heated and there is a risk of frost.

Placing the toilet out of service:

- Place a sufficiently large container underneath the drain of the water tank.
- Open the drain plug, completely drain the water tank and allow to dry (Chapter 12.1.1).
- Empty the cassette (Chapter 16.2).
- Leave the emptying spout open to allow the tank to dry.
- Clean the toilet (Chapter 19.2).
- Clean all seals and treat with care products for seals.

For more information, see the separate instructions from the manufacturer.

16

Toilet



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.



Important!

Before starting the journey, mount suitable winter tyres and have snow chains on board. Snow chains are prohibited on aluminium rims.

When camping in winter:

- Obtain exact information about road conditions and weather.
- Avoid roads with strong uphill/downhill gradients.
- Select the camping site carefully and in time, plan your arrival during the day.
- Carefully check the tyres, tread depth and tyre pressure (Tab. 22-1).
- Fill the windscreen washer unit with frostproof cleaner, take reserve frostproof 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 with a two-cylinder system for winter camping (Chapter 11.3).
- 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 the skylights.
- 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 infrared 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 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 faucets that have a "warm" and a "cold" position in both positions and leave them open in one of the positions. (Chapter 12.3).

The vehicle is insulated and suitable for use in winter when operated properly. The water supply is located inside the vehicle.

The snow and ice load can amount to several hundred kilograms and so reduce the additional load of your vehicle.

In winter, temperature differences and wet objects (e.g. ski clothes) in the vehicle increase condensation.

Warm air absorbs much more humidity than cold air. When the warm air in the vehicle cools down, water condenses in cold places (windows, window frames and storage compartments). This can be remedied by adequate heating with the air circulation switched on.

We recommend thermo-mats for the outside of the driver's cab. These keep the windows free from snow, ice and steam.

When camping in winter:

- ➔ Vent openings may not be covered by snow or snow drifts. Clear the snow also from underneath the vehicle so that the heater receives enough fresh air.
- ➔ Regularly clean snow and ice from the roof and sunblind (special accessory) or awning (special accessory) (Chapter 2.8).
- ➔ Always keep the heater exhaust clear. Attach cowl extensions (special accessory) as necessary.
- ➔ 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 skylights when cooking.
- ➔ If possible, do not use electrical appliances with high current consumption. The current capacity at camping sites is limited.
- ➔ Make sure the drain pipe of the waste water does not freeze up (Chapter 12.3).

17.3 Checklist for winter camping

Checklist for winter camping	✓
Winter tyres (tread depth at least 4 mm)	
Talc, Vaseline for rubber seal	
New wipers (also as reserve)	
Antifreeze in wiper fluid (also as reserve)	
Snow shovel, broom with long handle	
Telescopic ladder	
Door lock de-icer	
Hand brush	
Defroster spray, plastic ice-scraper	
Anti-mist cloth for windscreen	
Warning vest	
Umbrella	
Torch, headtorch	
Wheel chocks, working mat (insulating mat), work gloves	
Folding spade	
Start aid (traction aid), sandsack, grid	
Snow chains (not for light-metal rims), tyre socks, etc.	
Spare bulbs	
Battery jumper cable	
Winter cover for refrigerator grille	
Thermo-mats/hood for driver's cab	
Awning	
Winter bed linen	
Watering can	
Antifreeze for the waste water tank (e.g. table salt)	
Heating tape (to thaw frozen lines)	
Bucket or tank on wheels for waste water	

Tab. 17-1 Checklist for winter camping

18 Placing out of service



Important!

When the instructions for maintenance and care, and the checklist for placing out of service are observed, the vehicle can be parked outdoors all year round.

18.1 Checklist for temporary placing out of service:

	Activity	✓
Bodywork	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	
Electrical system	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.	
	Fully charge the starter and living area batteries for at least 24 h.	
Gas system	Disconnect the battery terminals on the living area battery.	
	Close the gas shut-off valve of the gas cylinder.	
	Close all quick-action stop valves for all appliances.	
	Always remove all gas cylinders from the gas cylinder compartment and store them safely.	
	Close the open end of the gas hose so that no dirt or insects can enter.	

	Activity	✓
Water system	Empty the entire water system completely, clean carefully and allow to dry.	
	Leave all water taps, all drain cocks as well as all drain valves open. Drain the faucets 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 12.3) and allowed to dry. We recommend using a disinfectant for the water tank. Ask your ADRIA dealer for advice.	
Appliances	Empty and clean the refrigerator; leave the refrigerator door and the freezer compartment, if applicable, open.	
	For information concerning placing appliances temporarily out of service, see the separate appliance instruction manuals.	
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. 18-1 Checklist for temporary placing the vehicle out of service

18.2 Placing out of service over the winter

The following measures are required in addition to those already mentioned for the temporary placing out of service over the winter.

	Activity	✓
Bodywork	Clear snow from the roof when it snows.	
	Thoroughly heat and ventilate the vehicle every four weeks.	
	Lubricate all hinges and locks.	
	Apply talc or Vaseline to all rubber seals.	
	Use graphite dust to treat locking cylinders.	
	Install the winter cover for the refrigerator grille (special accessory).	
Electrical system	Fully charge 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.	
Appliances	For information concerning placing appliances out of service over the winter, see the separate appliance instruction manuals.	
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. 18-2 Checklist for placing out of service over the winter

18.3 Returning to service after the placing out of service

Perform the following activities for placing into service again:

	Activity	✓
Bodywork	Remove tarpaulin and possibly wooden slats.	
	If the vehicle has been stationary for a long period (approx. 10 months), have the brake system checked by an authorised workshop.	
	Check the tyre pressure, also of the spare wheel (special equipment).	
	Remove cover from the exhaust cowl, if present.	
	Remove the winter cover for the refrigerator grille (special accessory).	
	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 the starter and living area batteries. Fully charge the starter and living area batteries for at least 24 h.	
Gas system	Lash the gas cylinders in the gas cylinder compartment and connect gas cylinders.	
	If the vehicle has been stationary for a long period (approx. 10 months), have the gas system checked by an authorised workshop.	
Electrical system	Check the function of the electrical system (e.g. lighting, sockets) and of all appliances (e.g. refrigerator).	
Water system	Thoroughly rinse the complete water system with plenty of fresh water; leave the taps open.	
	Close all water taps and drain valves.	
	Check for leakage and function of all water taps and drain valves.	
Appliances	For information concerning returning appliances to service, see the separate appliance instruction manuals.	
	Check the function of all appliances (e.g. refrigerator, cooker, heater, etc.).	
Living area	Replace all cushions.	
	Remove dehumidifiers.	

Tab. 18-3 Checklist for returning to service

19 Cleaning & care

19.1 Cleaning and care - exterior

The polyester outer skin (glass-fibre reinforced plastic) of the vehicle was dyed at the factory, i.e. not painted. We recommend the following steps for the care of the vehicle:



Warning!

Risk of injury and of damage to the vehicle roof

- ▲ The front area of the roof of the vehicle is not designed for the weight of standing persons.
- ▲ Standing or walking on the elevation of the alcove or the front opening hood of partially integrated vehicles is not allowed!
- ▲ Do not walk on roof structures or roof fittings, e.g.. roof hoods, roof railings etc.
- ▲ Walking on the roof of the vehicle is permissible only in the rear area.



Important!

- 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 undersealant once a year. If the undersealant is defective, contact your **ADRIA** dealer.
 - ➔ The chassis is galvanised. Seal areas where rust is setting in (e.g. caused by stone-chipping or other effects) by the application of cold zinc.
 - ➔ 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. Pay attention to the manufacturer's instructions.
- ➔ Treat polyester parts every year with a two-component wax. Pay attention to the manufacturer's instructions.
- ➔ Observe the environmental protection measures in cleaning and care of the vehicle.

19.1.1 Cleaning the acrylic windows (side windows, roof hoods)



Important!

- 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.



Important!

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 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 parts

- ➔ 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



Important!

Exposure to sunlight can cause the plastic parts to yellow. This is not a quality defect.



Important!

- 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 parts



Warning!

Risk of injuries through caustic substances

- ▲ Do not get acids into the eyes or on mucous membranes! Avoid skin contact!
 - ▲ To remove calcification, 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 calcification, the water used must be softened. When calcification of the surface occurred, it 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 Care of cushions, curtains, 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 Care of PVC floor coverings and carpets (special equipment)



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.
- Do not use scouring agents or aggressive cleansers.
- Vacuum clean the carpet.
- Clean spots with carpet foam.

19.2.5 Cleaning the kitchen

19.2.5.1 Cleaning work surfaces and 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 stove



Caution!

Damage to gas stove

- ▲ Prevent water or cleaning agent from penetrating the gas outlet openings. Water may damage the gas stove.
- ▲ Do not use scouring agents. These scratch the plastic surfaces.
- Allow the gas stove to cool before cleaning.
- Clean the gas stove only with a moist cloth.
- Clean the glass cover (special equipment) of the cooker with a glass cleaning agent.

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 plastic surfaces.
- Clean the inside and outside of the appliance before you place it into service and then 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. They scratch the plastic surfaces.
- Clean the inside and outside of the appliance before you place it into service and then 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.

19.2.5.5 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 plastic 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.

19.2.5.6 Cleaning the water tank, waste water tank and toilet water 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 12.3).

20 Inspection & Maintenance

20.1 Inspection work



Important!

A leisure vehicle must be officially inspected at regular intervals just like other vehicles.



Important!

Use only original spare parts from the respective manufacturer.

- Inspection and maintenance work (Chapters 20.3 and 20.4) must be performed at regular intervals.
- Since special technical knowledge is required for the performance of the maintenance and inspection work, it has to be performed by authorised workshops.
- Regular maintenance guarantees value retention of the vehicle.

20.2 Brakes



Warning!

Risk of injury and severe damage to the vehicle

- ▲ Check brake system at regular intervals.
- ▲ All repairs and adjustments of the brake system have to be performed in an authorised workshop only!

The wear of the brake lining depends on the driving technique.

- Consult an authorised workshop immediately if the braking behaviour is not normal (pulling to one side or reduction in braking pressure).
- Drive with consideration and foresight.
- Avoid braking abruptly.
- Have the brake system inspected regularly.

20.3 Chassis

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

Maintenance activity	Interval
Motorhome general inspection	According to regulations in the country of registration
Have the brake system checked in an authorised workshop	Every year
Have the undersealant checked	Every year
Check the tightening torque of wheel nuts	Monthly
Check the charged condition of the starter battery	Monthly
Check tread depth and tyre pressure	Before starting to drive
Check the exterior lighting	Before starting to drive

Tab. 20-1 Chassis maintenance and inspection plan

For the frequency of the maintenance work, see the separate manufacturer's instruction manual.

On vehicles that are not driven much, the maintenance work must be performed every year and in time before the start of the journey.

20.4 Bodywork

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 (special equipment) and the corner steadies (special equipment) and lubricate 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. 20-2 Bodywork maintenance and inspection plan

20.5 Checking and replenishing operating fluids

Operating fluids include:

- Engine oil
- Brake fluid
- Coolant
- Wiper water
- Power steering oil
- Air-conditioning system cooling medium (special equipment)
- Heater liquid for Alde warm water heater (special equipment)

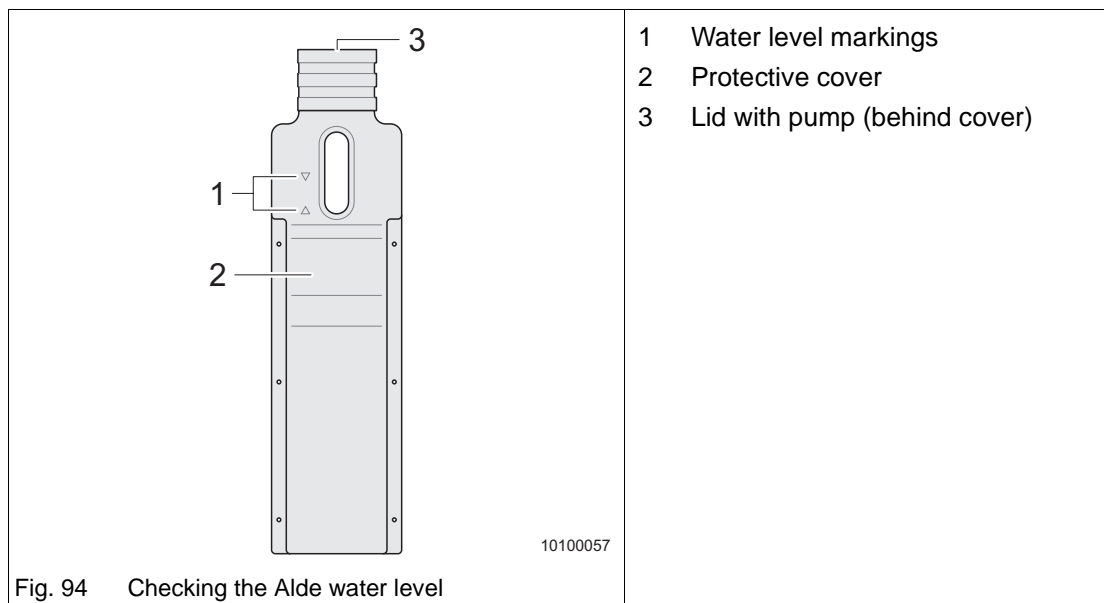
Please see the manufacturer's original operating instructions for checking operating fluids.

20.5.1 Checking and replenishing the fluid level of the Alde warm water heater

Important!

- Avoid bubbles.
- Always position the vehicle horizontal and level.

The expansion tank of the Alde warm water heating is normally fitted in the wardrobe.



Checking the water level:

- Switch the Alde warm water heating off using the control panel.
- Let the water cool down.
- Check the water level is between the two markings (Fig. 94/1).

Topping up water:

- Remove the protective cover (Fig. 94/2).
- Unscrew the lid (Fig. 94/3) and remove the lid with circulation pump slowly upwards.
- Check the antifreeze content. Antifreeze must be 40% or -25 °C.
- Fill water with antifreeze without bubbles to about 1 cm above the minimum marking.

21 Troubleshooting

Please pay attention to the following information for finding and correcting faults.

If you cannot remedy the faults yourself, contact the Customer Service of your competent **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 wheels

21.1.1 Securing the vehicle

- ➔ If possible, remove the vehicle from the flowing traffic.
- ➔ Wear a warning vest (different regulations from country to country).
- ➔ 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 mobility system (special equipment)



Warning!

Health hazard

- ▲ The spray can contains ethylene glycol and **should 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.



Important!

- With the tyre mobility system, tyres can be repaired whose treads were pierced by foreign objects with a diameter of **4 mm max**.
- The tyre mobility system is approved only for filling the tyres of a vehicle that was equipped by the factory with this tyre mobility system.
- Repaired tyres may be used only for a short period!
- Repair with the tyre mobility system is only a temporary measure!

The tyre mobility system can be found in the front part of the vehicle.

The scope of delivery includes:

- Spray can with sealing fluid
- Folded sheet with instructions
- Compressor with manometer and connecting pieces
- Adapter for pumping up various elements

Before repair:

Do not pull out any foreign objects (screws or nails) that have penetrated the tyre.

- Before repair, carefully check the tyre sidewall.
Do not use the tyre mobility system when the tyre has already been damaged by driving with the flat tyre.
- Also check the rim.
When the rim is damaged (deformation of the bead of the rim that causes loss of air), repair is not possible.

After repair:

- Stop after driving for approx. 10 minutes and check the tyre pressure.
- Consult a tyre repairman as soon as possible.
- Inform the tyre repairman that the tyre has been repaired with the tyre mobility system.
- Give the instruction sheet to the persons who have to repair the tyre that was treated with the tyre mobility system.

For more information concerning the tyre mobility system, see the separate manufacturer's instruction manual.

21.1.3 Vehicles with spare wheel (special equipment)

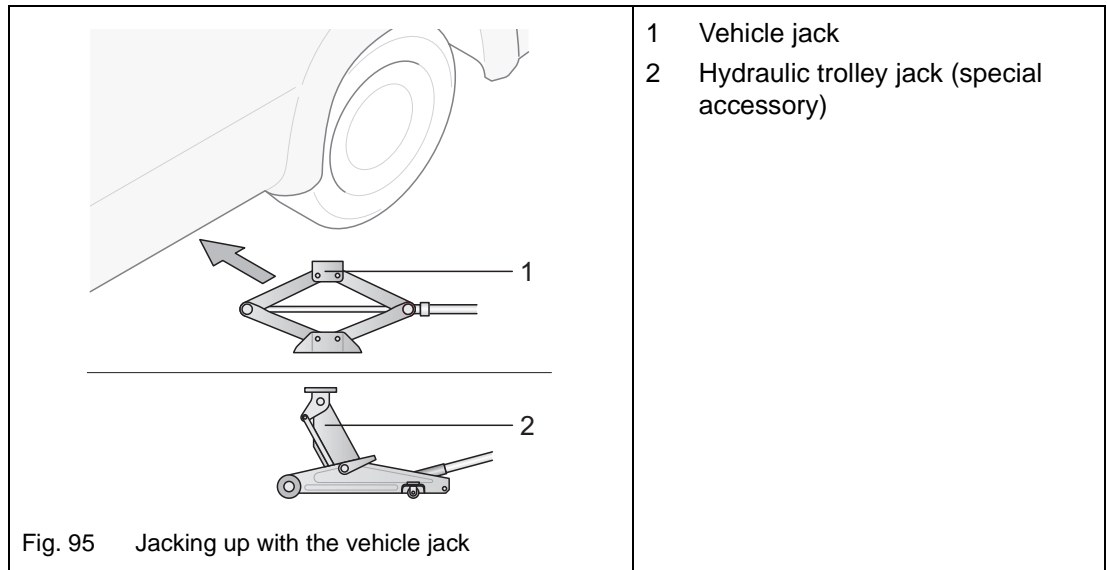
21.1.3.1 Vehicle jack

**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 bodywork.
 - Position the vehicle jack only at the intended positions.
- ▲ The vehicle jack serves only for wheel change. 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.

For more information concerning the vehicle jack, see the separate manufacturer's instruction manual.



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. 95/1) or the hydraulic trolley jack (special accessory) (Fig. 95/2) only at the lifting points provided underneath the car body.

For more information concerning the vehicle jack, see the separate manufacturer's operating instructions.

21.1.3.2 Spare wheel storage location

Vehicles with rear garage

- ➔ Open only the door of the rear garage facing away from the traffic.
- ➔ Take the spare wheel out of the support.
- ➔ Change the defective wheel.
- ➔ Stow the damaged wheel properly after a wheel change.

Vehicles without rear garage

- ➔ The spare wheel is located in a holder underneath the chassis.
- ➔ Loosen the locking pins and remove the screws.
- ➔ Open the bar and take out the spare wheel.
- ➔ Change the defective wheel.
- ➔ Stow the damaged wheel properly after a wheel change.

21.1.3.3 Changing the wheel



Warning!

Risk of injury when the vehicle rolls away

- ▲ Perform the wheel change only when the vehicle has been secured.

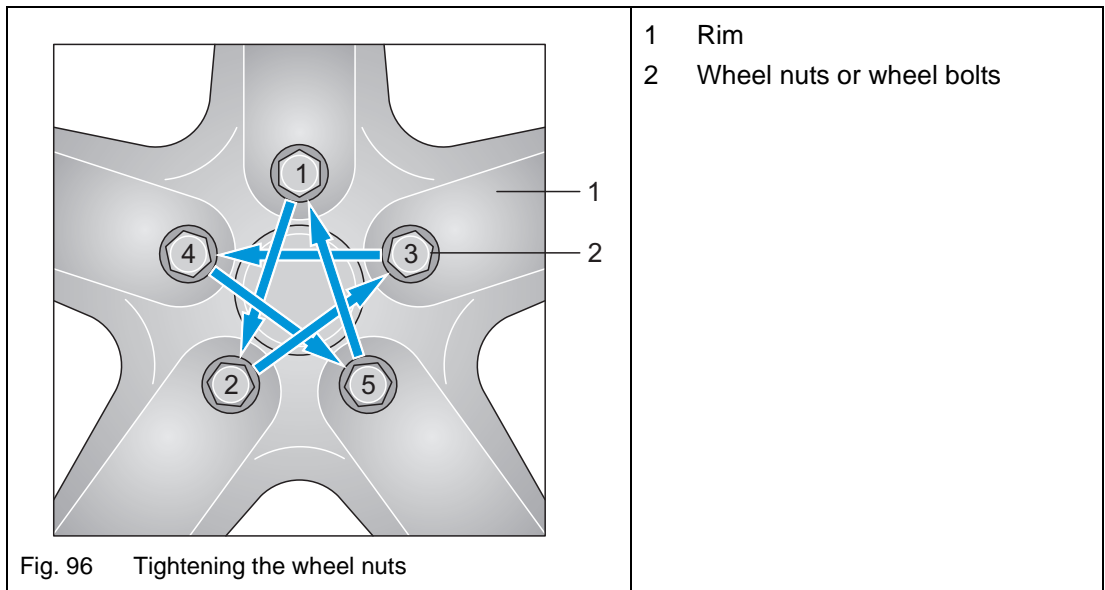


Caution!

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.
 - Ensure the bolts are not interchanged.
- 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.
- Get the spare wheel and the tools.
- 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



- ➔ Tighten the wheel nuts or wheel bolts (Fig. 96/2) 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.
- ➔ See the separate operating instructions from the chassis manufacturer for tightening torques for rims.
- ➔ After driving approx. 50 km, check the seating of the wheel nuts or wheel bolts.

21.2 Replacing lighting elements



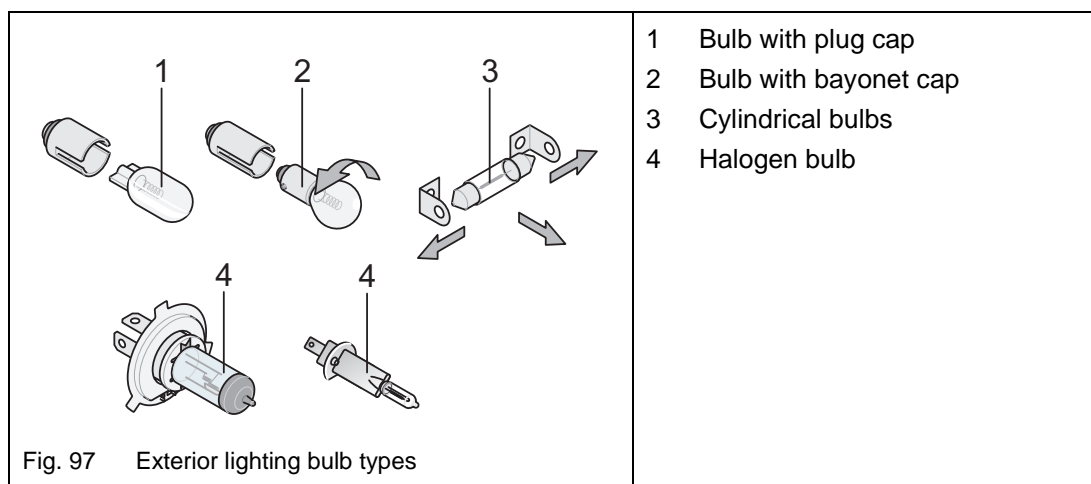
Caution!

Damage to bulbs

▲ Never touch 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



➔ Replace the various bulbs as follows:

	Bulb type	Replacing
1	Bulb with plug cap	<ul style="list-style-type: none"> • Removing: Pull the bulb out. • Fitting: Push the bulb in the socket with light pressure.
2	Bulb with bayonet cap	<ul style="list-style-type: none"> • Removing: Push the bulb down and turn it anti-clockwise. • Fitting: Insert the bulb in the socket and turn it clockwise.
3	Cylindrical bulbs	<ul style="list-style-type: none"> • Removing / fitting: Bend the contacts of the lamp holder carefully outwards.
4	Halogen bulb	<ul style="list-style-type: none"> • Removing: Loosen the fitting spring. • Fitting: Hang the fitting spring back in.

Tab. 21-1 Replacing bulb types - exterior

21.2.1.1 Replacing lighting elements - front

Vehicle with driver's cab of basic vehicle:

- ➔ Refer to the original operating instructions of the basic vehicle for the necessary information.

Fully integrated vehicles (e.g. Sonic):

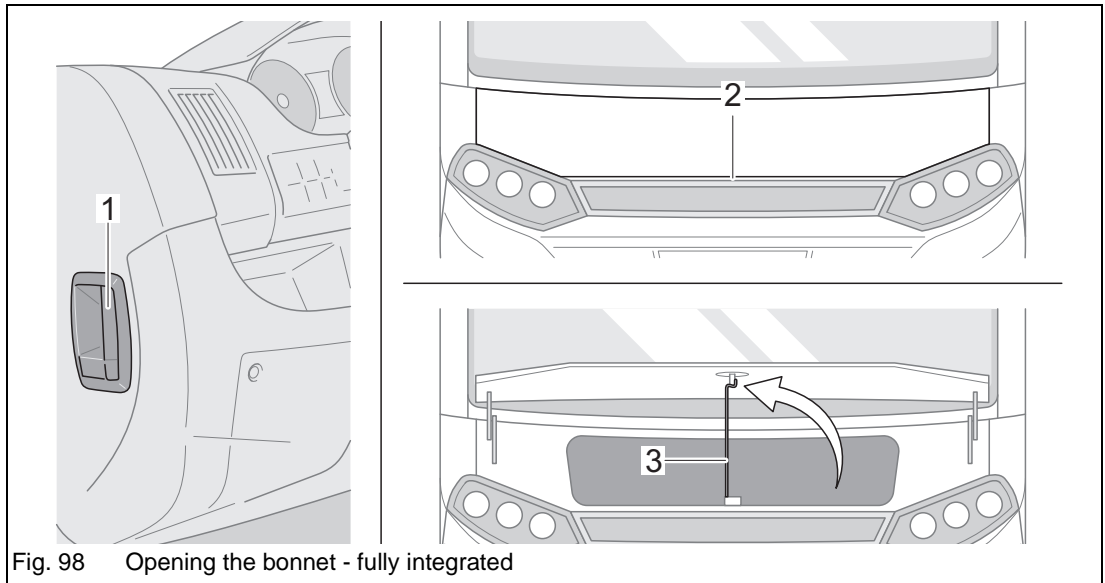


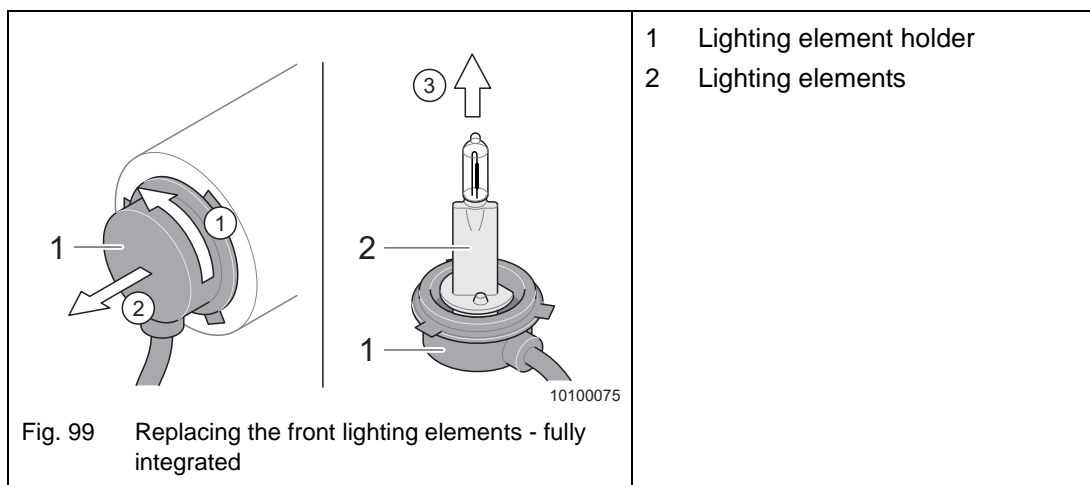
Fig. 98 Opening the bonnet - fully integrated

- 1 Unlocking lever
- 2 Safety lock
- 3 Support for bonnet

Opening the bonnet:

- ➔ Release the bonnet lock with the unlocking lever (Fig. 98/1) in the driver's cab.
- ➔ Press the safety lock (Fig. 98/2) in the middle of the bonnet, open the bonnet and secure with the support (Fig. 98/3).

The rear side of the lighting elements can now be accessed from the engine compartment.



Replacing lighting elements:

- ➔ Turn the lighting element holder (Fig. 99/1) approx. 45° anticlockwise.
- ➔ Pull the lighting element holder (Fig. 99/1) out to the rear.
- ➔ Use a cloth to hold and replace the lighting element (Fig. 99/2).

Put the lighting element holder back in in the reverse sequence.

Front lighting - fully integrated vehicle	Lighting elements
Daytime lights	LED
Dipped headlights	H1 55 W
Headlights	H1 55 W
Sidelights	W5W
Turn indicator	PY21W
Contour light, white	LED

Tab. 21-2 Front lighting elements - fully integrated

21.2.1.2 Replacing lighting elements - sides

The side marker lights are LED lights on some models. Lamps should only be replaced in a workshop. Contact your **ADRIA** dealer in the case of defects.

Exchanging the contour light bulbs (red/white):

- ➔ Remove the contour light glass.
- ➔ The bulb sits in a bayonet socket. Pull the defective light bulb out of the socket.
- ➔ Check that the new light bulb works.
- ➔ Refit the contour light glass.

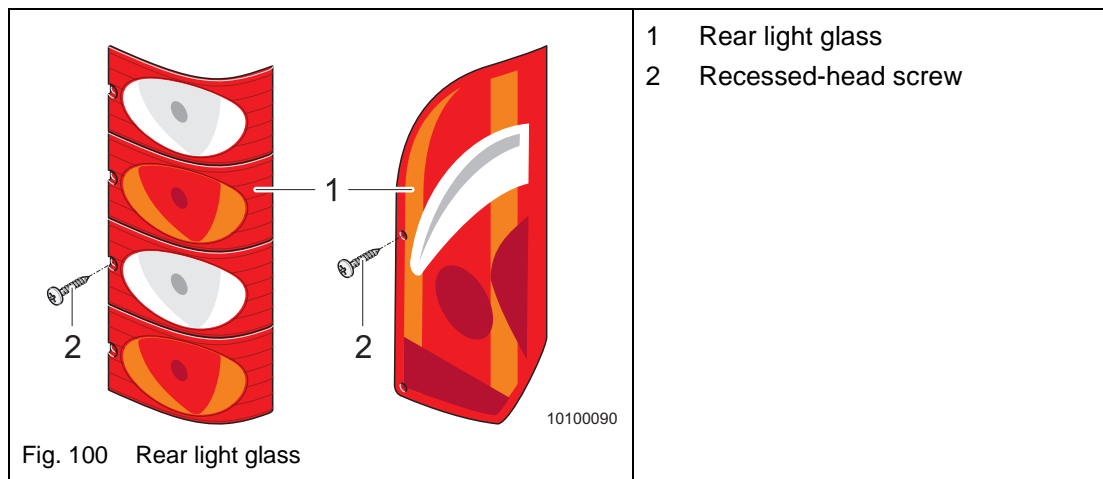
Lighting - sides	Lighting elements
Turn indicator	W16WF or LED
Contour lights (white or red/white)	W5W
Side marker light	LED
Awning light	G4 10W or LED

Tab. 21-3 Side lighting elements

21.2.1.3 Replacing lighting elements - rear

The rear lights are also LED lights on some models. Lamps should only be replaced in a workshop. Contact your **ADRIA** dealer in the case of defects.

The rear light glass of rear lights are closed with one or two recessed-head screws depending on the vehicle type.



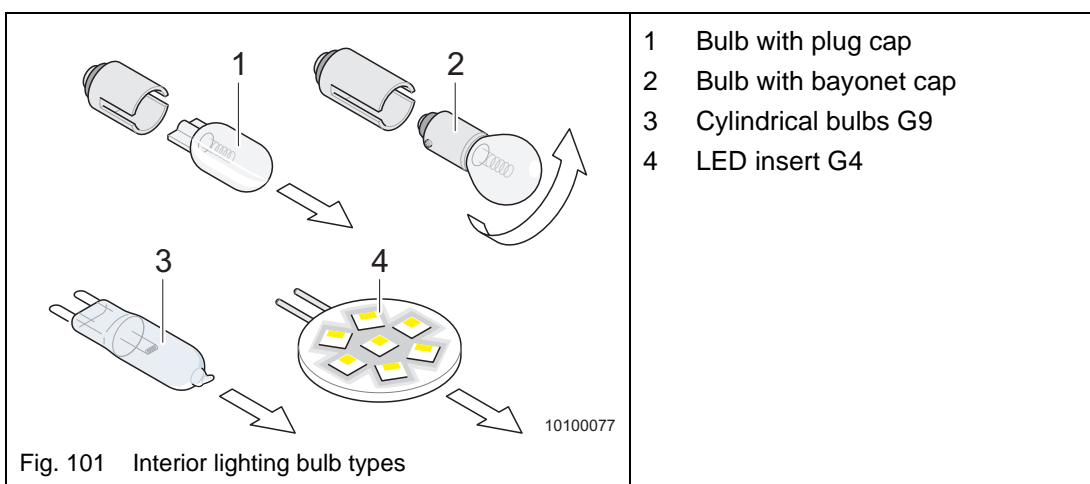
Exchanging light bulbs:

- ➔ Unscrew the recessed-head screws (Fig. 100/2) and remove the appropriate rear light glass (Fig. 100/1).
- ➔ The bulb sits in a bayonet socket. Press the defective bulb slightly into the socket and turn it anticlockwise.
- ➔ When inserting two-filament bulbs (recognisable by the two soldering points on the base), pay attention to the different bayonet guides (protection against incorrect insertion).
- ➔ Check that the new light bulb works.
- ➔ Put the rear light glass (Fig. 100/1) back on and screw in the recessed-head screws (Fig. 100/2).

Lighting - rear	Lighting elements
Tail light	P21/5W or P10W
Brake light	P21/5W or P21W
Turn indicator	PY21W
Reversing light	P21W
Rear fog light	P21W
License-plate light	C5W
3rd brake light	LED
Contour light, red	LED

Tab. 21-4 Rear lighting elements

21.2.2 Interior lighting



Lighting - interior	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 unit	LED-12 V-G4 0.5 W
Lighting, wardrobe	C10W 12 V 10 W
Lighting, storage space	Halogen 12 V-G4 10 W

Tab. 21-5 Interior lighting elements

➔ Replace the various bulbs as follows:

	Bulb type	Replacing
1	Bulb with plug cap	<ul style="list-style-type: none"> • Removing: Pull the bulb out. • Fitting: Push the bulb in the socket with light pressure.
2	Bulb with bayonet cap	<ul style="list-style-type: none"> • Removing: Push the bulb down and turn it anti-clockwise. • Fitting: Insert the bulb in the socket and turn it clockwise.
3	Cylindrical bulbs with G9 cap	<ul style="list-style-type: none"> • Removing: Pull the bulb out. • Fitting: Push the bulb in the socket with light pressure.
4	LED insert with G4 plug connection	<ul style="list-style-type: none"> • Removing: Pull the LED insert out of the plug connection. • Fitting: Push the LED insert into the plug connection with light pressure.

Tab. 21-6 Replacing bulb types - interior

21.3 Gas system faults

Fault	Possible cause	Measure
Gas smell, high gas consumption	Gas system leaks.	<ul style="list-style-type: none"> • Immediately put the gas system out of service. • Close the gas cylinder shut-off 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.	<ul style="list-style-type: none"> • Exchange gas cylinder (Chapter 11.5 and 11.6).
	Gas cylinder shut-off valve closed	<ul style="list-style-type: none"> • Open gas cylinder shut-off valve (Chapter 11.6.1).
	The SecuMotion/MonoControl CS gas pressure regulator (special equipment) has switched off after the gas system has not been used for a longer period of time and with the gas cylinders shut off.	<ul style="list-style-type: none"> • Place the SecuMotion/MonoControl CS (special equipment) into service (Chapter 11.6.1).
	Gas pressure regulator frozen.	<ul style="list-style-type: none"> • Use a regulator de-icing system (e.g. Eis-Ex as accessory).
	Quick-action stop valve closed	<ul style="list-style-type: none"> • Open quick-action stop valve (Chapter 11.7).
	Appliance is defective.	<ul style="list-style-type: none"> • Repair by authorised workshop.
	Outside temperature too low.	<ul style="list-style-type: none"> • Use propane gas for winter camping (Chapter 11.3).
Flame appearance on appliance not normal	Gas pressure regulator defective.	<ul style="list-style-type: none"> • Consult an authorised workshop.

Tab. 21-7 Gas system faults

21.4 Gas stove faults

Fault	Possible cause	Remedy
No gas	See Chapter 21.3 "No gas".	
Flame extinguishes in the "small flame" position	Flame failure device is not adjusted correctly.	<ul style="list-style-type: none"> • Adjustment exclusively by authorised workshop.
Flame failure device does not react	Flame failure device is defective.	<ul style="list-style-type: none"> • Consult an authorised workshop.
Flame appearance on appliance not normal	Gas pressure regulator defective.	<ul style="list-style-type: none"> • Consult an authorised workshop.

Tab. 21-8 Gas stove faults

21.5 Refrigerator/freezer compartment faults

Fault	Possible cause	Remedy
No gas operation	See Chapter 21.3 "No gas".	
	Energy selector switch on refrigerator in false position.	<ul style="list-style-type: none"> Switch power selector switch on refrigerator to "Gas mode" or "Automatic mode" (Chapter 15.1).
	Air in gas pipe	<ul style="list-style-type: none"> Switch the appliance off and start again. Repeat three to four times.
No 230 V operation	Energy selector switch on refrigerator in false position.	<ul style="list-style-type: none"> Switch power selector switch on refrigerator to "230 V mode" (Chapter 15.1).
	Vehicle not connected to mains supply.	<ul style="list-style-type: none"> Connect vehicle to the mains.
	Onboard fuse defective.	<ul style="list-style-type: none"> Insert a new fuse.
No 12 V operation	Energy selector switch on refrigerator in false position.	<ul style="list-style-type: none"> Switch power selector switch on refrigerator to "12 V mode" (Chapter 15.1).
	Onboard fuse defective.	<ul style="list-style-type: none"> Insert a new fuse.
	Battery is discharged.	<ul style="list-style-type: none"> Check and charge the battery.
	Ignition is not switched on.	<ul style="list-style-type: none"> Start the engine.
Cooling function is not sufficient	Door not closed properly.	<ul style="list-style-type: none"> Close the door. Have the door adjusted.
	Ventilation of the cooling unit is not sufficient	<ul style="list-style-type: none"> Check the refrigerator grilles are not covered.
	Thermostat setting too low.	<ul style="list-style-type: none"> Increase thermostat setting.
	Too much ice on vaporiser.	<ul style="list-style-type: none"> Check the refrigerator door closes properly.
	Too much warm food placed in the refrigerator at the same time.	<ul style="list-style-type: none"> Allow food to cool first
	Appliance not yet long enough in operation.	<ul style="list-style-type: none"> Check the cooling effect after some hours.

Tab. 21-9 Refrigerator/freezer compartment faults

21.6 Truma Combi and Truma Combi E heater faults



Important!

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

Fault	Possible cause	Remedy
LEDs do not light.	No supply voltage.	<ul style="list-style-type: none"> • Check battery voltage (12 V). • Check all electric connectors and fuses.
Green LED lights but heater does not operate.	The temperature setting on the control panel is lower than the room temperature.	<ul style="list-style-type: none"> • Set the temperature on the control panel higher.
Green LED lights and red LED blinks.	Battery voltage is too low.	<ul style="list-style-type: none"> • Charge the battery.
The red LED goes on approx. 30 seconds after the heater is switched on.	See Chapter 21.3 "No gas".	
After operating for a longer period of time, the heater switches to failure.	Warm air outlet openings blocked.	<ul style="list-style-type: none"> • Check and free individual single warm air outlet openings.
	Gas pressure regulator frozen.	<ul style="list-style-type: none"> • Use a regulator de-icing system (e.g. Eis-Ex as accessory).
Green and red LEDs blink after heater is switched off.	Appliance was switched off during failure. After-running is active in order to reduce the temperature.	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • Switch the heater on. 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".	<ul style="list-style-type: none"> • Turn the drain valve rotary switch (Fig. 72/2) to "Operation". Now press the snap button (Fig. 72/5) on the drain valve until it engages.

Tab. 21-10 Truma Combi and Truma Combi E heater faults

21.7 Alde Compact 3010 heater faults



Important!

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

Fault	Possible cause	Remedy
Heater does not start.	See Chapter 21.3 "No gas".	
	No supply voltage (12 V).	<ul style="list-style-type: none"> • Check battery voltage (12 V). • Check all electric connectors and fuses.
Electrical operation (230 V) not possible.	No mains voltage.	<ul style="list-style-type: none"> • Check the circuit breaker is switched on. • Check the 230 V plug is connected to the heater system. • Check 230 V voltage is available at the socket.

Tab. 21-11 Alde Compact 3010 heater fault

21.8 Water supply faults

Fault	Possible cause	Remedy
No water	Water tank is empty.	<ul style="list-style-type: none"> • Top up the water tank (Chapter 12.1.1).
	Fuse of water pump defective.	<ul style="list-style-type: none"> • Replace the defective fuse.
	Water pump defective.	<ul style="list-style-type: none"> • Have the water pump replaced in an authorised workshop.
Water leak in vehicle	Leak in the water system.	<ul style="list-style-type: none"> • Identify and repair leak.

Tab. 21-12 Water supply faults

21.9 Power supply faults

Fault	Possible cause	Remedy
Ground-fault circuit breaker triggers	Fault in 230 V cables of vehicle.	<ul style="list-style-type: none"> Contact Customer Service.
	Fault in an electrical appliance.	<ul style="list-style-type: none"> Disconnect all electrical appliances 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 operation	No mains voltage.	<ul style="list-style-type: none"> Switch on the circuit breaker in the vehicle. Have the mains voltage checked.
	Transformer/rectifier defective.	<ul style="list-style-type: none"> Contact Customer Service.
Living area battery is overcharged in 230 V operation	Transformer/rectifier defective.	<ul style="list-style-type: none"> Contact Customer Service.
Living area battery is not charged in drive operation	Too many connected appliances.	<ul style="list-style-type: none"> Switch off the appliances, if possible.
Living area battery is overcharged in drive operation	Generator is defective.	<ul style="list-style-type: none"> Have the generator checked.
	Regulator defective.	<ul style="list-style-type: none"> Have the regulator checked.
Starter battery is not charged in 230 V operation	No mains voltage.	<ul style="list-style-type: none"> Switch on the circuit breaker in the vehicle. Have the mains voltage checked.
	Transformer/rectifier defective.	<ul style="list-style-type: none"> Contact Customer Service.

Fault	Possible cause	Remedy
Refrigerator does not operate in drive operation	No voltage applied to refrigerator.	<ul style="list-style-type: none"> • Have the fuse and cables checked.
	Transformer/rectifier defective.	<ul style="list-style-type: none"> • Contact Customer Service.
	Refrigerator defective.	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • Switch 12 V main switch for living area battery on (Chapter 8.8).
	Fuse or cables defective.	<ul style="list-style-type: none"> • Have the fuse and cables checked.
	Transformer/rectifier defective.	<ul style="list-style-type: none"> • Contact Customer Service.
	System put out of service.	<ul style="list-style-type: none"> • Put the system into service.

Tab. 21-13 Power supply faults

21.10 Control panel faults

Fault	Possible cause	Remedy
12 V supply does not function	12 V main switch switched off	<ul style="list-style-type: none"> Switch 12 V main switch for living area battery on (Chapter 8.8).
	Fuse defective	<ul style="list-style-type: none"> Contact Customer Service.
12 V control indicator (green) is not lit	12 V supply switched off	<ul style="list-style-type: none"> Switch on the 12 V supply.
System cannot be switched on	Living area battery is not charged or insufficiently charged.	<ul style="list-style-type: none"> Charge the living area battery
	Fuse defective	<ul style="list-style-type: none"> Contact Customer Service.
No voltage is supplied by the living area battery	The living area battery is discharged	<ul style="list-style-type: none"> Charge living area battery immediately! <p>Complete discharging damages the living area battery!</p>
	Discharge is performed by inactive appliances, e.g. the frost protection valve of the combined heater.	<ul style="list-style-type: none"> Charge living area battery for longer stationary periods.
The "mains control" symbol is not shown although the 230 V mains supply is connected	The mains connection has no voltage.	<ul style="list-style-type: none"> Check the mains connection (e.g. camping site).
	Circuit breaker before the transformer/rectifier has triggered or is switched off.	<ul style="list-style-type: none"> Reset or switch on the circuit breaker.

Tab. 21-14 Control panel faults

21.11 Toilet faults

Fault	Possible cause	Remedy
Toilet does not have flushing water	Water tank is empty.	<ul style="list-style-type: none"> Fill the water tank.
The pump runs, the toilet bowl is not emptied	Clogging in toilet bowl.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> Replace the fuse.

Tab. 21-15 Toilet faults

22 Technical Data



Important!

- 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 unapproved accessories or by unallowed modifications on the vehicle.
- The dimension and weight information is within possible tolerances $\pm 5\%$.

22.1 Models

ADRIA vehicles are grouped into the following models:

- Alcove models (driver's cab of basic vehicle can be seen, bodywork has a bed in an alcove above the driver's cab)
- Hybrid models (partially integrated vehicle with front lifting bed)
- Partially integrated models (driver's cab of basic vehicle can be seen, bodywork does not have a bed above the driver's cab)
- Fully integrated models (driver's cab integrated in the bodywork)

Model identification:

- A - Alcove models
- M - Hybrid models
- S - Partial integrated models
- I - Fully integrated models

22.2 Tyres / tyre pressure



Warning!

Risk of injury and severe damage to the vehicle

- ▲ Different tyre pressures may be necessary when using winter tyres. See the instruction manual for the basic vehicle for detailed information.

Basic vehicle	Tyre size	Tyre pressure, front [bar]	Tyre pressure, rear [bar]
Fiat Ducato	215/70 15 CP	5.0	5.5
	215/75 R 16 C	4.5	5.0
	225/75 R 16 C	4.5	5.0
	225/75 R 16 CP	5.5	5.5
Mercedes Benz Sprinter	225/75 R 16 C	3.3	4.3
	235/65 R 16 C	3.6	5.0
	235/60 R 17 C	3.5	4.5
Renault Master	225/65 R 16 CP	4.0	4.8

Tab. 22-1 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 instructions of the basic vehicle for exact specifications.

22.3 Additional load / 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 gross weight rating entered in the vehicle documents.



Important!

- Load the vehicle properly (Chapter 5.1).
- Weigh the vehicle before starting the journey (e.g. on public vehicle scales).

22.3.1 Determining the additional load

The additional load is calculated according to the following formula:

- Gross weight rating - (minus) unladen weight / basic equipment = weight of additional load

In the EU, the EU Directive 97/27/EC is valid for the additional loading of vehicles; these rules are essentially equivalent to standard DIN EN1645-2.

22.3.1.1 Gross weight rating

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

22.3.1.2 Empty weight/basic equipment

The empty weight is made up as follows:

- Weight of the empty, ready-to-drive vehicle including basic equipment ex factory.
- This includes:
 - The weight of the empty vehicle including spare wheel/tyre mobility system and tools
 - Driver's weight (75 kg)
 - Fuel tank filled up to 90%
 - 100% full gas cylinders (11 kg gas + 5 kg cylinder weight = 16 kg)
 - 100% full water tank (e.g. 25 liter = 25 kg)
 - 100% full water system
 - 100% full boiler (e.g. 11 liter = 11 kg)
 - CEE connecting cable

22.3.1.3 Additional load

The additional load consists of:

Additional equipment

All objects offered in addition to the standard equipment.

An extract of the weight of additional equipment can be found in Chapter 22.3.2, e.g.:

- Adria special equipment
- 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.

22.3.2 Weight of additional equipment and accessories

The following list includes additional equipment packages and accessories. The values are valid when not already included in the standard equipment of the vehicle. All weight information is "approximate information".

	Additional equipment / accessories	Weight (approx.)	✓
Basic 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	
	Mercedes Benz 316CDI instead of 313CDI	15 kg	
	Mercedes Benz 319CDI instead of 313CDI	56 kg	
	Mercedes Benz 3.88-t-Chassis	23 kg	
	Mercedes Benz 4.2-t-Chassis	50 kg	
Equipment	Waste water hose	2 kg	
	Waste water tank heated	1 kg	
	Passenger airbag	3 kg	
	Alarm system, living area	2 kg	
	Alarm system, driver's cab	1 kg	
	ALC level control system	19 kg	
	Trailer system with electric connection	25-40 kg	
	Instrument panel refinement	1 kg	
	ASR / ESP	4 kg	
	Automated transmission (Fiat/Renault)	6-17 kg	
	Automatic transmission (Mercedes Benz)	28 kg	
	Rear view mirrors, painted	1 kg	
	Rear view mirrors, electrically adjustable and heatable	2 kg	
	Wider bed	2 kg	
	CD radio	1-5 kg	
	Roof railing	8 kg	
	Deco set	2 kg	
	Auxiliary diesel heating	6-10 kg	
Spare wheel	32 kg		
Bike holder	10 - 20 kg		
Fire extinguisher	2 kg		

	Additional equipment / accessories	Weight (approx.)	✓
	Flyscreen blind in living area door	4 kg	
	Combi 6 heater (instead of Combi 4)	1 kg	
	Lifting bed, electrical operation	2 kg	
	Lifting bed complete, with electrical operation	80 kg	
	Air-conditioning system, driver's cab	18-20 kg	
	Corner steadies, rear	6 kg	
	Curve lighting	3 kg	
	L-dinette	19 kg	
	Light-metal rims (4 rims, instead of steel rims)	10 kg	
	Reinforced generator	2 kg	
	Awning	20 - 30 kg	
	Mattress cover for fixed beds	4 kg	
	Metallic paint finish	2 kg	
	Navigation system	2-5 kg	
	Fog lamp	4 kg	
	Panorama roof window, front	5 kg	
	Leather upholstery	4 kg	
	Radio pre-installation, driver's cab	2 kg	
	Smoker package	2 kg	
	Reversing camera	2 kg	
	Particle filter	10 kg	
	Headlamp cleaning unit	1 kg	
	Mudflaps, front and rear	4 kg	
	Seat base cover, driver's cab	1 kg	
	Sunvisors, driver's cab	3 kg	
	Stop & Start automatic	1-2 kg	
	Daytime lights	2 kg	
	Cruise control	1 kg	
	Carpet, driver's cab + dinette	5 kg	
	TFT TV-holder	3-5 kg	
	TV + SAT equipment	15 - 40 kg	
	Heat insulation, driver's cab	2 kg	

	Additional equipment / accessories	Weight (approx.)	✓
	Heat exchanger, Motor-Alde	3-5 kg	
	Winter curtain, driver's cab	4 kg	
	Xenon headlamps	1 kg	
	Xenon headlamps with cleaning system	3 kg	
	Additional air suspension (rear axle)	10-45 kg	
	120 liter diesel tank (instead of 50 liter)	30 kg	
	60 liter diesel tank (instead of 90 liter)	-24 kg	
	Total weight of built-in additional equipment		

Tab. 22-2 Weight of additional equipment and accessories

22.3.3 Weight of personal equipment and accessories

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

Tab. 22-3 Weight of personal equipment

23 Checklists



Important!

These lists also include special equipment, special accessories and personal equipment not included in the standard vehicle equipment.

23.1 Checklist, general

Motorhome checklist	✓
Motorhome general inspection and gas inspection carried out (Chapter 2.4.1)	
Gas 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 22.2), tread depth checked	
Spare wheel tyre pressure or use-by date of tyre mobility system checked	
Lighting checked	
Nationality plate attached (when required in destination country)	
Emergency equipment available (warning triangle and first-aid kit, possibly flashing hazard warning light and warning vests), use-by date for first aid kit checked	
Fire extinguisher present and tested	
Tools: Gloves, reserve fuel canister (if allowed in the country being visited), jumper cable, tow rope/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 available: Fuses, spare lights, hose clamps, hose, spare immersion pump, wire	
Snow chains, traction aid available	
Bubble level, drive-on chocks available	
CEE cable reel, extension cable, adapter cable available	
Earth contact-multiple socket available	
Water tank cleaned, disinfected and drain valve closed	
Water tank filled	
Water hose, canister, watering can available	
Water disinfectant, toilet cassette, etc. available	
Waste water tank emptied and drain valve closed	

Motorhome checklist	✓
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 cooker, oven etc. closed (Chapter 11.7)	
Gas adapter (filler set, cylinder set), SecuMotion/MonoControl CS high-pressure hoses available	
Cranks and support plates for corner steadies available	
Sunblind crank available	
Extra cushion for bed conversion available	
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	
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)	

Motorhome checklist	✓
Entrance step retracted	
All outer doors and outer flaps securely latched and locked	
Child car seats attached securely	
Headlamp height adjustment adapted	
Rearview mirrors correctly adjusted	
Cab seats set to the right position and locked into position	
Driver's cab blinds fully open and locked	

Tab. 23-1 General motorhome checklist

23.2 Driver and passengers checklist

Driver and passengers checklist	✓
Identity cards, passport, visa (check validity!)	
Health insurance card, EU health insurance card, health insurance documents for abroad	
Travel health insurance documents	
Vaccination cards (vaccinations up to date?), allergy passes, emergency passes	
Required travel documents for all animals	
Driving licence, international driving licence	
Vehicle documents, green insurance card	
General inspection certificate, emissions test certificate, official gas inspection certificate	
Parking disc	
Instruction manual	
Directory of authorised workshops for basic vehicle	
Spare vehicle key	
Spare glasses	
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. 23-2 Driver and passengers checklist

23.3 Living and sleeping area checklist

Equipment	✓	Equipment	✓
Copies of: Identity cards, passports, visa		Copies of: Vaccination cards, allergy passes, emergency passes	
Copies of: Driving licence, international driving licence		Copies of: Vehicle documents, green insurance card	
Telephone number of local bank (if the EC card gets stolen)		Telephone number of credit card company (if the credit card gets stolen)	
Clothes, shoes		Pyjamas	
Rainwear, 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	
Books, CDs, DVDs		Radio	
Sunglasses, sunhat, suncap		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/compressor		Leisure equipment	
Impregnating agent			

Tab. 23-3 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, dustpan and brush, vacuum cleaner	
Egg boiler, egg cups		Dust bin, rubbish bag	
Toaster		Grill utensils	
Floor cloth, bucket		Dog bowl	

Tab. 23-4 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 creme, hand creme	
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, aftersun cream	
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. 23-5 Bathroom / sanitary equipment checklist

23.6 Personal checklist

Please copy and complete.

Route:

Date:

Personal checklist	✓

Tab. 23-6 Personal checklist

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