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OPERATION GUIDE



Hobby

Version 8 / 2015



Dear Caravaner,

Congratulations on the purchase of your new HOBBY Caravan. The trust you have placed in us is both an incentive and an obligation to continuously implement new ideas, technical innovations and fine touches to make our caravans even better. Our fully fitted and highly sophisticated models enable us to offer you the perfect setting for the most enjoyable days of the year.

Please read this manual carefully, even if you have been driving a caravan for a longer period of time. It will help you to avoid operating errors and damage to the vehicle and its equipment. Correct handling of all technical details will increase your driving comfort and maintain the value of your caravan.

If this user manual should be unable to provide the required assistance, a close, pan-European network of dealers is available for further help. Take advantage of your authorised dealer's experience and technical knowledge - we recommend speaking to him in detail before taking your first trip with your HOBBY caravan.

We wish you and your fellow travellers many enjoyable trips and hope you will always have a safe journey with your new HOBBY caravan.

Your
HOBBY Caravan Plant
Ing. Harald Striewski GmbH

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1.1 General information

Our caravans are continuously being further developed. Please understand that we reserve the right to make changes to their equipment, shape and technology.

These operating instructions also describe equipment which may vary from the standard scope of delivery.

Therefore, HOBBY shall not be liable for any claims arising from the contents of this handbook. Please understand that we cannot describe all of the individual variations. Your dealer will be pleased to answer any special questions regarding the equipment and technology of your caravan.

Your HOBBY caravan has been built in accordance with the latest technology and recognised safety regulations. Despite all of these safety measures, it is possible that people may be hurt or the caravan damaged if the safety instructions in this handbook and the warnings posted on adhesive labels in the caravan are not followed.



We would explicitly like to point out that we do not accept any liability for damages or malfunctions that arise because these operating instructions have been ignored.

Before the first trip

You should certainly familiarize yourself thoroughly with the contents of this handbook; it is much more than a reference book.

Fill out the guarantee cards for the built-in appliances in the separate instructions, and send the guarantee cards to the respective manufacturers. In doing so, you secure your right to a guarantee for all devices.

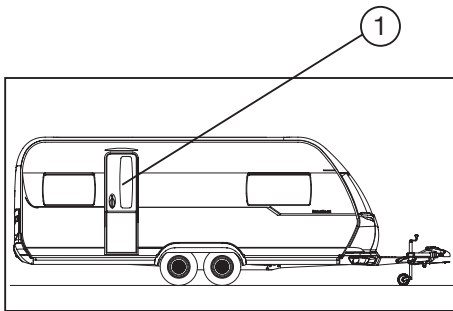


HOBBY grants a 5-year guarantee on the watertightness of the caravan in accordance with guarantee conditions. When you accept the vehicle you will receive the guarantee booklet, "Five-Year Guarantee on Watertightness" from your HOBBY dealer.



Annual leak checks are not free of charge.
Warning: If no leak inspection is performed, your right to the 5-year guarantee loses its validity.

1.2 Markings in these operation instructions



Indicating details with the help of position numbers

The handbook explains the caravan as follows

Texts and illustrations

The texts which accompany illustrations are found directly to the right of the illustrations. Details in illustrations (here: entry door) are marked with position numbers ①.

Lists

- Lists are based on key points and are preceded by a dash.

Procedural guidelines

- Procedural guidelines are also based on key points and begin with a round sentence opener.

Guidelines



Guidelines point out important details which ensure the trouble-free function of the caravan and its equipment. Please bear in mind that various models have different equipment; therefore, varying descriptions are possible.

Warnings



Warnings point out dangers which, if they are not followed, could causedamage to equipment and/or injury to persons.

Environmental tips



Environmental tips show possible ways to reduce strain on the environment.

Optional Extras

You have selected a caravan that is equipped to taste.

This user manual describes all of the models and equipment offered within the same programme. Therefore, it may include equipment that you have not selected.

* Differences and, thus, all of the optional extras are marked with an asterisk.



Should there be any equipment or model that is not described in this user manual, please note the enclosed additional operating instructions.

Timeliness of This Manual

The high level of quality and security for caravans is ensured by means of continuous further development. In very rare cases, there may be a difference between the description and the vehicle itself.

2.1 Intended use

This camper has been designed as a mobile travel accommodation for private, not commercial use. It is not intended for permanent residence. Furthermore, no more than the number of people for which this camper has been planned may spend the night in the vehicle. When the camper is on the road, it may only be used in accordance with road traffic regulations and national vehicle safety standards.

This camper is exclusively suited to being towed by a car, not by lorries, buses or similar vehicles. It may not be used to transport people/animals and/or goods. While driving, people/animals may not remain in the camper. When the camper is on the road, it may only be used for carrying personal equipment. Transporting unsecured loads and/or packages is forbidden.

Please ensure that the technically permissible maximum weight of the camper and the permitted axle load(s) per axle are not exceeded. No use of the camper other than that described here is permitted; any other use is regarded as contrary to the intended use.

2.2 General information

- The camper may only be driven on public roads by someone with a valid driving licence category for such vehicles.
- The individual manufacturer's operating and instruction manual(s) must be observed when using built-in devices (refrigerator, heating system, cooker, etc.).
- The measurements, weight and driving performance of the camper may change if accessories or optional extras have been installed. Some accessories that are fitted after purchase of the vehicle must be entered in the registration document. • Use only tyres and rims that have been approved for your camper. Information on tyre and rim sizes can be found in the vehicle's registration document or in **Chapter 14.4 Tyres**.



Warnings and information labels are attached both inside and outside the vehicle. These are meant for your safety and may not be removed.

2.3 Fire protection

Fire prevention measures

- Never leave children unattended in the vehicle.
- Keep flammable materials away from all heating and cooking appliances.
- Changes to the electrical system, gas system or built-in devices may only be carried out by professional, authorised workshops.
- Place a fire extinguisher at the main entry door.
- Ensure that everyone is familiar with the guidelines on the fire extinguisher.

- Place a fire cover near the gas cooker.
- Keep all escape routes clear.
- Ensure that everyone is familiar with the fire prevention measures on site.

Fighting a fire

- Evacuate all passengers immediately.
- Close the main shut-off valve on the gas bottle as well as the shut-off valves on gaspowered appliances.
- Shut off the electrical supply
- Sound alarm and call the fire department.
- Only fight the fire yourself if this is possible without risk.

Smoke detector*



Smoke detector

As an optional feature, the camper can be fitted with a battery-operated smoke detector on the ceiling. Should smoke be detected inside the vehicle, a loud alarm will go off, warning any passengers of a possible fire.

The detector's own electricity supply, powered by the built-in 9V block battery, ensures that the smoke detector will function independent of the vehicle's electric system, even if the power supply has been switched off.

- To activate the smoke detector, pull the protective foil off the block battery and insert the battery.
- Use the test button to test the smoke detector. Use the test button to test the smoke detector.



Please refer also to the device manufacturer's operating manual.

For more information on using and changing the battery, please refer to Chapter **12 Maintenance and Upkeep**. A smoke detector will not prevent fires or put them out. If it is working properly, it will merely provide you with those possibly decisive seconds to save yourself and notify emergency services.

2.4 Emergency equipment

To be prepared in case of an emergency, you should always carry the three emergency devices on board and familiarize yourself with them.

First-aid kit

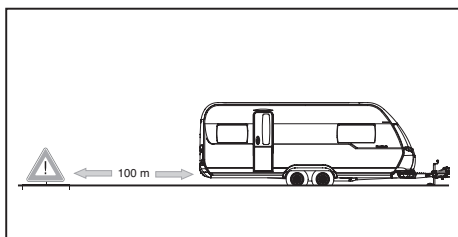
The first aid kit should always be kept handy. It should have a fixed place in the base vehicle/camper. Any objects removed from the first-aid kit should be replaced immediately. Expiry dates should be checked regularly.

Reflective jacket

Please refer to the British regulations for carrying and wearing a high-visibility vest with white retro-reflective stripes in accordance with EN 471 whenever you step outside the vehicle on roads outside built-up areas or on the hard shoulder.

The driver must put on this high-visibility vest when the vehicle

- comes to a stop outside city limits on an obscure rural road because of an accident or breakdown, if the view is poor due to bad weather, in twilight or darkness, or
- when it must be secured by means of a warning triangle on the emergency strip of the engine way because of an accident or breakdown.



Minimum distance between warning triangle and camper

Warning triangle

The warning triangle should also be kept handy in a fixed place in the base vehicle/camper, preferably together with the first aid kit.

In an emergency

- Set up the warning triangle at least 100 m in front of the danger zone!



Please observe the national regulations of the countries you are driving through with regard to carrying and wearing emergency equipment.

2.5 Before the journey

2.5.1 What to observe before your first drive

Vehicle registration

Every vehicle which uses public roads is subject to registration. This includes your new caravan. You can register the caravan at your local registration office.

The following documents are required to initiate the registration process:

- Motor Vehicle Registration Certificate Part II and/or Certificate of Conformity (CoC)
- Electronic Insurance Certificate/eIC Number
- personal identification or proof of residence
- possibly, power of attorney to have someone else register the caravan.
- if applicable: direct debit mandate for taxes

If required, please do not forget to apply for a „100“ speed sticker.

General inspection

In accordance with Section 29 of German Road Traffic Licensing Regulations, your caravan must undergo a major inspection every two years.

A general vehicle inspection can be carried out by an officially recognised expert (e.g. DEKRA Expert mobile home inspection).

The following documents must be presented at each inspection:

- motor vehicle registration certificate, Part I
- valid certificate of inspection for gas facilities, documenting installation. Your dealer will give you the initial certificate.



Any changes made to the camper that fall under national traffic regulations must be approved and entered in the registration document!

If you have any further questions or difficulties, your authorised Hobby dealer will always be available to assist you!



"100" speed sticker

Fit for a Speed of 60 mph

1. Your HOBBY caravan is technically equipped for a maximum speed of 60 mph. Under no circumstances may this speed be exceeded!
2. Note the permissible maximum speeds for trailer carriages in the country in which you are travelling!
3. Road traffic regulations in **Germany** were changed on 22 October 2005. Your caravan was already set to a speed of 100 at the factory, and this has been entered in the caravan's registration documents. Upon request, the 60 mph sticker will be issued by the road traffic authority when the caravan is initially registered and attached to the back of the vehicle.
4. The following points must be observed, because you are responsible for adhering to them. If they are not met, the maximum speed for the caravan is 50 mph!
 - a) The base vehicle must be equipped with an anti-locking system/anti-lock device and may not exceed an overall mass of 3.5 tons.
 - b) The caravan must be equipped with hydraulic vibration dampers (shock absorbers); naturally, your new HOBBY caravan is equipped with these.
 - c) The caravan's tires may be no more than six years old. They must be marked at least with an L (= 75 mph) for the appropriate speed category.
 - d) The caravan must be equipped with a stabilising unit in accordance with ISO 11555-1.

The overall mass of the caravan may not exceed the unladen mass of the car.

5. Free interchangeability of base vehicle and caravan: Different caravans may be combined with different base vehicles.
You are responsible for ensuring that the preceding regulations are met if you plan to drive at 100 km/h.
6. The correct drawbar load gives you more safety:

Please refer to chapter 3.3.2 for the recommended drawbar load.



- Tighten the nuts on the wheels after driving the first 50 km with your camper.

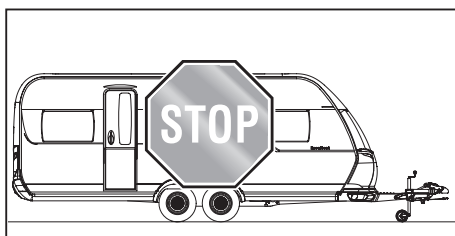
2.5.2 Before each drive

Road safety

- Before driving, check that the signalling and lighting systems and brakes function correctly.
- If the vehicle has been standing for a longer period of time (approx. 10 months) have an authorised workshop check the brake system and the accelerator system. **(see also Chapter 14.5)**
- In winter, the roof must be cleared of snow and ice before driving.
- Regularly check the tyre pressure before driving. False tyre pressure can cause excessive wear, damage to the tyres or even lead to a burst tyre.
- Set the vehicle's wing mirror.



Only begin to drive when your camper fulfils all of the conditions for roadworthiness.



Prepare the vehicle before driving!

As the owner and driver, you are responsible for the condition of your vehicle. Therefore, you must note the following points:

Exterior

Go around the carriage and prepare for the drive as follows:

Preparation of the vehicle:

- The caravan must be hitched properly **(see guidelines for the safety hitch WS3000 Chapter 3.4)**.
- Release the handbrake for the caravan and place the contact-breaking cable around the ball neck of the permanently attached tow coupling. If the tow coupling is detachable, the contact-breaking cable must be hooked into the eyelet provided on towing bracket for that purpose.
- Plug the 13-channel plug in the socket of the base vehicle.
- Turn the winding stanchions and the front landing wheel upward and secure them.
- Close gas bottles (heating is forbidden while driving).
- Empty the waste water tank.
- Close gas bottle compartment.
- Shut rear storage locker (Premium).
- Close all windows.
- Close the service flaps.
- Close and firmly lock roof bonnet.
- Shut off the light on the outer tent.
- Close and secure entry door.
- If necessary, pull the electrical cord to the 230 V mains supply out of the exterior socket.
- If necessary, pull the television antenna inward as far as possible or fold over the satellite dish.
- If necessary, secure all bicycles and lash them to prevent slip - page, ensuring that they do not cover any lighting equipment.
- If necessary, secure the spare tyre holder.
- If necessary, roll up the awning and stow the crank securely in the camper.

Interior

You must also prepare the interior of the vehicle

Preparing the interior:

- Sort all loose objects and store them in their respective compartments.
- Store heavy and / or voluminous objects (e.g. radio, outer tent, beverage cases) safely before you start your journey, securing them to prevent them from shifting.
- If necessary, redirect refrigerator to 12-volt operation.
- Shut off all interior lighting.
- Ensure that all fluids, including those in refrigerator, are secured to prevent leakage.
- Close main valve on gas container and quick-close valves on all gas-powered appliances.
- Close all doors (incl. refrigerator door), drawers and flaps tightly.
- Lock the central lock on the kitchen drawers.
- Latch the sliding door.
- Lower table and secure it.
- Secure the TV mount.
- If necessary, dismantle the TV and store it securely.
- Press the pushbutton to secure the shower door (WLU/WFU models).



Staying in the caravan during the drive is prohibited by law!

Gas bottles may only be transported when they are securely fastened in the gas bottle container provided.

Ensure that there is sufficient ventilation. Never cover up built-in forced ventilation (skylights with forced ventilation or mushroom vents). Ensure that forced ventilation is not covered by snow or leaves as this increases the **danger of suffocation**.

2.6 While driving

Driving

Take a test drive or a safety training course before the first long drive to better acquaint yourself with the carriage in driving conditions.

Rules for driving

- Do not underestimate the length of the carriage.
- Exercise special caution when driving toward yards and through gates.
- In conditions with strong side winds, slick ice or wet roads, the carriage could move back and forth.
- Adjust driving speed to overall street and traffic conditions.
- Long, lightly sloping roads are potentially dangerous. Measure your speed from the outset in such a manner that the carriage can be accelerated, if necessary, without endangering other drivers or pedestrians.
- If the carriage moves back and forth on a sloping road, brake carefully but rapidly if the carriage forms a line, i.e. if it is stretched.
- **Never** increase speed if the carriage becomes pendulous.
- Do not drive down a hill any faster than you would drive up one.
- When overtaking or being overtaken by trucks or buses, the carriage can be caught up in air suction. This could cause the caravan to sling or become pendulous.

Driving around curves

Your carriage is considerably longer than a car.

Rules for driving around curves

- Do not take curves too quickly or too sharply!
- Take the curve at a somewhat wider radius when turning.
- Note that the caravan can sheer out of line over the rear.

Brakes

A trailer carriage behaves differently from an individual vehicle while braking. Therefore, it is advisable (especially for inexperienced drivers) to conduct several braking tests on a suitable surface. The braking distance for a carriage is longer than that of an individual vehicle. The load in the caravan also has a significant influence on the braking distance.

Rules for braking

- Note the longer braking distance on wet roads.
- When driving down mountains or steep hills, do not use a higher gear than when driving uphill.
- During long drives over passes, permanently overrunning the caravan can cause the wheel brakes to heat up considerably. If necessary, you should allow enough time to enable them to cool down again.



Due to the design of the brakes, there may be increased wear in the brake lining during the initial break-in phase. After having driven 500 km, the basic setting for the brakes must be checked by an authorised specialist and adjusted if necessary (initial inspection).

Although the Premium models have an automatic brake adjustment, this must be checked after having driven the first 500 km.



Should there be any defects or malfunctions in the driving performance of the camper, please notify roadside assistance and have any maintenance and repair work carried out by an authorised specialist.

Driving in reverse

Your HOBBY caravan has a braking system with automatic reverse. It enables you to drive backwards without applying the brakes, because the overrun coupling does not differentiate between overrunning or reversing the caravan. When you back up the caravan, you must first overcome a slight residual brake torque in order to activate the automatic reverse. You can then back up the caravan without any difficulty. The next time the caravan moves forward, the normal braking facility is then automatically applied again.



The caravan's brakes are deactivated when you drive in reverse.

Rules for driving in reverse

- The caravan tilts in the opposite direction in which you steer.
- Use a guide when driving in reverse.



Front manoeuvring handle

Shunting (moving caravan by hand)

Your carriage is significantly larger than a car.

Rules for moving caravan

- There is a significant blind spot when moving the caravan, even when the exterior mirrors are properly adjusted.
- Use a another person when turning into difficult parking spots.



When positioning the caravan manually, only use the steering handles at the front and rear ends of the caravan. Never push on the plastic parts or the walls.

2.7 After the drive

Choosing a parking place

Rules for choosing a parking place:

- The parking place should be as horizontal as possible.
- Check to see that the entry step is positioned horizontally (important for refrigerator function).
- Balance the lengthwise slant with the front landing wheel.
- Balance the crosswise slant by laying appropriate boards or a ramp under a wheel.



Do not use the rotating stanchions to compensate for any differences in height.

Securing the vehicle

Rules for securing the vehicle:

- Set the parking brake.
- Only extend the rotating stanchions to the point where the axle still assists in bearing the weight (The crank is located in the bottle container).
- If the ground is soft, place supports under the rotating stanchions.
- Use the wheel chocks to secure the wheels. They are located in the gas bottle container.



A spring brake on the brake lever ensures that the brakes will not disengage by themselves, even if the rotation direction is reversed from driving forwards to backwards. If you have activated automatic reverse, the brake lever must be moved beyond the dead centre position to its final position.

Redirecting electrical devices

Rules for redirecting electrical devices

- Open the main shut-off valve on the gas bottle as well as the shut-off valves on the gas-powered appliances you require.
- Redirect the refrigerator from 12 V to gas or 230 V.



If the caravan socket has been attached to the base vehicle in a manner conforming to standards (DIN ISO 146), the battery of the base vehicle will not be discharged when the ignition has been switched off and you have forgotten to switch the refrigerator from 12V operation.

Water installation

Water left standing in the fresh water tank or the pipes quickly becomes undrinkable.



Please empty any residual water from the water tank before filling it with fresh water.

Therefore, check the water pipes and the fresh water tank before each drive to ensure they are clean. Disinfect and rinse the drinking water facility regularly, and always before each journey.

3.1 General information

Frame parts and axles are components of the undercarriage. No technical modifications are allowed; otherwise, the terms of operation are no longer valid!



Technical changes are possible only with the manufacturer released .

For the sake of traffic safety, the vehicle undercarriage must be maintained just as conscientiously as the base vehicle itself. This maintenance should be carried out by your HOBBY dealer. If spare parts are required, use only the original parts designated by the manufacturer.



Generally, caravans are not suitable for pulling by lorries or buses. If this is done permanently, they will be damaged.

3.2 Vehicle ID number (FIN)

The 17-digit vehicle ID number is located at the front right-hand side of the forked drawbar.

Furthermore, the FIN is etched on the name plate.

Please have your VIN at hand for any inquiries or whenever visiting your dealer.



Name plate

Name plate

Permit number

Vehicle ID number (FIN)

Permissible maximum weight

Max. drawbar load

Permissible axle load, 1st axle

Permissible axle load, 2nd axle



Name plate in gas bottle container
Premium,
De Luxe (Edition),
Excellent, Prestige,
ONTOUR models



Name plate on the
side wall
Landhaus model



Premium, De Luxe, Excellent, Prestige, ONTOUR:

The name plate is located in the gas bottle container above the bottle holder.

Landhaus:

The name plate is located in the lower front area on the right-hand side wall.



Do not remove or change the name plate.

3.3 Loading

3.3.1 General information

Rules for loading:

- Spread the load evenly between the left and right-hand side of the caravan. Heavy or bulky objects belong in the lower storage compartments and near the axle.
- If your caravan has a tandem axle: distribute the centre of weight between the two axles.
- Never focus the load in the caravan to the rear (danger of swinging back and forth).
- Store baggage in the interior in cupboards and storage compartments.
- Heavy objects should be stowed securely to prevent them from slipping.
- Lighter objects (clothing) should be stowed in the wall cupboards.
- You may not always be able to follow the recommended stowing arrangement, because storage possibilities are distributed throughout the entire interior of the caravan. If necessary, stow heavy objects in the base vehicle.
- Secure doors and flaps.
- Check the technically permissible maximum weight and the axle load(s) after you have finished loading.



The maximum axle loads entered in the documentation for this vehicle as well as the technically permissible maximum weight must not be exceeded.

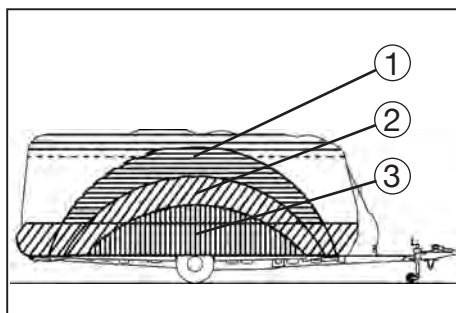
Overloading can cause the tyres to break down or even burst! This increases the danger that you may lose control of the vehicle. Therefore, you endanger yourself and other road users.

Do not store additional loads of more than 30 kg in the rear storage locker compartment (Premium).



If you are not sure whether or not you have overloaded the vehicle, you should have it weighed at a public weighing facility.

The lower the caravan's centre of gravity, the better its driving performance and response in curves.



Stowage areas

Stowage areas in the caravan

- Light objects ① such as towels and lightweight laundry.
- Medium-weight objects ② such as clothing, laundry and food.
- Heavy objects ③ such as the outer tent, boat motor or crates of drinks.

If your caravan is equipped with a rear bicycle rack*, the reduction in the drawbar load created by the bicycles must be compensated by the rest of the load.

3.3.2 Drawbar load



Drawbar load display on front landing wheel

You will only achieve optimum driving stability and decisively increase your safety on the road if the drawbar load has been properly adjusted for your combination of base vehicle and the caravan being pulled. The drawbar load indicates the power the caravan's drawbar exerts on the car's clutch.

Rules for the drawbar load:

- Set the drawbar load correctly! You can, for example, use normal bathroom scales: use a strip of wood (approx. 400mm long) to position them vertically under the coupling jaw. It may also be possible to roughly estimate the drawbar load by means of the drawbar load scales* ④ integrated in the front landing wheel, whereby the drawbar of the caravan must be in a horizontal position.
- Always check the drawbar load before you start to drive!
- The specified drawbar load (see handbook or type plate) and the permissible overall mass of the base vehicle and the caravan may not be exceeded!

How to adjust the correct drawbar load:

1. Determine the maximum drawbar load of your base vehicle by checking its documentation, the type plate or the drawbar plate.
2. **The maximum permissible drawbar load for your HOBBY camper is 100 kg (up to 2,000 kg technically permissible maximum weight) or 150 kg (over 2,000 kg technically permissible maximum weight).**
3. Adjust the drawbar load on the caravan to the lower of the two values by loading it carefully. At the same time, try to make full use of this value.
4. The lower of the two specified values for the drawbar load, i.e. that of the base vehicle or the caravan, may not be exceeded.

3.3.3 Definition of masses for the camper

EU Directive 1230/2012 applies at a European level for calculating the masses (weights) and resultant additional loads for campers. The terms and basic calculation elements used in this description are explained in the following:

1. Gross vehicle weight rating (g.v.w.r.)

The indication of the gross vehicle weight rating is taken directly from the HOBBY factory. This mass takes into account the specific operating conditions that are based on the model of the camper and its performance, including such factors as material strength, load-carrying capacity of the axles and tyres, etc. For safety reasons, this mass must never be exceeded!

2. Mass in running order

The mass when ready to drive is equal to the weight of the standard vehicle including all of the standard equipment installed by the factory plus all of the equipment and liquids that are required for the secure and correct use of the vehicle. This includes the following masses:

a) liquid gas supply	390 SF	360 KB - 495	470 KMF	540 - 720	WLU, WFU, 720 KFU, 545 KMF	770 CFF, CL
Number of built-in gas regulators: (kg)	1	1	1	1	1	1
weight of an aluminium gas bottle: (kg)	5,5	5,5	5,5	5,5	5,5	5,5
weight of an 11 kg gas filling: (kg)	11	11	11	11	11	11
Total: (kg)	16,5	16,5	16,5	16,5	16,5	16,5
b) fluids						
25 l fixed fresh water tank: (kg)	25	25	25	---	---	---
50 l fixed fresh water tank: (kg)	---	---	---	50	50	50
Toilet flushing C 500: (kg)	---	15	---	15	---	---
Toilet flushing C 402: (kg)	15	---	---	---	---	---
Toilet flushing C 200 S: (kg)*	---	---	x	---	x	---
Toilet flushing C 263 S: (kg)*	---	---	---	---	---	x
Therme (water heater)	5	5	5	5	5	5
Total: (kg)	45	45	30	70	55	55
Total basic equipment: (kg)	61,5	61,5	46,5	86,5	71,5	71,5

*Toilet without separate water tank for flushing

3. Additional equipment / optional extras

Mass of the equipment that was assembled by the manufacturer in or on the camper in addition to the standard equipment. These optional extras will be shown in the actual mass of the vehicle if

- they are not part of the standard scope of equipment,
- Hobby was responsible for assembling them,
- the customer can order them.

4. Actual mass

Sum of the mass when ready to drive and the optional extras or additional equipment assembled by the manufacturer.

5. Loading capacity / additional load

Difference between the technically permissible maximum weight and the actual mass of the vehicle.

6. Minimum loading capacity

The loading capacity must be equal at least to the formula:

10 x (n + L), whereby:

n = highest number of sleeping spaces

L = total length of the superstructure

The minimum loading capacity includes objects that users may carry in the camper which are not included in the mass when ready to drive or in the optional extras (e.g. clothing, toilet and kitchen fittings, food, camping equipment, toys, pets).

The remaining additional load **(5.)** must always be greater than or equal to the minimum loading capacity **(6.)**; this must be taken into account when determining the configuration of the vehicle.



If the vehicle does not hold the equipment and liquids set out in the table in **Item 2** (mass when ready to drive), the loading capacity/additional load (**Item 5**) can be increased by this value.

3.4 Safety coupling WS 3000



Safety coupling

The caravan has been fitted with a safety coupling with tracking stabiliser to prevent it from becoming pendulous or pitching. This system conforms to ISO 11555-1. It has been permitted for use up to a maximum speed of 100 km/h.

Please note the additional operating instructions and the manufacturer's safety instructions.



WARNING: A safety coupling does not suspend the laws of physics. If the limits (of speed and weight conditions) are exceeded, traction and cornering force are reduced, which then becomes the responsibility of the driver. Therefore, avoid elevated risks.



Opening and closing the safety coupling

Preparation for hitching/unhitching

- To hitch and unhitch, open the tension ball coupler (lever in position ①).



WARNING: Ensure that the metal of your ball coupler is bright and free of grease.

Hitching

- Place the contact-breaking cable around the coupling ball; in the case of detachable tow couplings, possibly around the eyelet provided for that purpose.
- The open tension ball coupler is set onto the coupling ball of the base vehicle. The tension ball coupler usually closes by applying downward pressure since the support load is sufficient (lever in position ②).
- Insert the 13-pole plug while turning, in accordance with the screw thread.



Do not step on the drawbar cover when the camper is hitched. The maximum loads for the camper and/or base vehicle could be exceeded and the combination could buckle.

When dealing with higher drawbar loads hitching and unhitching is simplified by the use of a support wheel.



Control pin

Inspection of hitch

- The ball coupling is closed when the lever rests in position ② or ③ and the green pin of the hitching display ④ is visible.



If the WS 3000 is not properly attached to the coupling ball, the caravan can detach from the base vehicle. It must not be possible to release the ball coupling from the coupling ball when the front landing wheel is lowered.



Activated stabilising device

Activation of the stabilization system

- To activate the stabilization system, the operation lever must be moved downward out of the closed position ② until it locks in ③. The spring corpus will become tense in the process, so that contact pressure is created on the coupling ball via the friction elements. Afterward, the operation lever lies approximately parallel to the drawbar axle.

Shutoff of the stabilization system

- Bring the operation lever slowly upward into the open position (position ②) to shut off the system.



Although it is possible to drive without activating the stabilizing device, e.g. when shunting, we do not recommend that you do so.



Releasing the ball coupling

Unhitching

- Release the overrun coupling so that the gangway bellows ⑥ are expanded.
- Release the contact-breaking cable and pull out the 13-pole plug.
- Slowly pull the lever upwards into position ② to switch off the stabilizing device.
- Pull the lever backwards and, at the same time, further into position ① so that the coupling opens.
- After the front landing wheel has been rotated out, the caravan can be disconnected from the base vehicle.



Only uncouple the camper when it is in a horizontal position, never anywhere near uphill or downhill slopes.



If you do not plan on using the caravan for a longer period of time, you should store it with the ball coupling closed.



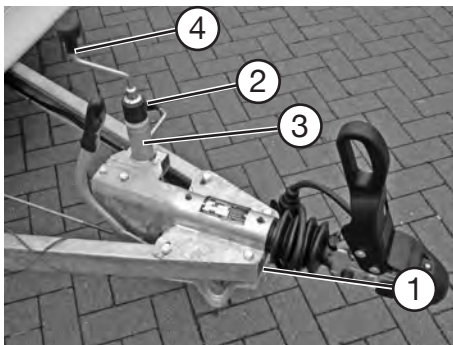
Wear indicator for the friction pads

Controlling the stabilizing device

After having hitched and activated the stabilizing device, you can then control the state of the friction pads:

- If the wear indicator ⑤ is in the green (OK) zone, the friction pads are suitable for driving.
- If the indicator is in the yellow transition zone, the friction pads must be replaced without delay.
- If the indicator is in the red (STOP) zone, there is no stabilizing function. Permission to drive at 100 km/h is immediately cancelled.

3.5 Front landing wheel



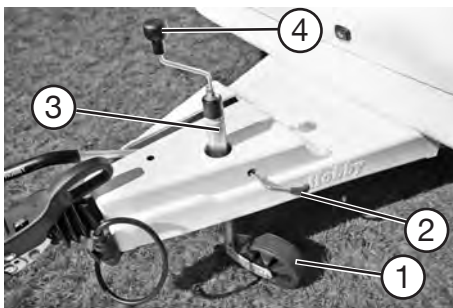
Front landing wheel

Rotating it upwards and securing it

- Hitch the caravan to the base vehicle, aligning the front landing wheel ① to the rear end of the caravan.
- Loosen the tommy screw ②.
- Pull the spindle tube ③ up as far as possible.
- Tighten the tommy screw ②.
- Turn the crank of the front landing wheel ④ clockwise to raise the wheel as far as possible and secure it to prevent it from twisting.



Before driving, always make sure that the front landing wheel has been rotated upwards as far as possible and secure it.



To lower front landing wheel

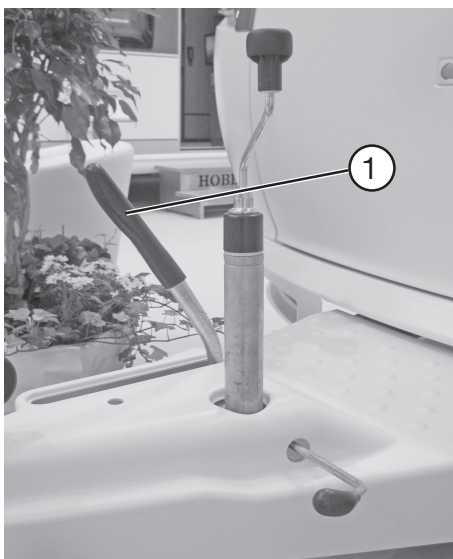
To lower

- Loosen the tommy screw ②.
- Lower the spindle tube ③ as far as possible until the front landing wheel is approx. 70 mm above the ground.
- Tighten the tommy screw ②.
- Turn the crank of the front landing wheel ④ counter-clockwise to lower the wheel until it touches the ground.
- Unhitch the caravan from the base vehicle and, if necessary, lower the front land wheel further.

3.6 Locking brake facilities

The components of the brake system, especially the overrun coupling, transmission and wheel brakes have been checked in accordance with the corresponding EU directives and may only be used in the licensed combination.

If you alter or modify any components of the brake facilities, the operation permission loses its validity. Modifications may only be made with the manufacturer's permission.



Locking brake facilities

Parking the caravan

When parking the caravan, the locking brake of the caravan must be activated.

To lock

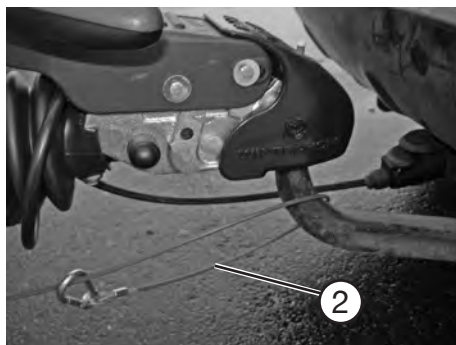
- Pull the locking brake lever upward by the handle ① until it locks into place. The locking brake lever is pressed into the final position by the gas pressure spring.

To release

- Push the hand brake forward to the starting position.



When you park the caravan after reversing it, the hand brake must be moved beyond the dead centre position to its final position in order to ensure that it is fully effective.



Rapid-emergency brake

Rapid-emergency brake

The rapid-emergency brake is combined with the hand brake. If the caravan is involuntarily disconnected from the base vehicle, the hand brake will be tightened or moved beyond the dead centre position by the traction force of the rapid-emergency brake ②. The hand brake will be employed and the caravan will do an emergency brake. This prevents the caravan from continuing to roll without braking after it has been disconnected.



Before driving, the rapid-emergency brake must be fastened to the base vehicle.

3.7 Overrunning equipment and wheel brakes

The overrunning brake facility consists of the overrun coupling, a transmission and the wheel brakes. Should the caravan bump into the base vehicle, the overrunning brake facility ensures that it will automatically brake. In other words, the overrunning brake facility functions independently from the base vehicle's brake system. The brake force that is generated depends mainly on how intensely the base vehicle brakes and how heavily the caravan has been loaded. A shock absorber integrated in the overrun coupling and with a defined response threshold ensures, on the one hand, a smooth overrun while, on the other hand, preventing the caravan from braking if you only take your foot off the gas or change gears in the base vehicle.



We recommend that you always check this is functioning correctly before using the caravan.

Checking the overrunning equipment

1. If it is possible to push the towbar more than halfway (approx. 5 mm) in when the locking brake has been activated, the braking system must be regulated immediately by an experienced shop.
2. To check the reaction point:
Activate the locking brake and push the caravan backwards until the hand brake lever is completely tilted. Then push the safety clutch into the overrunning equipment. The towbar must extend into the neutral position by itself by means of the gas cushion in the hydraulic shock absorber. Should this procedure take longer than 30 seconds, the overrunning equipment must be checked by an experienced shop.

Wheel brakes

The following information regarding brake adjustment applies for all models with the exception of Premium vehicles.

The wheel brakes that have been used are drum brakes that do not automatically adjust. They have an automatic reverse that is sensitive to the course you drive. The linings of the wheel brakes are wear and tear parts; therefore, they must be checked every 5,000 km or at least once every year. One sure sign of strong brake lining wear is described in the aforementioned check for the overrunning equipment: if the safety clutch can be pushed in more than approx. 45 mm.

Automatic Brake Adjustment (Premium)

All Premium models have an automatic brake adjustment that independently compensates for wear in the brake lining.

- Regular adjustment of the brakes is not necessary.
- Brake adjustment is automatically deactivated when driving in reverse.

Despite this brake adjustment, the brake linings are generally wear and tear parts. Therefore, their condition must be checked every 5,000 km, but no later than once every year. Visual inspection is carried out through the small inspection holes on the rear of the wheel brakes.

Please go to an authorised specialist if, when checking the over-running brakes, the drawbar can be pushed in more than 60 mm.



It is mandatory that the brake pads (**exception: Premium models**) are regularly adjusted by an authorised specialist to compensate for wear in the brake lining and minimise brake pedal travel on the wheel brakes and, therefore, the overrun coupling, keeping it as consistent as possible. All models, including the Premium model, must undergo an initial inspection by an authorised specialist after the first 500 km (**see also 12.3 Brakes**).



- When driving downhill on a mountain pass, check to ensure that the brakes are cooled sufficiently.
- Put the base vehicle into a lower gear and drive downhill at slow speed.
- Stretch the trailer combination as often as possible to avoid continuous buffing by the caravan.
- Always make use of parking areas and passing points to give the brakes a chance to cool off.



Please read the separately enclosed operating manual of the axle/brake manufacturer (Knott).

3.8 Rotating stanchions



Hexagon head for front rotating stanchions in the De Luxe (Edition)/Excellent/Prestige/Premium models



Hexagon head for front rotating stanchions in the ONTOUR/Landhaus models



In these models, the hexagon head on which to place the crank is located in the rear of the camper above the opening in the lighting beam.

The rotating stanchions are located in the front and rear under the caravan.

Turning the rotating stanchions outward

- Park the vehicle as horizontally as possible.
- On soft ground, lay a sturdy mat or suitably sized board under the rotating stanchions to prevent the caravan from sinking.
- Fit the crank on the hexagon head ① and lower the rotating stanchions.



The rotating stanchions may only be used for support, and not for leveling out or raising.

Turning the rotating stanchions inward

- With the crank, turn the rotating stanchions inward to the horizontal position.

The crank for the rotating stanchions is located in the gas bottle container at the front; it is firmly clipped into a holder on the floor.

4.1 Tyres

Only use those tyres designated in the registration documents. Other tyre sizes may only be used with the permission of the manufacturer.

- Check tyres regularly to ensure that the tread is worn down evenly; check tread depth; check for external damages.
- Always use the same make and model of tyres (summer or winter tyres).
- Drive carefully on new tyres for a stretch of approx. 100 km to enable them to develop a full road grip.



Due to the type of construction, the tyres on caravans with a tandem axle may wear out more quickly.

4.2 Tyre pressure

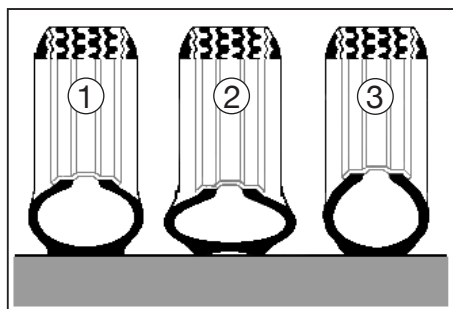
Only one tyre size is now entered in the motor vehicle registration certificate, Parts I and II. This must not necessarily correspond with the size of the tyres mounted on the vehicle. Should you have any queries, please contact your dealer.

Rules for checking tyre pressure:

- Check and fix tyre pressure every four weeks (but at least every three months) and before every drive.
- If driving on low tyre pressure is unavoidable (i.e., from the campsite to the nearest service station) you should drive at a maximum speed of 20 km/h.
- Tyres must be checked when they are cold.

Rules for tyre pressure:

- correct tyre pressure ①
- tyre pressure too low ②
- tyre pressure too high ③



Different tyre pressures



If the tyre pressure is too low, the tyre can overheat. This can result in serious damage.



Please refer to the table on tyres/tyre pressure in the chapter on “Technical Data” or the labels in the gas bottle container as well as on the hub caps for the correct tyre pressure.



Information sticker for tyre pressure

4.3 Profile depth and age of tyres

New tyres are needed (at the latest) when the profile depth measures 1.6 mm.



The minimum tread depth only guarantees minimum safety while driving!



Tyres age even when used rarely or not at all.

Tyre manufacturers' recommendation

- Change tyres after six years, regardless of profile depth.
- Avoid striking curbs, potholes or other obstacles.

Age of tyres

Tyres should not be more than 6 years old, because on the one hand your permission to drive the caravan at 60 mph will elapse after this period and, on the other, the material wears out due to age and if the tyres stand too long in one spot. The 4-digit DOT number on the side of the tyre (if necessary, check the inside) shows the date of manufacture. The first 2 digits refer to the week, the last 2 to the year it was manufactured.



DOT number

Example:

DOT 0814 means week 8 in the year of manufacture (here: 2014)

4.4 Rims

Only use rims that are covered by the vehicle licence. Should you wish to use other rims, please note the following:

Rules for the use of other rims:

- Size,
- mechanisms,
- compression depth and
- the load/bearing capacity must be sufficient for the permissible total mass.
- The chuck cone of the fastening screw must correspond to the rim mechanisms.



Modifications can only be made with the manufacturer's permission.

Rules for wheel screws:

- wheel bolts must first be checked after a distance of 50 km and then checked during regular maintenance.



Please note:

Tyre bolts for all 13" + 14" metal wheel rims and all light alloy rims (incl. 15"): **cone washer**

Tyre bolts for all 15" metal wheel rims: **spherical wheel bolt**

Adjusting torque

- for steel rims: 110 Nm
- for aluminium rims: 120 Nm



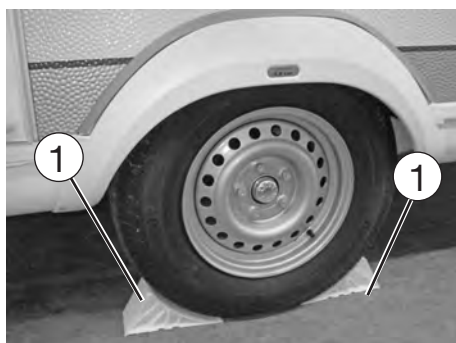
WARNING: When changing rims (steel -> aluminium / aluminium -> steel) ensure that you are using the correct wheel screws.

Check specified torque every 5,000 km or at least once a year.

4.5 Changing the tyre



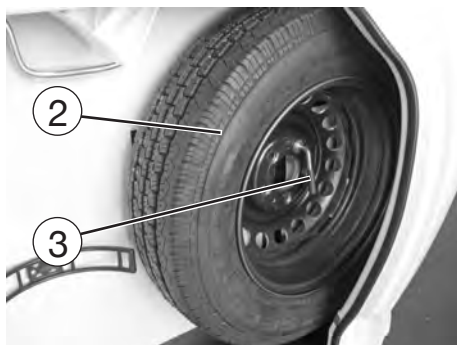
Chocks in the gas bottle container



Placing the chocks under the wheel

Preparing to change the tyre

- If possible, only change the tyre when the base vehicle is coupled to the caravan.
- Park the trailer carriage on as firm and even a surface as possible.
- If you have tyre trouble on a public road, turn on your hazard warning signal lights and set up the warning triangle.
- Base vehicle: Pull the handbrake, set the wheels straight, put the vehicle in gear or, if you are driving an automatic, set the gear to P.
- Caravan: Pull the handbrake, leave the support wheel in its driving position, deactivate the stabilization system (note: do not open completely).
- Remove chocks ① from the gas bottle container (in some cases, clipped on at the top right and left, depending on the model).
- To secure the vehicle, place the wheel chock ① in front of and behind the wheel that is still intact.
- Before jacking up the vehicle, turn the wheel screws once to loosen them, but do not unscrew them any further.



Spare tyre in the gas bottle container (ONTOUR model)

- In the ONTOUR model, the spare tyre* ② is attached by means of a tommy screw ③ to a special holder in the gas bottle container at the front left-hand side of the camper. The spare tyre can be removed after the tommy screw has been unscrewed.



If the caravan has alloy rims, note that the correct wheel screws are used when installing the spare tyre affixed to a steel rim.

Spare Tyre for De Luxe (Edition), Excellent, Prestige, Premium and Landhaus*

A spare tyre is available as an optional extra for all of the models listed above. It can be mounted underneath the vehicle.

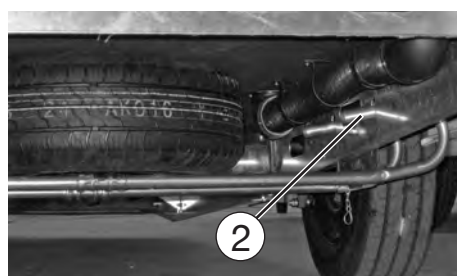
To remove the spare tyre, the vehicle must be unhitched and placed on the coupling jaw in order to raise the rear end of the vehicle.



Thread locker on the spare tyre mount

Remove the spare tyre

- Unhitch the vehicle and raise it.
- Loosen the thread locker ①.
- Unhook the spare tyre mount from the longitudinal beam ②.
- Carefully lower the mount.
- Loosen the thread locker on the spare tyre.
- Remove the spare tyre from its mount.



Retainer for spare tyre mount in longitudinal beam



Open spare tyre mount

Warnings for changing the tyre:



It takes some skill and strength to remove the spare tyre. If necessary, request technical assistance (e.g. from the AA) to remove the spare tyre and mount it.



Only use the specifically designated jack* for the corresponding frame parts. For example, on the axle pipe corresponding to the swinging lever group or on the stringer in the area of the axle fasteners. Damage or even an accident resulting from the vehicle's toppling over can occur if the jack* is applied to other parts of the vehicle.

The jack* is only to be used for changing tyres. It may not be used for working under the vehicle!



The rotating stanchions may not be used as a jack*!

After changing the tyre, the wheel screws must be examined (after a 50 km drive) to ensure that they are tight enough (tighten if necessary).

Changing the wheel

- Set the corresponding jack* onto the axle pipe of the swinging lever group or on the longitudinal beam in the area of the axle attachmentsof the wheel to be changed.
- In campers with a double axle, always position the car jack* underneath the rear axle. We recommend using a hydraulic jack*.
- If the vehicle is parked on soft ground, lay a stable reinforcement under jack* (i.e., a board).
- Lift the vehicle until the wheel is 2 or 3 cm off the ground.
- Reposition the ratchet jack* handle if it should slant when you jack up the vehicle.
- Remove the wheel fastening screws and the wheel.
- Attach the spare tyre to the hub and adjust it.
- Reattach the wheel screws and tighten them lightly over the transversal.
- Lower the jack* and remove it.
- Tighten the wheel fastening screws evenly with the wheel wrench. The nominal value of the attachment torque is 110 nm for steel rims and 120 nm for aluminium rims.
- Release the handbrake and reactivate the stabilization system.



You should have a functional spare tyre available at all times. Therefore, have the spare tyre replaced without delay.



Tyre repair kit

Tyre repair kit*



Do not use the tyre repair kit if the tyre was damaged as a result of driving without air. Small cuts, especially in the tyre tread, can be resealed using the tyre repair kit. Do not remove foreign objects (such as screws or nails) from the tyre. The tyre repair kit can be used as long as the outside temperature is approx. -30° C or higher.

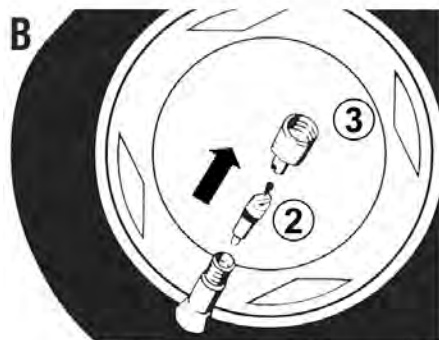


There is an expiry date on the tyre repair kit. Therefore, please note this date. Kits that have expired no longer offer a guarantee that they will function properly.



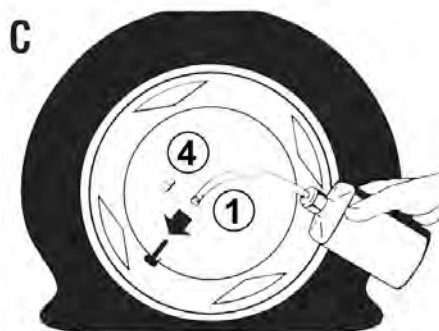
Open the fill hose on the bottle

- A** Shake the bottle. Open the fill hose ① on the bottle (foil seal is thereby punctured).



Unscrew the valve cap

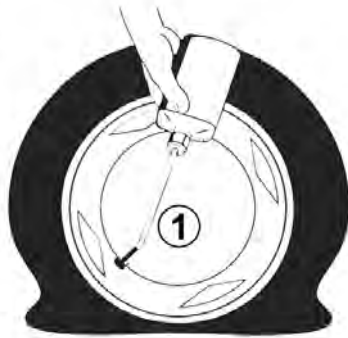
- B** Unscrew the valve cap from the tyre valve. Remove the valve insert ② with the valvecore remover ③. Do not lay the valve insert ② down in sand or dirt.



Push the fill hose onto the tyre valve.

- C** Pull the stopper ④ from the fill hose ①. Push the fill hose onto the tyre valve.

D



Press the entire bottle contents into the tyre

- D Hold the bottle down with the filling tube and then press them together. Press the entire bottle contents into the tyre. Pull the fill hose off ① and screw the valve insert ② tightly into the tyre valve with the valve-core remover ③.



Pumping up the tyre

- E Open the air hose ⑤ on the tyre valve. Insert the plug ⑥ into the cigar lighter socket. Then pump the tyres (Fig. ⑦). Do not operate the electric air pump longer than 8 minutes! Danger of overheating! If sufficient air pressure is unattainable, drive 10 meters (either forward or in reverse) so that the sealant can be evenly distributed within the tyre. Repeat the pumping process. Resume driving immediately, so that the sealant can be evenly distributed within the tyre.

Maximum speed: 80 km/h. Drive carefully, especially in curves.

Check tyre pressure after driving 10 minutes. If the tyre pressure has fallen under this minimum value ⑧, you may not drive any further. Should the minimum value ⑧ still be displayed, correct the tyre pressure in accordance with the tyre pressure sign in the gas bottle container. Drive carefully to the nearest mechanic and have the tyre replaced.



Danger of accidents! If the required tyre pressure is still unattainable, the tyre is too severely damaged. In this case, the tyre repair kit can no longer provide an effective seal. Therefore, do not drive any further. Notify a service station or the 24-hour service hotline.



Mounting stickers in the driver's field of vision

- F Adhere the provided sticker to the combination instrument within sight of the driver. Dispose of used tyre repair kit at a service station.

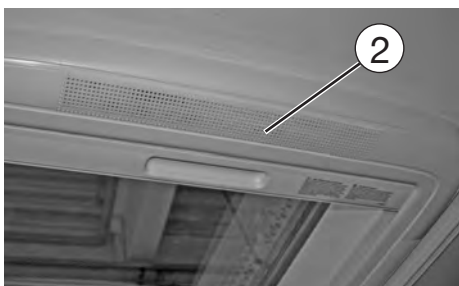


Danger of accidents! Have the tyres replaced at the nearest service station.

5.1 Ventilation and De-aerating



Floor ventilator



Forced ventilation, roof bonnet

Rules for forced ventilation

Proper ventilation and de-aerating of the vehicle is a prerequisite for ideal living comfort. A draft-free forced-ventilation system is located in the floor ① and a forced de-aerating system is located in the ceiling ② which should not be interfered with.

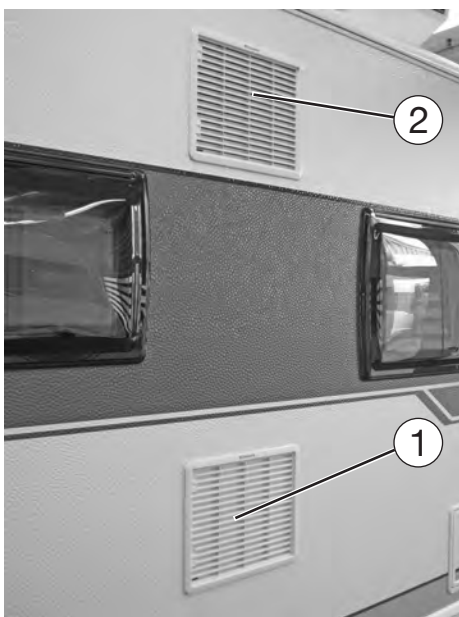


We recommend that you open the roof bonnets whenever you live in the caravan.

Under no circumstances may the safety ventilation be shut, not even slightly.



Cooking, wet clothing, etc., produces vapor. Every person loses up to 35 g of water per hour. Therefore, depending on the relative humidity, please ventilate and de-aerate through the windows and roof bonnets (see also "**Winter operation**").



Ventilation grill, refrigerator

Refrigerator

The ventilation bars provide the refrigerator with fresh air from outside to ensure sufficient cooling performance. The ventilation bar ① is located at the bottom of the exterior vehicle wall. The de-aeration bar ② is located above the ventilation bar.

In the Premium model, the refrigerator is de-aerated by means of a flue ③ on the roof.

Ventilation and de-aerating of the van is a prerequisite for sufficient cooling capacity. When the refrigerator is not being run, the ventilation grills can be closed using the appropriate covers.

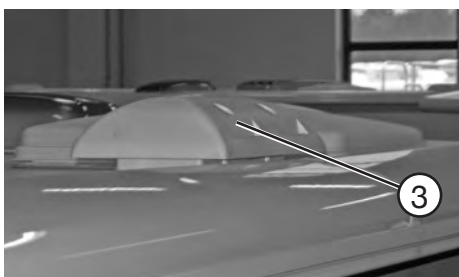


Do not block the refrigerator's ventilation grill so as not to restrict cooling performance and the functions of the refrigerator.

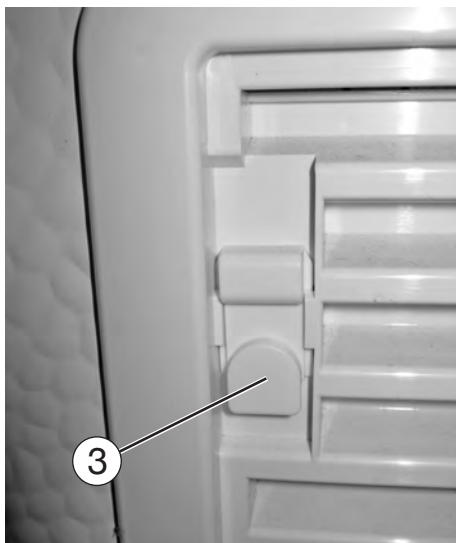
These winter panels are a chargeable option; they can be ordered from your dealer.

Please also note the information on the covers. For further information, please check the operating instructions of the refrigerator manufacturer.

We recommend that you park the camper in the shade if the temperature outside is very high.



Roof vent, Premium model



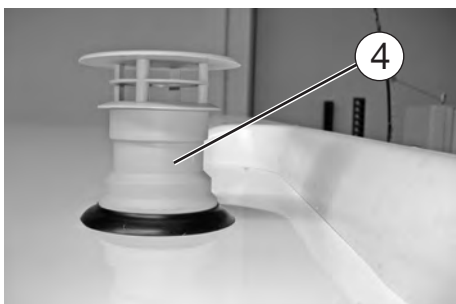
Locks for ventilation grill

Removing the ventilation grills during maintenance and repair

- Push the lock(s) ③ up as far as they will go.
- Carefully lift open the ventilation grid on the left-hand side.
- Then pull the right-hand side out of the bracket.



The ventilation grills must be firmly mounted while driving or when it is raining.



Heating flue

Heating element

A ventilation flap provides the heating element under the floor of the vehicle with fresh air.

The air from the heating element is carried outside by a flue. The flue ④ is located on the roof of the caravan.



Blocked flue openings can cause malfunctions and may channel exhaust fumes inside the camper.
Danger of suffocation!

5.2 Opening and closing doors and flaps

Keys

The following keys are provided with the caravan:

- Two keys which fit into the following locks:
 - entry door,
 - service flaps,
 - toilet flap.
- gas bottle container lid
- fresh-water tank lid
- Rear Storage Locker (Premium)



External entry door

External entry door

To open

- Turn the key to the left until you hear the lock open.
- Turn the key back to an upright position and pull it out.
- Pull on the door handle.
- Open the door.

To close

- Close the door.
- Turn the key to the right until you hear the latch click into place.
- Turn the key back to an upright position and pull it out.

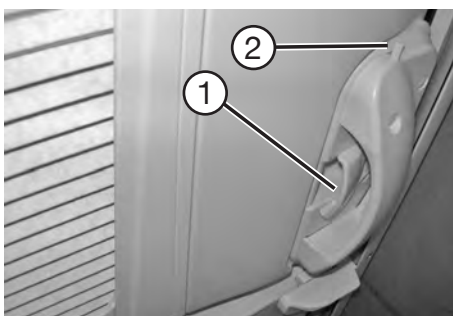


To avoid damage, do not use the track for the insect screen as assistance when entering the caravan.



The entry door is your escape route in an emergency. Therefore, never block the door from the outside!

Only drive when the entry door is shut.



Internal entry door

Internal entry door

To open

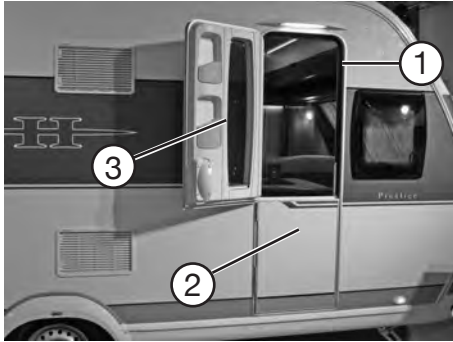
- Reach into the grip plate ①, pull the release lever, open the door and let go of the lever.

To close

- Pull the door shut.
- Press the locking button ②.



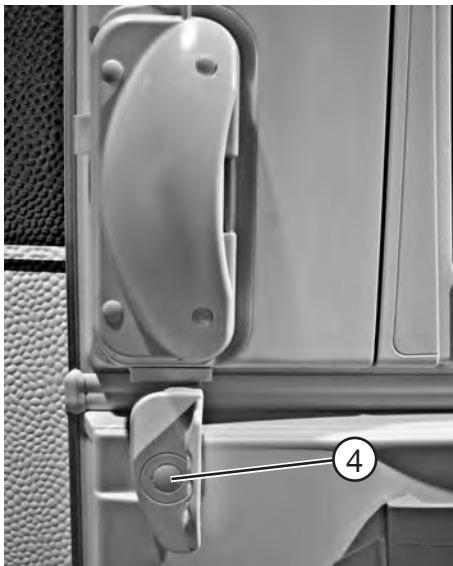
In this manner, a door locked from the outside can be opened from the inside.



Stable entry door

Stable entry door

The upper ③ and lower ② parts of the entry door can be opened and closed separately by opening the door and then unlocking the upper part ③ of the door from the lower part.



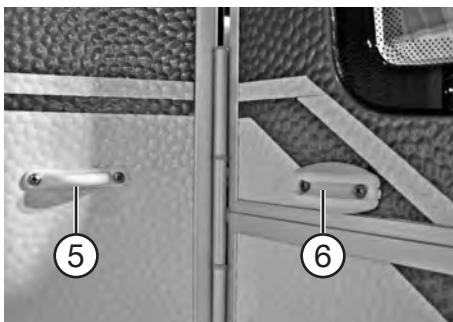
Mechanism for stable entry door

Unlocking the upper part of the door

- Turn the lever ④ 90° to the left and place it in a horizontal position to separate the upper and lower parts of the door.
- Open the upper part of the door completely and press it against the outer wall of the vehicle. The door catch ⑤ will snap into its counterpart ⑥ on the outer wall of the vehicle and prevent the upper part of the door from shutting inadvertently.
- The door frame and the lower part of the door can now be swung back separately from the upper part of the door and leaned against the outer wall of the vehicle.



Never close the upper part of the door if the insect screen is closed. The insect screen must always be open when you lock the door.



Outside door retainer

Locking the upper part of the door

- Turn the lever ④ 90° to the right and back into an upright position to connect the upper and lower parts of the door.
- To close the whole door, use the handle to press it into the frame ①.



Plissé and the insect screen



Pull the plissé ② and the insect screen ① on the entry door to the desired position. To open, carefully guide the rail back to the original position in order to fold the plissés correctly.



Entry step tread

Entry step tread

When entering and exiting the vehicle:

- Place step tread in front of the entry door to the caravan.
- Ensure that the step tread is placed on a level surface; this prevents the step tread from falling over.



Note the varied tread heights and, when exiting, ensure you will step onto firm and even ground.



Service flap

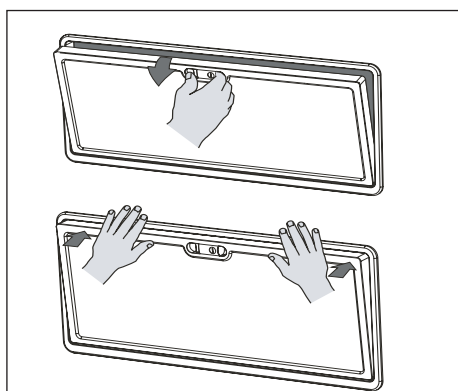
Service flap

To open

- Unlatch the lock with the key.
- Hold the locking knob between your thumb and index finger and press firmly.
- Open the flap downward.

To close

- Close the flap upward.
- Press the flap on the upper left and right-hand corners to ensure that all of the locks actually click into place.
- Latch the lock with the key.



Opening and closing the service flap



All of the fastenings on the service flap must lock into place when closing to ensure that the flap will always be closed tight. If the flap is not closed correctly, it could become permanently deformed, especially when the caravan stands unused for a longer period of time.



Spray the sealing gaskets of the service flaps regularly with silicon to ensure that they will always move easily and operate reliably.



Gas bottle container, ONTOUR model

Gas-bottle container flap ONTOUR

To open

- Unlatch the lock ① with the key.
- To unlock, turn the knob that has popped out to a vertical position and open the lid of the gas bottle container.

To close

- Close the lid of the gas bottle container.
- To lock the lid, turn the knob back to its original position.
- Latch the lock ① with the key.



Gas bottle container handle

De Luxe/Excellent/Prestige/Premium

To open

- Unlatch the lock ① with the key.
- Turn the handle down by 90° to a vertical position.
- Swing the gas bottle container flap slowly upwards.

To close

- Close the gas bottle container flap and turn the handle by 90° to a horizontal position to lock it.
- Latch the lock with the key to secure it.



Opening the gas bottle container



Handle of luggage compartment in Premium model

Rear Storage Compartment Premium

To open

- Unlatch the lock ① with the key.
- Turn the handle down by 90° to a vertical position.
- Slowly lift up the rear storage locker lid.

To close

- Close the rear storage locker lid and turn the handle by 90° to a horizontal position.
- Latch the lock with the key to secure it.

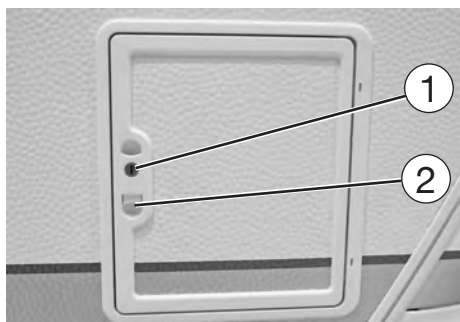


Opening the luggage compartment



If you load too much in the rear storage locker compartment, the vehicle will be considerably more difficult to handle; this endangers all road users.

Therefore, a load of no more than 30 kg may be placed in the storage locker compartment! Furthermore, when loading the storage locker, please ensure that sufficient storage space is also loaded at the front of the vehicle to balance the drawbar load.



Porta Potti flap

Toilet flap

To open

- Unlatch the lock ① with the key.
- Press the knob ② and swing the flap to the side.

To close

- Push the toilet flap to the side until it snaps in.
- Latch the lock ① with the key.

5.3 Roof

The following applies for the roof load

- Use only standardised and licensed ladders that can be positioned firmly to climb onto the roof.
- The roof has not been made for concentrated loads. Place a large-scale cover over the area you wish to step on before standing on the roof. Materials with a soft and smooth surface (such as a large piece of styrofoam) are suitable for this purpose.
- Do not step too close to the roof bonnets or the air conditioning systems on the roof (stay at least 30 cm away).
- Do not step on the rounded areas at the front and rear ends of the caravan.



The maximum total load for the roof rail is 80 kg!



Be careful when standing on the roof. There is a great danger that you will slip if the roof is wet or icy.

5.4 Guide rail for outer tent and skirting

The keder of the outer tent slides into the guide rail for the outer tent on both sides of the caravan, both at the front and rear ends.



Outer tent guide rail: inserting the keder from below

ONTOUR/Landhaus

The seal ① under the guide rail for the outer tent has deliberately been left hanging somewhat behind the guide rail for the outer tent at the front and rear ends to ensure that rain and moisture will drip off completely.



The projecting seal must never be removed.



Outer tent guide rail: inserting the keder at the extension

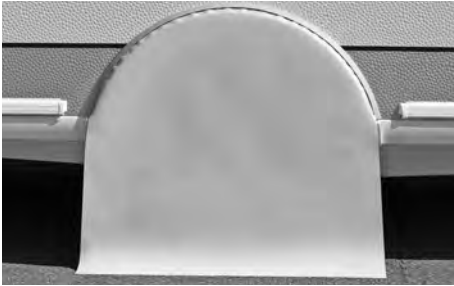
De Luxe (Edition)/Excellent/Prestige/Premium

The rail channel of the outer tent rail is wider ② at the rear end of the caravan (above the rear lights). This makes it easier to insert the outer tent.



Guide rail for skirting

The caravan has guide rails for skirting in the lower area of the superstructure. Always slide the skirting in from the middle of the vehicle towards the outer edges.



Wheel cover with integrated keder strip for mudguard

The wheel cover has an integrated keder strip for sliding in the mudguard. (protective wind cover not included in the scope of delivery).

5.5 Bicycle carrier*



Drawbar bicycle carrier



Please read the separate operating instructions before using the bicycle carrier.

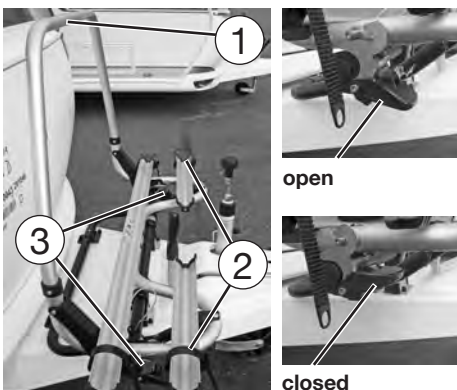
Drawbar bicycle carrier



After loading the bicycles, please check the drawbar load and, if necessary, regulate it (**see also Chapter 3.3**).

Please observe the maximum load-carrying capacity of 60 kg for the drawbar bicycle carrier, whereby each individual bicycle may not weigh more than 30 kg.

In all models, a bicycle carrier can be mounted on the drawbar.



When shunting or driving around curves, you should leave a wide angle, because otherwise, depending on the model, the bicycle (carrier) may collide with the base vehicle.

Before driving for the first time, take some time to practise so as to familiarise yourself with driving conditions.

When driving with bicycles, the front and back wheels of each bicycle must be firmly lashed using the straps ②. The fastenings included in the accessory kit are used for the frame. When driving, close the locks ③. When the camper is not being moved, the lever ① can be folded down in order to access the gas bottle container. To do this, the locks ③ must be opened.



Rear-mounted bicycle carrier

Rear-mounted bicycle carrier

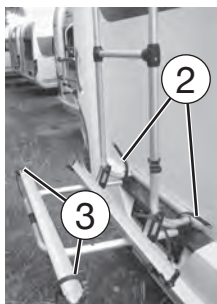
Alternatively, a rear-mounted bicycle carrier may be selected **(except in the Premium and Landhaus models)**.

The driving performance of the camper changes considerably when there are bicycles on the carrier. The speed should be adjusted to these circumstances:

- Ensure that full use is made of the permissible drawbar load and corrected accordingly when there are bicycles on the carrier.
- The critical speed sinks drastically even if the carrier has been optimally loaded.
- The driver of the vehicle is responsible for ensuring that bicycles have been fastened securely. The loading system must be folded up and secured by means of the clips at hand even if nothing has been loaded.
- Ensure that the load does not partially or fully cover existing illumination devices.



The maximum permissible load for the bicycle carrier is 30 kg.



open

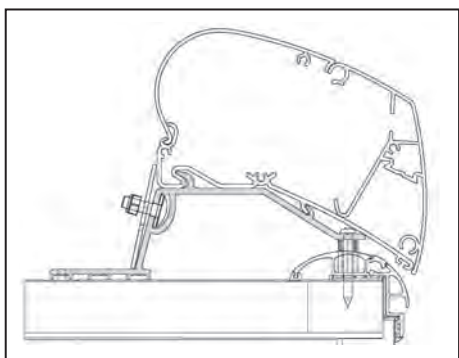


closed

If the rear-mounted bicycle carrier is not required, it must be folded up and secured. To do this, use the clip ① and the separate fastenings included in the accessory kit.

When driving with bicycles, the bicycle carrier must be unfolded and the straps ② must be firmly lashed. The front and back wheels of each bicycle must be firmly lashed using the straps ②. The fastenings included in the accessory kit are used for the frame.

5.6 Roof awning*



Mounting the roof awning (sectional view)

Appropriate adapters and fitting components are available for subsequent assembly of roof awnings. Please speak to your HOBBY dealer.

The roof awning should always be assembled by an authorised specialist.

The maximum permissible total width and total height may not be exceeded by installing an awning.



Installing an awning may have a negative influence on the trailer/driving performance of the caravan.



Read the operating instructions from the manufacturer carefully.



Roof awning

6.1 Opening and closing doors, flaps and drawers



Wall cabinets in the kitchen

Furniture doors with a locking mechanism

Wall cabinets in the kitchen for ONTOUR, De Luxe (Edition), Excellent, Prestige, Landhaus

To open

- Press the release and pull on the handle to open the door.

To close

- Use the handle to close the door until you can feel it lock into place.



Mirror cabinets

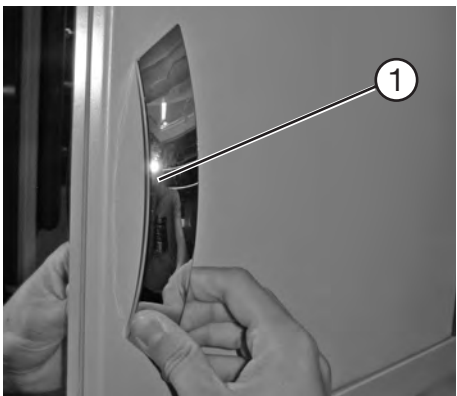
Mirror cabinets, rear washroom

To open

- Open the door of the mirror cabinet by pressing the lower edge from behind.

To close

- Push the door of the mirror cabinet back to its original position until it noticeably locks itself into place.



Kitchen Wall Cabinet Premium

Kitchen Wall Cabinet Premium

To open

- Pull the long edge of the handle ① forwards and fold it in towards the short edge.
- Pull on the handle until the flap opens.

To close

- Use the handle to press the flap shut until you can feel it lock into place.



Only the flaps on the kitchen wall cabinets have an extra lock. The other wall cabinets are shut using the spring force of the hinges.



Door with press lock

Furniture doors with magnetic safety catches or press locks

To open

- Pull firmly on the handle until the flap or door springs open.

To close

- Press on the flap or handle of the door until you can feel that it is held shut by the magnets or locks into place.



Washroom door handle

Furniture doors with handle

Washroom door

- Push the handle to open and shut the door.

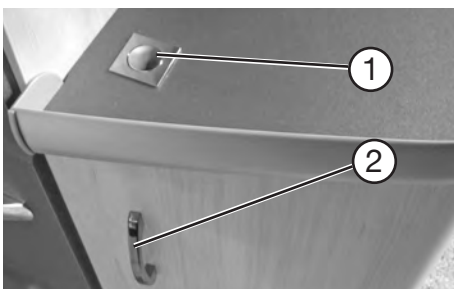


Olive-shaped handle

Furniture doors with knob

Wardrobe

- Turn the knob to open and shut the door.



Pushlock in connection with kitchen cabinet

Kitchen drawer/cupboard with pushlock

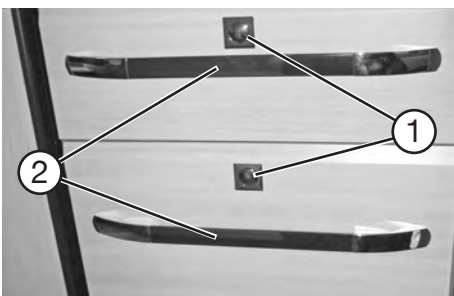
Each individual drawer is secured by a separate pushlock ①.

To open

- Press the push-lock ① until the knob jumps up.
- Pull on the handle ② until the drawer slides out or the cupboard door opens.

To close

- Push the handle ② to shut the drawer or the door of the cupboard.
- Press the push-lock ① until the knob snaps into place and the drawer is securely shut.



Pushlock in connection with kitchen drawers



Please observe the maximum load of 15 kg per drawer.



Furniture doors with a soft close function

Furniture doors with a soft close function (optional for ONTOUR)

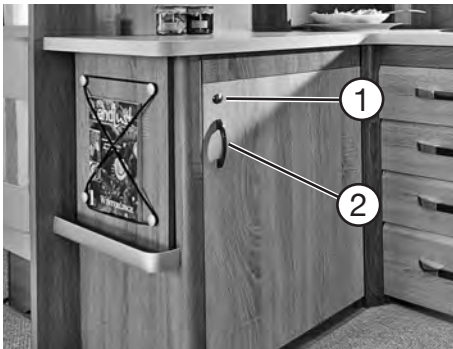
Wall cabinets, stowage cabinets, pantry pull-out

To open

- Use the handle to pull the door upwards.

To close

- Use the handle to shut the door until the soft-close function automatically brings the flap to its final position.



The carousel is safeguarded by means of a pushlock

Carousel in the Corner Kitchen

- Release the door of the corner base cabinet by pressing the pushlock ①. Then use the handle ② to open the door.
- Pull gently on the two storage shelves to pull them carefully out of the cabinet.
- Carry out this procedure in reverse order to shut the cabinet.



Close all flaps and drawers before driving. This prevents them from opening accidentally and objects falling out while driving.



Extendable shelves in the corner kitchen

Sliding doors

To open

- Hold the sliding door by the frame and push it upwards.

To close

- Hold the sliding door by the frame and push it closed until it clicks into place.



Sliding door for kitchen wall cabinet

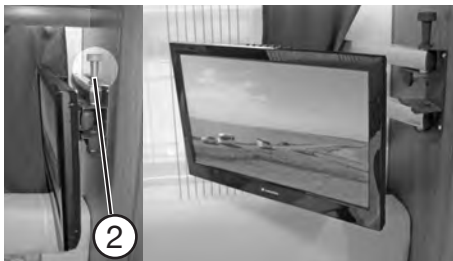
6.2 TV mount *



Extendable flat screen TV

Extendable flat screen TV

- To unlock, press the metal rail ① and, at the same time, extend the TV mount. 230 V power sockets and an aerial socket for the TV and/or receiver are located directly adjacent to the holder.



Mount for flat screen TV

Mount for flat screen TV

- To unlock, pull the locking pin ② up and then pull the mount into the desired position.
- To lock, push the mount back to its original position until it locks into place.



When driving, the TV mount must always be locked in its original position.

6.3 Tables



Elevating table

Elevating table

To lower

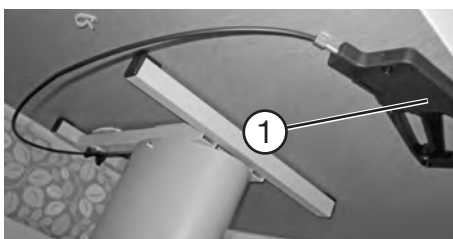
- Press the handle ① .
- Press on table top to lower the table.
- To lock into position, let go of the handle ① .

To turn

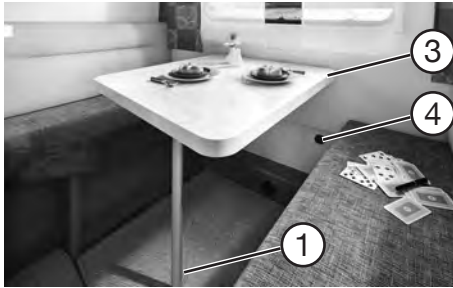
- Turn the table in the desired (excentric) direction



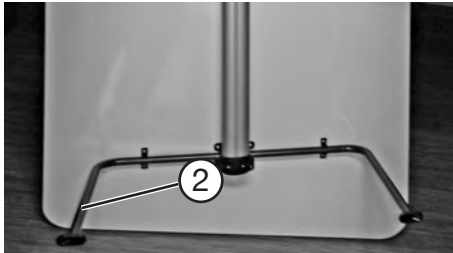
Table; can be swivelled or lowered



Handle for lowering table



Hanging table



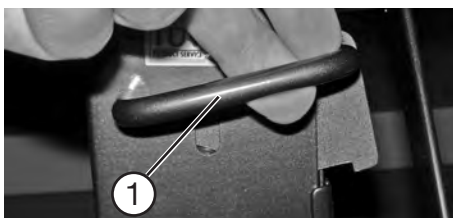
Supporting legs



Lowered hanging table



Swivelling table



Bow handle for swivelling table



Securing the table

Hanging table

To lower

- Raise the front end of the table top by approx. 30°.
- Pull down the lower part of the table leg ①, fold it over by 90° and lay it alongside.
- Fold out the supporting legs ② by 90°.
- Pull the table top out of the upper wall brackets ③.
- Raise the front end of the table top considerably and hook it diagonally from above into the lower wall brackets ④.
- Place the supporting legs at the front edge of the table top on the floor.

Swivelling table

To lower

- Pull upwards on the bow handle ① on the right-hand side.
- Swivel the table top downwards towards the centre of the vehicle until the handle locks into place.

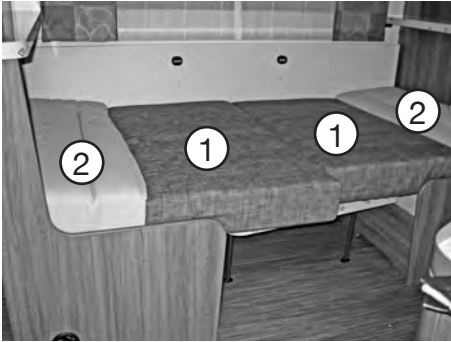
To turn

- There are rollers on the table legs, shifted 45°, which enable the table to be turned around its centre point in any desired direction.



The swivelling table is not fastened to the floor. Before driving, lower the table and, depending on the model, secure it with one or two pushbuttons to the seating arrangement or the front/rear wall.

6.4 Seating arrangements and sleeping areas



Converting the seating arrangement to a bed

The seat groups can be converted into comfortable beds.

Converting the Round Seating Arrangement

- Remove the seat ① and back cushions ②.
- Lower the table. (see Chapter 6.3).
- Replace the seat cushions ① and pull them to the middle of the table.
- Fill the outside areas with the side back cushions ②.

The rear seat cushions in round seating arrangements remain in place.



When converting seating arrangements into beds, do not place the cushions directly on the tabletop as this may cause scratches or mildew due to condensation. We recommend that you use an absorbent cloth (e.g. terry cloth or cotton).

Ensure that the tabletop, seat chests and/or covers as well as cushions are well secured so that nothing falls.

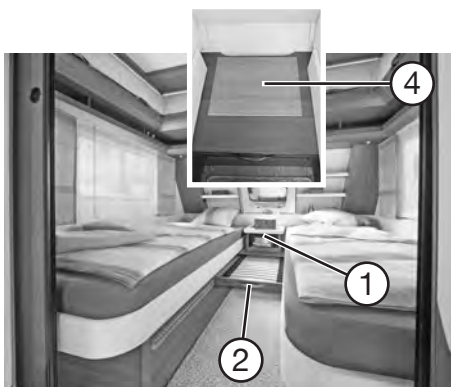


Setting up the beds

Setting up the beds



If, when setting up the bed, it juts into the front window, the integrated sunshade and insect screen should first be opened. Otherwise the screen might be damaged!



Converting into a wider bed

Bed Expansion for Long Beds*

Converting the bed expansion

- Lift up the night table ① and remove it.
- Pull on the handle ② and pull out the slatted frame fully to a horizontal position.
- Insert the mattresses ③ to expand the beds.



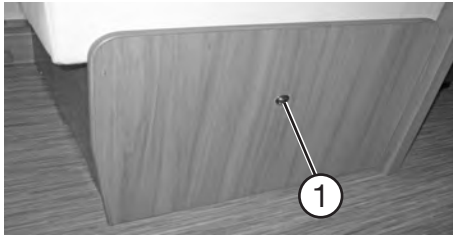
While driving, the night table must be stored in the lower bed frames. Otherwise, the night table might be released when braking suddenly and damage the interior of the camper.



If the night table is placed back on its base, it must be fitted to the retaining plate ④ in such a manner that it cannot slip.



Widening the beds



Pushlock safety catch



Widening the seating bench

Bed expansion in the seating arrangement*

(or model-specific)

In some models, the narrow section of the seating arrangement can be widened into a bed.

Conversion

- Press the pushlock ① to unlock the flap.
- Lay flap ③ fully on the floor in order to raise flap ②.
- Place flap ③ under the stop on flap ② and hook into place.

Carry out this procedure in reverse order to convert the bed back into the seating arrangement.



When driving, push the bed expansion back into place and use the pushlock to lock it.



Fold-away bed above the centre seating arrangement

Fold-away bed, centre seating arrangement*

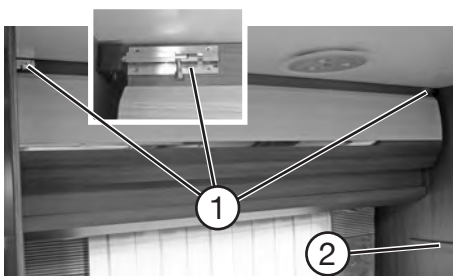


The upper fold-away bed can hold a maximum load of 50 kg. While driving, the fold-away bed must always be folded up and locked into place.



We recommend always using two people to fold the bed in or out.

To make the centre seating arrangement more comfortable, fold in the fold-away bed before sitting down.



Fold-away bed, closed

To convert into a bed

- Release the locks ① on the left and right-hand side of the fold-away bed.
- Using two people, slowly lower the fold-away bed to the supports ② and fold it out into a bed.
- Set up the safety panel ③ to protect the person sleeping from falling out.
- Insert the second mattress.
- Hang the ladder (stored in the clothes cupboard when the camper is delivered) in the handle ④ and ensure that the ladder stands firmly.



Fold-away bed, open

To convert back

- Remove the ladder ④ and store it securely.
- Place the mattresses on top of each other.
- Fold down the safety panel ③.
- Fold up the fold-away bed and push it upwards.
- Shut the locks ①.



Securing the partition while driving

Partition for sleeping area

Release the clip ① that fastens the partition and slowly and carefully slide the partition along the rail guide to close it. The magnetic lock will automatically lock the partition.



Head rests Premium model

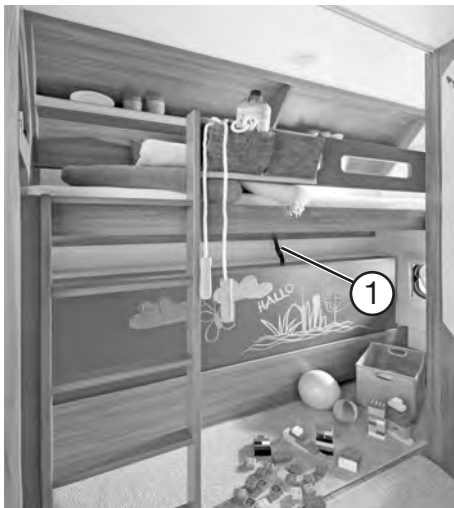
Head rests (Premium)*

The head rests can be manually locked into different positions.

Depending on your requirements, lift the head rests until they lock into the desired position and press on them lightly to lower them.



Head rests are only available together with the optional leather interior.



Children's bed with drawing board

Children's beds

Windows next to children's beds can only be opened slightly to effectively prevent children from falling out.



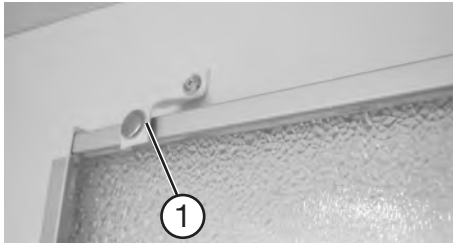
Be careful when using the upper bed for small children, as there is a danger that they may fall out. Never leave small children unattended in the caravan.

Never leave small children unattended in the caravan.

Always use the safety catch ① to fasten the lower children's bed when it is folded up (model-specific).

The permissible maximum load for the upper bunk bed is 75 kg.

6.5 Washroom



Securing the shower partition while driving



The shower partition in the rear washroom must be securely fastened when driving.

To fold the shower partition out

- Loosen the pushbutton ① .
- Fold out the handles ② on the shower partition.
- Fold out the shower partition and guide it to the opposite side.



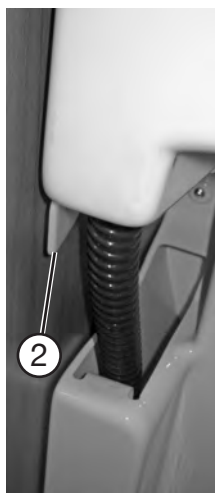
Closed shower partition

To shut the shower partition

- Guide the shower partition back to its original position and fold it up.
- Push the handles ② back in until they lie flat against the shower partition.
- Lock the pushbutton ① .



Fold-away basin



Mechanism for fold-away wash basin

'ONTOUR' fold-away basin (model-specific)

To make it easier to use the toilet, the wash basin can be folded up.

To fold the wash basin up

- Use the handle ① to guide the wash basin upwards. The lock ② grips under the wash basin.

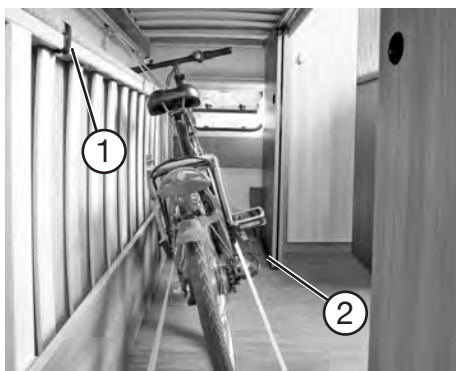
To fold the wash basin out

- Pull again on the handle ① . The lock ② will automatically give way to slight resistance.



If the clips do not automatically lock and unlock, they must be shifted manually.

6.6 External storage locker *



External storage locker

In some models with children's beds, the external storage locker can be selected as an option.

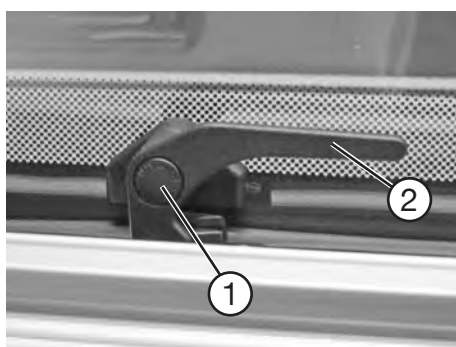
When converting to an external storage lock, it is important to ensure that the lower children's bed is secured using the fastening ① provided for this purpose.

All of the equipment carried in the external storage locker must be securely fastened using the lashing eyes ② and suitable retaining straps.



Objects that are not fastened can become dangerous projectiles if you suffer an accident or are forced to brake hard.

6.7 Windows



Latch



All of the window latches ① on the long bottom edge of the window have locking knobs. To open these window latches ①, press the locking knobs. Window latches located on the vertical edge of the window do not have locking knobs.

Window with casement stays

To open

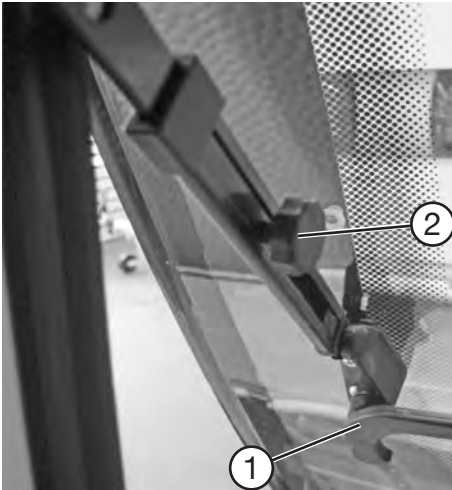
- Turn all of the window latches ② by 90°.
- Press the window latch outwards until you hear it click. The window will automatically remain in this position. The angle of opening can be increased in predefined steps.

To close

- Lift the window slightly outward so that the hinge disengages.
- Shut the window.
- Turn all of the window latches ② to the original position so that they clasp behind the brackets and pull the pane into the seal.



As added protection against falling out, the windows by the children's beds can only be opened slightly.



Fully adjustable window stays

Fully adjustable window stays

To open

- Should there be a locking knob, press it to work the window latch.
- Turn all latches ① by 90°.
- Press the window latch outwards with your hand until it is open as far as you would like. Then use your other hand to tighten the turn screw ② until you feel the resistance and the window is held in place.

To close

- Loosen the turn screw ② to allow you to shut the window.
- Turn all latches back to their original position so that they clasp behind the brackets and pull the pane into the seal. Should there be locking knobs, they must jump back to their original position.



Windows must be shut while driving. Never use de-icing spray or an ice scraper for the windows in the camper.



High humidity may cause a light mist to form within the window panes. This will disappear by itself when the weather is drier.



Sunshade/insect screen

Sunshade/insect screen

To close the black-out pleating

- Use the handle to pull the plissé up to the desired position and then let go. The shade remains in this position.

To open the black-out pleating

- Use the handle strip to pull up or down lightly on the black-out pleating. The shade rolls upward automatically.

To shut the insect screen

- Pull the insect screen completely down with the strap and let go. The screen remains in this position.

To open the insect screen

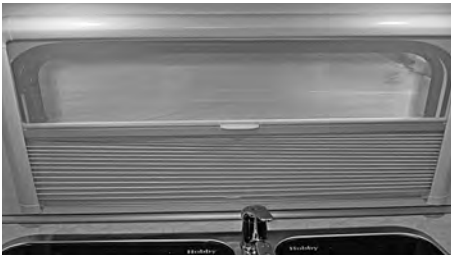
- Pull the insect screen slightly down with the strap and then guide it upward. The screen rolls upward automatically.



Do not let the shade or the insect screen fly upward!



Integrated kitchen window



Combined sunshade and insect screen

Front and kitchen windows

Sunshades and insect screens are completely integrated and fully adjustable.

To close

- Move the handle for the sunshade or the latch for the insect screen slowly and evenly to the desired position.

To open

- Push the shade up slowly and evenly.

To combine

- Pull the sunshade down slowly and evenly, then pull the insect screen down to the desired position.



To avoid consequential damage, leave the shades open when the caravan is not in use.

6.8 Roof lights

Safety instructions



- Never open the roof lights in a strong wind or when it is raining, hailing, etc., or if the outside temperature is below -20°C !
- Never use force to open the roof lights if they are frozen or covered with snow, because you may break the hinges and the opening mechanism.
- Before opening, remove snow, ice or heavy dirt. Make a note of the required space needed before opening the roof light under a tree, in a garage, etc.
- Do not step on the roof light.
- Close and lock roof lights before driving. Open insect screen and shade (home position).
- Close shade only 3/4 of the way if the sun shines in strongly; danger of heat accumulation!



The openings for the forced ventilation system must always be left open! Never close or cover forced ventilation systems!



Large roof light

Large roof light

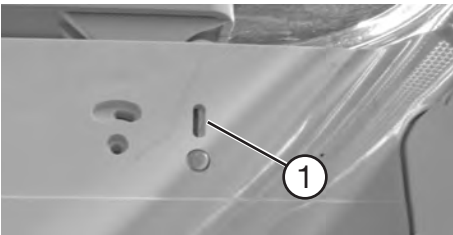
Before opening the light, ensure that the area above the opening of the light is free. The light can be opened to an angle of 60°.

To open the roof light

- Reach into the opening of the crank bag and fold the crank to the user position by pulling it out. Turn the crank clockwise to open the light to the desired position. When you have reached the maximum opening angle you will feel the resistance.

To close the roof light

- Turn the crank counter-clockwise until the light is closed and you feel the resistance. The control pin ① is visible when the skylight is shut. Then turn the crank only so far until you can fold it into the crank bag. To be locked securely, the crank must be folded into the crank bag.



Control pin



Small roof light

Small roof light

To open the roof light

- This roof bonnet can be opened in the opposite direction to traffic. Press the locking knob ① and use the adjusting lever to move the roof bonnet to the desired position.

To close the roof light

- Guide the adjusting lever along the guide rail and close the roof bonnet. The bonnet will lock when the lever hooks into place behind the locking knob ①.



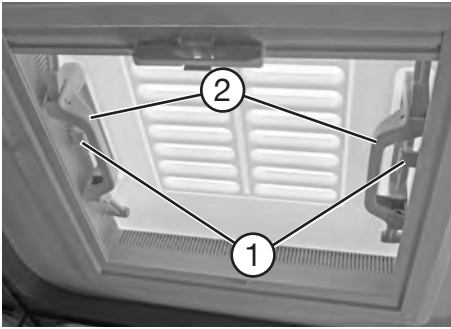
Locking knob



The maximum speed is 130 km/h, because noise may be generated or damage caused, depending on the superstructure or place of installation.

Insect screens and shades (plissés)

Both plissés are fully adjustable by sliding them horizontally from side to side.



Roof fan (washroom)

Roof fan (washroom)

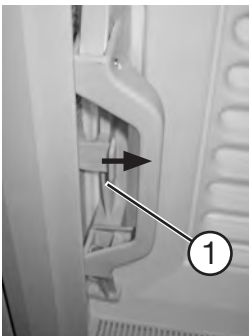
The roof fan can be set up either on one or both sides.

To open

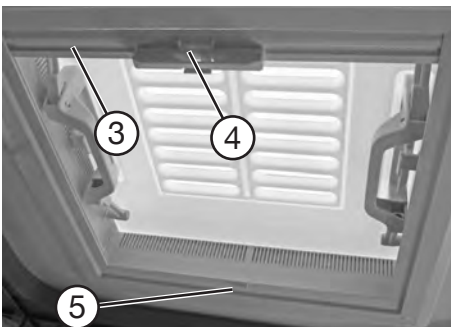
- Press the spring lock ① diagonally upwards towards the inside of the roof fan until it unhooks from its locking mechanism. At the same time, using the handle ② to press the roof fan upwards.

To close

- Use both handles ② to pull the roof fan firmly downwards until both spring locks ① have latched into place.



Roof fan lock



Roof fan (washroom)

Shade/insect screen

To close

- Pull the guide rail ③ of the screen to the opposite side and hook the lock ④ into the counterpart ⑤.

To open

- Press the lock and tilt it slightly to enable it to unhook from the counterpart.
- Slowly guide the screen back along the guide rail.



Open shade/insect screen

7.1 Safety tips

The installation of electrical devices in the HOBBY caravan has been carried out in accordance with the valid regulations and standards.

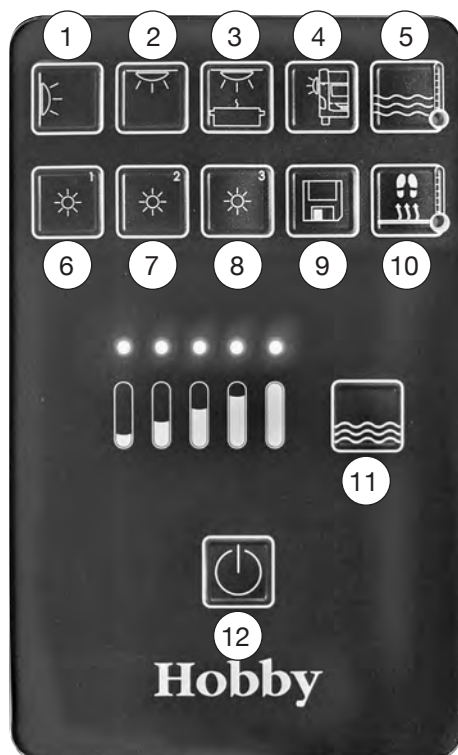
Please note



- Do not remove safety tips and warnings on the electrical equipment.
- The installation spaces for electrical equipment such as distribution fuse boards, electric power supply, etc., may not be used as additional storage spaces.
- The standard version of the caravan is not equipped for internal battery supply (self-sufficient operation).
- Only authorised specialists may work on the electrical system.

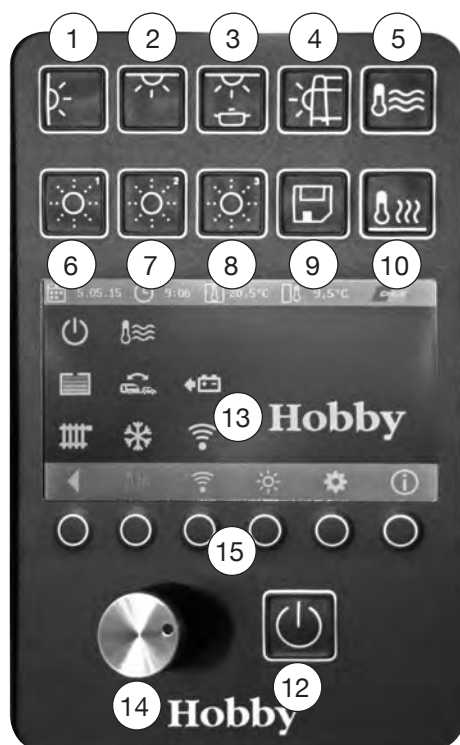
7.2 Control panel

The system consists of control electronics, a standard or TFT panel (model-specific or optional extra) with a keypad and several 3-key control panels. It enables you to operate the different lamps and several 230 V devices. Furthermore, various kinds of information and measured values are shown on the TFT display.



Standard control panel (ONTOUR/De Luxe (Edition)/Excellent/Prestige)

- ① Wall light
- ② Ceiling light
- ③ Kitchen light
- ④ Outer tent light
- ⑤ Therme / boiler
- ⑥ Lighting Ambience 1
- ⑦ Lighting Ambience 2
- ⑧ Lighting Ambience 3
- ⑨ Memory
- ⑩ Floor heating
- ⑪ Water level indicator
- ⑫ Main switch



TFT control panel

(Premium/Landhaus models or optional extra)

- ① Wall light/lighting in the seating arrangement
- ② Ceiling light
- ③ Kitchen lighting
- ④ Outer tent light
- ⑤ Therme / boiler
- ⑥ Lighting Ambience 1
- ⑦ Lighting Ambience 2
- ⑧ Lighting Ambience 3
- ⑨ Memory
- ⑩ Floor heating*
- ⑪ Main switch
- ⑫ TFT display: see p. 56
- ⑬ Control knob
- ⑭ Soft keys

Functions of the main switch

- After initially connecting the caravan to the 230 V mains, you must press either the main switch or any other control key in order to activate all of the 12 V electrical devices and the 230 V electrical devices that are switched by the system (e.g. therme, floor heating*).
- Once the system is in operation, press the main switch briefly to turn all of the lights off. All of the 12 V steady electrical devices (e.g. water supply, refrigerator control, heat blower) remain activated. The devices that were previously switched on are stored in the system; pressing on the main switch reactivates them. This also resets the degree to which those lights were dimmed that can be regulated.
- Pressing the main switch for at least four seconds while the system is switched on will turn off not only the presently activated devices, but also the entire 12 V system (also affects flushing the toilet and water pump; in self-sufficient campers, this will not cut off the charging of the battery)
- If there should be a power failure, the system will remember whether the main switch was on or off. As soon as the power is back on, the main switch will automatically switch itself back on. Electrical devices that continuously use current, such as the heating, will then begin to operate again.



If the selector switch of the Dometic refrigerator has been set to 12 V, the refrigerator will operate automatically on 12 V when the ignition of the base vehicle has been switched on, i.e. it is not necessary to press the main switch.

All other 12 V electrical devices will only operate on the battery of the base vehicle if they have been centrally activated using the main switch ⑫ on the control panel.



If the ignition of the base vehicle has been switched on, the outer tent light will automatically be switched off. In this case, it cannot be switched on again.



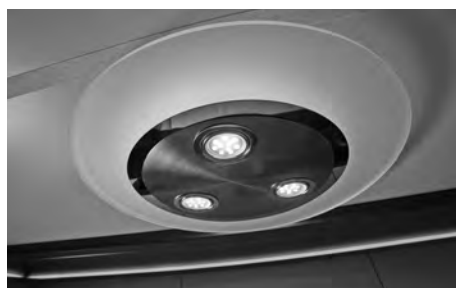
Wall light

Wall lights / lighting in the seating arrangement ① and Ceiling Lamp ②

- Briefly press the key to switch each lamp on and off. Press longer on the key to regulate how brightly you want the lights to shine. The brightness you set will be saved; when the lights are switched on again, the brightness you originally set will also be switched on again. If the system's power supply is interrupted, the wall light will shine full strength the first time you switch it on.



In campers with two ceiling lights, one light can only be switched on separately



Ceiling light with ambient interior lighting

Ambience ⑥ ⑦ ⑧ (optional for De Luxe)

- Press briefly on the key to switch the electric circuit of each ambience (indirect lighting) on and off.



In the De Luxe models, these keys have no functions if the optional extra has not been ordered for the camper.

Key Memory ⑨

- This key is used to save and recall the state of individual lights. Press briefly on this key to recall the last saved state of all switchable 12 V lights. Press longer on this key to save the lighting state of a lamp. This key is not used to save the state of the 230 V electrical devices (therme and floor heating*).



Outer tent light

Outer tent light ④

- Press the key to switch the outer tent light on and off. It is not possible to switch this light on if the base vehicle is coupled up and the motor is running.



The outer tent light must be switched off when the caravan is on the road.



Kitchen light

Kitchen light ③

- Press briefly on the key to switch the kitchen light as well as the spots on and off.



Truma therme

Therme with LED display ⑤

- Press the key to switch the therme on and off. An illuminated LED signals that the therme has been switched on. (LED: only standard panel)
- When the main switch ⑫ is pressed, the therme will also be switched off.
- If your caravan has an electric boiler (special request) rather than a therme, the electric boiler will be switched on and off.



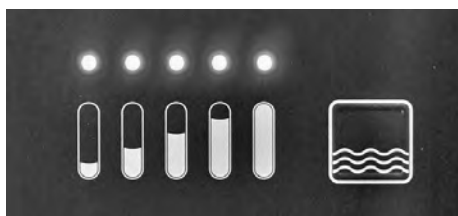
In the case of some special requests (e.g. Alde heating) this switch has no function even though the control light is shining. (see also Chapter 10.5).

Floor heating with LED display ⑩

- Press the key to switch the floor heating on and off. An illuminated LED signals that it has been switched on (only standard panel).
- If the main switch ⑫ is pressed to deactivate the electric power supply, the floor heating will also be switched off.



Both the therme and the floor heating (optional extra) are 230 V electrical devices. These devices cannot be switched on and off if there is no mains connection.



Filling level indicator for fresh water tank on the standard panel

Filling level indicator ⑪ (only standard panel)

When you press this key, the filling level of the fresh water tank is displayed via an LED chain. The level of the fresh and waste water tanks is displayed in 5 steps:

empty	only the left red LED lights up
1/4	left red LED off; 1 yellow LED on
1/2	left red LED off; 2 yellow LEDs on
3/4	left red LED off; 2 yellow and 1 green LED on
full	left red LED off; 2 yellow and 2 green LEDs on



Align the vehicle horizontally to obtain a meaningful result from the filling level indicator.



Remote controls, bed

Remote control bed

- Briefly press the key to switch the
 - ceiling lighting ①
(in the De Luxe model = ceiling light over the bed)
(otherwise = ambient interior lighting)
 - left bed light ②
 - right bed light ③
on and off.

Press longer on the key to regulate how brightly you want these lights to shine. The brightness you set will be saved; when the lights are switched on again, the brightness you originally set will also be switched on again.



Remote controls, washroom

Remote control washroom

- Briefly press the key to switch the
 - lightning in the shower ④
 - lightning over the washstand ⑤
 on and off.



If the vehicle includes the optional extra "Hot-water heater", the fan convector in models with a washroom on the side is activated by pressing key ④.

In some models, only one key on the remote control is allocated for the washroom; the other has no function.



Children's switch

Children's switch

All of the vehicles with a entry partition have a special switch in the entrance area at a height that can be reached by children.

- This switch enables them to turn the main lights on and off.



Remote control for the control panel

Remote control*

- The hand-held transmitter is used to switch six functions on the control panel via remote control.

- ① left bed
- ② wall light
- ③ main switch
- ④ right bed
- ⑤ ceiling light
- ⑥ outer tent light

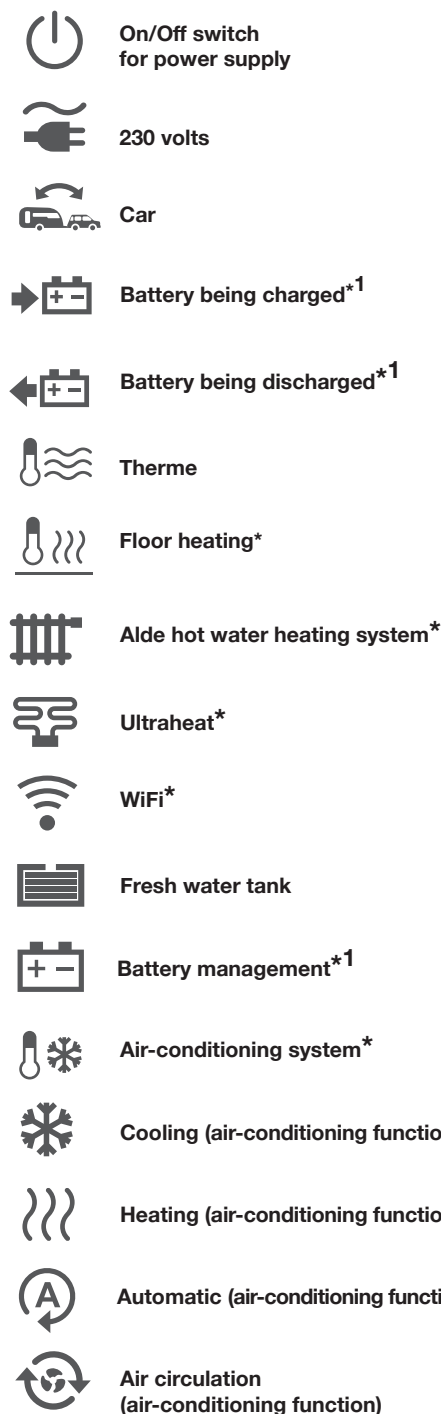


Main menu on the TFT control panel

Fixed header A

Permanently displays:

- date ①
- time ②
- inside temperature ③
- outside temperature ④



Main display B

The current status and values of the available components can be viewed at predefined places.

On/Off

If this icon is shown in green, the panel is activated. If the icon is orange, the panel has been deactivated.

Therme/floor heating/Ultraheat

If this icon is shown in green, the function being looked at is operating.

230 volts

Shows that the camper is connected to the mains.

Car

The camper is connected to the base vehicle and the motor has been started.

Warning: car and mains connection



This warning will appear 3 times and must be acknowledged. The warning will not appear again when the defect has been fixed.

Battery management

red = Warning: undervoltage during 12V self-sufficient mode

Heating/air-conditioning

red = malfunction

Fresh water tank

red = empty

WiFi

green = connection activated

yellow = system is starting up or shutting down

¹Only with self-sufficient package

Soft key menu bar C

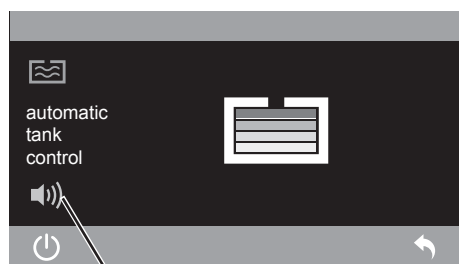
This is used to access the individual menus of the components.

Soft keys

The “soft keys” are used to carry out the commands displayed in the lower menu bar (C). For example, they enable access to submenus, increase or reduce the values shown, or represent the Return button (“Back” function).

Control knob

Like the “soft keys”, the control knob enables easy navigation between the individual menus. Turn the knob to select the corresponding menu item or display value shown to the left, or to increase or reduce values. Press the knob to jump to submenus or confirm a value that has been changed.

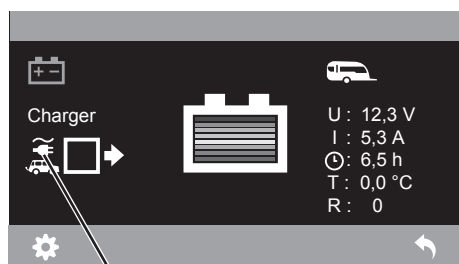


Alarm

Fresh water tank

The filling level of the fresh water tank can be read off here. The alarm can be activated (green) above the left soft key (On/Off icon). If the alarm has been activated, a beep will go off when the tank is being filled. These beeps will be sent at increasingly shorter intervals while the tank is filling up. The filling level of the fresh water tank will be automatically updated on the control panel every few seconds.

Exit this menu by using the “Back” function; otherwise, after one hour, it will automatically switch back to the main menu on the control panel.



Battery charger

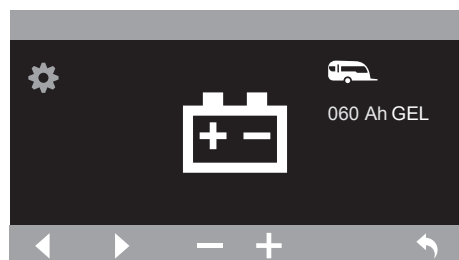
Battery management*

The current status of the auxiliary battery is displayed in the battery menu (self-sufficient package). The charging status is shown in the battery icon; the example shows a fully charged battery.

“U” indicates the current charging voltage, “I” the current charging current and the remaining time until the battery is discharged is displayed in hours. The value “T” indicates the temperature of the battery; this must not exceed 50° C. A warning message will be sent if the temperature exceeds 50° C and the battery will be shown in red in the main menu on the control panel. If the battery is overheated, it cannot be charged. Should this warning occur repeatedly, the camper must be taken to an authorised specialist.

If the icons for the “Charger” appear, the camper is connected to a 230V mains connection and the charge controller was recognised: the battery will be charged. If the camper is connected to a 230V mains connection and the icons for the Charger do not appear, the battery will be charged using a characteristic.

The value “R” shows the calibration check. If “1” is output, the sensor will be calibrated (target state). If “0” is output, the measured values may deviate slightly and the sensor should be recalibrated.



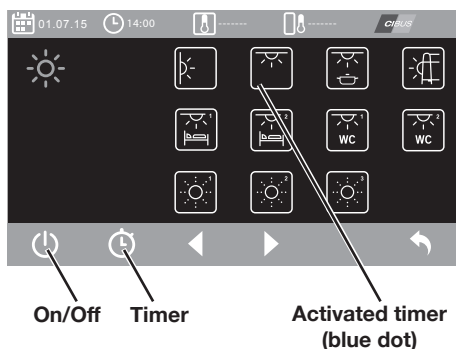
Normally, calibration is carried out automatically, whereby neither the charging nor the discharge current may be more than 150mA.

The system can be manually calibrated

- while using the 230V mains operation or
- if no electrical device has been switched on in 12V operation.

To do this, the 30A main fuse must be switched off by pressing the button on the battery container (see "Operation via auxiliary battery"). Now the sensor can calibrate itself. This process takes approx. three hours. If the fuse is then switched on again, a value of 1 should be shown on the display.

Exit the menus by using the "Back" function or automatically after one minute.



Lighting system

Select the desired light in the menu for the lighting system by means of the control knob or the arrow functions (display: yellow). Press on the control knob or the left soft key to switch the corresponding light on or off (activated lights are displayed in green).

Access the submenu for programming the timer by means of the timer function. Only the ceiling light (top row) and the outer tent light (bottom row) can be regulated using the timer. Activate or deactivate the "Off" function as appropriate.

Programming the timer

Trigger the desired value by means of the arrow keys or the control knob and press the "On/Off" function or the control knob to select it. Turn the control knob or use the "+/-" functions to set the time. Press the control knob again or use the "On/Off" function to confirm the set time.

Activating/deactivating the timer

The timer will only be activated if the function to the right is changed from "Off" to "On" (the way to do this is identical to programming the timer).

Deactivate the timer by setting the function from "On" back to "Off".



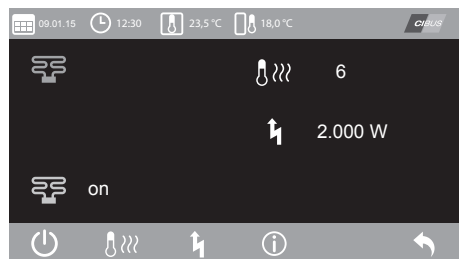
The activated timer is indicated in the main menu for the lighting system by a blue dot in the corresponding light icon.

Exit this menu by using the "Back" function; otherwise, after one minute, it will automatically switch back to the main menu on the control panel.



TRUMA ULTRAHEAT* heating system

The temperature level (1-6) and performance level (in watts) are displayed in the menu for the electric auxiliary heating system. The lower menu icon is shown in green when the heating system is in operation.



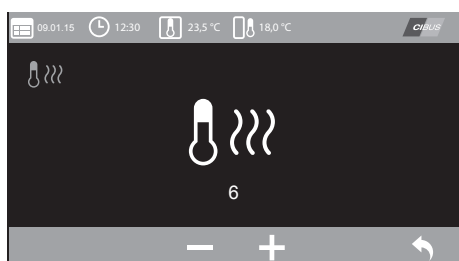
Next to this icon, the value

ON = on or

OFF = heating system is not in operation (white icon) is shown.

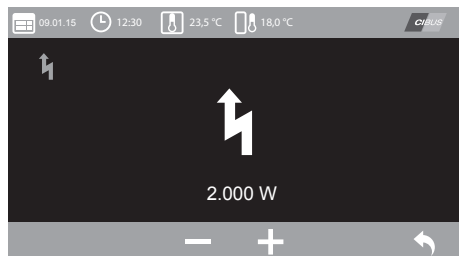
The heating system is activated or deactivated using the “On/Off” function in menu bar C.

The icons for temperature and performance level as well as the info icon shown in menu bar C lead to further submenus by means of the soft keys or setting the control knob to a selection.



Regulating the temperature

Levels can be selected from 1 – 6 (6 = highest temperature level)



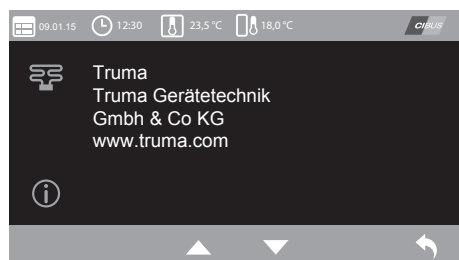
Regulating the performance level

Levels 500 W/1000 W/2000 W can be selected.

Use the “+/-” icons or turn the control knob to change the desired value. Press the control knob to confirm the changed value.



Please also observe the descriptions in **Chapter 10.3 Electric auxiliary heating system.**



Info menu

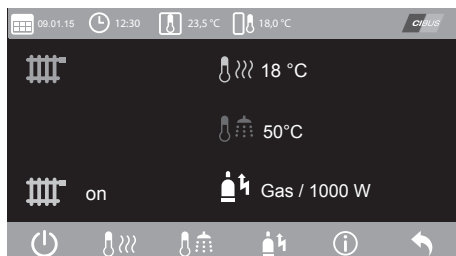
Information on the device manufacturer is shown here.

The submenus shift to the main menu by means of the “Back” function. The main menu shifts to the main menu on the control panel by means of the “Back” function. After one minute, all menus automatically shift to the main menu on the control panel.



ALDE hot water heating system*

The desired room temperature (in ° C), short-term increase in the amount of hot water for taking a shower (in ° C) and the type of operation (gas/electric) are displayed in the menu for the Alde hot water heating system. The lower menu icon is shown in green when the heating system is in operation.



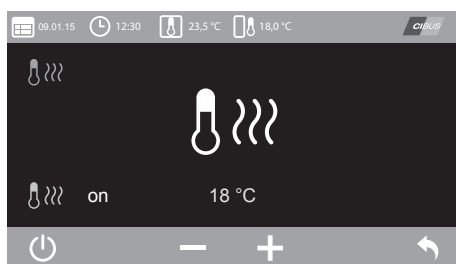
Next to this icon, the value

ON = on or

OFF = heating system is not in operation (white icon) is shown.

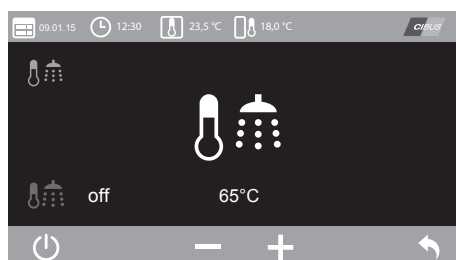
The heating system is activated or deactivated using the “On/Off” function in menu bar C.

The icons for temperature and performance level as well as the info icon shown in menu bar C lead to further submenus by means of the soft keys or setting the control knob to a selection.



Setting the desired room temperature

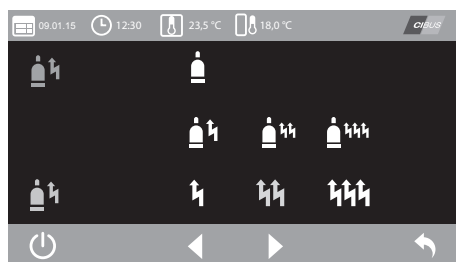
In steps of 0.5° C from +5° C to +30° C



Short-term increase in the amount of hot water

Temporarily increases the hot water temperature from 50° C to 65° C if there is an increase in hot water consumption. Red icon = deactivated.

To change the values, use the control knob to select a value (press on the knob to highlight the value in yellow, enabling it to be changed). Use the “+/-” icons or turn the control knob to select the desired value. Press the control knob to confirm the changed value. Use the “On/Off” function to switch the hot-water heater on and off.



Type of operation

Gas, mixed operation (gas+electric) or electric can be selected. If mixed operation or electric operation have been selected, the desired performance must also be selected (1 lightning bolt = 1kW, 2 lightning bolts = 2kW and 3 lightning bolts = 3kW).



From a performance of 2kW or more, the power supply being fed in must be secured with a 16 Amp fuse. Please speak to the person operating the camping site!

Use the arrow (menu bar C) or turn the control knob to select the desired type of operation (highlighted in yellow). Then use the “On/Off” function or turn the control knob to activate your selection.



Please also observe the descriptions in **Chapter 10.5 Alde hot water heating system.**



Info menu

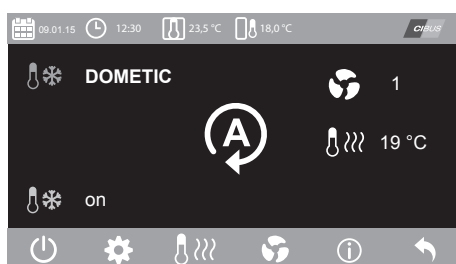
Information on the device manufacturer is shown here.

The submenus shift to the main menu by means of the “Back” function. The main menu shifts to the main menu on the control panel by means of the “Back” function. After one minute, all menus automatically shift to the main menu on the control panel.



DOMETIC* air-conditioning system

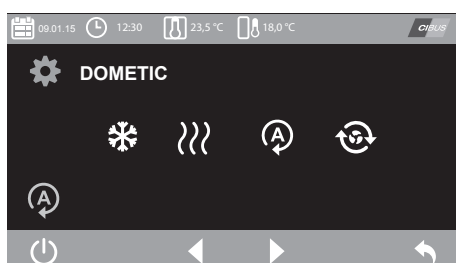
The set type of operation, fan level and desired room temperature are displayed in the menu for the Dometic air-conditioning system. The lower menu icon is shown in green when the air-conditioning system is in operation.



Next to this icon, the value

ON = on or

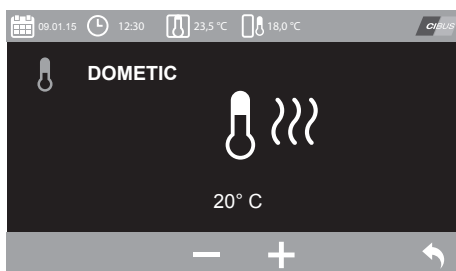
OFF = air-conditioning system is not in operation (white icon) is shown.



Submenu: Selecting the type of operation

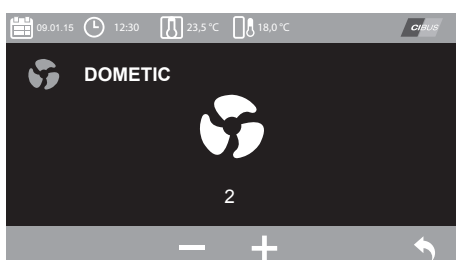
- cooling
- heating
- automatic mode
- air circulation mode

The type of operation can be changed using the “+/-” soft keys on menu bar C or by turning the control knob. The new type of operation must be confirmed by pressing the control knob or by means of the “On/Off” soft key.



Setting the temperature

The desired temperature can be set here. This is not possible in air circulation mode, because neither the cooling nor the heating function are then active.



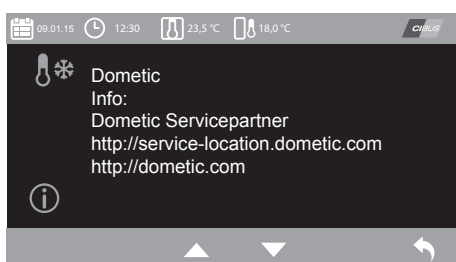
Setting the fan level

Set the desired fan level here (levels 1-3 and maximum ventilation). When in automatic mode, the ventilation will also be regulated automatically, i.e. it is then not possible to enter a separate setting.

The values can be changed using the “+/-” soft keys on menu bar C or by turning the control knob. The new value is automatically applied after exiting from the submenu.



Please also observe the descriptions in **Chapter 10.12 Roof air-conditioning system.**



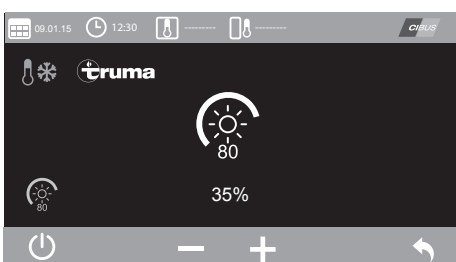
Info menu

Information on the device manufacturer is shown here.

The submenus shift to the main menu by means of the “Back” function. The main menu shifts to the main menu on the control panel by means of the “Back” function. After one minute, all menus automatically shift to the main menu on the control panel.



The aforementioned functions are only available for air conditioning systems that are CI bus compatible.

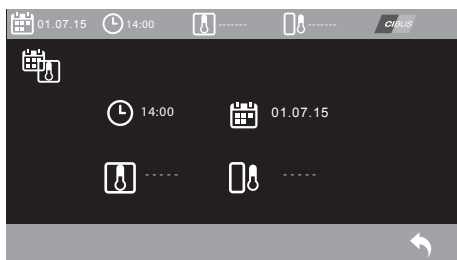


TRUMA* air-conditioning system

If a TRUMA air-conditioning system is subsequently fitted, it is also possible to select the submenu for regulating the lighting.

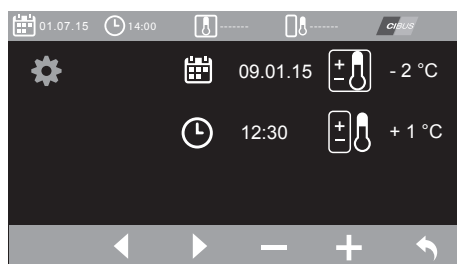
Increasing or reducing the value by means of the “+/-” function or the control knob changes the intensity of the lighting integrated in the air-conditioning system. Press the control knob or use the “On/Off” function (left soft key) to confirm the new value.

Exit this menu by using the “Back” function; otherwise, after one minute, it will automatically switch back to the main menu on the control panel.



Displaying the data in the fixed header A

This menu gives an overview of the data in the fixed header A. It is only possible to exit this menu by using the “Back” function; it does not automatically switch back to the main menu on the control panel.



Settings menu (for data in the fixed header A)

The date and time can be set in the Settings menu. Use the control knob or the left and right arrows to reach the desired value. Press the control knob; it is then possible to change the values by turning the knob (right = increase value; left = decrease value) or by using the “+/-” function. Press the control knob to confirm the changed value. Only then will it be saved.

It is also possible to calibrate the indoor and outdoor temperatures shown, as temperature effects on the sensors may lead to a deviation between the temperature displayed and the actual temperature.

The temperature display can be changed by a maximum of +/-12° C.

Exit this menu by using the “Back” function; otherwise, after one minute, it will automatically switch back to the main menu on the control panel.



Info menu on the TFT control panel

Information on the device manufacturer is shown here.



WLAN-Module *

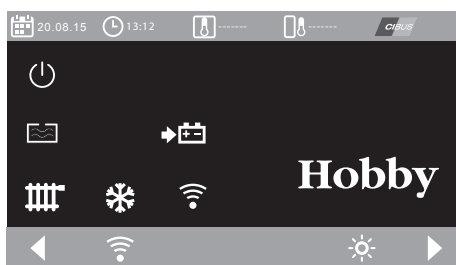
Hobby's CI-Bus board management can link together up to 15 devices, enabling you to operate them using just one central control panel that shows their functions on its display. **(standard)**

When coupled to a WiFi module, all of the functions on the TFT control panel can be wirelessly controlled via your smartphone, tablet or notebook.

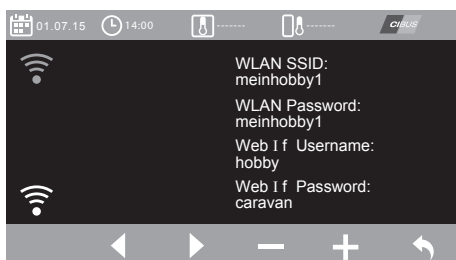


The SD card is also found on the WLAN module. The devices are updated on this card. This SD card cannot be written in Windows file format.

After the main switch on the control panel has been switched on and all of the connections have been correctly attached, a WLAN network is set up that is recognized by all WLAN-enabled devices.



Main menu on control panel



Submenu

The WiFi must be activated in the submenu so that a connection can be set up.

Use the “**On/Off**” function to start the WiFi or shut it down. The WiFi icon turns orange while the program is starting up or shutting down. The WiFi is ready for operation as soon as the icon turns green.

The connection data for the WiFi network and the web server can be seen in the submenu. (The menu below only shows example data.)

The device that is to be connected to the network must be connected via the menu WiFi Settings with the network “**meinhobby1**” (in this example). The password (in this example) is also “**meinhobby1**”.

Use the Search/Scan function first if the network is not displayed immediately.

When the device has been connected to the network, call up the URL **http://192.168.0.1** in the Internet browser.

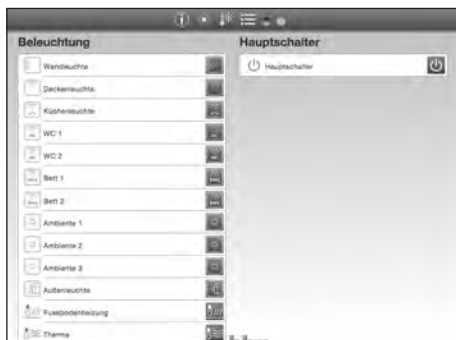
To open the data in the web browser, enter the user name “**hobby**” and the password “**caravan**” (in this example). The page for operating the devices and switching on the lights will then be displayed.



Information



The current values can be read out here (see also p. 66 for the data from the fixed header A and p. 60 for battery management (only with self-sufficient package).



Lighting



The different lights can be switched on and off here.



Built-in devices (where applicable)



Devices that are connected to the control panel can also be controlled via the WiFi network. (See also TFT control panel.)



Changing the access data



The name of the network and the password as well as the access data for the web server can be changed here.

Click on the Get button to call up the values that are presently current. After making any changes, the values must be saved. Changes take effect after approx. 2 minutes.



At present, operation via a surfstick is not yet supported. Please use the WiFi menu in the TFT display to switch WiFi operation on and off.



Circuit board (reverse side)
of TFT display

General information regarding the TFT display

The time and date are buffered by a 3V 210 mAh, CR2032 type button cell. If, therefore, the time should be incorrect or the clock should stop working, this button cell must be replaced. It is mounted on the reverse of the circuit board of the TFT display. To replace this button cell, the TFT display must be removed from the furniture front by carefully clipping the chrome-plated frame out of its holder. You will then see the screws that fasten the plastic part to the furniture. Loosen these screws to detach the display.



When replacing the button cell, please ensure that plus and minus are in the right direction. Incorrect polarity may cause the display to become defect.

7.3 Electrical supply

Electricity for the caravan can be obtained from the following connections:

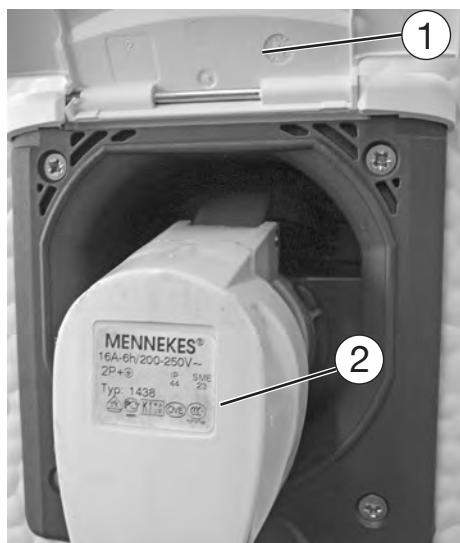
- 230 V mains connection 50 Hz
- via the base vehicle if it is connected using the 13-pole plug (limited functions)
- via a built-in auxiliary battery *. Everything that uses 12 V, such as lighting, water supply, etc., is available.



CEE external socket

Supply via mains connection

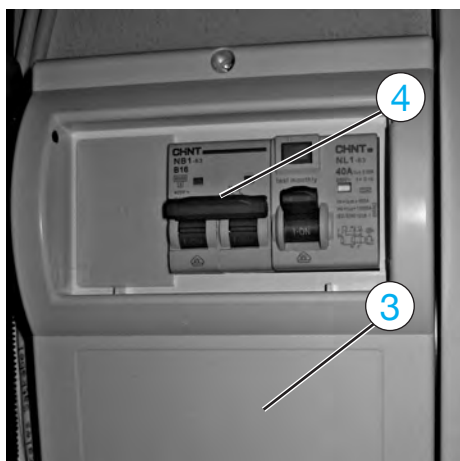
The caravan receives its electric power supply via the 230 V CEE feeder plug on the side wall of the vehicle.



Connected 230V feeder plug

To set up an electric connection

- Pull out the 13-pole plug that connects to the base vehicle.
- Switch off the automatic circuit breaker ③ by pressing the rocker button down ④.
- Take hold of the bottom of the cover flap of the CEE external socket ① and pull it up.
- Completely unwind the connector cable.
- Open the cap of the CEE connector plug by pulling it up in a 90° angle.
- Insert the plug ② until it locks into place.
- Switch the automatic circuit breaker ③ back on.



Automatic circuit breaker with FI ('fast interrupt') switch

To disconnect the electric connection

- Switch off the automatic circuit breaker ③ by pressing the rocker button down ④.
- Remove the CEE connector plug ②.
- Press the cover flap ① down until it clicks into place.



Only plugs and cords that comply with CEE standards may be used.

Protecting the 230V system

The 230 V system is protected by a two-pole 13 A automatic circuit breaker ③, which is located in the clothes cupboard (460 HL ONTOUR in the seating arrangement). (Exceptions to this include special installations, such as ultraheat, hot-water heating, etc.. In this case, an additional two-pole 16 A circuit breaker has been installed.) If there are two automatic circuit breakers, both must be switched on.

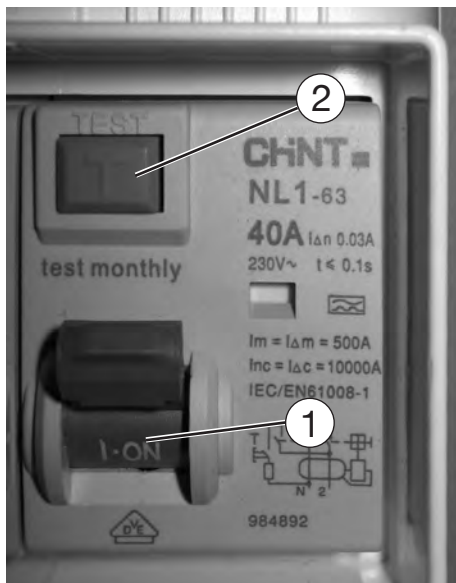
Rules for the mains connection

- Use only a 3 x 2.5 mm² cable with a maximum length of 25 m, a CEE connector plug and connector to connect the camper to an external 230V mains.



When obtaining electricity via a cable drum, this **must** be completely unwound, as otherwise induction may cause the cable to heat up, which could lead to burning (provided there is no protection against overheating).

- The 230 V mains connection in the caravan has been designed for a total power consumption of 2300 W. If additional devices requiring electricity are connected, such as a water heater, etc., you must ensure that this electric power value is not exceeded, taking other electrical equipment in use, such as the refrigerator, therme, etc., into account.



FI switch ① and test button ②

Residual current device

The standard version of your vehicle is equipped with a residual current device that will interrupt the electric circuit in case of a possible residual current. Should there be a power failure, the fault current circuit breaker ('fast interrupt' = FI switch) will interrupt the entire 230V electric circuit.



Repairs must not be carried out on the residual current device.

A residual current device does not guarantee any protection against the danger from an electric shock. It does not protect against possible electrical accidents.

After putting the electric system into operation, the function of the residual current device must be checked. After voltage has been applied to the switch ① and it is on (set to I-ON) it must set off when you press the test button ②. The rocker switch ④ (p. 70) jumps down; after it has successfully been checked it must be switched back up to the "On" setting.

This check should be carried out at least once a month to ensure that the residual current device functions perfectly in case there should be a fault in the current.



When the FI switch has been set off (even when testing) the customised settings in all mains-operated devices are lost and the default settings made by the manufacturer will apply again.

If the automatic circuit breaker has gone off (other than if the Test function has been used) you must wait a short while before switching it on again.

- If the automatic circuit breaker remains active, there was only an overload.
- If the automatic circuit breaker goes off abruptly again, there is either a short circuit or an earth fault.

Devices that set off during operation show that there is a defect; they must be checked and/or repaired by an electrical engineering specialist.



Switching it back on again and again will do no good. The automatic circuit breaker also goes off when the rocker switch is held firmly in place.

Operation via base vehicle

During the drive, the battery of the base vehicle takes over the supply of the 12 V devices if contact 9 of the 13-pole socket system on the base vehicle has been equipped.

Use the main switch on the control panel to switch off the 12 V operation during the drive, on longer stopovers and breaks to conserve power in the base vehicle's battery.

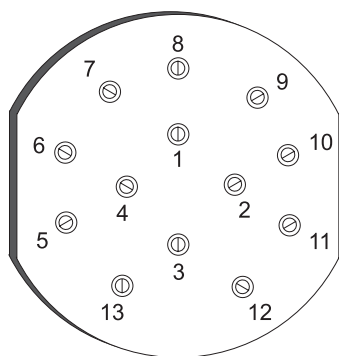
When running on 12 volts, the refrigerator only functions if the motor of the base vehicle is turned on. Contacts 10 and 11 of the 13-pole socket system.



Always switch off the electric connection between the base vehicle and the caravan before hooking the caravan up to a low-voltage supply.



If operation is carried out via the base vehicle, a maximum of 2 electrical devices in the caravan can be switched at the same time using the control panel (exception: the self-sufficient package has been installed).



Connector pins on 13-pole plug ("Jäger" system)

Connector pin assignment of the 13-pole plug („Jäger“ outlet)

PIN	Colour of conductor	Cross section	Electrical devices
1	yellow	1,5	Left blinker
2	blue	1,5	Fog tail lamp
3	white	2,5	Mass (1-8)
4	green	1,5	Right blinker
5	brown	1,5	Right light
6	red	1,5	Brake light
7	black	1,5	Left light
8	orange	1,5	Back-up light
9	blue	2,5	Steady plus
10	blue/white	2,5	'Plus' ignition
11	white/red	2,5	Mass (10)
12	violet	1,5	Camper licence plate
13	white/blue	2,5	Mass (9)



Charge controller in clothes cupboard on wall

Operation via auxiliary battery* (self-sufficient package)



- Only accumulator batteries with bound electrolytes (gel or AGM batteries) may be installed in those positions specified by the manufacturer.
- The installed battery may not be opened.
- When changing auxiliary batteries, use only batteries of the same make and capacity.
(Setting the battery type on the control panel: **see p. 60**)
- Before disconnecting or connecting the auxiliary battery, disconnect the electric connection to the base vehicle and switch off the 230 V supply, the 12 V supply as well as all electrical devices.
- Before replacing fuses you must first de-energise the charge controller.
- Before replacing a blown fuse you must first fix whatever caused the fuse to blow.
- Fuses may only be replaced by fuses with the same fuse protection value.
- Airing the charge controller insufficiently will cause a reduction of the charge current.
- The surface of the charge controller casing may become hot when the device is in operation.



Auxiliary battery

Operating and loading the auxiliary battery*

If the caravan is not connected to the 230 V mains supply, the auxiliary battery will supply the electrical system with 12 V DC voltage. Since the battery only has a limited capacity, the electrical devices should not be operated for a longer period of time without charging the battery or connecting the caravan to the 230 V mains connection. The charge controller is used to charge the battery. There are three possible sources of input: (230V mains connection, generator in the base vehicle or solar panel*, if applicable) whereby the source of input with the highest input voltage supplies the charge current for the connected battery.

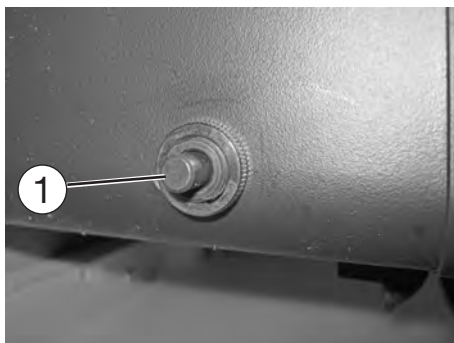


Intelligent Battery Sensor (IBS)

An Intelligent Battery Sensor (IBS) has been connected to the battery terminal. It monitors the actual current and the actual voltage in a highly precise manner.

It is possible to precisely predetermine the operating time of the battery based on the actual consumption. The IBS ensures that the battery will be changed in good time and assists in providing active energy management so that the performance requirements of the different electrical devices can be coordinated with the charging of the battery.

The charge state of the battery, age or remaining time until discharge are all shown on the TFT display of the control panel. Charging is carried out gently in accordance with the steady-state principle by an "intelligent" charger.



Pushbutton



Battery container

A pushbutton ① is located directly on the battery container. It is used to disconnect the battery from the 12 V electrical system. At the same time, this button serves as a 30 A automatic circuit breaker.

If the caravan is not used for a longer period of time, please disconnect the battery from the electrical system in order to prevent the battery from being excessively discharged.



- Before each journey, please check that the battery is charged(see p. 60). If necessary, connect it to the mains and press the main switch to start charging the battery.
- Leave the main switch on whenever the caravan is being used so that the battery is charged regularly.
- Do not forget to activate the pushbutton on the battery container.
- Use every opportunity during your journey to charge the battery.
- The battery loses its capacity after having been used for a while and at low temperatures.
- An acoustic warning signal will be given off if the remaining time during discharge operation is less than 1 hour.
- If the battery voltage should be less than 10.0 V, all devices will automatically be switched off.
- A warning will go off if the battery ages to a value less than 50% of its nominal capacity.
- If the vehicle is not in use for a longer period of time, the battery should be disconnected or the main switch should be switched off after the battery has been optimally charged.

7.4 Electrical system



CEE external socket

As soon as there is a mains connection, the electrical system will switch from battery operation to mains operation.

The electrical supply unit uses a converter to transform the external mains voltage for the 12 Volt electrical devices.

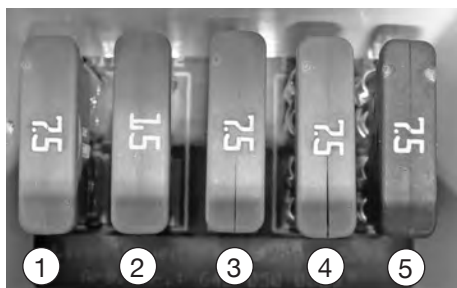
All of the lamps in the camper use 12V. Only large electrical devices such as the therme, floor heating, air conditioner, etc., use 230 V.

Assignment of fuses

The fuses for the individual internal electric circuits are located in the lighting control module. They are assigned as follows (from left to right):



In some models, there may be slight deviations in this assignment.



Assignment of fuses

Electric circuit ① (7,5A):

children's bedside lights, clothes cupboard light (only WLU), outer tent light, wall lights, ceiling light, bedside lights

Electric circuit ② (15 A):

children's bedside lights

Electric circuit ③ (7,5 A):

clothes cupboard light, left bedside light (only WLU), ambience 2, kitchen, shower

Electric circuit ④ (7,5 A):

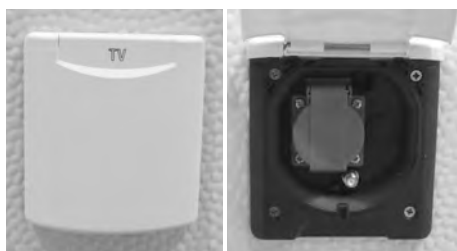
fan, washstand, ambience 3, ambience 1

Electric circuit ⑤ (7,5 A):

water supply, Porta Potti, refrigerator illumination



Only replace defect fuses if you know what caused the fuse to blow and have fixed this.



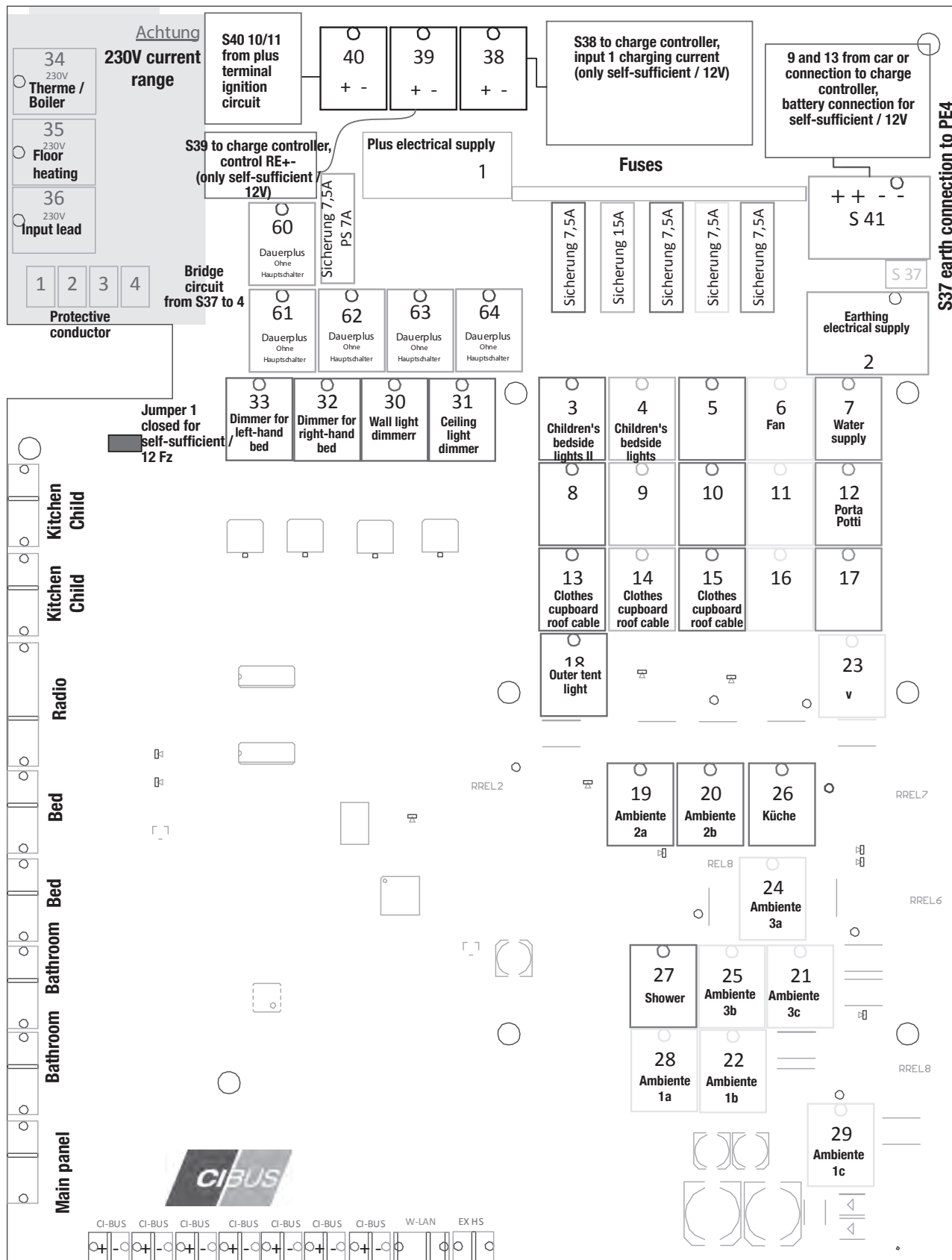
External socket and antenna terminal in the outer tent

TV socket

Your caravan also has a combined external socket and antenna terminal in the outer tent (optional extra for De Luxe (Edition)).

This can be used, for example, to set up a TV in the outer tent. Depending on how you wire it, the integrated antenna terminal can be used as either an input or an output socket. For further information, please speak to your Hobby dealer (**also see 6.2**).

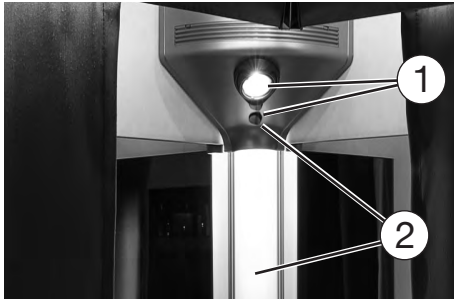
7.5 Contact plan for the light control system



Contact assignments may differ slightly in some models.

7.6 Special Lights

The switches for the lights described here are located directly on the lights themselves; they are not controlled via the control panel.



Corner lights in the seating arrangement

Corner lights

Spotlight ① and integrated lighting columns ② can be switched separately.



Clothes cupboard light

Clothes cupboard light

The clothes cupboard light ③ is switched on and off by opening the doors of the cupboard (integrated motion detector - cannot be switched on the control panel). The LED light is battery-operated. Before initial operation, pull off the foil that prevents battery contact.



Children's bedside light

Children's bed light

Children's bed light is switched on and off by turning the bear's nose.

This light can be dimmed and set as a night light („blue ears“ - cannot be switched on the control panel). The night light is switched on and off separately by means of a switch underneath the children's bed light.

8.1 General information



We recommend that you inspect any water you have left in the tank, this is very critical before using the water again.



- Water that is suitable for drinking should always be used with working with food. This also applies to washing your hands and cleaning the objects that have come into contact with food.
- To ensure that the quality of the water is faultless, the water should be taken directly from the public drinking water system.
- Under no circumstances should garden hoses, watering cans and similar materials that are unsuitable for drinking water be used to fill the mobile system.
- If the caravan will not be used for a longer period of time, the entire water system must be emptied completely.
- After long periods of stagnation, the water system must be rinsed thoroughly before it is used again. If you find that it is contaminated, the material should be disinfected using cleaning agents that are permitted and suitable.



Immersion pump

Function of the water supply

Water is provided to the kitchen and toilet area via an immersion pump. The immersion pump functions on electricity:

- via a 12 volt automobile battery if the caravan is connected via a plug to the base vehicle,
- via a transformer if the caravan is connected to the 230 volt main.
- In self-sufficient mode * via the installed auxiliary battery.

Rules for the immersion pump

- The immersion pump is only suitable for water.
- The immersion pump tolerates temperatures up to 60° C for a short time.
- Avoid dry runs.
- Protect the pump from freezing.
- Hard blows or hits as well as very dirty water can destroy the pump.



The immersion pump requires no maintenance.

The immersion pump switches itself on automatically when the water taps are opened.

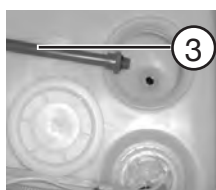
8.2 Water supply



Fresh water tank



Overflow pipe on the fresh water tank



Filler neck for the fresh water tank



Petrol cap

Fresh water tank

The tank ① has a volume of 25 or 50 l (model-specific) and is located either under the bed or in the seating arrangement.

The tank is filled with fresh water by means of the filler neck ② on the side wall.

The neck for filling up fresh water is marked by a blue cap and a picture of a water tap on the upper edge of the frame. The screw cap is opened and closed by means of the enclosed key for exterior flap locks and the door of the structure.

If you fill too much water into the tank, the excess will run out through an overflow ③ underneath the camper.

The water can be emptied from the tank by unscrewing the overflow pipe ③.



Check the red service lids ④ regularly; they may become loose if the fresh water tank is filled often.

Filling the water system

- Place the caravan in a horizontal position.
- Shut all of the water taps.
- Switch on the main switch on the control panel.
- Shut the outlet valves on the therme.
- Unlock the petrol cap ⑤ and turn it counter-clockwise to open it.
- Fill the water tank using the fresh water filler neck.
- Turn all of the water taps to „hot“ and open them. The water pump will be switched on.
- Leave the water taps open until the water flows out of the taps without any bubbles. This is the only way to ensure that the therme will also be filled with water.
- Turn all of the taps to „cold“ and leave them open. The cold water pipes will be filled with water.
- Leave the water taps open until the water flows out of the fixtures without any bubbles.
- Shut all of the water taps.
- Shut the filler neck.



Use the control panel to check the amount of water in the fresh water tank.





Never introduce anti-freeze or other chemicals into the water system.

This can be poisonous!

When operating during winter ensure that the fresh water tank is sufficiently heated.

To remove water

- The water will be mixed to the desired temperature according to the position of the pre-mixing unit.



Hot water supply

- Use the control panel to switch on the therme. The temperature of the water is regulated by means of a thermostat via 230V mains supply to 55° C.
- The therme will hold approx. 5 litres.
- If you have turned on the heating system, the water in the therme will also be heated by the air circulation of the heating; in self-sufficient mode, it will be heated solely in this manner.

Rules for the therme

- Use the control panel to switch off this equipment whenever the caravan is not in use.
- Empty the therme at the risk of frost. Frozen water can cause the therme to burst!
- A depressuriser must be used if the pump is connected to a central water supply, or on stronger pumps. The pressure in the therme may not exceed 1.2 bar. In addition, a safety valve or runoff valve must be used in the cold water tap.



Never operate the therme electrically when it is empty.



Please also note the manufacturer's separately enclosed operating instructions.

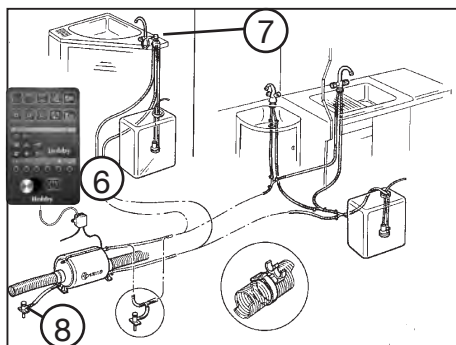
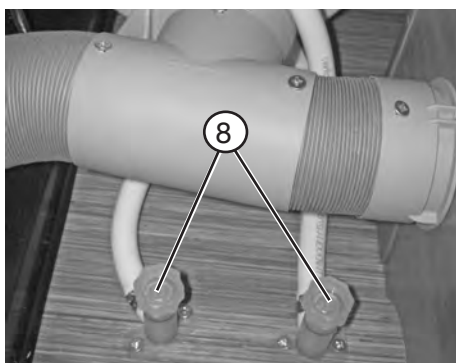


Diagram of hot water supply



Outlet valves for therme

Emptying the water system

- Use the control panel to switch off the electricity for the water pump (6) by pressing the main switch for a longer period of time (3 - 4 seconds).
- Open all of the water taps (7) to the centre setting.
- Hang up the adjustable shower head in the shower.
- Open the outlet valves (8) on the therme (The therme is located by the queen-sized bed/seating arrangement.).
- Unscrew the cap on the cleaning port of the fresh water tank (1).
- Unscrew the overflow pipe (3) in the fresh water tank.
- Remove the lid of the water tank. Take out the water pump and hold it up until the water pipes have emptied completely.
- Check whether the tank, therme, faucets and pipes have emptied completely. If necessary, blow out any remaining water in the pipes using compressed air (max. 0.5 bar).
- Re-insert the overflow pipe and the water pump in the fresh water tank and close the openings.
- Leave the faucets (7) and the outlet valves (8) open.
- Clean the tanks and rinse them thoroughly.
- Allow the water system to dry for as long as possible.
- Do not forget to empty the toilet cassette.



If the vehicle is not being used and there is a danger of sub-zero temperatures be sure to drain the entire water system. Leave taps turn on in the middle position.

Leave all drain valves open.



Only empty your waste water tank at the specially designated disposal points and never in open spaces! As a rule disposal points can be found at motorway service stations; campsites and petrol stations.

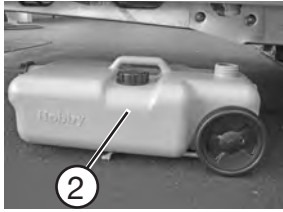


Alde outlet valve

Alde outlet valve



If an Alde hot water heater has been installed, the water runs off through an outlet value (1) on the hot water heater instead of through the therme (see also 10.5).



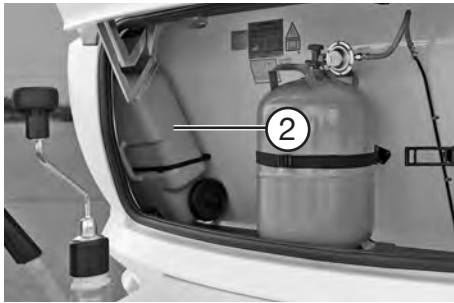
Waste water tank



Lever

Rolling waste water tank

The rollable waste water tank ② can be pushed beneath the vehicle when the caravan is stationary. It collects the waste water and holds 24 litres. The waste water tank can be transported on wheels and has an extendable transport handle ③, allowing you to transport it to the appropriate waste disposal place for emptying.



Waste water tank in the gas bottle container

While travelling, the waste water tank ② is stored in the gas bottle container to save space.

Exception:

In the Landhaus model, the waste water tank is stored under the queen-size bed (accessible via the service flap).

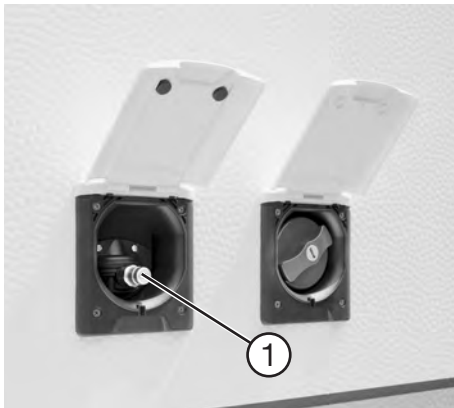


Empty the waste water tank before beginning your journey and then use the belt in the gas-bottle container to secure it.



Empty the waste water tank if there is danger of frost.

Never pour boiling water into the sink drain. This can lead to deformities and leakages in the waste water system.



City water supply connection

City water supply*

The city water supply allows you to attach the camper to a permanent water system.

- Connect the water hose (observing drinking water regulations) with the help of a Gardena connector to the city water supply ①. The fresh water tank will be filled with water. A probe measures the filling level of the tank and regulates the water intake.
- Disconnect the Gardena connector to remove the camper from the permanent water system.

8.3 Toilette



Preparing the excrement tank

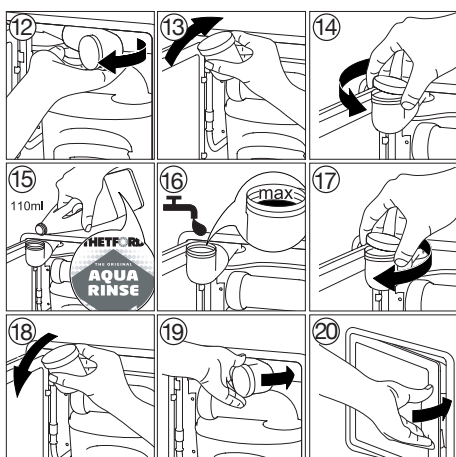
Before you can use the toilet, you must first prepare the excrement tank. How to do this is shown in Figures 1 to 11 on the left.



Never add sanitary liquids directly through the valve or into the toilet bowl, because this may damage the washer of the valve in the excrement tank. Always add liquids through the emptying support (Fig. 6)



We recommend that you press the ventilation button (Fig. 10) before putting the excrement tank back into its correct position.



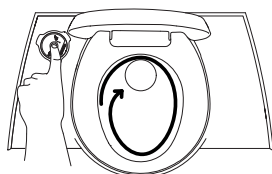
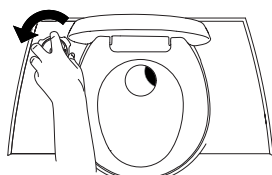
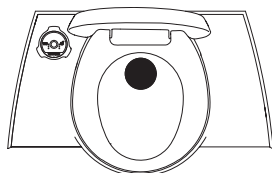
Preparing the flushing water (model-specific)

The next step is to prepare the flushing water tank as shown in Figures 12 to 20.



To avoid water damage in your caravan, ensure that you are not travelling with a flushing water tank that is too full (Fig. 16).

Check the emptying hose or the filling level indicator on the adjusting knob (C-500 only) to determine how much water is in the tank.



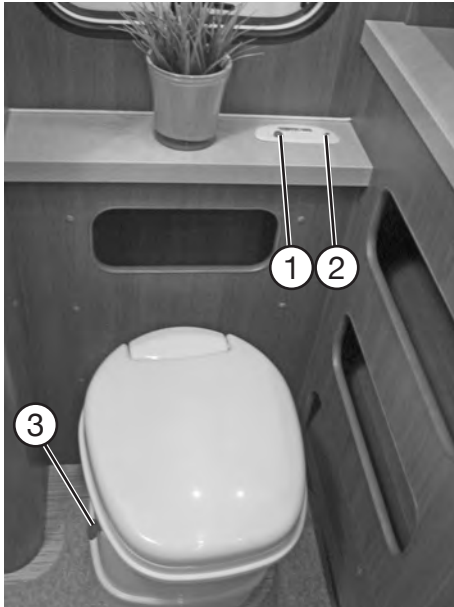
Using the toilet

The toilet can be used when the valve is either open or closed. To open the valve, turn the control knob counter-clockwise or push the lever to the left (depending on your model).



Never leave any water in the bowl when the toilet is not being used. This prevents unpleasant odours.

Flush the toilet by pressing the flush knob for several seconds. Shut the valve every time you have finished using the toilet.

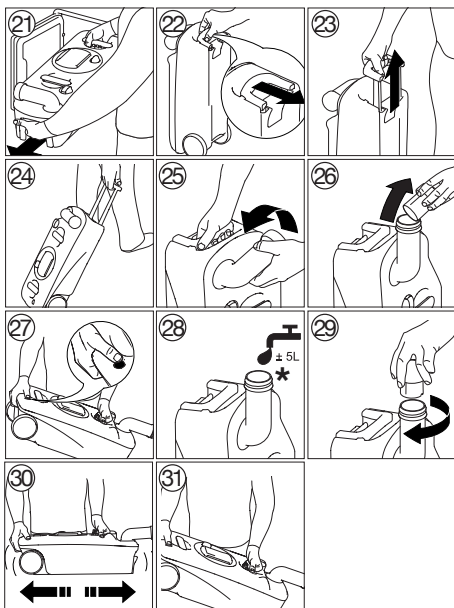


Pivoting toilet

Using the bench toilet

In the control panel above, the flush knob ① is located on the left and the LED ② of the filling level indicator on the right. It lights up when the excrement tank must be emptied.

The lever ③ for opening the slider is located on the left side.



Emptying the excrement tank

The excrement tank has a capacity of approx. 19 litres. It must be emptied when the filling level indicator lights up. Once this lights up, the tank can be used no more than two times.

Ensure that the valve is closed, open the Porta Potti flap and follow the instructions shown in Figures 21 to 31 on the left.



Empty the excrement tank only in special places for sanitary disposal.

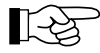


To empty the tank without spraying, press the ventilation button while you are emptying the contents of the tank. Only press the ventilation button when the emptying support is in a downward position!

Please refer also to the manufacturer's operating manual, included in this package.

* Benc toilet apr. 2 ltr.

9.1 General safety rules for the use of liquid gas facilities



The gas operation pressure is 30 mbar.



You are not permitted to operate the heating system while driving.

Inspection of the gas facilities

- Have the gas facilities checked by an expert before the first use.
- The gas facilities should be inspected by an expert every two years. This inspection should be documented on the inspection certificate in accordance with the German Association of Gas and Water Experts, worksheet G 607, and EN 1949.
- Regulator knobs, hoses and waste gas outlets should also be inspected.
- We recommend that you replace the safety regulator knob and hose pipes after 10 years at the latest. Should you discover tears, porous spots or similar defects in the hose, it must be replaced immediately.
- The owner/operator is responsible for arranging the inspection. This also applies for vehicles that are not licensed to drive on public roads.



If you suspect that gas is leaking, take the following measures immediately:

- Close the stop valve on the gas cylinder.
- Ignition sources such as open flames or smoking are strictly forbidden.
- Air the rooms.
- Clear the danger zone.
- Inform your immediate surroundings (groundsmen) and, if necessary, the fire brigade.

The gas fittings may only be taken into operation again after they have been checked by an expert.

Installations and modifications

- Installations and modifications may only be conducted by an expert.
- Only devices with a uniform inlet pressure of 30 mbar may be operated.
- Any change in the gas facilities requires a new inspection by an expert and written documentation of this inspection.



Connecting the gas regulator to the gas bottle



Positioning the gas bottle in the gas bottle container

Regulator knobs and valves

- Only use those regulator knobs custom-made for vehicles, with a safety valve. Other regulator knobs are not permissible in accordance with the German Association of Gas and Water Experts, worksheet G 607, and EN 1949. They are not sufficient to tolerate the immense strain.
- Pressure control devices must have a fixed outlet pressure of 30 mbar. The requirements of EN 12864, Appendix D, apply accordingly. The regulator must have a rate of flow of 1.2 kg/h.
- Connect the regulator knobs very carefully by hand. do not use keys, pliers or similar tools.
- Use the de-icing system (Eis-Ex)* for the regulator knobs when the temperature drops below 5° C.

Gas regulator for France and Great Britain *

Due to specific country regulations, the gas regulator in vehicles exported to France and Great Britain is firmly mounted on the wall of the gas bottle container. This requires the use of a high-pressure hose. Therefore, the low-pressure hoses that are normally used may not be fitted here.



This must be taken into account should it be necessary to replace the hose.

Connections on gas pressure regulators are screwed on counterclockwise.

Before first use

- The exhaust pipe must be securely attached to the heating system and the flue, making sure that it does not leak. It must not be damaged in any way.
- Ventilation openings should remain unobstructed.
- If necessary, remove snow from the flue.
- Remove any dirt and snow/debris mixture from the suction openings under the vehicle floor; otherwise, the levels of carbon monoxide could increase to dangerous levels.
- The safety ventilation openings may not be closed.
- We recommend that you keep a fire extinguisher that uses drying powder, with a capacity of at least 1 kg, by the entry door, as well as a fire blanket by the cooker. Ensure that everyone is familiar with the fire prevention measures on site (see also 2.2).



Read the operating instructions from the manufacturer carefully.

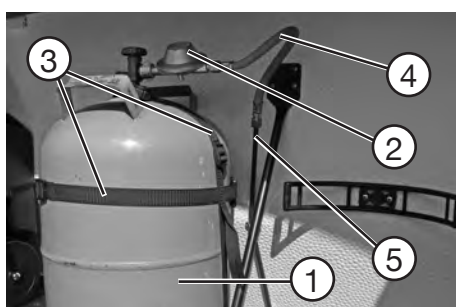


Never use portable cooking or heating equipment, except for electrical heating equipment (note the power consumption), but not radiant heaters, because these may cause a fire or risk of suffocation.

9.2 Gas supply

The caravan is equipped with propane gas facilities. These facilities operate the following devices:

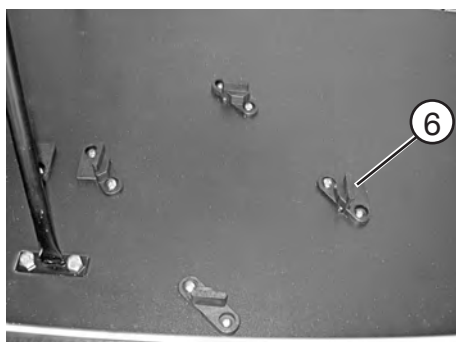
- cooker
- refrigerator
- heating element
- special equipment, if necessary
- baking oven, if necessary



Securing the top of the gas bottle



Gas bottles may only be carried in the gas-bottle container.



Securing the bottom of the gas bottle on the floor of the gas bottle container

Rules for the gas-bottle container

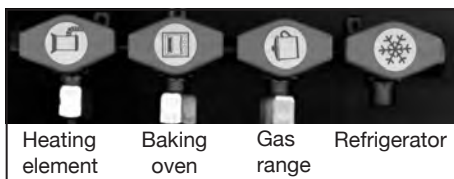
- Before every trip, check that gas bottles are securely fastened. Place them in an upright position and shut the valves.
- Re-lash all loose belts.
- Using a leak indicator, inspect the regulator connection for leaks every time you change a bottle.
- The gas-bottle container is not suitable for transporting accessories (e.g. outer tent).
- The main shutoff valves on the gas bottles must always be easily accessible.
- The ventilation of the gas-bottle container (gap between the bottom of the bottle container and the front wall) must not be closed.
- Lock the gas-bottle container to prevent unauthorised people from obtaining access.



Gas bottles must be closed whenever you are driving. Never smoke or light open fires when changing gas bottles. After changing bottles, check whether gas is escaping from the points of attachment by spraying these with a leak indicator.

Changing gas bottles

- Open the flap of the gas bottle container.
- Shut the main shutoff valve on the gas bottle.
- Manually unscrew the gas pressure regulator and gas hose from the gas bottle (left-handed thread).
- Loosen the belts and remove the gas bottle.
- Place a full gas bottle back in the gas bottle container.
- Lash the fastening strap(s) securely.
- Manually screw gas pressure regulator and gas hose onto the gas bottle (left-handed thread).
- Close the flap of the gas bottle container.
- Open the valve on the full gas bottle that has been connected.
- Check whether there is any gas escaping from the tie-in points by spraying them with leak detection spray.



Gas stop valves

Symbols on the gas shutoff spigots

Shutoff spigots and valves

The gas circulation to the corresponding device can be cut off with these spigots.

The spigots are marked with stickers for the corresponding devices.

Place of installation of gas shutoff spigots

- These are located in the kitchen in the upper drawer.

Rules for shutoff spigots and valves:

- Close all spigots on gas-powered devices during the drive.
- The gas shutoff spigots shown on the adjoining photos are closed. To open the valves, they must be turned to a vertical position.
- No inflammable devices may be in operation when filling the petrol tank of the base vehicle, on ferries and in the garage.



Should you suspect a leak in the gas system, immediately close the shutoff valves in the camper and the gas bottle valves in the gas bottle container.

Over the course of time, vibrations can cause small leaks to occur. If you suspect leaks, have your dealer or another expert inspect for leaks.

Such an inspection may never be conducted in the presence of open flames.

9.3 External gas socket *



External gas socket

The external socket for gas is used to connect external gas devices such as a gas barbecue or lamp.



The operating pressure of devices to be connected must be 30 mbar.

Maximum performance of devices to be connected: 1.5 kW.

The plug connection can only be hitched when the emergency shutoff valve has been closed. Push back the clutch sleeve to undo the safety latch.

The coupling valve has been constructed in such a way that the emergency shutoff valve can only be opened if a gas hose has been attached. When hitching, the plug connection is plugged into the safety coupling.

If no gas hose has been attached, always use the protective cap to shut the opening of the valve.



The external socket for gas is only suitable for extracting gas, not for supplying gas to the system.

10.1 General information

In this chapter, you will find information on the devices that have been built into the caravan. This information refers only to the operation of these devices.

To some extent, the devices described are special accessories.

For further information on the individual built-in devices, please refer to the separate operating instructions that have been included in the blue service bag found in the vehicle.



Built-in devices may only be repaired by specialists.

Only the device manufacturer's original spare parts may be used for maintenance and repair work.

Any changes to the built-in devices as well as non-compliance with the rules for use will cause the guarantee to become void and lead to the exclusion of liability claims. Furthermore, the operating licence for the device will become void and, in some countries, this means that the operating licence for the vehicle is also void.



Please also refer to the instructions in Chapter 9 for operating gas devices, gas regulators and gas bottles.

Please observe the instructions in **Chapter 7** for operating electrical devices.

10.2 Hot-air heating



Truma hot-air heating



Heating while driving is forbidden.

The space behind the heating may not be used as stowage space.

Place of installation

- In the closet or the corner of the flue

Before first use

- Several air outlet nozzles have been built into the caravan. Pipes lead the hot air to the air outlet nozzles. Turn the nozzles so that the hot air is expelled where you want it.
- Check whether the flue is unobstructed. Any covers must always be removed.
- Before the first ignition, ensure that the batteries in the automatic ignitor are working properly.



Knob with thermostat and ignition

To operate



Due to its design, the radiator cover gets hot when the heating is on. The operator is responsible for exercising due diligence so that third parties (**especially small children**) are not hurt.

- Open the valve on the gas bottle and the gas shutoff valve on the gas pipe.
- Turn the operation handle ① to the thermo-stat position 1-10.
- Press the operation handle ① down until it locks. The ignition is automatic from this position, until the flame burns. The ignition spark is audible. The control light on the automatic ignitor blinks during ignition.
- Hold the operation handle in for up to 10 seconds, so that the ignition fuse kicks in.
- If the gas line is filled with air, it can take up to a minute until the gas is ready to burn. Hold the operation lever ① in during this period, until the flame burns.



Should there be any difficulty, please wait at least 3 minutes before re-attempting ignition; otherwise, there is a danger of explosion.

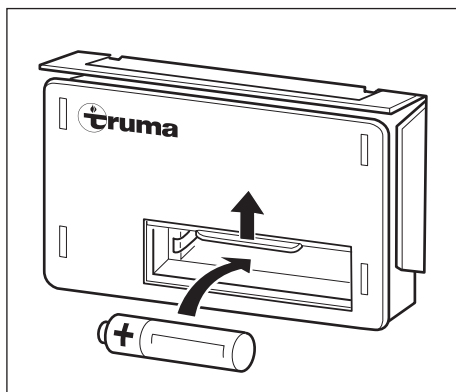
- If the flame goes out again, it will immediately be re-ignited during the closing time of the safety pilot (approx. 30 seconds).
- If no flame is ignited, the automatic ignitor will continue to work until the operation handle ① is switched to "0".



During initial operation of the heating system, there will be a slight nuisance caused by smoke and odours. Immediately turn the operating handle ① on the heating to position „5“ and set the circulation fan to the highest position. Open all doors and windows and air the caravan well. The smoke and odours will disperse after a short while.

To shut off

- Turn the operation handle ① to position "0". The automatic ignitor is thereby shut off.
- Switch off the fan (set the rotary switch to "0").
- Close the bottle valve and the quick-close valve if the unit is not used for a longer period of time.



Battery compartment

Changing batteries on the automatic ignitor

If you cannot hear any ignition sparks or only hear them in intervals of more than one second, then you must insert a new battery.

- Ensure that the heating has been switched off.
- Remove the radiator cover (see Truma operating instructions).
- Push the cover of the battery compartment up and exchange the battery (take special note of plus and minus).
- Close the battery compartment.
- Reattach the external panel.
- Use only a temperature-resistant (+70° C) and leakproof minnion battery.



Insert new batteries before the beginning of each heating season.

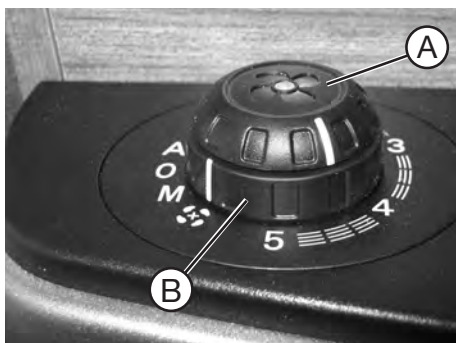
Also note the separate operating instructions from the manufacturer.

Circulation fan

The heating system in your caravan has been fitted with a recirculation air system which distributes the hot air throughout the entire interior by means of several air vents. The air vents can be turned and opened individually, enabling the hot air to escape with the corresponding intensity to where it is required. The desired heating power can be regulated by using the adjusting knob ②. The adjusting knob ② is located on the reflecting panel of the heater.



Double rotary knob for air-circulation fan



The upper ring ① regulates the fan speed, the lower ring ② the type of operation.

Manual control

- Turn the lower ring ② to "M".
- Set the desired ventilation output on the upper ring ①.

To switch off


- Turn the lower ring ② to "0".

Automatic operation

- Turn the lower ring ② to "A".

The electronic system regulates the required blower speed and limits the RPM to the value set on the upper ring ①.

Booster stage

- Turn the lower ring ② to the  setting.
- Set the blower speed on the upper ring ① to "5" (for maximum air flow volume).

Room thermostat

- For an average room temperature of approx. 22° C without using the fan, set the thermostat on the upper ring ① to about "3". To feel comfortable and distribute the warm air evenly, Truma recommends that you use the fan and set the thermostat on the upper ring ① to about "4".

- The exact thermostat setting must be determined in accordance with the floor plan and your personal comfort.



The thermostat sensor is located at the bottom of the heater. Please note that a cold draft will adversely affect the thermostat. Such sources of interference must be eliminated; otherwise, there is no guarantee that you will be able to adjust the temperature to your satisfaction.

10.3 Electric auxiliary heating*



Ultraheat



The electric auxiliary heating (Ultraheat) operates only when the caravan is connected to the 230V mains supply.

The electric auxiliary heating is integrated in the hot-air heating system. This allows for three possible heating methods:

- just the gas heater
- gas heater + electric heater
- just the electric heater

The electric auxiliary heating allows you to heat up the vehicle more quickly. It has three power settings:

- 500 W
- 1000 W
- 2000 W



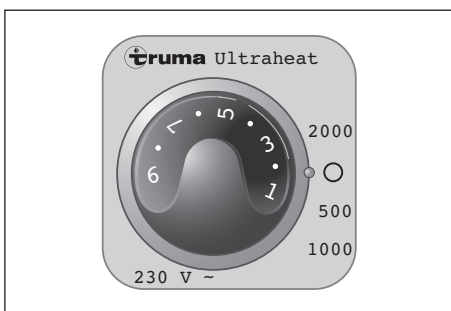
Before switching on the Ultraheat, please ensure that the fuse protection of the electrical supply at the caravan corresponds to the power setting you have selected.

The power feed lead for the caravan must be completely unwound from the cable drum.

During operation, the reflecting panel of the heater will get very hot in some places.



If you operate on electricity and gas at the same time to heat, the electric component will switch itself off to prevent the stronger gas burner from possibly overheating.



Standard rotary switch

To switch on

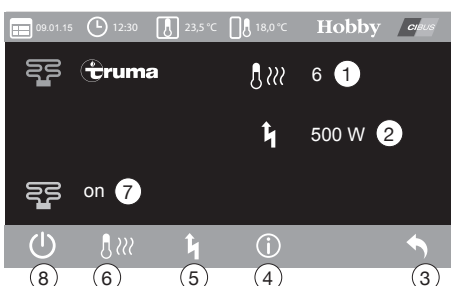
- Set the rotary switch to the desired power setting (green indicator light will light up during „Operation“).
- Set the desired room temperature using the rotary switch.

To switch off

- Use the rotary switch to turn off the heater.



To distribute hot air evenly and quickly and ensure that the surface temperature on the heater is reduced, the heater should be operated only when the circulation fan has been switched on.



Menu: TFT electric auxiliary heating

- ① Shows temperature level
- ② Shows performance level
- ③ “Back” function (to exit the menu)
- ④ Information on device manufacturer
- ⑤ Selecting the Performance level submenu
- ⑥ Selecting the Temperature level submenu
- ⑦ Shows heating in operation: on = yes; off = no
- ⑧ Heating function On/Off

10.4 Electrical floor heating*

The heating system is located in the middle walking space of the floor. It is 60 cm wide; the length depends on the type of vehicle. This heating system is not meant to heat the room; instead, it reduces the loss of heat via the floor.



To turn on the 24 V floor heating

You will find the switch on the service panel. The floor heating operates only when the caravan has been attached to a 230 V power supply.

Technical data

Voltage 24V~ from its own 230V/24V transformer.

Depending on the length of the caravan, power consumption lies between 150W and 320W.



To prevent local hot spots, do not place objects for a longer period of time on the floor if the floor heating system has been turned on. Do not drill any holes in the floor or screw in any screws.

10.5 Hot-water heating system*



Alde hot water heating system



You are not permitted to operate the hot water heater while driving.

The Compact 3020 LPG heater is a hot-water heating system which heats hot water separately (contents: 8.5 l). It is possible to heat up the heating system without filling the hot-water heater with fresh water.

Location

- In the wardrobe.

Important information

- Please read the separate operating instructions carefully before initial operation of the heating system.
- Always turn off the main switch for the heating system whenever the vehicle is not in use.
- If there is danger of frost, always drain off the fresh water in the hot-water heater (**see 8.2**).
- You may not start the heating if the device has not been filled with glycol.
- To make the best possible use of the convection principle, the air must not be prevented from circulating throughout the caravan, e.g. behind the back cushions, winter ventilation slots, in the bed frame and behind the stowage cupboards.



Installation position in the clothes cupboard



Check the amount of liquid in the expansion tank at regular intervals. When the heating is off, the liquid should be approx. 1 cm above the "Min" mark.

Modes of operation

- LPG operation
- Heating cartridge operation (230 V)
- Combined LPG and heating cartridge operation

Function modes

- Water heating
- Heating and water heating
- Heating

Operating device

When in the idle position, the device shows which heating functions have been activated; the background lighting of the display is off.

After two minutes, the operating device automatically switches from the set position to the idle position if no button has been pressed or if the idle position has been set using the arrows.



For further detailed information on operation, handling and maintaining the hot-water heating system, please refer to the separate operating instructions for "Alde Compact 3020".

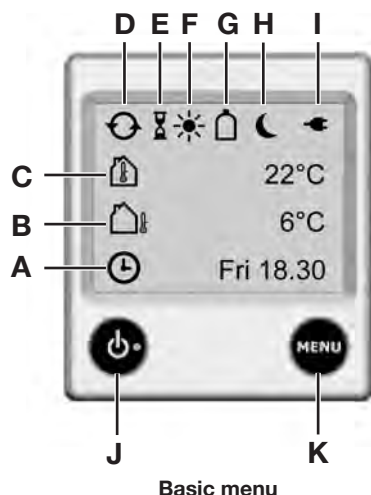
If the vehicle is equipped with a TFT control panel, the basic functions of the hot water heating system can be controlled using the panel next to the entrance (**see p. 61**).



Control panel for the hot water heating system

To start the hot water heater

To start the heating system, press the On/Off button and the start image will appear. The heater will start with the settings that were last used.



Idle position

- A. Clock.** The clock shows the date and time (when activated).
- B. *Outside temperature.** The outside temperature is displayed.
- C. Inside temperature.** The inside temperature is displayed.
- D. Circulation pump.** This icon is displayed when the circulation pump is in operation.
- E. Starting the heating system automatically.** This icon is displayed when this function has been activated.
- F. Daytime automatic system.** This icon is displayed when this function is activated.
- G. *Liquid gas bottle full/empty.** This icon is displayed when the sensor on the gas regulator of the bottle is connected and has been activated. Is a de-icer* has been installed, the icons will be displayed for the set mode together with the bottle icon.
- H. Nighttime automatic system.** This icon is displayed when this function is activated.
- I. 230 volts.** This icon is displayed when a voltage of 230 V is applied to the heating system.
- J. On/Off button.** Main switch for the heating system.
- K. MENU key.** Key for the settings menu.

The functions marked (*) are accessories. They have not been installed in every vehicle.



Settings menu

Start the settings menu by pressing the MENU key. The backlight goes on and those functions that can be set will be displayed. The control unit will switch to the idle position after 30 seconds if the screen is not operated.



Setting the desired temperature

The temperature can be set from +5 °C to +30 °C in steps of 0.5 °C.

1. The temperature shown is the temperature presently set.
2. Raise the temperature by pressing "+". Lower the temperature by pressing "-".
3. The settings are now finished and the heating will run until the set temperature has been reached.




It is not possible to set any temperature if the daytime or nighttime automatic system is in operation. The plus and minus icons are then greyed out.




Hot water

The boiler can also be used even if it has not been filled with fresh water.

- 1. No hot water.** If you do not need hot water, press "-".
(The icon  is empty).




It is not possible to make any settings for hot water if the daytime or nighttime automatic system is in operation and you have switched off the hot water. The plus and minus icons are then greyed out.

- 2. Normal operation.** If there is fresh water in the tank and you would like to have hot water, press "+".
(The icon  is half full.)



If the "Operation" function for the pump has been set to "Cont", you cannot select this.

- 3. More hot water.** Should you need more hot water, you can temporarily increase the water temperature to approx. 65 °C. Press the plus key "+".
(The icon  is full.)

After 30 minutes, the hot-water heater will switch back to normal operation. If you have selected more hot water, the circulation pump will continue to operate.



If the "Operation" function for the pump has been set to "Cont", the function "Permanent pump operation" will be disabled for 30 minutes, but then returns to permanent pump operation.

You do not need to make any settings if you only require hot water, for example in summer when no further heating is required. The heating system will control this function automatically.



Heating with electricity

Use the following procedure to activate the "Heating with electricity" function. The higher the selected output, the faster the camper will heat up.

If electricity and gas are selected together, you can set whether gas or electricity is to take priority (**see Tools menu**). The boiler uses no higher output than is required, even if 3 kW has been selected.

1. Starting and changing the different heating levels step by step (**Off, 1 kW, 2 kW or 3 kW**) with "+" or "-". The value set will be displayed on the screen. When activated, the plus icon is shown in green.
2. To switch off the electric heating operation, keep pressing the "-" key until you reach **Off**.



Heating with gas

To activate heating with gas:

If electricity and gas are selected together, you can set whether gas or electricity is to take priority (**see Tools menu**).

1. Start gas operation by pressing on the liquid gas flame. The icon for liquid gas is activated and turns green.
2. To switch off gas operation, press the liquid gas flame. The icon is now blue.

10.6 Boiler *



Boiler

The optional boiler holds approx. 14 litres of water. It heats the water electrically using an integrated heating rod. It replaces the standard Truma therme.



Before each journey, make sure the boiler has been switched off and then attach the chimney cap.

Before operating the boiler you must remove the chimney cap.

Empty the boiler if there is a danger of frost.

Never operate the boiler if it is empty.



Should you operate the cold water system without the boiler, the boiler will also be filled with water. To avoid damage due to frost, empty the contents even if the boiler has not been used.

Filling the boiler

- Shut the outlet valve on the cold water intake pipe. Set the lever in a horizontal position.
- Switch on the energy supply by pressing the main switch on the control panel.
- Open at least one faucet and leave it open until the boiler has been filled by displacing the air and the water flows.
- Shut the faucet.

Emptying the boiler

- Use the control panel to switch off the energy supply.
- Open the faucets in the kitchen and the bathroom.
- Open the outlet valve on the boiler. Set the lever in a vertical position.
- Empty the water directly outside.

Operating on electricity

- Use the control panel to switch on the boiler. The control light will shine.



When operating on electricity, it is not possible to preselect the water temperature. This is automatically set to approx. 70° C.

Switching off the boiler

- Use the rotary switch to turn off the boiler.
- Attach the chimney cap and close the emergency shutoff valve.



When operating on electricity, the boiler functions only when the caravan is connected to the 230 V mains supply.



Control panel for the boiler

10.7 Refrigerator



Dometic refrigerator SlimTower

If the external temperature is high, full refrigerating capacity can only be ensured by means of sufficient ventilation. To achieve better ventilation, ensure that the side of the camper with the refrigerator ventilator stands in the shade.



Please refer to the manufacturer's separate operating instructions before using the refrigerator.



Super SlimTower

Lock on the refrigerator door



The refrigerator door must always be kept shut and locked while driving.



Lock Dometic

Standard refrigerator

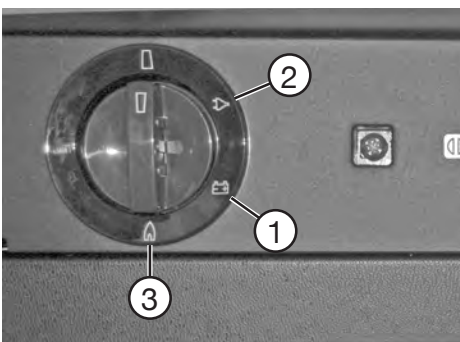
When you shut the refrigerator door and press it firmly, it will lock itself automatically.



Lock (Super) Slim Tower

(Super) Slim Tower

To close the refrigerator, pull on the handle, press against the door and then let the handle go.

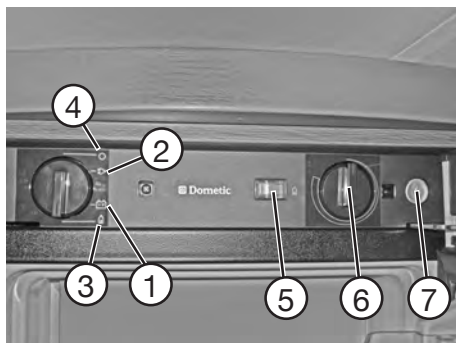


Modes for operating the refrigerator

Methods of operation

The refrigerator can be operated in three ways. The desired mode of operation is set using the energy selection switch.

- 12 V operation: electrical supply from the battery of the base vehicle ② (ignition lock on),
- 230 V operation: electrical supply from an external source ②,
- liquid gas: gas bottles from the caravan ③



Operating the refrigerator

12 V operation

12 V operation can only be used while driving, when the motor is running. When resting or if you have stopped for a longer period of time, turn off the 12 V operation and, if required, select another mode of operation.

- Set the energy selection switch to the battery symbol ①.
- 12 V operation will only work when the motor of the base vehicle is running.
- The refrigerator operates without regulating the thermostat (continuous operation). Therefore, 12 V operation should only serve to maintain the temperature that has already been reached.
- To switch off, turn the energy selection switch to 0 ④.

230 V operation

- Set the energy selection switch to mains operation ②.
- Use the thermostat ⑥ to regulate the temperature. No absolute temperature values have been assigned to the temperature levels.
- To switch off, turn the energy selection switch to 0 ④.

Gas operation

- Set the energy selection switch to gas operation ③.
- Open the main shutoff valve on the gas bottle and the gas shutoff spigot marked "refrigerator".
- Turn the thermostat ⑥ up full and keep it pressed down. The refrigerator will ignite by pressing the button for manual ignition ⑦.
- If gas operation has been activated, then the indicator in the control window will move into the green zone ⑤.
- Only release the button when the the indicator is in the green zone.
- Use the thermostat ⑥ to regulate the cooling capacity. No absolute temperature values have been assigned to the temperature levels.
- To switch off, turn the energy selection switch to 0 ④.
- Close the main shutoff valve on the gas bottle and the gas shutoff spigot marked "refrigerator".



It is not permitted to operate the refrigerator with gas

- at petrol stations
- while driving
- when transporting the caravan by means of a transport or towing vehicle.

This may cause a fire.

Storing food

- Food should always be stored in closed containers, aluminium foil or similar materials.
- Never store heated food in the refrigerator; always let it cool off first.
- Goods that might emit readily volatile or flammable gases must not be stored in the refrigerator.
- Always store perishable food directly next to the cooling fins or as close to the bottom of the refrigerator as possible.

The freezer compartment is suitable for making ice cubes or for storing frozen food for a short period of time. It is not suitable for freezing food.



It is not suitable for freezing food nor for the proper storage of medication.



Environmental conditions influence the performance of the refrigeration unit. The system reacts sluggishly to changes in the thermostat regulator, loss of cold when opening the door or storing goods. Use the winter cover if the temperature is below +10°C (Dometic accessory). If the temperature stays above +32°C, an additional fan (Dometic accessory) should be installed.

Turn on the refrigerator at least 12 hours before putting anything in it and, if possible, store only goods that have already been cooled.

Removable freezer ((Super) Slim Tower)

To make the best use of space, the freezer can be removed.



Unlocking the base of the freezer



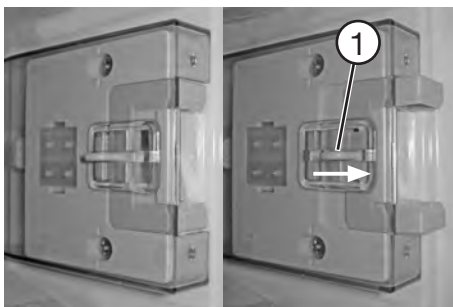
Removing the base of the freezer

To remove the freezer

- Fold down the locking clamps underneath the freezer.
- Push both clamps towards the middle.
- Pull the freezer slightly out.
- Unhinge the door.
- Remove the floor panel of the freezer.



Information on removing the freezer is also given on the freezer door.



Normal position

Ventilation position

If not in use for a longer period of time, the refrigerator should be switched to the ventilation position to prevent bad odours.

To activate the ventilation position, light press on the slider ① to pull it forwards.

10.8 Gas cooker



Combined sink and cooker

The kitchen segment of the caravan is equipped with a 3-flame gas cooker.

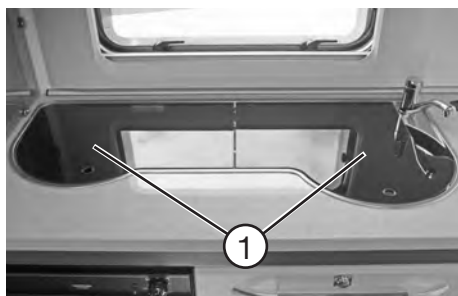
Before first use:

- Open the bottle valve and the quick-close valve in the gas line.
- The roof ventilation or the window must be open while operating the gas cooker.
- Operation handles, which must be pressed to ignite gas devices, must automatically spring back into the original position upon release.
- The sockets above the cooker may not be used when cooking. Shut the protective caps.



Cookers or other devices which use combustion air from the interior may never be used to heat the vehicle; this would cause a potentially life-threatening lack of oxygen due to carbon-monoxide build-up.

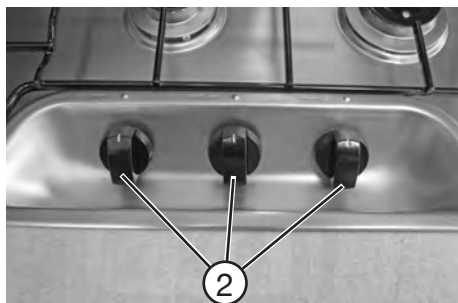
The cooker may not be used when the glass covering is still on it.



Glass cover

Operation

- Turn the faucet to the side and then open the covering ①.
- Set the turning knob ② of the desired burner in the ignition position (large flame) and press.
- The hotplates ignite automatically.
- Hold the turning knob ② in for an additional 5-10 seconds.
- Release the turning knob ② and position it to the desired setting (large or small flame).
- If the ignition is unsuccessful, repeat the process from the beginning.



Control knobs for hotplates on the gas cooker

- To switch the gas flame off, turn the adjusting knob ② back to the "0" setting.
- Close the gas cooker's gas stop valve.



Use potholders or mitts when handling hot pots, pans and similar objects. Danger of injury!



Never allow gas to escape without burning. Danger of explosion!

After cooking, leave the glass cover^① open until the burners stop giving off heat. Otherwise, the glass cover could burst.

Do not store easily inflammable objects such as dish towels, napkins, etc., near the cooker. Danger of fire!

10.9 Fume hood*



Fume hood

As an option, the kitchen can be fitted with an extractor fan. The built-in fan blows kitchen odours directly outside.



- Press the right button to turn on the fume hood. Hold the fan button firmly to select the speed of the fan from among 15 different speeds.



Control knobs for the fume hood

The kitchen light, which is operated via the control panel, can also be switched on using the left button.



Clean the filter of the fume hood regularly, as it collects the fat from kitchen odours.

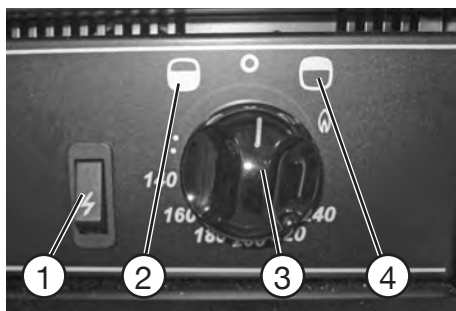
10.10 Oven *



Oven



- The ventilation openings on the oven must never be closed.
- A skylight or window must be opened when operating the oven.
- Open the shutoff valve for the oven. Should you smell gas, immediately close the valve and the gas bottles.
- The oven door must remain open while igniting the oven.
- Never operate the oven when it is empty (i.e., without food that is to be heated).
- The grill * should never be used for longer than 25 minutes and only operated when the oven door is open.
- Never use the oven to heat the caravan.
- The grill and the oven must not be operated simultaneously.
- Under no circumstances may this device be plugged into the 230V mains!
- Never operate the oven while driving!



Operating the oven

- ① Igniter
- ② Oven
- ③ Adjustable knob
- ④ Grill



Please refer to the separate manufacturer's operating manual.

Turning on the oven

- Switch on the 12 V power supply using the main switch on the control panel.
- Open the main shutoff valve on the gas bottle and the gas shutoff spigot marked "oven".
- Open the oven door completely.
- Position the baking tray or grill so that it is not in direct contact with the flame.
- Lightly press on the adjusting knob and turn it to the desired ignition position (oven or grill).
- Press the adjustable knob. Gas will flow to the burner and the ignition will light the flame.
- Keep pressing the adjustable knob for 10 seconds until the ignition safety valve keeps the gas supply open.
- Let go of the adjustable knob and turn it to the desired temperature (oven only).
- The flame must burn steadily. The colour should be mainly blue and the flame should have a clear outline.
- Turn the adjustable knob to the zero position. The flame will go out.



- If it has not ignited, repeat this procedure from step 1.
- Should the flame on the burner accidentally be extinguished, turn the switch back to the neutral position and leave the burner off for at least one minute before igniting it again.

Turning off the oven

- Turn the adjustable knob to the zero position. The flame will go out.
- Close the main shutoff valve on the gas bottle and the gas shutoff spigot marked "oven".

10.11 Microwave*



Mikrowave

The kitchen in the camper can be fitted with a 230V microwave, which is installed behind a flap or a sliding door in the kitchen wall cabinet. This device is suitable for defrosting, heating up and cooking food for your personal use.



Leave the flap or sliding door open when operating the microwave. Risk of overheating!



Operating the microwave

- ① POWER: select the cooking program
- ② DEFROST: to defrost food
- ③ DISPLAY: shows the cooking time, power and current time
- ④ Number keys 10 sec/30 sec/1 min: select the cooking time
- ⑤ START: to start the cooking or defrosting program
- ⑥ STOP/CLEAR: to stop the cooking or defrosting program
- ⑦ To open the door

Cooking

- Put the food in the microwave and shut the door.
- Press POWER ① to select the desired level ("600 W"/"500 W"/"400 W").
- Press the preset number key ④ to enter the desired cooking time.
- Press the START key ⑤ .

The microwave begins to beep when the program has finished. This will be repeated every two minutes until a key is pressed or the door is opened.



If the power levels "600 W" or "500 W" are selected, the maximum amount of cooking time is 15 minutes. If the power level "400 W" is selected, the maximum amount of cooking time is 30 minutes. Please refer to the separate operating instructions for safety instructions and detailed information on how to operate, use and care for the microwave.

10.12 Rooftop Air Conditioning *



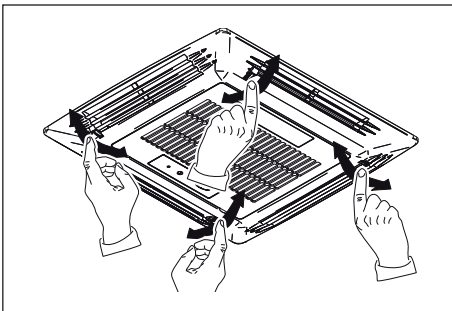
Roof air-conditioning system

The air conditioner is located instead of the roof window on the living room ceiling.

To operate the air conditioner correctly and optimize its performance, you should observe the following:



- Ensure sound thermal insulation; seal chinks and cover up glass areas.
- Avoid opening doors and windows unnecessarily.
- Do not plug or cover up air intakes and openings.
- Do not spray water into the air conditioner.
- Keep all easily inflammable material away from the system.
- Keep all doors and windows closed and only air thoroughly occasionally. When the windows are open, warm (and, therefore, humid) air will flow into the camper where it is cooled down. The resultant moisture will condense inside the camper.



Setting the direction in which the air is blown

To set the direction of ventilation

The air supply within the vehicle can be regulated by setting the air nozzles.

Accessories

Note the detailed operation instructions, installation instructions and circuit diagrams from the manufacturers when using accessories. These are located in your service package.

- Any changes to the status of the caravan as delivered by the manufacturer may endanger driving performance and roadworthiness.
- Any accessories, add-ons, modifications or mounted parts that have not been approved by HOBBY may cause damage to the vehicle and impair its roadworthiness. Even if an expertise, general type approval or design approval has been provided for these parts, this does not ensure the orderly condition of the product.
- HOBBY cannot accept liability for any damages caused by parts or changes that have not been approved by HOBBY.

The following table includes a list of weights for accessories. If these parts are carried in or on the caravan and are not included in the standard scope of delivery, they must be taken into consideration when determining the full load.

Object	Weight [kg]	Object	Weight [kg]
Chassis/Security		Living room	
Drawbar anti-theft device		Bedspread	1.50
WINTERHOFF "ROBSTOP"	3,00	Elevating table	- 13.00
Drawbar load display on front landing wheel	0.60	Fitted carpet, removable	7.00
Heavy-load supports instead of rotating stanchions	1.60	Leather interior	10.00
Increased load, Premium, 1800 kg to 2000 kg	8.80	Soft-close flaps	0.50
Increased load, single axle	- 29.00	Upholstery combination, upon request from Hobby's upholstery collection	0.00
Increased load, tandem axle	4,30		
Increased/decreased load without technical changes	0.00	Kitchen	
Light alloy rims	0.00	DOMETIC fume hood incl. Hobby's 10-step adjustment control	3.00
Light alloy spare tyre, black, polished, with AL-KO mount	28.20	Microwave	12.00
Light alloy spare tyre, black, polished, with AL-KO mount, instead of tyre repair kit	26.00	Oven (36 l) incl. light, grill and electric ignition	15.00
Spare tyre with AL-KO mount (mounted underneath the chassis)	28.20	Sleeping area	
Spare tyre with AL-KO mount, instead of tyre repair kit (mounted underneath the chassis)	26.00	7-zone memory foam mattress with spring wood frame	2.90
Spare tyre with mount, instead of tyre repair kit (in gas bottle container)	20.00	Bed expansion for seating arrangement	1.00
		Children's bunk bed, 3-storey	15.00
Superstructure		Extendable bed expansion to convert single beds to queen-sized bed	5.00
Additional service flap	0.50	Fold-away children's bed above the centre seating arrangement	25.00
Drawbar bicycle carrier for 2 bicycles	9.70	Queen-size bed, crossways in the front	8.00
External storage locker	5.00	Queen-sized bed instead of single beds with additional children's bunk bed (UKF/CKF)	15.00
THULE OMNISTOR sun awning 6200, 260 cm	23.00	Bathroom	
THULE OMNISTOR sun awning 6200, 300 cm	26.00	Clothes cupboard instead of shower	2.50
THULE OMNISTOR sun awning 6200, 350 cm	30.00	Clothes rod in shower	0.30
THULE OMNISTOR sun awning 6200, 400 cm	34.00	Insect screen for bathroom window	1.50
THULE OMNISTOR sun awning 6200, 450 cm	45.00	Shower device in external washroom	2.80
THULE OMNISTOR sun awning 9200, 500 cm	45.00		

Object	Weight [kg]	Object	Weight [kg]
Water/gas/electricity		Heating/air-conditioning	
50 litre fresh water tank (instead of 25 l fresh water tank)	28.00	ALDE hot-water heater COMPACT 3020	28.00
Cable adapter 7/13-pole for connecting cars	0.30	Floor heating up to type 540	4.00 - 6.00
Charge controller for 12 V power supply* with Booster, battery sensor, and battery container	2.80	Preparation for roof air-conditioning system	0.50
City water supply	0.50	Roof air-conditioning system	
External socket in outer tent, incl. 230 V output, SAT and TV connection / 12 V switch in the external socket in outer tent	0.40	DOMETIC FreshJet 1700 / 2200	29.00 / 30.00
Gas socket, external	1.50	TRUMA electric auxiliary heating "Ultraheat"	2.00
TFT control panel for lighting system and tank, incl. CI BUS	0.00	TRUMA hot-air system "ISOTHERM"	3.00
TFT control panel for lighting system and tank, incl. CI BUS and WLAN	0.00		
Remote control for lighting system	0.30	Multimedia	
Smoke detector	0,20	Articulated mount for TV incl. required connections (für 620 CL) and video cable (Cinch)	2.00
Self-sufficient package incl. charge controller* with Booster, battery, battery sensor, and battery container	29.00	BLAUPUNKT sound system, consisting of DVD / MP3 tuner with remote control, four loudspeakers and subwoofer	12.50
TRUMA electric boiler 14 l	15.00	Extendable shelf for flat screen TV incl. required connections (for 610 UL) and video cable (Cinch)	3.00
USB charging socket	0.00	TELECO antenna mast	0.90

12.1 Maintenance

Maintenance intervals

fixed maintenance intervals apply to the caravan and the devices installed in it.

Rules for maintenance intervals

- Have the first maintenance performed by a HOBBY dealer 12 months after the initial registration.
- Have all further maintenance performed once annually at a HOBBY dealer.
- Have all maintenance on built-in devices performed in accordance with the corresponding maintenance intervals indicated in the operating instructions.



HOBBY grants a 5-year guarantee on the absence of leaks in the caravan in accordance with the guarantee conditions.

To this end, the vehicle must be taken to your HOBBY dealer every 12 months for a chargeable inspection for leak tightness.



The inspection of the gas facilities (subject to extra cost) is to be repeated every two years by a liquid gas expert. This inspection is to be conducted and certified in accordance with the German Association of Gas and Water Experts, worksheet G 607, and EN 1949. The operator is responsible for scheduling this inspection.

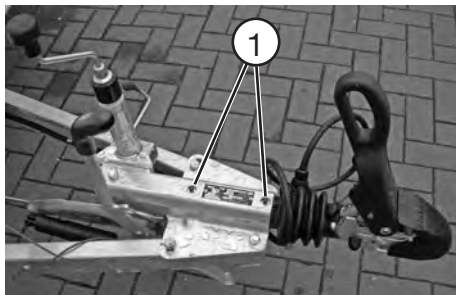
Replace safety regulator knobs and hoses after 10 years at the latest!

For safety reasons, the spare parts for a device must meet the manufacturer's requirements and be fitted either by the manufacturer themselves or one of their authorised dealers.

Hobby recommends that you contact a service partner before driving there and inquire whether they have the necessary capacity (e.g. an adequate car lift) in order to avoid any misunderstanding.

Greasing and oiling

Regularly examine and grease the sliding parts and stationary parts of the chassis. If the caravan is used seldom, yearly maintenance is required.



Bearing surfaces on the casing of the over-run coupling

Rules for greasing and oiling

- Movable parts such as pins and hinged parts on the hand brake lever and deflexion lever of the ramp should be oiled lightly.
- Lightly grease the stationary parts on the case of the overrunning equipment ① after every 5,000 kilometres of driving.
IMPORTANT: The friction elements of the WS 3000 safety hitch may NEVER be oiled or greased.
- Check from time to time to ensure that the bearing surfaces of the thrust rod are not jammed.
- Clean and oil all movable and stationary parts regularly.



For safety reasons, the spare parts for heating devices must conform with the manufacturer's instructions. They must be installed by the manufacturer or an authorised representative.



Rubber spring axles require no maintenance.

The axle(s) of the caravan is (are) fitted with compact wheel bearings. The cylinder hub, compact bearings and axle nuts form a closed unit. The compact bearings are free of maintenance due to their special grease.

You can find further guidelines in the operating instructions from the axle supplier.

12.2 Drawgear

Coupling ball on base vehicle

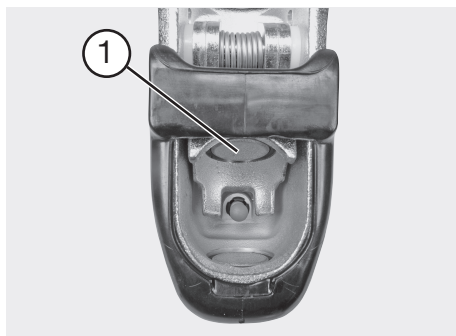
Ensure that the coupling ball meets the required dimensions and is undamaged, clean and free of grease. When using dacromet-coated (dull silver anti-corrosion coating) as well as lacquered coupling balls, the coating must be removed completely with sandpaper (200-240 grain) so that it does not create deposits on the friction lining. The metal surface of the coupling ball must be bright. A damaged or dirty coupling ball causes increased wear and tear on the friction pads; a greased coupling ball negates the stabilizing effect. Thinning solvents or spirit are both suitable for cleaning.



Ball coupling

Tension ball coupler

Keep the friction linings inside the tension ball coupler clean and free of grease (Fig. 5). When the friction linings are dirty, the surface can be cleaned with 200-240 grain sandpaper. Then clean with petroleum ether or spirit. All movable bearings and bolts are easy to grease. By regular upkeep and maintenance of your WS 3000, you increase its overall life span, function and safety.



Friction pads

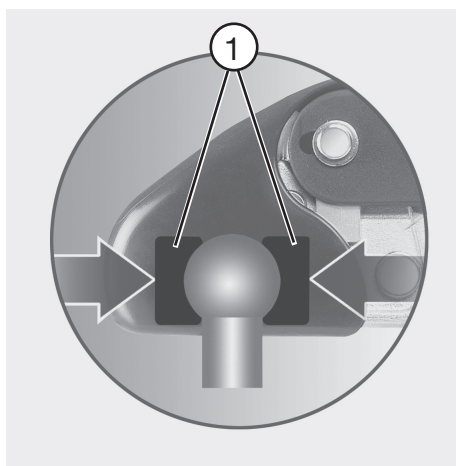


Diagram of friction pads

Changing the friction lining

It is very easy to exchange the friction pads ① when they are worn out. Messrs. Winterhoff offer a corresponding set of spare parts. Please note the detailed instructions for assembly in the manufacturer's spare part kit.

Noises

Certain noises can occur during the course of the drive; these noises, however, have no influence on the operative effectiveness of the tension ball coupler.

Possible causes of these noises can be:

1. a dacromet-coated coupling ball on the base vehicle.
2. A galvanized or varnished coupling ball on the base vehicle.
3. A damaged, rusty or dirty coupling ball on the base vehicle.
4. dirty friction elements ① on the tension ball coupler.
5. the towbar or tie rod in the linings of the overrunning equipment are running dry.

Hints

For 1., 2. and 3.:

Sand down the surfaces of the coupling ball and clean them with a thinning solvent or spirit.

for 4:

Clean the surface of the friction elements with sandpaper (200-240 grain) and then clean with petroleum ether or spirit.

for 5:

Use a lubricating nipple to grease the linings. Pull back the shock absorber and grease the bare towbar.

12.3 Brakes

Initial inspection

The wheel brakes that have been installed are drum brakes that do not adjust automatically. **(Exception: Premium)**

To ensure trouble-free brake performance, the wheel brakes must be adjusted regularly.

The brakes must first be inspected after you have driven 500 km **(including the Premium model)**. Have them inspected again after every 10,000 km of driving, but at least once every year. Inspections must be documented in the KNOTT service manual by the authorised specialist who carries out the inspection. These documented reports are just as much a prerequisite for any possible guarantee claims as is the compliance with the regulations for maintenance and upkeep.

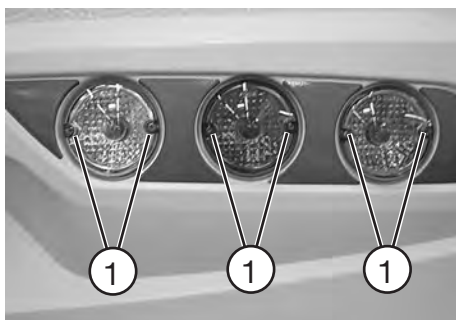
12.4 Changing the taillight bulbs

The following description for changing the rear light bulbs refers to the **ONTOUR** model.

Different rear lights are used in the Premium and Landhaus models. Unfortunately, it is not possible to replace these light bulbs easily. In this case, please speak to your dealer, who will be pleased to assist you in changing these light bulbs.



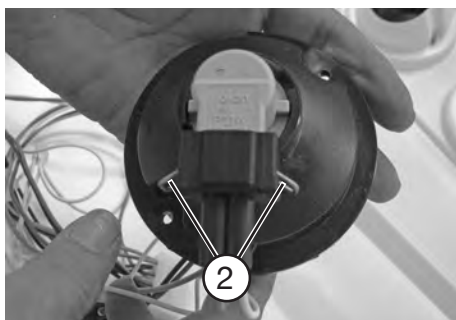
Some of the rear lights in the Premium models are fitted with LED lights, whereby each individual light has a standardised alignment. Therefore, due to the authorisation required, individual LED lights may not be changed. Should they be defect, the entire rear light must be replaced.



Loosen the screw

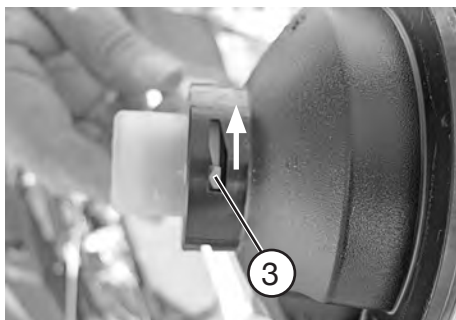
Changing the 'ONTOUR' rear light bulbs

- Unscrew the two screws ① in the defect bulb.



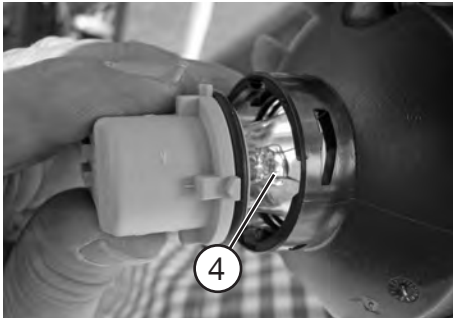
Press the clamps to release the cable

- Remove the defect lamp from the lighting support and pull out the cable by pressing the two clamps ② together.



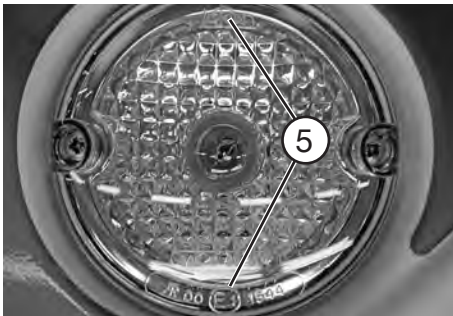
Remove the bulb from the socket

- Unscrew the light bulb from the socket by turning the pin ③ in the direction of the arrow.



Changing the bulb

- Unscrew the light bulb ④ from the socket and exchange it for a new one.

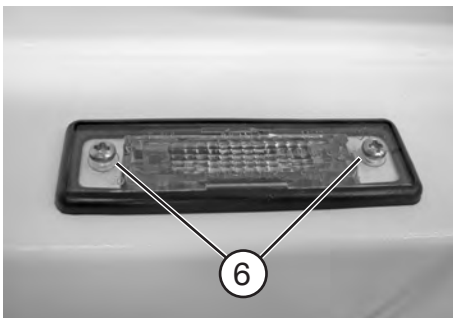


Writing on the lamp must not be upside down

- Carry out this procedure in reverse to put everything back in place, taking care to ensure that the writing on the lamp ⑤ is not upside down.



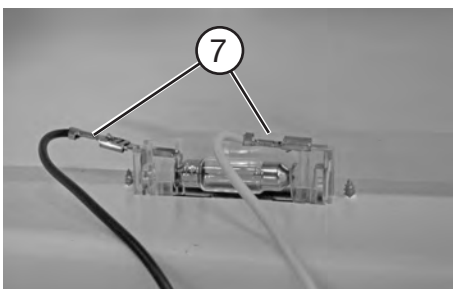
If several light bulbs have to be replaced, take care to ensure that the lamps are not accidentally switched and that everything goes back in its original place.



Registration plate light

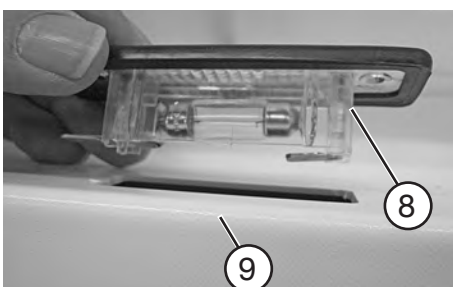
Changing the licence plate illumination

- To change the licence plate illumination, first unscrew these screws ⑥.



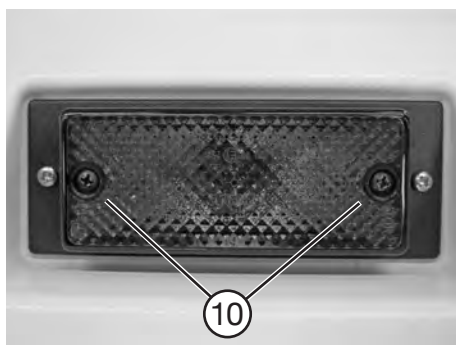
Releasing the cable

- Release the two cables ⑦ and attach them to the new light (any connection can be chosen).

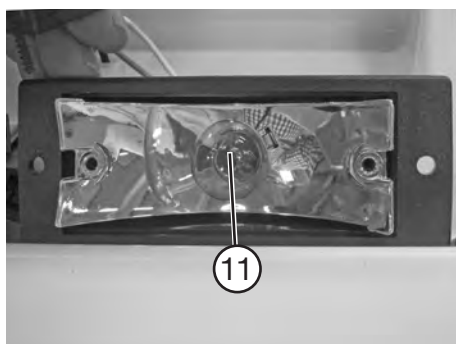


Lamp

- When putting in the new light, take care to ensure that the closed side ⑧ of the light points towards the plastic on the lighting support ⑨. Otherwise there is a danger that the plastic on the lighting support will melt when heat is generated.
- Firmly tighten the screws ⑥ to fasten the illumination securely.



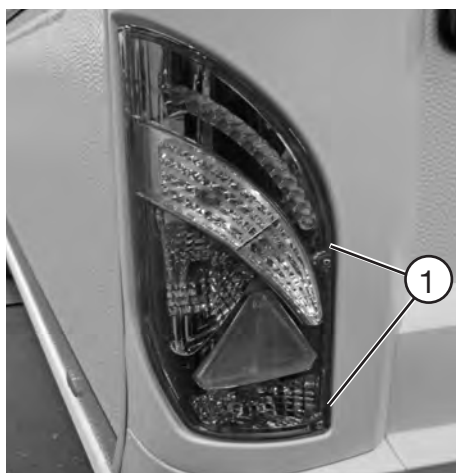
Loosen the screws



Change the bulb

ONTOUR fog tail light

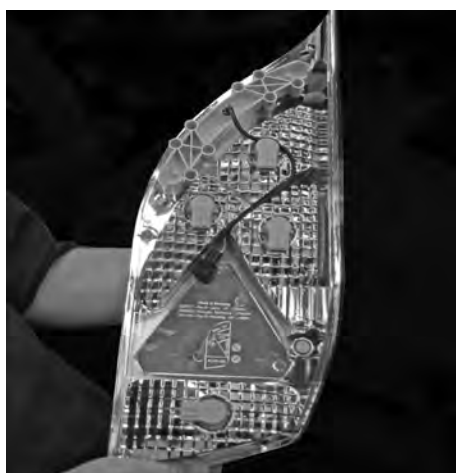
- To change the light bulb in the fog tail lamp, unscrew the two screws ⑩. Change the light bulb ⑪ and securely fasten the screws ⑩ to the cover.



Loosen the screws

Changing the rear light bulbs in the De Luxe (Edition), Excellent and Prestige models

- Remove the two screws ①



Reverse side of rear light

- Remove the rear light from the lighting beam.



Remove the bulbs from the socket

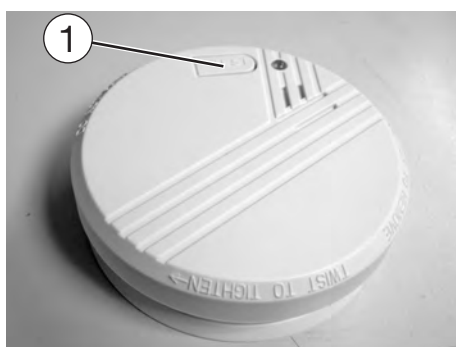
- Remove the bulb from the socket by turning it.

Carry out this procedure in reverse order to install a new bulb and replace the rear light.

Changing the battery and maintenance of the smoke detector*



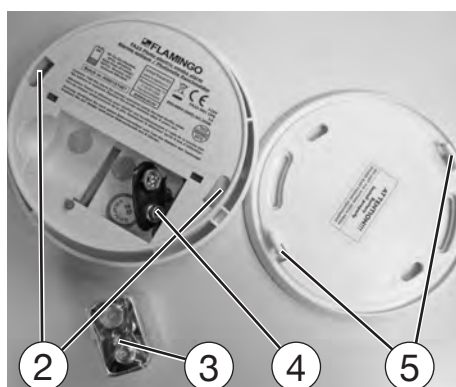
Please observe the operating instructions of the device manufacturer.



Smoke detector, closed

Maintenance

The smoke detector system does not require any maintenance. From time to time, remove the dust from the cover of the detector and ensure that the air slits are not dirty or plugged up by insects or similar objects. If necessary, the detector should be wiped off with a dry cloth and then hoovered on the outside approx. twice a year.



Smoke detector, open

- ① Test button
- ② Holes for the lock
- ③ Block battery, type 9VDC 6F22
- ④ Pins for battery contact
- ⑤ Locking pegs

Changing the battery

To ensure that the block battery continues to function correctly it must be changed regularly, but no later than when the warning signal beeps.

- Carefully turn the cover of the smoke detector counter-clockwise until it can be removed from its mount.
- Take out the used block battery and unpin it from the pins.
- Connect the new block battery to the pins, ensuring that the pins click into place on the poles of the block battery.
- Place the battery in the smoke detector's battery container.
- Place the cover of the smoke detector so that the holes for the lock are over the locking pegs. Carefully turn the cover clockwise until it locks into the mount.

Test

- Press the test button for at least 4 seconds until the alarm goes off. The alarm goes off when the electronic system is working. It will stop as soon as you let go of the test button.



Test the smoke detector every time the battery has been changed.



Batteries should never be thrown in the container for normal household waste. Always return used batteries to a shop that sells batteries or take them to a designated collection point.

12.5 Ventilation

Sufficient ventilation and de-aeration of the vehicle interior is essential to maintaining a comfortable climate. In addition, corrosion damage from sweat residue can be avoided.

Sweat residue forms most readily

- in tight spaces,
- from the breath and perspiration of the passengers,
- by carrying in damp clothing,
- Operating the gas cooker and oven*.



Ensure sufficient air circulation to prevent damage from the collection of sweat residue!

12.6 Upkeep

The following applies for their care:

- Clean plastic parts (e.g. fenders, skirts) with water of up to 60° C and mild household cleansers.
- Clean greasy or oily surfaces with spirits.



Only wash the vehicle at specially designed wash sites.

Use cleaning solvents as sparingly as possible. Aggressive cleaners such as rim cleaner pollute our environment.



Use only dishwashing liquid or commercial cleaning agents, always taking care to follow the instructions for use, and test the cleaning agent to make sure it is suitable.

Cleaning products not recommended for use:

- abrasive cleaning agents (scratch the surface)
- cleaning agents that contain acetone (immediately damage the plastic)
- dry cleaning products
- diluents
- alcohols
- aggressive or solvent-based cleaners
- cleaners from the chemical group such as ketone, ester and aromatic solvents
- aromatic hydrocarbons (e.g. all automotive fuels)

Direct contact with plastics such as PVC, soft PVC and similar products (e.g. stickers) must be avoided at all cost.

It is not possible to avoid transmitting plasticizers when solvent-based contents come into contact with the aforementioned plastics and this causes the parts to become brittle.

Cleaning the exterior

The vehicle should not be washed more often than necessary.

Rules for cleaning the exterior

- Rinse the vehicle with a light stream of water.
- Wash the vehicle with a soft sponge and commercial cleaning agents. Rinse the sponge often in the process.
- Afterwards, rinse with a great deal of water.
- Dry the vehicle with a suede cloth.
- Allow the vehicle to stand out in the open after washing to let it dry.



Thoroughly dry the light sockets, because water collects there easily.

Cleaning with a high-pressure cleaner



Labels and exterior decorations should not be sprayed directly with a high-pressure cleaner, because they may come off.

Note the instructions for the high-pressure cleaner before washing the caravan with it.

Keep a minimum distance of 700 mm between the caravan and the high-pressure nozzle.

Note that the water jet comes out of the cleaning nozzle with a great deal of pressure. Incorrect use of the high-pressure cleaner can damage the caravan. The temperature of the water must not exceed 60° C.

Keep the water jet constantly moving during the entire washing process.

The spray from the high-pressure cleaner must never be pointed directly at the cracks of the doors or windows, acrylic windows, ventilation grills in the refrigerator, service flaps, waste gas flues or skylights. This may damage the vehicle or water could get inside the vehicle.

Rules for waxing the surfaces

- Treat the paint surfaces periodically with wax. Note the guidelines for use from the wax manufacturer.

Rules for polishing surfaces

- In exceptional cases, treat damaged paint surfaces with polish. We recommend paste polishes free of solvents.



Do not polish too often since polishing removes the top layer of paint. Frequent polishing causes more damage than it remedies.

Rules for treating tar and resin stains

- Remove residues from tar and resin as well as other organic stains with petroleum ether or spirit.



Do not use aggressive solvents such as products containing esters or ketone.

Rules for damage repair

- All damage should be repaired immediately to avoid further damage from corrosion. Consult your HOBBY dealer.

Chassis

The chassis of the caravan has been specially coated. If the protective coating is damaged, repair it immediately. Coated areas should not be treated with spray oil.



The combustion air intake duct for the heating system is located underneath the floor of the vehicle. Under no circumstances may liquid sprays, underbody protection or similar products be allowed to interfere with it.

Chassis

Should salt adhere to the hot-dip galvanised chassis, it will damage it and may cause white rust. However, white rust is not a defect, but merely an optical impairment. After driving in winter or through salty water, the hot-dip galvanised surfaces should be rinsed with clear water.

Skylights, windows and doors

Panes require particularly careful treatment.

Rules for upkeep

- Rub the insulation of doors and windows lightly with talcum.
- Only clean acrylic glass window panes with a clean, moist sponge and a soft towel. Dry cleaning can scratch the panes.



Wash panes only with pure water. Never use aggressive cleaning agents that include softeners, alcohol or solvents!

Talcum is available in auto specialty stores.

Cleaning the interior



To reduce problems arising from dampness, use water sparingly when cleaning inside.

Rules for cleaning seat covers, upholstery covers and curtains

- Clean seat covers with a soft brush or vacuum cleaner.
- Have heavily soiled upholstery covers, bedspreads and curtains dry cleaned; do not wash them yourself!
- Clean with the foam of a gentle detergent if required.

Cleaning instructions for materials that contain Teflon



- Always treat spots immediately.
- Sponge spots, but do not rub them.
- Work from the edge towards the middle of the spot.
- Never use household cleaners to remove spots.
- Hoover cushions regularly to remove any dirt that may have collected.

We recommend the following methods for cleaning:

Method A:

- Use only commercial cleaning agents that have a water basis.
- Alternatively, add two tablespoons of ammonia to 1 litre. Dip a cloth into this solution and gently sponge the spot. Turn the cloth over so that you are using a clean cloth to touch the spot.

This method is particularly suitable for removing:

- wine, milk, lemonade
- blood
- biro, ink
- urine, sweat
- mud
- vomit

Method B:

- Use only mild, water-free solvents for dry cleaning.
- Dampen the cloth and proceed as described in method A.

This method is particularly suitable for removing:

- wax, candles
- pencil

Chocolate or coffee should only be washed out with luke-war water.

Rules for cleaning the carpet:

- Clean with a vacuum cleaner or brush.
- If necessary, treat or shampoo with carpet foam.

Rules for cleaning PVC surfaces:

Sand and dust can damage the surface of a PVC surface that is walked on regularly. When in use, clean the floor daily with a Hoover or broom.

- Clean the surface with a special solvent for PVC surfaces. Do not place carpets on wet PVC surfaces. Carpets and PVC surfaces could stick together.
- Never use chemical cleaners or steel wool, because they will damage the PVC surface.

Rules for furniture surfaces:

- Clean wooden furniture finishes with a moist cloth or sponge.
- Rub dry with a soft, dust-free cloth.
- Use mild furniture polish.

Rules for cleaning the toilet area:

- Clean with neutral liquid soap and a nonscouring cloth.
- Do not use a vinegar concentrate to clean the toilet and the water system or to decalcify the water system. Vinegar concentrate can damage gaskets or parts of the system.
- The rubber seals of the toilet should be cleaned regularly with plain water and a lubricant for seals (not Vaseline or any other vegetable fats) should be applied. Applying this regularly to the washer of the valve and other seals in the toilet will ensure that they stay flexible and function longer.



Do not pour corrosive cleaners down the drain. Do not pour boiling water down the drain. Corrosive cleaners and boiling water will damage the drainpipes and siphon traps.

The following applies for the sink and the cooker:

- Only clean the sink with typical household cleaners or special stainless steel cleaners.

The following applies for built-in equipment:

- Heating: remove all of the dust that has collected on the heat exchanger, base plate and fan wheel of the hot-air system at least once a year before the caravan season begins. Clean the fan wheel carefully with a brush or small scrubber.
- The glycol mixture in the hot-water heating * system should be replaced every two years, because certain properties such as protection against corrosion deteriorate.
- The space behind the refrigerator should be hoovered and cleaned regularly. The ventilation grille should also be kept clean. The door seal should be rubbed once a year with talcum powder to keep it supple and the expandable fold should be checked for tears.
- The filter in the fume hood* must be cleaned occasionally, because cooking fat collects there. We recommend that you use warm water with a bit of dishwashing liquid to clean it.



Remove all spray cans with cleaners and polishes from the vehicle after finishing the upkeep! Otherwise, there is a danger of explosion at temperatures over 50° C!

12.7 Winter Lay Up for the Caravan



For many people, the camping season ends when the temperature starts to fall. Your caravan must be properly prepared for its winter lay up.

The following general rules apply:

- Only leave your caravan in a closed space if it is dry and well-aired. Otherwise, it is better to leave your caravan in the open.
- Cover the safety coupling. Grease the brake linkage and winding stanchions.
- Jack up the caravan if possible. Extend the levelling supports to relieve the burden on wheels and axles to some extent. If possible, use axle stands to support the chassis.
- Close all gas bottles and emergency shutoff valves.
- If you use an auxiliary battery (self-sufficient package), it should be disconnected; ideally, remove it and store it safe from frost. Check it about once a month to see if it is still charged; if not, charge it.
- Leave space between tarpaulins and the camper so as not to hamper ventilation.

The following applies for the external structure:

- Wash the caravan thoroughly (see 12.6).
- Check the vehicle for damages to the varnish and other damages. If necessary, repair these damages and carry out any other necessary repairs.
- The exterior should be treated with wax or a special polish for varnish.
- Use a protective agent to protect the metal parts of the chassis against rust.
- Check the chassis for damage and, if necessary, repair it.
- Ensure that no water can get into the venting on the floor, heating system and refrigerator venting (mount winter covers*).

The following applies for tanks and containers:

- Clean, disinfect, descale and completely empty all water pipes and faucets. Leave faucets open.
- Clean the fresh water tank and empty it by unscrewing the overflow pipe.
- Clean and empty the waste water tank.
- Clean and empty the toilet flushing tank and the excrement tank. Clean the toilet valve, apply a lubricant for seals and leave it open.
- Completely empty the therme/boiler.
- If your caravan is equipped with a hotwater heater: rinse the water heater thoroughly and empty all f the water.

The following applies for the interior fittings:

- Clean the interior of your caravan. Hoover carpets, cushions and mattresses. If possible, store them outside the caravan. Otherwise, place them in such a way inside the vehicle that they do not come into contact with condensation.
- Use soapy water to clean linoleum and smooth surfaces.
- Empty and clean the refrigerator. Leave the refrigerator door in the ventilation position (see 10.6).
- After cleaning them, leave stowage spaces, cupboards, drawers and furniture flaps open to facilitate air circulation.
- Leave vents for forced ventilation open. If the caravan is kept in a closed space, you can leave the skylight open.
- Air the caravan thoroughly every four to six weeks when the weather is dry.
- Set up a dehumidifier (such as salt) inside the caravan and dry the granulate or change it regularly.
- If necessary, heat the camper to prevent the build-up of mould from condensation.
- Switch off the 12 V main switch.

12.8 Winter Operation



Camping in winter

Preparations

Your caravan has been designed to allow you to use it to a certain extent in winter. If you really wish to camp in winter, we recommend that you optimize your caravan to meet your personal requirements. Your dealer will be pleased to advise you.

The following applies for your preparations:

- Check the vehicle for damage to the paintwork or from rust and, if necessary, repair it.
- Ensure that water cannot run into the ventilation and de-aerating and heating systems.
- Use a wax-based protective agent to protect the metal parts of the undercarriage against rust.
- Preserve varnished external surfaces with suitable agents.



Please also refer to the information given by the manufacturers of built-in devices regarding winter.

The following applies for ventilation:

During operation in winter, condensation is caused when using the caravan in low temperatures. Sufficient ventilation is extremely important to ensure that the quality of the air inside the caravan is good and to avoid damages to the vehicle caused by condensation.

- Do not shut vents for forced ventilation.
- Set the heating to maximum power when heating up the caravan. Open stowage spaces, cupboards, drawers, furniture flaps, curtains, shades and plissés. This enables you to achieve optimum ventilation and de-aerating.
- Only heat the caravan when the recirculation air system is switched on.
- Every morning, air all of the cushions, mattresses and stowage spaces and dry any damp spots.
- Air thoroughly with fully opened doors and windows several times a day.
- If the outside temperature is under 8° C, winter covers* should be mounted over the ventilation grilles of the refrigerator.



If, despite all of these measures, condensation forms somewhere, simply wipe it away.

Before entering, remove the snow from your clothes and shoes to prevent an increase in humidity.

The following applies for heating:

- Both the air intake as well as the exhaust gas openings of the heating system must be kept free of snow and ice (if necessary, use flue extensions).
- It takes longer to heat up the caravan in winter, especially to heat hot water.
- Do not let the interior cool down completely when you are away or at night; set the heating to low and leave it on.
- The caravan uses considerably more gas in winter than in summer. Two 11 kg bottles of gas will be used up in just under one week.
- Therefore, should you stay longer in one place, it is worthwhile to set up an outer tent. It will help to acclimatise the caravan and keep the dirt out.



Continue to heat the vehicle while you are sleeping!

The following applies for containers:

- If the interior is sufficiently heated, the fresh water tank, water pipes and therme/boiler should not freeze. Fill all of the water containers only after the interior has been thoroughly heated.
- Since waste water is collected outside the vehicle, add antifreezer or common salt to it. The drain cock of the sewage pipe must be kept clear.
- The toilet can be used normally, even in cold weather, as long as the interior of the caravan is heated. If there is a danger of frost, both the excrement and the flushing water tanks (model-specific) should be emptied.

At the end of the winter season**The following applies for the care of the vehicle:**

- Clean the exterior and use normal car wax to preserve metal parts.
- Do not forget to remove flue extensions, cover panels on refrigerators, etc.

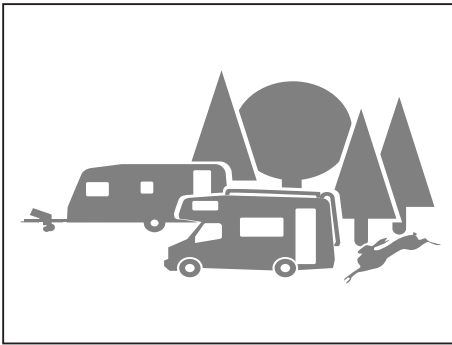
Saving energy in winter

It is very easy to save energy inside your caravan. This applies especially to heating in winter.

The following applies for saving energy:

- Meter the exact use of ventilation in the vehicle and the heating valve.
- Open the door as little and as briefly as possible.
- If you are camping in winter, attach an outer tent as protection against the cold.

13.1 The environment and mobile travel



Environmentally sound use

By nature of their activities, caravan users bear a considerable responsibility towards the environment. Therefore, you should always use your caravan in an environmentally sound manner.

Rules for environmentally sound use

- If you plan to stay longer in cities and municipalities, please park in an area that is specifically marked for trailer combinations. Find out in advance where these areas are located.
- Do not interfere with the quietude and cleanliness of nature.
- Dispose of waste water, faeces and trash properly.
- Act as a role model, so that caravans are not stereotyped as environmental polluters.

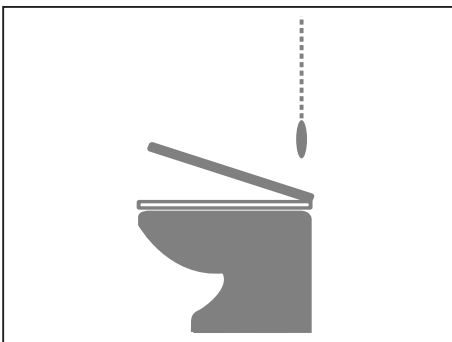


Rules for waste water disposal:

- Only collect waste water in the built-in tanks or, if absolutely necessary, in similarly suitable containers!
- Never dispose of waste water in greenery or in gullies! Street sewer lines often do not lead to waste water treatment plants.
- Empty the waste water tank as often as possible, even if it is not yet full (for hygienic reasons). If possible, rinse the waste water tank out with fresh water each time after emptying.



Only empty the faeces tank at designated sites, never out in the open! Disposal stations are typically located at highway rest stops, caravan sites or service stations.



Rules for the disposal of faeces

- Only add approved cleaners to the faeces tank.



The use of other cleaners can be avoided by the installation of an active charcoal filter system.

Apply cleaning fluid very sparingly. Excessive application does not guarantee the prevention of odour build-up!

Disposal

- Never allow the faeces tank to become too full. Empty the tank immediately, at the latest when the fill indicator lights up.
- Never dispose of waste water in gullies! Street sewer lines often do not lead to waste water treatment plants.



Only empty the faeces tank in the designated areas, not out in the open!

**Rules for trash disposal**

- Separate trash and bring recycleable materials to the appropriate collection sites.
- Empty trash containers in designated areas as often as possible. This prevents unpleasant odours and trash build-up.

Rules for rest areas

- Always keep rest areas clean, even if the mess was created by others.
- Never dispose of your household trash in the containers provided in rest areas.
- Do not let the motor of your base vehicle run unnecessarily while standing still. A cold motor causes a lot of contamination while idling. The quickest way to reach operating temperature is while driving.



The preservation of the environment is not just in the best interests of nature, but also in the best interests of all caravaners!

14.1 Chassis data

Trade name	Technical name	ONTOUR	De Luxe Edition	De Luxe	Excellent	Prestige	Premium	Landhaus	g.v.w.r. [kg]	Permitted axle load	Axle(s) ¹⁾	Wheel brake	Leading equipment	Safety coupling	Towbar
360 KB	T18B	•							1100	1100	VGB 13 M	20-2425/1	KFL 12 B	WS 3000 H45	One Piece
390 SF	P28B	•							1100	1100	VGB 13 M	20-2425/1	KFL 12 B	WS 3000 H45	One Piece
400 SFe	S15K			•					1300	1300	VGB 13 M	20-2425/1	KFL 12 B	WS 3000 H45	One Piece
440 SF	F28?		•	•					1300	1300	VGB 13 M	20-2425/1	KFL 12 B	WS 3000 H45	One Piece
455 UF	N22?			•	•				1350	1350	VGB 13 M	20-2425/1	KFL 12 B	WS 3000 H45	One Piece
460 LU	J52K			•					1350	1350	VGB 13 M	20-2425/1	KFL 12 B	WS 3000 H45	One Piece
460 UFe	C43?		•	•	•				1350	1350	VGB 13 M	20-2425/1	KFL 12 B	WS 3000 H45	One Piece
460 HL	R63B	•							1200	1200	VGB 13 M	20-2425/1	KFL 12 B	WS 3000 H45	One Piece
470 KMF	K33B	•							1300	1300	VGB 13 M	20-2425/1	KFL 12 B	WS 3000 H45	One Piece
490 KMF	A33K			•					1400	1400	VGB 15 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
495 UFe	F43K				•				1500	1500	VGB 15 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
495 UL	L24?		•	•	•	•			1500	1500	VGB 15 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
495 UL	L24H						•		1700	1700	VGB 18 MV	25-2025	KFL 20 A	WS 3000 H50	ZHL 15 A
540 UL	M24?			•	•				1500	1500	VGB 15 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
540 UFe	E43?				•	•			1500	1500	VGB 15 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
540 UFf	K40L				•				1500	1500	VGB 15 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
540 WLU	J49L				•				1500	1500	VGB 15 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
540 KMFe	P33?			•	•				1600	1600	VGB 16 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
545 KMF	R33?		•	•					1600	1600	VGB 16 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
560 UL	B24?				•	•			1600	1600	VGB 16 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
560 UL	B24H						•		1800	1800	VGB 18 MV	25-2025	KFL 20 A	WS 3000 H50	ZHL 15 A
560 KMFe	C33?		•	•	•				1700	1700	VGB 18 MV	25-2025	KFL 20 A	WS 3000 H50	ZHL 15 A
560 WLU	H49M					•			1600	1600	VGB 16 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
560 CFe	T58L				•				1600	1600	VGB 16 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
560 CFe	T58H						•		1800	1800	VGB 18 MV	25-2025	KFL 20 A	WS 3000 H50	ZHL 15 A
620 CL	S44M					•			1900	1000/1000	VGB 10 M	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 20 A
650 UMFe	E25M					•			1900	1000/1000	VGB 10 M	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 20 A
650 KMFe	B33K			•					1900	1000/1000	VGB 10 M	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 20 A
650 KFU	C46M					•			1900	1000/1000	VGB 10 M	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 20 A
650 UFf	J40H						•		2000	1100/1100	VGB 11 M	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 20 A
650 UKFe	R45H						•		2000	1100/1100	VGB 11 M	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 20 A
660 VIP	N57L				•				1900	1000/1000	VGB 10 M	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 20 A
660 WFU	P50M					•			1900	1000/1000	VGB 10 M	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 20 A
660 WFU	P50H						•		2000	1100/1100	VGB 11 M	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 20 A
690 VIP	N57L				•				2200	1200/1200	VGB 13 M	20-2425/1	KFL 27 A	WS 3000 D50	ZHL 27 C1
720 UKFe	G45M					•			2200	1200/1200	VGB 13 M	20-2425/1	KFL 27 A	WS 3000 D50	ZHL 27 C1
720 UML	D26M					•			2200	1200/1200	VGB 13 M	20-2425/1	KFL 27 A	WS 3000 D50	ZHL 27 C1
720 KFU	M46M					•			2200	1200/1200	VGB 13 M	20-2425/1	KFL 27 A	WS 3000 D50	ZHL 27 C1
770 CL	S44E						•		2300	1200/1200	VGB 13 M	20-2425/1	KFL 27 A	WS 3000 D50	ZHL 27 C1
770 CFf	T60E						•		2300	1200/1200	VGB 13 M	20-2425/1	KFL 27 A	WS 3000 D50	ZHL 27 C1

¹⁾The tandem axle was converted from VGB to DB axles this season.

14. Technical data

Size	Rims Wheel mounting	Model	Tyre size	Floor length	Total width	Track	Dis- tance towbar	Length of caravan	Length	Total length
5½ J x 14	5/112, ET 30	Steel	195/70 R 14 XL	3890	2100	1850	3677	4296	4565	5972
5½ J x 14	5/112, ET 30	Steel	195/70 R 14 XL	4018	2100	1850	3699	4424	4693	6100
5½ J x 14	5/112, ET 30	Steel	195/70 R 14 XL	3857	2300	2050	3637	4296	4785	5972
5½ J x 14	5/112, ET 30	Steel	195/70 R 14 XL	4033	2300	2050	3710	4472	4961	6138
5½ J x 14	5/112, ET 30	Steel	195/70 R 14 XL	4372	2300	2050	3814	4811	5300	6477
5½ J x 14	5/112, ET 30	Steel	195/70 R 14 XL	4644	2300	2050	4025	5083	5572	6749
5½ J x 14	5/112, ET 30	Steel	195/70 R 14 XL	4522	2300	2050	3891	4961	5450	6627
5½ J x 14	5/112, ET 30	Steel	195/70 R 14 XL	4669	2100	1850	4099	5075	5344	6751
5½ J x 14	5/112, ET 30	Steel	195/70 R 14 XL	4750	2200	1950	4088	5156	5425	6832
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	4766	2300	2050	4109	5205	5694	6886
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	4648	2300	2050	3981	5087	5576	6768
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	5005	2300	2050	4201	5444	5933	7125
6 J x 15	5/112, ET 30	OJ 15/5	195/70 R 15 C	5293	2300	2050	4468	5562	6434	7630
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	5171	2300	2050	4269	5610	6099	7291
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	5152	2300	2050	4193	5591	6080	7272
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	5223	2300	2050	4348	5662	6151	7343
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	5152	2300	2050	4207	5591	6080	7272
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	5323	2300	2050	4269	5762	6251	7443
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	5323	2500	2250	4407	5762	6254	7423
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	5411	2500	2250	4356	5850	6342	7511
6 J x 14	5/112, ET 30	OJ 14/5	195 R 14 C	5696	2500	2250	4591	5965	6843	8016
5½ J x 15	5/112, ET 30	Steel	195/70 R 15 C	5411	2500	2250	4336	5850	6342	7511
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	5411	2500	2250	4329	5850	6342	7511
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	5411	2500	2250	4289	5850	6342	7511
6 J x 14	5/112, ET 30	OJ 14/5	195 R 14 C	5696	2500	2250	4539	5965	6843	8016
4½ J x 13	4/100, ET 30	Steel	155/80 R 13 XL	5923	2500	2250	4287	6362	6854	8023
4½ J x 13	4/100, ET 30	Steel	155/80 R 13 XL	6223	2500	2250	4387	6662	7154	8323
4½ J x 13	4/100, ET 30	Steel	155/80 R 13 XL	6223	2500	2250	4387	6662	7154	8323
4½ J x 13	4/100, ET 30	Steel	155/80 R 13 XL	6273	2500	2250	4462	6712	7204	8373
5 J x 13	4/100, ET 30	OJ13/4	165 R 13 C	6508	2500	2250	4712	6777	7655	8828
5 J x 13	4/100, ET 30	OJ13/4	165 R 13 C	6559	2500	2250	4623	6828	7706	8879
5 J x 13	4/100, ET 30	OJ13/4	165 R 13 C	6223	2500	2250	4382	6662	7154	8323
4½ J x 13	4/100, ET 30	Steel	155/80 R 13 XL	6223	2500	2250	4460	6662	7154	8323
5 J x 13	4/100, ET 30	OJ13/4	165 R 13 C	6545	2500	2250	4757	6814	7692	8865
5 J x 13	4/100, ET 30	OJ13/4	165 R 13 C	6923	2500	2250	4740	7362	7854	9040
4½ J x 13	4/100, ET 30	Steel	165 R 13 C	6923	2500	2250	4774	7362	7854	9028
4½ J x 13	4/100, ET 30	Steel	165 R 13 C	6923	2500	2250	4725	7362	7854	9040
4½ J x 13	4/100, ET 30	Steel	165 R 13 C	6923	2500	2250	4740	7362	7854	9040
4½ J x 13	4/100, ET 30	Steel	165 R 13 C	7578	2500	2250	4625	7758	---	9136
4½ J x 13	4/100, ET 30	Steel	165 R 13 C	7578	2500	2250	4625	7758	---	9136

14.2 Possibilities for increasing loads

Basic version

Trade name	Technical name	ONTOUR	De Luxe Edition	De Luxe	Excellent	Presige	Premium	Landhaus	g.v.w.r. [kg]	Axle load [kg]	Axle	Tyres	Brakes	Leading equipment	Forked drawbar
360 KB	T18B	•							1100	1100	VGB 13 M	195/70 R 14 XL LI 96	20-2425/1	KFL 12 B	One-Piece
390 SF	P28B	•							1100	1100	VGB 13 M	195/70 R 14 XL LI 96	20-2425/1	KFL 12 B	One-Piece
400 SFe	S15K			•					1300	1300	VGB 13 M	195/70 R 14 XL LI 96	20-2425/1	KFL 12 B	One-Piece
440 SF	F28?		•	•					1300	1300	VGB 13 M	195/70 R 14 XL LI 96	20-2425/1	KFL 12 B	One-Piece
455 UF	N22?			•	•				1350	1350	VGB 13 M	195/70 R 14 XL LI 96	20-2425/1	KFL 12 B	One-Piece
460 LU	J52K			•					1350	1350	VGB 13 M	195/70 R 14 XL LI 96	20-2425/1	KFL 12 B	One-Piece
460 UFe	C43?		•	•	•				1350	1350	VGB 13 M	195/70 R 14 XL LI 96	20-2425/1	KFL 12 B	One-Piece
460 HL	R63B	•							1200	1200	VGB 13 M	195/70 R 14 XL LI 96	20-2425/1	KFL 12 B	One-Piece
470 KMF	K33B	•							1300	1300	VGB 13 M	195/70 R 14 XL LI 96	20-2425/1	KFL 12 B	One-Piece
490 KMF	A33K			•					1400	1400	VGB 15 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
				•											
				•											
495 UFe	F43K				•				1500	1500	VGB 15 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
					•										
495 UL	L24H						•		1700	1700	VGB 18 MV	195/70 R 15 C LI 104	25-2025	KFL 20 A	ZHL 15 A
495 UL	L24?		•	•	•	•			1500	1500	VGB 15 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
	L24?		•	•	•	•									
540 UL	M24?			•	•				1500	1500	VGB 15 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
	M24?			•	•										
540 UFe	E43?				•	•			1500	1500	VGB 15 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
	E43?				•	•									
540 Uff	K40L				•				1500	1500	VGB 15 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
	K40L				•										
540 WLU	J49L				•				1500	1500	VGB 15 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
	J49L				•										
540 KMFe	P33?			•	•				1600	1600	VGB 16 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
545 KMF	R33K		•	•					1600	1600	VGB 16 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
560 UL	B24?				•	•			1600	1600	VGB 16 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
560 UL	B24H						•		1800	1800	VGB 18 MV	195 R 14 C LI 106	25-2025	KFL 20 A	ZHL 15 A
560 KMFe	C33?		•	•	•				1700	1700	VGB 18 MV	195/70 R 15 C LI 104	25-2025	KFL 20 A	ZHL 15 A
560 WLU	H49M					•			1600	1600	VGB 16 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
560 CFe	T58?				•				1600	1600	VGB 16 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
560 CFe	T58H						•		1800	1800	VGB 18 MV	195 R 14 C LI 106	25-2025	KFL 20 A	ZHL 15 A
620 CL	S44M					•			1900	1000/1000	VGB 10 M	155/80 R 13 XL LI 84	20-2425/1	KFL 20 A	ZHL 20 A
	S44M					•									
650 UMFe	E25M					•			1900	1000/1000	VGB 10 M	155/80 R 13 XL LI 84	20-2425/1	KFL 20 A	ZHL 20 A
	E25M					•									
650 KMFe	B33K			•					1900	1000/1000	VGB 10 M	155/80 R 13 XL LI 84	20-2425/1	KFL 20 A	ZHL 20 A
	B33K			•											

Maximum increased load

g.v.w.r. [kg]	Axle load [kg]	Axle New !	Additional rear crossbar	Wheels New !	Brakes New !	Leading equipment	Forked drawbar New !	Weight
1350	1350	no	no	no	no	no	no	0,0
1350	1350	no	no	no	no	no	no	0,0
1500	1500	VGB 15 MV	201.340.001	185 R 14 C LI 102	no	KFL 20 A	no	11,7
1500	1500	VGB 15 MV	201.340.001	185 R 14 C LI 102	no	KFL 20 A	no	11,7
1500	1500	VGB 15 MV	201.340.001	185 R 14 C LI 102	no	KFL 20 A	no	11,7
1500	1500	VGB 15 MV	201.340.001	185 R 14 C LI 102	no	KFL 20 A	no	11,7
1500	1500	VGB 15 MV	201.340.001	185 R 14 C LI 102	no	KFL 20 A	no	11,7
1350	1350	no	no	no	no	no	no	0,0
1500	1500	VGB 15 MV	no	185 R 14 C LI 102	no	KFL 20 A	no	9,7
1500	1500	no	no	no	no	no	no	0
1600	1600	VGB 16 MV	no	no	no	no	no	0
1750	1750	VGB 18 MV	34 1462 93 03	195/70 R 15 C LI 104	25-2025	no	no	29
1600	1600	VGB 16 MV	no	no	no	no	no	0
1750	1750	VGB 18 MV	34 1462 93 03	195/70 R 15 C LI 104	25-2025	no	no	29
1750	1750	no	no	no	no	no	no	0
1600	1600	VGB 16 MV	no	no	no	no	no	0
1750	1750	VGB 18 MV	34 1462 93 03	195/70 R 15 C LI 104	25-2025	no	no	29
1600	1600	VGB 16 MV	no	no	no	no	no	0
1750	1750	VGB 18 MV	34 1462 93 03	195/70 R 15 C LI 104	25-2025	no	no	29
1600	1600	VGB 16 MV	no	no	no	no	no	0
1750	1750	VGB 18 MV	34 1462 93 03	195/70 R 15 C LI 104	25-2025	no	no	29
1600	1600	VGB 16 MV	no	no	no	no	no	0
1750	1750	VGB 18 MV	34 1462 93 03	195/70 R 15 C LI 104	25-2025	no	no	29
1750	1750	VGB 18 MV	34 1462 93 03	195/70 R 15 C LI 104	25-2025	no	no	29
1750	1750	VGB 18 MV	no	195/70 R 15 C LI 104	25-2025	no	no	26
1750	1750	VGB 18 MV	no	195/70 R 15 C LI 104	25-2025	no	no	26
2000	2000	DB 20 MV	no	225/70 R 15 C LI 112	no	no	ZHL 20 A	7,3
1750	1750	no	no	no	no	no	no	0
1750	1750	VGB 18 MV	no	195/70 R 15 C LI 104	25-2025	no	no	26
1750	1750	VGB 18 MV	no	195/70 R 15 C LI 104	25-2025	no	no	26
2000	2000	DB 20 MV	no	225/70 R 15 C LI 112	no	no	ZHL 20 A	7,3
2000	1100/1100	VGB 11 M	no	165 R 13 C LI 91	no	no	no	4,0
2200	1200/1200	VGB 13 M	no	165 R 13 C LI 91	no	KFL 27 A	no	4,3
2000	1100/1100	VGB 11 M	no	165 R 13 C LI 91	no	no	no	4,0
2200	1200/1200	VGB 13 M	no	165 R 13 C LI 91	no	KFL 27 A	no	4,3
2000	1100/1100	VGB 11 M	no	165 R 13 C LI 91	no	no	no	4,0
2200	1200/1200	VGB 13 M	no	165 R 13 C LI 91	no	KFL 27 A	no	4,3

Basic version

Trade name	Technical name	ONTOUR	De Luxe Edition	De Luxe	Excellent	Presige	Premium	Landhaus	g.v.w.r. [kg]	Axle load [kg]	Axle	Tyres	Brakes	Leading equipment	Forked drawbar
650 KFU	C46M					•			1900	1000/1000	VGB 10 M	155/80 R 13 XL LI 84	20-2425/1	KFL 20 A	ZHL 20 A
	C46M					•									
650 UFf	J40H						•		2000	1100/1100	VGB 11 M	165 R 13 C LI 91	20-2425/1	KFL 20 A	ZHL 20 A
650 UKFe	R45H						•		2000	1100/1100	VGB 11 M	165 R 13 C LI 91	20-2425/1	KFL 20 A	ZHL 20 A
660 VIP	N57L				•				1900	1000/1000	VGB 10 M	165 R 13 C LI 91	20-2425/1	KFL 20 A	ZHL 20 A
	N57L				•										
660 WFU	P50M					•			1900	1000/1000	VGB 10 M	155/80 R 13 XL LI 84	20-2425/1	KFL 20 A	ZHL 20 A
	P50M					•									
660 WFU	P50H						•		2000	1100/1100	VGB 11 M	165 R 13 C LI 91	20-2425/1	KFL 20 A	ZHL 20 A
690 VIP	N57L				•				2200	1200/1200	VGB 13 M	165 R 13 C LI 91	20-2425/1	KFL 27 A	ZHL 27 C1
720 UKFe	G45M					•			2200	1200/1200	VGB 13 M	165 R 13 C LI 91	20-2425/1	KFL 27 A	ZHL 27 C1
720 UML	D26M					•			2200	1200/1200	VGB 13 M	165 R 13 C LI 91	20-2425/1	KFL 27 A	ZHL 27 C1
720 KFU	M46M					•			2200	1200/1200	VGB 13 M	165 R 13 C LI 91	20-2425/1	KFL 27 A	ZHL 27 C1
770 CL	S44E							•	2300	1200/1200	VGB 13 M	165 R 13 C LI 91	20-2425/1	KFL 27 A	ZHL 27 C1
770 CFf	T60E							•	2300	1200/1200	VGB 13 M	165 R 13 C LI 91	20-2425/1	KFL 27 A	ZHL 27 C1

Maximum increased load

g.v.w.r. [kg]	Axle load [kg]	Axle New !	Additional rear crossbar	Wheels New !	Brakes New !	Leading equipment	Forked drawbar New !	Weight
2000	1100/1100	VGB 11 M	no	165 R 13 C LI 91	no	no	no	4,0
2200	1200/1200	VGB 13 M	no	165 R 13 C LI 91	no	KFL 27 A	no	4,3
2200	1200/1200	VGB 13 M	no	no	no	KFL 27 A	no	0,3
2200	1200/1200	VGB 13 M	no	no	no	KFL 27 A	no	0,3
2000	1100/1100	VGB 11 M	no	no	no	no	no	4,0
2200	1200/1200	VGB 13 M	no	165 R 13 C LI 91	no	KFL 27 A	no	4,3
2000	1100/1100	VGB 11 M	no	165 R 13 C LI 91	no	no	no	4,0
2200	1200/1200	VGB 13 M	no	165 R 13 C LI 91	no	KFL 27 A	no	4,3
2200	1200/1200	VGB 13 M	no	no	no	KFL 27 A	no	0,3
2500	1300/1300	no	no	165 R 13 C LI 93	no	no	ZHL 27 C	1,8
2500	1300/1300	no	no	165 R 13 C LI 93	no	no	ZHL 27 C	1,8
2500	1300/1300	no	no	165 R 13 C LI 93	no	no	ZHL 27 C	1,8
2500	1300/1300	no	no	165 R 13 C LI 93	no	no	ZHL 27 C	1,8
2500	1300/1300	no	no	165 R 13 C LI 93	no	no	ZHL 27 C	1,8
2500	1300/1300	no	no	165 R 13 C LI 93	no	no	ZHL 27 C	1,8

14.3 Weights of the vehicles

Type	Weight empty [kg]	Basic equipment [kg]	Mass in running order [kg]	g.v.w.r. [kg]	Add. load [kg]
360 KB ONTOUR	905	62	967	1100	134
390 SF ONTOUR	910	62	972	1100	129
460 HL ONTOUR	1026	62	1088	1200	113
470 KMF ONTOUR	1050	47	1097	1300	204
440 SF de Luxe Edition	1047	62	1109	1300	192
460 UFe de Luxe Edition	1148	62	1210	1350	141
495 UL de Luxe Edition	1220	62	1282	1500	219
545 KMF de Luxe Edition	1365	72	1437	1600	164
560 KMFe de Luxe Edition	1416	87	1503	1700	198
400 SFe de Luxe	1028	62	1090	1300	211
440 SF de Luxe	1045	62	1107	1300	194
455 UF de Luxe	1065	62	1127	1350	224
460 LU de Luxe	1118	62	1180	1350	171
460 UFe de Luxe	1145	62	1207	1350	144
490 KMF de Luxe	1164	62	1226	1400	175
495 UL de Luxe	1218	62	1280	1500	221
540 UL de Luxe	1252	87	1339	1500	162
540 KMFe de Luxe	1286	87	1373	1600	228
545 KMF de Luxe	1364	72	1436	1600	165
560 KMFe de Luxe	1414	87	1501	1700	200
650 KMFe de Luxe	1546	87	1633	1900	268
455 UF Excellent	1070	62	1132	1350	219
460 UFe Excellent	1152	62	1214	1350	137
495 UFe Excellent	1206	62	1268	1500	233
495 UL Excellent	1219	62	1281	1500	220
540 UL Excellent	1262	87	1349	1500	152
540 UFe Excellent	1280	87	1367	1500	134
540 UFf Excellent	1250	87	1337	1500	164
540 WLU Excellent	1287	72	1359	1500	142
540 KMFe Excellent	1290	87	1377	1600	224
560 UL Excellent	1381	87	1468	1600	133
560 KMFe Excellent	1415	87	1502	1700	199
560 CFe Excellent	1378	87	1465	1600	136
660 VIP Excellent	1600	87	1687	1900	214
690 VIP Excellent	1790	87	1877	2200	324
495 UL Prestige	1226	62	1288	1500	213
540 UFe Prestige	1292	87	1379	1500	122
560 UL Prestige	1390	87	1477	1600	124
560 WLU Prestige	1388	72	1460	1600	141
620 CL Prestige	1561	87	1648	1900	253
650 UMFe Prestige	1575	87	1662	1900	239
650 KFU Prestige	1617	87	1704	1900	197
660 WFU Prestige	1613	72	1685	1900	216

Type	Weight empty [kg]	Basic equipment [kg]	Mass in running order [kg]	g.v.w.r. [kg]	Add. load [kg]
720 UKFe Prestige	1806	87	1893	2200	308
720 UML Prestige	1751	87	1838	2200	363
720 KFU Prestige	1835	72	1907	2200	294
495 UL Premium	1338	62	1400	1700	301
560 UL Premium	1486	87	1573	1800	228
560 CFe Premium	1501	87	1588	1800	213
650 UFF Premium	1620	87	1707	2000	294
650 UKFe Premium	1684	87	1771	2000	230
650 VIP Premium	1697	87	1784	2000	217
660 WFU Premium	1667	72	1739	2000	262
770 CFf Landhaus	1841	72	1913	2300	388
770 CL Landhaus	1875	72	1947	2300	354

14.4 Tyres and Rims

Standard version								Metal wheel rims for the standard version			Light alloy rims for the standard version							
Trade name	Technical name	ONTOUR	De Luxe Edition	De Luxe	Excellent	Presige	Premium	Landhaus	g.v.w.r. [kg]	Axle load [kg]	Metal wheel rim	Tyre size	Air pressure (bar)	Light alloy rim, size	Light alloy rim, marking	Light alloy rim, colour	Tyre size	Air pressure (bar)
360 KB	T18B	•							1100	1100	5½ x 14	195/70 R 14 XL LI 96	3,2	6 x 14	OJ14/5	silver	195/70 R 14 C LI 101	4,5
390 SF	P28B	•							1100	1100	5½ x 14	195/70 R 14 XL LI 96	3,2	6 x 14	OJ14/5	silver	195/70 R 14 C LI 101	4,5
400 SFe	S15K			•					1300	1300	5½ x 14	195/70 R 14 XL LI 96	3,2	6 x 14	OJ14/5	silver	195/70 R 14 C LI 101	4,5
440 SF	F28?		•	•					1300	1300	5½ x 14	195/70 R 14 XL LI 96	3,2	6 x 14	OJ14/5	silver	195/70 R 14 C LI 101	4,5
455 UF	N22?			•	•				1350	1350	5½ x 14	195/70 R 14 XL LI 96	3,2	6 x 14	OJ14/5	silver	195/70 R 14 C LI 101	4,5
460 LU	J52K			•					1350	1350	5½ x 14	195/70 R 14 XL LI 96	3,2	6 x 14	OJ14/5	silver	195/70 R 14 C LI 101	4,5
460 UFe	C43?		•	•	•				1350	1350	5½ x 14	195/70 R 14 XL LI 96	3,2	6 x 14	OJ14/5	silver	195/70 R 14 C LI 101	4,5
460 HL	R63B	•							1200	1200	5½ x 14	195/70 R 14 XL LI 96	3,2	6 x 14	OJ14/5	silver	195/70 R 14 C LI 101	4,5
470 KMF	K33B	•							1300	1300	5½ x 14	195/70 R 14 XL LI 96	3,2	6 x 14	OJ14/5	silver	195/70 R 14 C LI 101	4,5
490 KMF	A33K			•					1400	1400	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
				•														
495 UFe	F43K				•				1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
					•													
495 UL	L24?		•	•	•	•			1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
			•	•	•	•												
495 UL	L24H						•		1700	1700	Light alloy rims are part of the standard equipment			6 x 15	OJ 15/5	black	195/70 R 15 C LI 104	4,5
540 UL	M24?			•	•				1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
				•	•													
540 UFe	E43?				•	•			1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
					•	•												
540 Uff	K40L				•				1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
					•													
540 WLU	J49L				•				1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
					•													
540 KMFe	P33?			•	•				1600	1600	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
545 KMF	R33?		•	•					1600	1600	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
560 UL	B24?				•	•			1600	1600	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
560 UL	B24H						•		1800	1800	Light alloy rims are part of the standard equipment			6 x 14	OJ 14/5	black	195 R 14 C LI 106	4,5
560 KMFe	C33?		•	•	•				1700	1700	5½ x 15	195/70 R 15 C LI 104	4,5	6 x 15	OJ15/5	silver	195/70 R 15 C LI 104	4,5
560 WLU	H49M					•			1600	1600	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
560 CFe	T58L				•				1600	1600	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
560 CFe	T58H						•		1800	1800	Light alloy rims are part of the standard equipment			6 x 14	OJ 14/5	black	195 R 14 C LI 106	4,5
620 CL	S44M					•			1900	1000/1000	4½ x 13	155/80 R 13 XL LI 84	3,3	5 x 13	TR1 503	silver	165 R 13 C LI 91	3,8
						•												
650 UMFe	E25?					•			1900	1000/1000	4½ x 13	155/80 R 13 XL LI 84	3,3	5 x 13	TR1 503	silver	165 R 13 C LI 91	3,8
						•												

Metal wheel rim: tightening torque 10 Nm Light alloy rim: tightening torque 120 Nm

Tyre bolts: retainer for all 13" + 14" metal wheel rims and all light alloy rims (incl. 15"): cone washer
retainer for all 15" metal wheel rims: SPHERICAL WHEEL BOLT

Max. increase (for increased load)		Metal wheel rims for increased load			Light alloy rims for increased load				
g.v.w.r. [kg]	Axle load [kg]	Metal wheel rim	Tyre size	Air pre- ssure (bar)	Light alloy rim, size	Light alloy rim, marking	Light alloy rim, colour	Tyre size	Air pres- sure (bar)
1350	1350	5½ x 14	195/70 R 14 XL LI 96	3,2	6 x 14	OJ14/5	silver	195/70 R 14 C LI 101	4,5
1350	1350	5½ x 14	195/70 R 14 XL LI 96	3,2	6 x 14	OJ14/5	silver	195/70 R 14 C LI 101	4,5
1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
1350	1350	5½ x 14	195/70 R 14 XL LI 96	3,2	6 x 14	OJ14/5	silver	195/70 R 14 C LI 101	4,5
1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
1750	1750	5½ x 15	195/70 R 15 C LI 104	4,5	6 x 15	OJ15/5	silver	195/70 R 15 C LI 104	4,5
1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
1750	1750	5½ x 15	195/70 R 15 C LI 104	4,5	6 x 15	OJ15/5	silver	195/70 R 15 C LI 104	4,5
1600	1600	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
1750	1750	5½ x 15	195/70 R 15 C LI 104	4,5	6 x 15	OJ15/5	silver	195/70 R 15 C LI 104	4,5
1750	1750	Light alloy rims are part of the standard equipment			6 x 15	OJ15/5	black	195/70 R 15 C LI 104	4,5
1600	1600	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
1750	1750	5½ x 15	195/70 R 15 C LI 104	4,5	6 x 15	OJ15/5	silver	195/70 R 15 C LI 104	4,5
1600	1600	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
1750	1750	5½ x 15	195/70 R 15 C LI 104	4,5	6 x 15	OJ15/5	silver	195/70 R 15 C LI 104	4,5
1600	1600	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
1750	1750	5½ x 15	195/70 R 15 C LI 104	4,5	6 x 15	OJ15/5	silver	195/70 R 15 C LI 104	4,5
1600	1600	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
1750	1750	5½ x 15	195/70 R 15 C LI 104	4,5	6 x 15	OJ15/5	silver	195/70 R 15 C LI 104	4,5
1600	1600	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	OJ14/5	silver	185 R 14 C LI 102	4,5
1750	1750	5½ x 15	195/70 R 15 C LI 104	4,5	6 x 15	OJ15/5	silver	195/70 R 15 C LI 104	4,5
1750	1750	5½ x 15	195/70 R 15 C LI 104	4,5	6 x 15	OJ15/5	silver	195/70 R 15 C LI 104	4,5
1750	1750	5½ x 15	195/70 R 15 C LI 104	4,5	6 x 15	OJ15/5	silver	195/70 R 15 C LI 104	4,5
2000	2000	Light alloy rims are part of the standard equipment			6 x 15	OJ15/5	black	225/70 R 15 C LI 112	4,5
1750	1750	5½ x 15	195/70 R 15 C LI 104	4,5	6 x 15	OJ15/5	silver	195/70 R 15 C LI 104	4,5
1750	1750	5½ x 15	195/70 R 15 C LI 104	4,5	6 x 15	OJ15/5	silver	195/70 R 15 C LI 104	4,5
1750	1750	5½ x 15	195/70 R 15 C LI 104	4,5	6 x 15	OJ15/5	silver	195/70 R 15 C LI 104	4,5
2000	2000	Light alloy rims are part of the standard equipment			6 x 15	OJ15/5	black	225/70 R 15 C LI 112	4,5
2000	1100/1100	4½ x 13	165 R 13 C LI 91	3,8	5 x 13	TR1 503	silver	165 R 13 C LI 91	3,8
2200	1200/1200	4½ x 13	165 R 13 C LI 91	3,8	5 x 13	TR1 503	silver	165 R 13 C LI 91	3,8
2000	1100/1100	4½ x 13	165 R 13 C LI 91	3,8	5 x 13	TR1 503	silver	165 R 13 C LI 91	3,8
2200	1200/1200	4½ x 13	165 R 13 C LI 91	3,8	5 x 13	TR1 503	silver	165 R 13 C LI 91	3,8

If the special accessories 'spare tyre' and 'light alloy rims' are combined, the standard wheel with a metal wheel rim will be included as a spare tyre.

Exception: Premium models are delivered with light alloy spare tyres (special accessory).

Light alloy rims for single axle always in connection with brand tires.

Standard version								Metal wheel rims for the standard version				Light alloy rims for the standard version								
Trade name	Technical name	ONTOUR	De Luxe Edition	De Luxe	Excellent	Presige	Premium	Landhaus	g.v.w.r. [kg]	Axle load [kg]	Metal wheel rim	Tyre size		Air pressure (bar)	Light alloy rim, size	Light alloy rim, marking	Light alloy rim, colour	Tyre size		Air pressure (bar)
650 KMFe	B33K			•					1900	1000/1000	4½ x 13	155/80 R 13 XL LI 84		3,3	5 x 13	TR1 503	silver	165 R 13 C LI 91		3,8
				•																
650 KFU	C46M					•			1900	1000/1000	4½ x 13	155/80 R 13 XL LI 84		3,3	5 x 13	TR1 503	silver	165 R 13 C LI 91		3,8
						•														
650 Uff	J40H						•		2000	1100/1100	Light alloy rims are part of the standard equipment			5 x 13	OJ13/4	black	165 R 13 C LI 91		3,8	
650 UKFe	R45H						•		2000	1100/1100	Light alloy rims are part of the standard equipment			5 x 13	OJ13/4	black	165 R 13 C LI 91		3,8	
660 VIP	N57L				•				1900	1000/1000	Light alloy rims are part of the standard equipment			5 x 13	OJ13/4	black	165 R 13 C LI 91		3,8	
					•															
660 WFU	P50M					•			1900	1000/1000	4½ x 13	155/80 R 13 XL LI 84		3,3	5 x 13	TR1 503	silver	165 R 13 C LI 91		3,8
						•														
660 WFU	P50H						•		2000	1100/1100	Light alloy rims are part of the standard equipment			5 x 13	OJ13/4	black	165 R 13 C LI 91		3,8	
690 VIP	N57L				•				2200	1200/1200	Light alloy rims are part of the standard equipment			5 x 13	OJ13/4	black	165 R 13 C LI 91		3,8	
720 UKFe	G45M					•			2200	1200/1200	4½ x 13	165 R 13 C LI 91		3,8	5 x 13	TR1 503	silver	165 R 13 C LI 91		3,8
720 UML	D26M					•			2200	1200/1200	4½ x 13	165 R 13 C LI 91		3,8	5 x 13	TR1 503	silver	165 R 13 C LI 91		3,8
720 KFU	M46M					•			2200	1200/1200	4½ x 13	165 R 13 C LI 91		3,8	5 x 13	TR1 503	silver	165 R 13 C LI 91		3,8
770 CL	S44E						•		2300	1200/1200	4½ x 13	165 R 13 C LI 91		3,8	5 x 13	TR1 503	silver	165 R 13 C LI 91		3,8
770 Cff	T60E						•		2300	1200/1200	4½ x 13	165 R 13 C LI 91		3,8	5 x 13	TR1 503	silver	165 R 13 C LI 91		3,8

Metal wheel rim: tightening torque 110 Nm Light alloy rim: tightening torque 120 Nm

**Tyre bolts: retainer for all 13" + 14" metal wheel rims and all light alloy rims (incl. 15"); cone washer
retainer for all 15" metal wheel rims: SPHERICAL WHEEL BOLT**

14. Technical data

Max. increase (for increased load)		Metal wheel rims for increased load			Light alloy rims for increased load				
g.v.w.r. [kg]	Axle load [kg]	Metal wheel rim	Tyre size	Air pre- ssure (bar)	Light alloy rim, size	Light alloy rim, marking	Light alloy rim, colour	Tyre size	Air pres- sure (bar)
2000	1100/1100	4½ x 13	165 R 13 C LI 91	3,8	5 x 13	TR1 503	silver	165 R 13 C LI 91	3,8
2200	1200/1200	4½ x 13	165 R 13 C LI 91	3,8	5 x 13	TR1 503	silver	165 R 13 C LI 91	3,8
2000	1100/1100	4½ x 13	165 R 13 C LI 91	3,8	5 x 13	TR1 503	silver	165 R 13 C LI 91	3,8
2200	1200/1200	4½ x 13	165 R 13 C LI 91	3,8	5 x 13	TR1 503	silver	165 R 13 C LI 91	3,8
2200	1200/1200	Light alloy rims are part of the standard equipment			5 x 13	OJ13/4	black	165 R 13 C LI 91	3,8
2200	1200/1200	Light alloy rims are part of the standard equipment			5 x 13	OJ13/4	black	165 R 13 C LI 91	3,8
2000	1100/1100	Light alloy rims are part of the standard equipment			5 x 13	OJ13/4	black	165 R 13 C LI 91	3,8
2200	1200/1200	Light alloy rims are part of the standard equipment			5 x 13	OJ13/4	black	165 R 13 C LI 91	3,8
2000	1100/1100	4½ x 13	165 R 13 C LI 91	3,8	5 x 13	TR1 503	silver	165 R 13 C LI 91	3,8
2200	1200/1200	4½ x 13	165 R 13 C LI 91	3,8	5 x 13	TR1 503	silver	165 R 13 C LI 91	3,8
2200	1200/1200	Light alloy rims are part of the standard equipment			5 x 13	OJ13/4	black	165 R 13 C LI 91	3,8
2500	1300/1300	Light alloy rims are part of the standard equipment			5 x 13	OJ13/4	black	165 R 13 C LI 93	3,8
2500	1300/1300	4½ x 13	165 R 13 C LI 93	3,8	5 x 13	TR1 503	silver	165 R 13 C LI 93	3,8
2500	1300/1300	4½ x 13	165 R 13 C LI 93	3,8	5 x 13	TR1 503	silver	165 R 13 C LI 93	3,8
2500	1300/1300	4½ x 13	165 R 13 C LI 93	3,8	5 x 13	TR1 503	silver	165 R 13 C LI 93	3,8
2500	1300/1300	4½ x 13	165 R 13 C LI 93	3,8	5 x 13	TR1 503	silver	165 R 13 C LI 93	3,8
2500	1300/1300	4½ x 13	165 R 13 C LI 93	3,8	5 x 13	TR1 503	silver	165 R 13 C LI 93	3,8

If the special accessories 'spare tyre' and 'light alloy rims' are combined, the standard wheel with a metal wheel rim will be included as a spare tyre.

Exception: Premium models are delivered with light alloy spare tyres (special accessory).

Light alloy rims for single axle always in connection with brand tires.

14.5 Tyre pressure values

As a rule of thumb, it may be assumed that a filled tyre suffers a loss of pressure of 0.1 bar every two months. Check the pressure regularly to avoid damage to tyres or a burst.

Tyre size	Air pressure in bar
155/80 R 13 XL*	3,3
165 R 13 C	3,8
185 R 14 C	4,5
195/70 R 14 XL*	3,2
195/70 R 14 C	4,5
195 R 14 C	4,5
195/70 R 15 C	4,5
225/70 R 15 C	4,5

* XL or reinforced

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Hobby-Wohnwagenwerk

Ing. Harald Striewski GmbH

Harald-Striewski-Straße 15

D-24787 Fockbek/Rendsburg

www.hobby-caravan.de