



OPERATION GUIDE

Version 07/2019

ONTOUR | DE LUXE | DE LUXE EDITION | EXCELLENT | PRESTIGE | PREMIUM

Hobby
BUILT FOR LIFE



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 design 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 caravanning for a long time. It will help you to avoid operating errors or causing damage to the vehicle and its equipment. Following the enclosed instructions 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 updated. Please understand that we reserve the right to make changes to the 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. The equipment that has been implemented at the time of printing is described in these operating instructions. Equivalent equipment has been implemented in all of the different layouts. 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.

- Only operate the caravan if it is in perfect technical condition.
- Malfunctions that impair the safety of people or the caravan itself must be repaired immediately by a qualified engineer or company..
- The brake system and the gas system may only be inspected and repaired by an authorised specialist.
- Specified inspection and MOT deadlines must be met.

Before your first journey

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

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



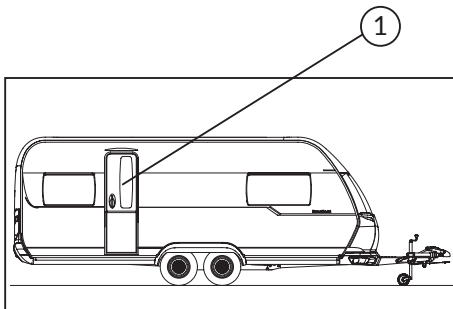
In accordance with guarantee conditions, HOBBY gives you a 5-year guarantee through your dealer against leaks in the caravan. When you accept the vehicle you will receive the guarantee booklet, "Five-Year Guarantee on Watertightness" from your HOBBY dealer.



Annual water ingress checks are annual water ingress check free of charge.

Warning: If no annual water ingress check is carried out, your right to the 5-year guarantee loses its validity.

1.2 Key to using in These Operating Instructions



Indicating details with the help of position numbers

This operating manual 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: habitation door) are marked with position number ①.

Lists

Lists are set out in bullet-point form, indicated by a hyphen "-" in front of the first word of each point.

Procedural guidelines

Procedural guidelines are also based on key points and begin with a bullet point. "●".

Guidelines



Guidelines point out important details which ensure the trouble-free operation 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 cause damage to equipment and/or injury to persons.

Environmental tips



Environmental tips show possible ways to reduce the effects 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 season. Therefore, it may include equipment that you have not selected.

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

For technical reasons, optional extras cannot always be installed in all models. Should you have any questions, please speak to your Hobby dealer.



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

Relevance of This Manual

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

2.1 Intended use

This caravan has been designed as a mobile travel accommodation for private, not commercial use. This is a recreational vehicle that is fit for habitation. It offers accommodation that can be used temporarily or seasonally and which meets the requirements for the construction and use of the vehicle on the road. It is not intended for permanent residence. Furthermore, no more than the number of people for which this caravan has been designed may spend the night in the vehicle. When the caravan is on the road, it may only be used in accordance with road traffic regulations and national vehicle safety standards.

This caravan 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 caravan. When the caravan 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 caravan and the permitted axle load(s) per axle are not exceeded. No use of the caravan other than that described here is permitted; any other use is regarded as contrary to the intended use.

2.2 General information



Label for tyre pressure

- The caravan 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, hob, etc.).
- The measurements, weight and driving performance of the caravan 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 caravan. Information on tyre and rim sizes can be found in the vehicle's registration document or in **Chapter 14.4 Tyres and Rims**.



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

2.3 Fire protection

Fire prevention measures

- Never leave children and vulnerable persons alone 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.
- Keep an ABC dry powder fire extinguisher by the entrance door.
- Ensure that everyone is familiar with the guidelines on the fire extinguisher.
- Place a fire blanket 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 gas appliances.
- Gas bottles that cannot be removed should be cooled with water.
- Shut off the electrical supply.
- Sound the alarm and call the fire service.
- Only fight the fire yourself if this is possible without risk.



The initial use of dry powder fire extinguishers is only recommended if it is probable that closing the cylinder valve will stop the leakage, or if the bottle can be removed quickly.

Smoke detector



Smoke detector

The caravan has been 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.



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

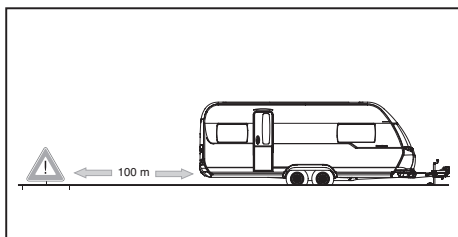
The first aid kit should always be kept handy. It should have a fixed place in the base vehicle/caravan. Any objects removed from the first-aid kit should be replaced immediately. Expiry dates should be checked regularly.

High visibility jacket/vest

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 visibility is poor due to bad weather, in twilight or darkness, or
- when it must be highlighted by the use of a warning triangle on the hard shoulder because of an accident or breakdown.



Minimum distance between warning triangle and caravan

Warning triangle

The warning triangle should also be kept handy in a fixed place in the base vehicle/caravan, 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 Safety Systems

Vehicle Tracking System “Phantom Tracking”* (for Great Britain only)

The Phantom Tracking System monitors your vehicle using tracking software that has been secretly installed.

You can access the MyPhantom portal and the app, enabling you to determine where your caravan is at any time (an Internet connection must be available for this). The system recognises when the vehicle changes its location and reports this, making you aware of any possible theft. The system determines the vehicle's exact location to within 8 feet (approx. 2,44 meters).



- Please refer also to the separate system manufacturer's operating instructions and read them carefully before initial operation.
- The system has a rechargeable battery, i.e. it continues to send even if the power supply has been cut until the rechargeable battery is discharged.

Central Registration and Identification System CRiS* (for Great Britain only)

CRiS is the national register for British caravan owners. It is recognised by the regulatory authorities, insurance companies and governmental organisations as well as the Department for Transport (DFT).

VIN CHIP™ is a new industrial standard for identifying caravans. It uses a neutral and unique number within visible and invisible VIN CHIP™ elements both in and on the caravan.

The system links this number to a CRiS keeper record in the central database.

Should your caravan be stolen, please do the following:

- Contact the police and inform your insurance company. Inform them of any anti-theft devices that may be mounted in your caravan. In addition, inform the caravan manufacturer via your/an authorised dealer that the caravan has been stolen.
- Inform CRiS and continue to keep CRiS informed of all further developments so that their database can be kept up-to-date.



- Never leave the CRiS registration document in your caravan; always take it with you, especially when you travel abroad. The CRiS Caravan Registration Form is evidence that you are the registered holder and therefore entitled to use the caravan.
- Never remove any identifying marks on your caravan, because only with the aid of these identifying marks is it possible to identify the caravan should it be stolen.



Please note any possible separate information from the registration authority.

2.6 Before the journey

2.6.1 What to observe before your first journey

Vehicle registration (Germany)

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 (Germany)

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 caravan 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 (Germany)

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 towing 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 be towed at 100 KPH at the factory, and this has been entered in the caravan's registration documents. Upon request, the 100 KPH 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 tyres should be changed after a maximum of six years. They must be marked at least with an L (= 75 mph) for the appropriate speed category.
 - d) The caravan must be equipped with a stabiliser hitch in accordance with ISO 11555-1. This is a standard feature in all Hobby models.

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

5. Free interchangeability of tow vehicle and caravan: Different caravans may be combined with different tow vehicles.
You are responsible for ensuring that the preceding regulations are met if you plan to drive at 100 km/h.
6. The correct noseweight gives you more safety:
Please refer to chapter 3.3.2 for the recommended noseweight.



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



Please familiarise yourself abroad about any national regulations that may apply with regard to registration and general inspection and whether you are permitted to tow your caravan at 100 KPH.

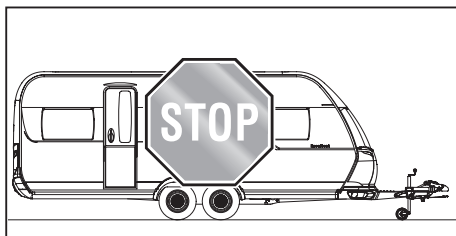
2.6.2 Before each journey

Road safety

- The electric connection between the tow vehicle (your car) and the caravan must function perfectly.
- 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, the tyres and function of the of all appliances. It is advisable to have a gas safety check carried as well. .
- Set the vehicle's wing mirror.
- 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. (see also Chapter 14.5)



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



Prepare the vehicle before driving!

As the driver of this vehicle, you are responsible for the state of the car and caravan. Therefore, you must note the following points:

Interior

Preparing the interior:

- Sort all loose objects and store them in their respective compartments.
- Store heavy and / or voluminous objects (e.g. radio, awning, beverage cases) safely before you start your journey, securing them to prevent them from moving around. (see also Chapter 3.3)
- If required you can switch the fridge on to 12v operation, this will only keep the fridge cold when travelling, the fridge must have been already chilled to the desired temperature using 230v or gas. The 12v element will not chill the fridge down.
- Ensure that all fluids, including those in refrigerator, are secured to prevent leakage.
- Close all doors (incl. refrigerator door), lockers (Lock the central lock on the kitchen drawers).
- Open the concertina door and lock it.
- Latch the sliding door.
- Secure the table and, if possible, lower it.
- Should there be an drop down bed, move it to the upright position and lock it into place.
- If necessary, secure the TV bracket and, if possible, remove the TV and store it securely.
- Remove the TV and store it securely (models with rear washroom).
- Turn off all interior lighting and if necessary isolate the 12v system

Exterior

Check around the caravan and ensure everything is secure for your journey as follows.

Preparation of the vehicle:

- The caravan must be hitched up correctly (see **guidelines for the safety hitch WS3000 Chapter 3.4**).
- Release the hand brake for the caravan.
- Rotate the rotating stanchions and front landing wheel upwards and secure them.
- Close and firmly lock all of the windows and roof lights.
- Empty the waste water tank, clean it and stow it securely in the gas box.
- Switch off the awning light.
- If necessary, pack away the awning and stow the winding handle securely.
- Turn off the gas bottles (heating is forbidden while driving) and secure them.
- If necessary, lower the TV antenna* in as far as possible or retract the satellite dish.
- Shut the gas-bottle container and, if necessary, the luggage compartment (Premium).
- Close and lock the entrance door and any external locker doors.
- Stow the step tread in the gas bottle container.
- If necessary, disconnect the cable for the 230V mains connection from the external socket.
- If necessary, secure any bicycles on the bicycle carrier, lashing them with the fastening straps to prevent them from slipping, and ensure that the rear tail lights are not covered. If the bicycle carrier has not been loaded, fold it in and secure it. (see **Chapter 5.6**)
- If necessary, secure the spare tyre holder.



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

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**.

Do not overload the caravan! The permissible axle loads, the technically permissible maximum weight as well as the permissible height, width and length of the caravan must be observed!



Place a note with all important measurements and weights in a clearly visible place on the dashboard.

2.7 While driving

Driving



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

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

Rules for driving

- Do not underestimate the total length of the car & caravan (rig). Due to the relatively long rear overhang, larger caravan can swing out and, under adverse conditions, the rear end of the caravan can hit the ground.
- Take extra care when driving toward yards and through gates.
- In conditions with strong side winds, slick ice or wet roads, the caravan 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 car & caravan can be accelerated, if necessary, without endangering other drivers or pedestrians.
- If the caravan moves back and forth on a sloping road, brake carefully but rapidly to bring the caravan back into line.
- **Never** increase speed if the caravan becomes pendulous.
- Do not drive down a hill any faster than you would drive up one.
- Long, gently sloping downhill slopes can be dangerous. Calculate your speed from the very beginning so that, if necessary, it is still possible to accelerate without endangering other road users.
- When overtaking or being overtaken by trucks or buses, the caravan can be caught up in air suction. This could cause the caravan to sway or become pendulous.
- Drive with foresight; on longer trips, stop at regular intervals for breaks.

Driving around curves

The combined length of your car & caravan together (rig) is considerably longer than a car.

The following applies for driving in 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 swing out if you turn too quickly.

Brakes

A car and caravan together (rig) 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 the rig 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 a mountain, do not select a gear that is higher than the one used when driving up a mountain.
- During long drives over passes or steep and twisty country lanes, the can cause the caravan brakes to over run constantly and 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. Despite carrying out automatic brake adjustments on all HOBBY trailers, the basic setting for the brakes must be checked by an authorised specialist and adjusted if necessary (initial inspection) after having driven 500 km.



Should there be any defects or malfunctions in the driving performance of the caravan, 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 turns in the opposite direction in which you steer.
- Get one someone to guide you when reversing the caravan.

2.8 After each journey



Front grab handle



Rear grab handle

Shunting (moving caravan by hand)

In most cases your caravans will be longer and wider than your car.

Tips for maneuvering your 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 especially in reverse..



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

Choosing a parking place

Rules for choosing a parking place:

- If at all possible, check the place selected for parking in daylight.
- The parking place should be as horizontal as possible.
- Check to see that the entry step is positioned horizontally (important for refrigerator function).
- Level the caravan lengthwise using the jockey wheel.
- If on uneven or sloping ground level the the caravan sideways using boards or wheel chocks.



Do not use the corner steadies to compensate for uneven ground.

Securing the vehicle

Rules for securing the vehicle:

- Apply the handbrake brake.
- Only extend the corner steadies to the point where the axle still assists in bearing the weight (The winding handle is located in the bottle container).
- If the ground is soft, place supports under the corner steadies.
- Use the wheel chocks to secure the wheels. They are located in the gas box.



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.

To ensure that the hand brake does not freeze, only pull on it gently when the temperature reaches 0° C or lower.

Switching over electrical devices

Instructions 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.
- Switch the refrigerator from 12 V to gas or 230V.
- Switch the refrigerator from 12V to gas or 230V, because the 12V supply will automatically be switched off after a brief period of time when the (car's) engine is not running.



If the caravan socket has been attached to the tow 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 journey 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 allowed with the manufacturers permission.

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 supplied by the manufacturer.



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

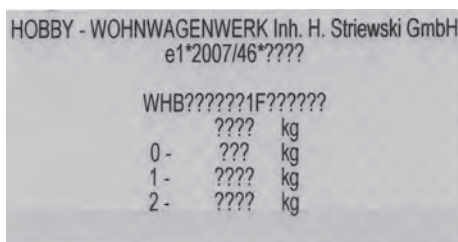
3.2 Vehicle ID number (VIN)

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

Additionally the Vin number is on the sticker in the gas box.

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

Name plate



Hobby name plate

Permit number

Vehicle ID number (VIN)

Permissible maximum weight Technically permissible maximum laden mass of combination

Max. nose weight

Permissible axle load, 1st axle

Permissible axle load, 2nd axle



Do not remove or change the name plate.



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

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 should be placed in the lower storage compartments and near the axle.
- If your caravan is twin axle: distribute the centre of weight between the two axles.
- Never load your caravan with the weight towards the rear (danger of swaying back and forth).
- Store baggage in the interior in cupboards and storage compartments.
- Heavy objects should be stowed securely to prevent them from moving.
- 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 whole interior of the caravan. If necessary, put heavy objects in the tow vehicle.
- Secure doors and lockers.
- Check the technically permissible maximum weight and the axle load(s) after you have finished loading.



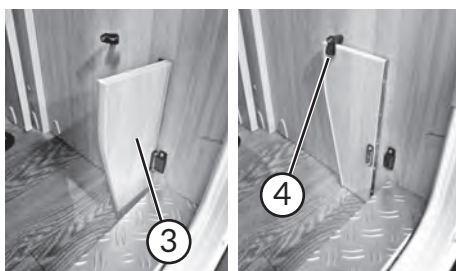
The maximum axle loads entered in the documentation for this vehicle as well as the technically permissible maximum weight must not be exceeded. Overloading can cause the tyres to break down or even burst! This increases the danger that you may lose control of the vehicle. Therefore, you endanger yourself 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 caravan, you should have it weighed at a public weigh bridge. The lower the caravan's centre of gravity, the better its driving performance and response in curves.



External storage locker



Support for children's bed
15

Garage*

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

When converting to an external storage locker, it is important to ensure that the lower children's bed is secured using the strap (1) provided for this purpose. To make it easier to load the external storage locker, fold the support (3) for the lower children's bed to the side and secure it with the lock (4).

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



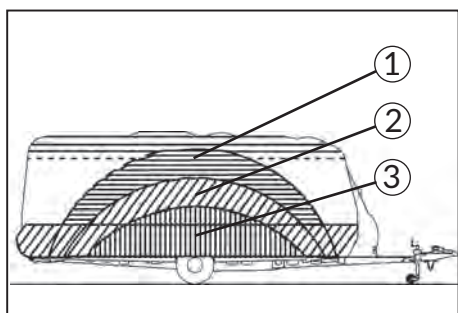
Always check that the lashing rings are firmly locked before you start your drive.



The owner/driver of the vehicle is always responsible for ensuring that loads transported in the external storage locker have been correctly secured. As far as possible, always use tension belt systems licensed for this purpose.

Never use rubber expanders. Remember that exceptionally strong driving dynamics can occur in dangerous situations or when you are forced to slam on the brakes.

Please note: the heavier the rear load, the worse the driving performance and brake response.



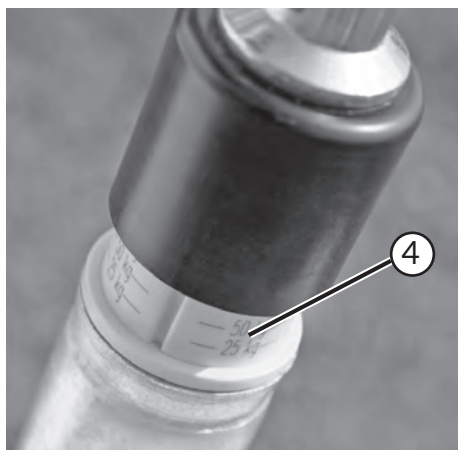
Stowage areas

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 awning, dinghy or crates of drinks.

If the caravan has been fitted with a rear-mounted bicycle carrier* the reduction of the permissible nose weight load caused by the weight of the bicycles must be compensated for by the rest of the load.

3.3.2 Tow hitch load



Nose weight display on the jockey wheel

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

Rules for the nose weight load:

- Set the nose weight correctly! You can, for example, use normal bathroom scales: use a strip of wood (approx. 400mm long) to position them vertically under the hitch head. It may also be possible to roughly estimate the nose weight by means of the nose weight indicator* ④ integrated in the front landing jockey wheel, to do this the A frame of the caravan must be in a horizontal position.
- Always check the nose weight before you start to drive!
- The specified loads (see no. 2. or the Vin sticker) as well as the permissible maximum weight of the car and caravan (the "rig") must not be exceeded!

How to adjust the correct nose weight:

1. Determine the maximum nose weight of your tow vehicle by checking its documentation, the chassisplate or the drawbar plate.
2. **The maximum permissible nose weight for your HOBBY caravan is 100 kg (Exception: model 19 EG, i.e. models 720 the permissible nose weight for these models is 150 kg).**
3. Adjust the nose weight 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 nose weight, i.e. that of the tow vehicle or the caravan, may not be exceeded.

3.3.3 Meaning of weights for the caravan

EU Directive 1230/2012 applies at a European level for vehicles when calculating the masses (weights) and resultant additional loads for caravans. 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 caravan and its specifications, 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 caravan including all of the standard equipment installed by the factory plus all of the equipment and liquids that are required for the safe and correct use of the vehicle. This includes the following masses:

a) Liquid gas supply (LPG)	390 SF	400 - 495	470 KMF	495 WFB 460 SFf 460 SL	515- 720 UKFe	650 KFU	WLU 545 KMF	540 FU 560 FC 560 WFU 660 WFC 660 WFU 720 KWFU 720 WLC 720 WQC
Number of built-in gas regulators:	1	1	1	1	1	1	1	1
Weight of an aluminium gas bottle (EMPTY):	5,5 kg	5,5 kg	5,5 kg	5,5 kg	5,5 kg	5,5 kg	5,5 kg	5,5 kg
Weight of an 11 kg (FULL OF GAS):	11 kg	11 kg	11 kg	11 kg	11 kg	11 kg	11 kg	11 kg
Total:	16,5 kg	16,5 kg	16,5 kg	16,5 kg	16,5 kg	16,5 kg	16,5 kg	16,5 kg
b) Fluids								
25 l fixed fresh water tank::	25 kg	25 kg	25 kg	25 kg	---	---	---	---
47 l fixed fresh water tank:	---	---	---	---	47 kg	47 kg	47 kg	47 kg
Toilet water tank for flushing C 502-C:	---	15 kg	---	---	15 kg	15 kg	---	---
Toilet water tank for flushing C 402-C:	15 kg	---	---	---	---	---	---	---
Toilet C 223 S: *	---	---	*	*	---	---	*	*
S-heating (therme):	5 kg	5 kg	5 kg	---	5 kg	---	5 kg	---
Combi heating system (boiler):	---	---	---	10 kg	---	10 kg	---	10 kg
Total:	45 kg	45 kg	30 kg	35 kg	67 kg	72 kg	52 kg	57 kg
Total basic equipment:	61,5 kg	61,5 kg	46,5 kg	51,5 kg	83,5 kg	88,5 kg	68,5 kg	73,5 kg

*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 caravan 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 spec 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:

$10 \times (n + L)$, 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 caravan 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).

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 hitch WS 3000



Safety coupling

The caravan has been fitted with a stabiliser hitch with friction pads to reduce snaking. 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.

Before your first trip, please observe the information given in **Chapter 12.2 Maintenance and Upkeep** regarding the ball on the tow bar if it has a Dacromet coating (a dull-silver coating for corrosion protection) or is painted / lacquered.



Opening and closing the hitch

Preparation for hitching/unhitching

- To hitch and unhitch, open the stabiliser hitch (lever in position ①).



WARNING: Ensure that the ball of your tow bar is clean and free of grease.

Hitching

- Connect the break-away cable to the eyelet provided for that purpose (see 3.6 Handbrake, section on Rapid-emergency brake).
- The open stabiliser hitch is set onto the tow ball of the tow vehicle. The stabiliser hitch usually closes by applying downward pressure since the support load is sufficient (lever in position ②).
- Insert the 13-pin plug while turning, in accordance with the screw thread.
- Secure the jockey wheel (see 3.5 Front Landing Wheel).



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

Use only the grab handles provided to manoeuvre the caravan (see 2.8 After driving) and never the lever of the WS 3000.

Do not use the hitch as a lever to lift the caravan!

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



Tow ball location indicator

Inspection of hitch

- The hitch handle can be closed from position ② or ③ when the green pin ④ is visible. (ball indicator) is visible.



If the WS 3000 is not properly attached to the tow ball, the caravan can detach from the tow vehicle. It must not be possible to release the hitch from the tow ball when the jockey 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 handle will become tight in the process, so that contact pressure is created on the coupling ball via the friction elements. When the hitch is locked on correctly the hitch handle will lay parallel to the hitch bar.

Releasing the stabilization system

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



Once the hitch has been attached and locked, there must not be anything that prevents the backwards and forwards movement of the brake damper.



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

- Make sure that overrun gator ⑥ is fully extended. It will not be possible to release the hitch from the tow ball if it is compressed.
- Release the break away cable and disconnect the 13 pin plug.
- Slowly pull the lever upwards into position ② dis-engage the friction pads.
- Pull the lever backwards and, at the same time, further into position ① so that the coupling opens.
- After the jockey wheel has been wound up, the caravan can be disconnected from the tow vehicle.



Only uncouple the caravan 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. Also chock the wheels and leave with the hand brake off to prevent the brakes from sticking on (only do this if the caravan is on level ground with the wheels chocked to prevent it moving).



Wear indicator for the friction pads

Maintaining the stabilizing device

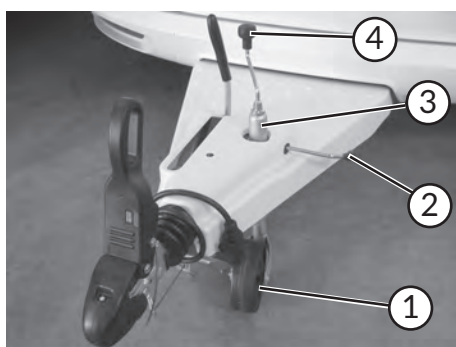
After connecting the hitch and locking down the handle, this engages the friction pads. You can see the condition of the friction pads from the wear indicator:

- 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 (**see Chapter 12.2 Maintenance**).
- If the indicator is in the red (STOP) zone, there is no stabilizing function. Permission to drive at 100 KPH is immediately cancelled.



If the friction pads are new, optimal shock absorption is reached after a certain period of operation.

3.5 Jockey wheel



Jockey wheel lifts upwards and locks in place

Rotating it upwards and securing it

- Hitch the caravan to the towvehicle, aligning the jockey wheel ① to the rear end of the caravan.
- Loosen the clamping handle ②.
- Pull the jockey wheel ③ up as far as possible.
- Tighten the clamping handle ②.
- Turn the handle of the jockey wheel ④ clockwise to raise the wheel as far as possible into the cut out to prevent it from moving and winding itself down.



Before driving, always make sure that the jockey wheel is up as far as it will go and it tight to prevent it from coming down when in transit.

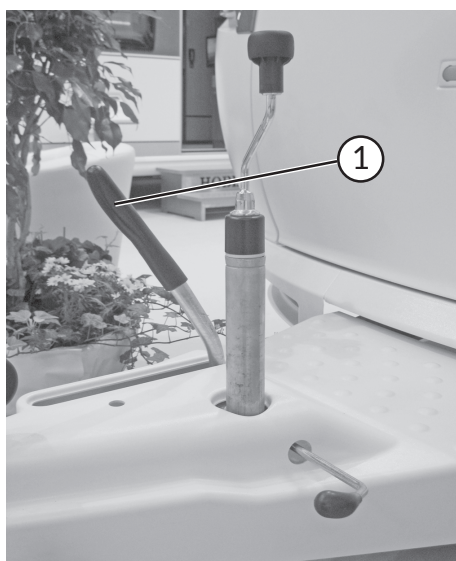
To lower

- Loosen the clamping handle ②.
- Lower the jockey wheel ③ as far as possible until the front landing wheel is approx. 70 mm above the ground.
- Tighten the clamping handle ②.
- Turn the handle on the jockey wheel ④ anti-clockwise to lower the wheel until it touches the ground.
- Unhitch the caravan from the tow vehicle and, if necessary, lower the jockey wheel further.



The maximum mass that the support wheel and its clamping mechanism can support is equal to the maximum permissible drawbar load (100 kg; exception: model 720 = 150 kg).

3.6 Handbrake operation



Hand brake facilities

The components of the brake system, especially the hitch head, damper and their operation 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 system, the operation permission loses its validity. Modifications may only be made with the manufacturer's permission.

Parking the caravan

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

To lock

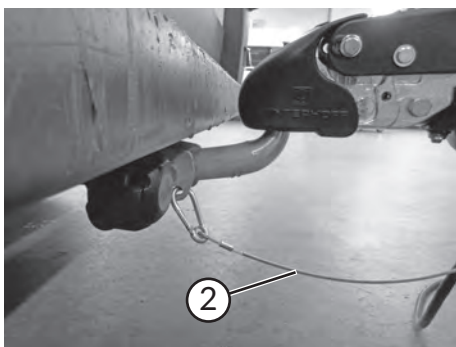
- Pull the locking brake lever upward by the handle ① until it locks into place. The hand brake lever is pressed into the final position by the gas pressure spring.

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.



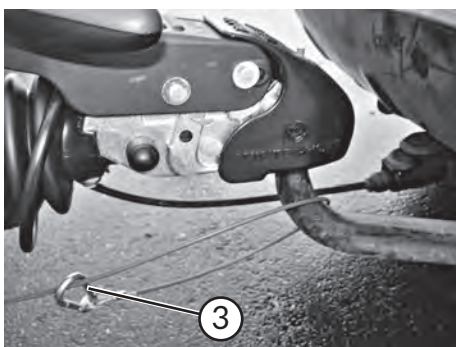
Fastening the rapid-emergency brake (Breakaway cable) by means of the eyelet on the tow coupling

Rapid-emergency brake



Please observe national regulations on fastening the rapid-emergency brake, as applicable.

The rapid-emergency brake (Breakaway cable) 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 breakaway cable pulling on the handbrake ②. The hand brake will be employed and the caravan will do an emergency stop. This prevents the caravan from continuing to roll without braking after it has been disconnected.



Fastening the rapid-emergency brake without an eyelet

To fasten the breakaway cable to the base vehicle, clip the carabiner into the eyelet provided (where this depends on the base vehicle model). If no eyelet has been provided, wrap the breakaway cable once around the tow-bar, forming a loop, and fasten the carabiner directly to the cable (see photo Fig. ③).

Should you exchange the carabiner, ensure that you get an equivalent replacement. The standard version of your Hobby caravan is equipped with a carabiner used by fire departments. A so-called spring hook must not be attached directly to the eyelet, because it can only supply the strength required to fully apply the brake if it is the fastener for a loop.



Before driving, the breakaway cable must be fastened to the tow vehicle.

3.7 Overrunning equipment and wheel brakes

The overrunning brake facility consists of the overrun coupling, a brake damper and the wheel brakes. Should the caravan push towards the tow vehicle under braking, 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 towing vehicle brakes and how heavily the caravan has been loaded. A damper 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 accelerator or change gears in the tow vehicle.

Checking the overrunning equipment



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

1. If it is possible to push the hitch head more than halfway (approx. 5 mm) in when the hand brake has been activated, the braking system must be adjusted immediately by an experienced technician or workshop.
2. To check the reaction point:
Activate the hand brake and push the caravan backwards until the hand brake lever is completely tilted. Then push the hitch head into the overrunning equipment. The hitch head should slide back to its fully extended position by itself by means of the gas cushion in the hydraulic damper. Should this procedure take longer than 30 seconds, the overrunning equipment must be checked by an experienced technician or workshop.

Wheel brakes

All Hobby caravan models have an automatic brake adjustment that independently compensates for wear in the brake shoes.

- Regular adjustment of the brakes is not necessary.
- Brake adjustment is automatically deactivated when reversing.

Despite this brake adjustment, the brake shoes 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 overrunning brakes, the drawbar can be pushed in more than 45 mm.



Every caravan 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 tow vehicle into a lower gear and drive downhill at slow speed.
- Stretch the car and trailer as often as possible to prevent the caravan from continuously bumping into the car.
- Always make use of service areas and lay-bys to give the brakes a chance to cool off.



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

3.8 Electronic Trailer Stabilisation (ETS Plus)*

ETS Plus is a safety system that can be retrofitted for HOBBY caravans with a mechanical overrun brake. It automatically recognises if the trailer starts to sway and, if necessary, can stabilise the car and caravan by applying the caravan brakes.



A special MOT inspection is not required for installing ETS Plus.

The ETS Plus system makes use of an LED on the A frame to indicate whether the connection to the car has been carried out correctly. After hitching, the ETS Plus will start an auto-test. After approx. 3 seconds, the LED turns green. The rig is now ready to drive. Please refer also to the manufacturer's separate operating instructions.



- Before your journey, check the light-emitting diode (LED) on the ETS Plus.
- ETS Plus operates within a temperature range of -20°C to +65 °C.
- Do not reach into the moving parts of the ETS Plus central unit!
- The steady plus on the 13-pin socket on the car must be safeguarded by means of a fuse with at least 15A but not more than 20A.
- The increased level of safety provided by ETS Plus should not, however, result in undertaking a safety risk. The vehicle's speed must always be adjusted to take weather, road and traffic conditions into account.
- The limits imposed by the laws of physics cannot be suspended by ETS Plus. Please keep this mind when driving on wet or icy roads.
- Caravans with a high centre of gravity may turn over before they begin to sway.
- No improper modifications may be/have been made to the brake system as this could interfere with the function of the ETS Plus.

If the LED on the ETS Plus is not continuously green, please refer to the following table:

LED display	Meaning	To eliminate
Blinking green (fast) x_x_x_x	Brake intervention or auto-test (possible to continue driving)	-
Blinking green (short pulses) x__x__x	In power-saving mode (possible to continue driving)	After driving for approx. 3 seconds, the system will switch to ready mode.
Blinking green (slow) xxx__xxx__	System or brakes too hot (possible to continue driving)	Continue to drive with care. After 120 seconds, the cooling system will switch to ready mode.
Blinking red light _x_____	Electric supply fault (e.g. loose contact) (continue to drive prudently)	• Check the (plug-in) cabling. • Unplug the system for 20 minutes, then plug it in again. If this does not help: contact a dealer/authorised specialist.
Blinking red light _x_x_____	Mechanical fault (e.g. no brake cable connected/ brakes badly worn out/ system installed incorrectly) (continue to drive prudently)	• Visual inspection of brakes/assembly of ETS Plus/ check that braking system is properly adjusted. • Unplug the system for 20 minutes, then plug it in again. If this does not help: contact a dealer/authorised specialist.
Blinking red light _x_x_x____	Error in the central unit (e.g. handbrake is on/ brake rigging preloaded during assembly) (continue to drive prudently)	• If necessary, release the handbrake. • If necessary, check that the brake rigging is properly adjusted. • Unplug the system for 20 minutes, then plug it in again. If this does not help: contact a dealer/authorised specialist.
LED does not light up	ETS Plus is inactive (continue to drive prudently)	• Unplug 13-pin trailer cable from tow vehicle. • Visual inspection. • Check that there is steady plus on the socket. • Plug in 13-pin trailer cable to the tow vehicle. If this does not help: contact a dealer/authorised specialist.

4.1 Wheels

The following applies for wheel bolts:

If you are driving a new vehicle, or after changing a tyre, tighten the wheel bolts or nuts after you have driven the first 50 km and then again after the following 100 km.

For your safety, do not use any tyres or wheel bolts other than what was originally stipulated. Wheel bolts and nuts should then be checked regularly to ensure that they fit tightly.

Tightening torque for wheel nuts and bolts:

Rim	Wheel bolts	Tightening torque
Metal wheel rim	M12 x 1,5 x 24	110 Nm
Light alloy rim	M12 x 1,5 x 28	120 Nm



Check the tightening torques every 5,000 km or at least once a year.

4.2 Tyres

Within the registration certificates part 1 and 11 there is a tyre size for each caravan, this doesn't necessarily have to match the tyre size fitted to the caravan ut you can only fit tyres that are approved by the manufacturers, if in doubt please contact your dealer.

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

Driving to protect the tyres

- Avoid braking sharply or driving off with a racing start.
- Avoid long drives on poor roads.
- Never drive when the vehicle is overloaded.

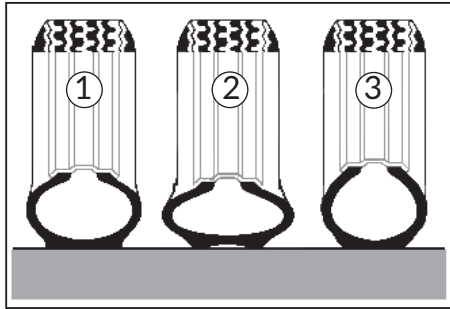


Due to the type of construction, the tyres on on twin axle caravans may wear out more quickly.

4.3 Tyre pressure

Tips for checking tyre pressures:

- Check and correct tyre pressure every four weeks (but at least every three months) and before every journey.
- Tyres must be checked when they are cold.
- When inspecting or correcting warm tyres, the pressure must be 0.3 bar higher than when the tyres are cold.
- 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.



Different tyre pressures

Rules for tyre pressure:

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



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

If the tyre pressure is too high, this leads to higher tread wear and it may cause damage to the suspension.



Information sticker for tyre pressure



Please refer to the table on tyres/tyre pressure in the chapter on "Technical Data" or the labels in the gas box as well as on the wheel arch spat for the correct tyre pressure.

4.4 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 should never be exchanged from one side to the other, i.e. from the right-hand side of the vehicle to the left-hand side and vice versa.



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.



DOT number

Age of tyres

You should change your tyres before they reach six years old because the rubber deteriorates over time and also when they don't move for long periods of time. You should not drive at 60 MPH with tyres that are over 6 years old. The four digit DOT code on the side of tyre (if necessary, check the inner wall) shows the date of manufacture. The first two digits refer to the manufacturing week, the last two digits to the manufacturing year.

Example:

DOT 0119 means week 1 in the year of manufacture (here: 2019)

4.5 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,
- the pitch Circle Diameter (PCD) and the wheel offset.
- compression depth and
- the load/bearing capacity must be sufficient for the permissible total mass.
- The wheel bolts must be the correct type for the wheel rims fitted.



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

Rules for wheel screws



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

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

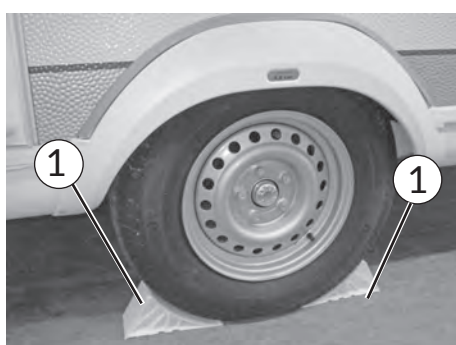


When changing rims (steel -> aluminium / aluminium -> steel) ensure that you are using the correct wheel bolts. Steel wheels and Alloy wheel use different types of bolts, which are NOT inter changeable.

4.6 Changing a wheel tyre



Chocks in the gas bottle container



Placing the chocks under the wheel



Threaded lock nut on the spare tyre mount



Spare wheel holder in chassis beam

Preparing to change the tyre

- If possible, only change the tyre when the tow vehicle is coupled to the caravan.
- Park the car and caravan 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.
- **Tow vehicle:** Pull the hand brake, shift to first gear and align the wheels so that they are straight; when driving an automatic, set the gear to P.
- **Caravan:** Pull the handbrake, leave the jockey wheel in its driving position, release the hitch handle, to the first position (note: do not open completely).
- Remove chocks ① from the gas box (in some cases, clipped on at the top right and left, depending on the model).
- If necessary, place chocks ① in front of and behind the wheel that is still in good order so as to secure the caravan.

Spare Tyre* (model-specific)

The spare wheel is located on a holder under the caravan. This is an option and is model specific.

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

Remove the spare tyre

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



If the caravan has alloy rims, note that the correct wheel bolts are used if your spare wheel is a steel rim.



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 wheel and change it.

Changing the wheel

- If the vehicle is parked on soft ground, lay a stable reinforcement under jack* (i.e., a board).
- Set the corresponding jack* onto the fixed part of the axle not the swinging arm or on the chassis beam as close as is possible to the axle on the side where the wheel is being changed.
- On twin axle caravans, always position the car jack* underneath the rear axle. We recommend using a hydraulic jack*.
- Before jacking up the caravan, loosen the wheel bolts one full revolution, but do not remove them.
- 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 bolts and the wheel.
- Place the spare tyre* on the wheel hub and align it.
- Reattach the wheel bolts and hand tighten them.
- Lower the jack* and remove it.
- Tighten the wheel bolts 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 push the hitch handle back down to reengage the friction pads, activating the stabiliser..



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

Only use the specifically designed jack* for the corresponding frame parts.

For example, on the axle or the chassis beam close to the axle fixing point.

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!

Danger of death!

The corner steadies **must not** be used as a jack*!



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

4.7 Tyre repair kit (model-specific)



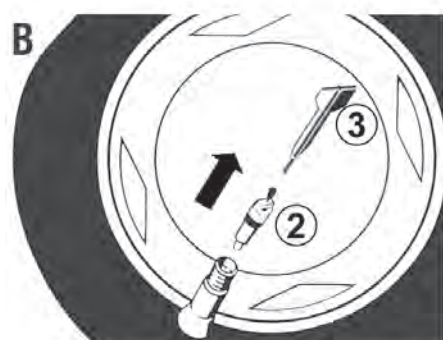
Tyre repair kit



Parts included in the repair kit



Connect the fill hose to the bottle



Unscrew the valve cap

All single-axle caravans are equipped with a tyre repair kit; this is part of the standard equipment. In certain circumstances some caravans with changed specifications have a spare wheel instead of the repair kit.



Do not use the tyre repair kit if the tyre was damaged as a result of driving without air. Small punctures (of up to 6 mm), especially in the tyre tread, can be sealed 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 when the outside temperature ranges from -30°C to +70°C.

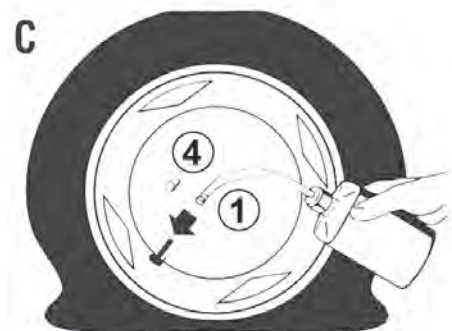


There is an expiry date on the tyre repair kit. Therefore, please note this date. Kits that have expired no longer offer a guarantee that they will function properly.

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

- 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.

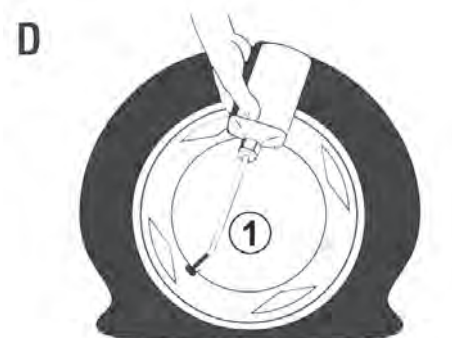
C



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.

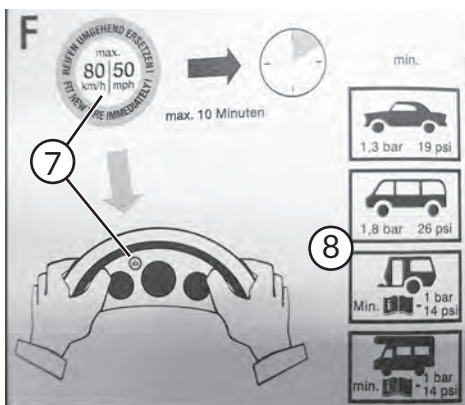


Pumping up the tyre

- 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 around bends or corners.**



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 replacement tyre company or call out your chosen breakdown service.



Mounting stickers in the driver's field of vision

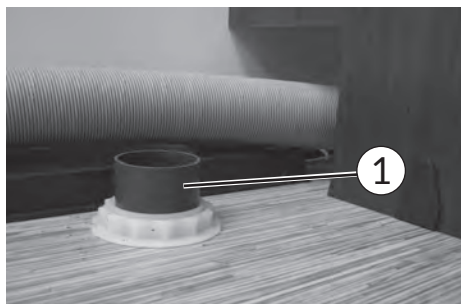
- F Check the tyre pressure after driving no more than 10 minutes. If the tyre pressure has fallen under this minimum value ⑧, you may not drive any further. Should the minimum value ⑧ still be displayed, correct the tyre pressure in accordance with the tyre pressure sign in the gas box. Drive carefully to the nearest tyre stockist and have the tyre replaced.

Mount the enclosed sticker ⑦ on the instrument cluster, within the driver's field of vision. Dispose of used tyre repair kit at a service station.

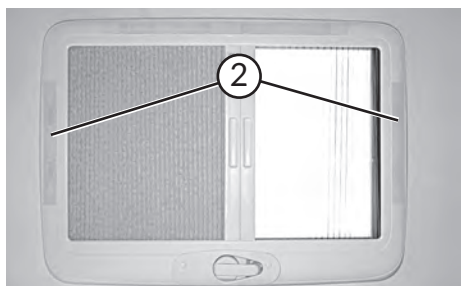


Danger of accidents! Have the tyres replaced at the nearest service station.

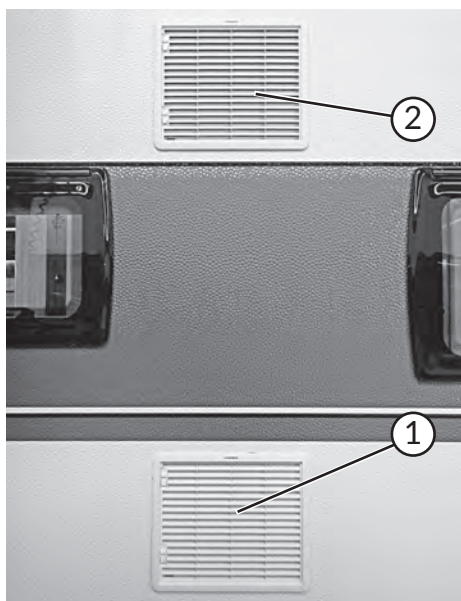
5.1 Forced and fixed ventilation



Floor ventilator



De-aerating via the roof bonnet



Ventilation grill, refrigerator

The following applies for ventilation

Proper ventilation and dehumidifying of the caravan is a prerequisite for ideal living comfort. Vents for draft-free forced ventilation have been integrated in the floor ① of your caravan; for forced dehumidifying, they have been integrated in the roof lights ②. You must not interfere with their mode of operation.



Under no circumstances may the safety ventilation be blocked, not even slightly. Keep the grilles and coverings clean and dust-free.

When using an awning, ensure that there is good ventilation if the grilles for ventilation and dehumidifying are located inside the awning.



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

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 dehumidify through the windows and roof lights (see also "Winter operation").

Refrigerator

The fridge vents provide the refrigerator with fresh air from outside to ensure sufficient cooling performance. The fridge vent ① is located at the bottom of the exterior vehicle wall. The top vent ② is located above the lower vent.

Ventilation and dehumidifying of the caravan is a prerequisite for sufficient cooling capacity. When the refrigerator is not being run, the ventilation grills can be covered using the correct winter covers.

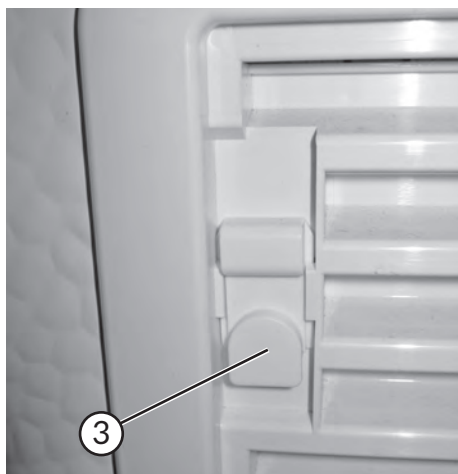


To prevent restricting the performance of the refrigerator, Do not block or cover the external vents when it is in use.

Use the special cover panels for the air vents on the side of the vehicle when operating the caravan in winter. These winter panels are a chargeable option; they can be obtained from your dealer.

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

If the temperature outside is very high, we recommend that you park the camper in the shade to maintain the cooling capacity.



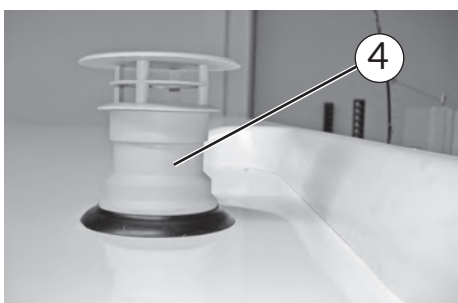
Locks for ventilation grill

Removing the fridge vents during maintenance and repair

- Push the lock(s) ③ up as far as it 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.



Roof vent

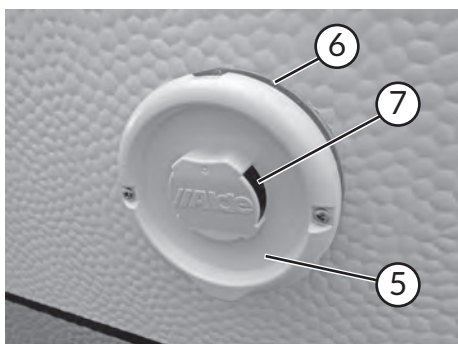
Heating element

The Truma S-heater draws air from under the caravan through vents in the bottom of the heater assembly.

The fumes from the heater are expelled through the roof mounted flue. The flue ④ is located on the roof of the caravan.

Vehicles with a Combi (E) heating or Alde hot-water heating system have a flue ⑤ on the side wall (***/model-specific**).

It pulls in combustion air from outside ⑥ and, at the same time, discharges the exhaust air from the heating system outside the caravan ⑦.



Side vent



Blocked flue openings can cause malfunctions and may channel exhaust fumes inside the camper.

Danger of suffocation!

When using the caravan in winter, ensure that nothing hinders the air from escaping via the chimney flue.

5.2 Opening and closing doors and lockers



Keys

Keys

The following keys are delivered with the caravan:

- Two keys which fit into the following locks:
 - entry door,
 - external lockers,
 - toilet cassette access door.
- gas box lid
- fresh-water tank cap
- Rear Storage Locker (Premium)

Entrance door



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

Only tow the caravan when the entrance door is shut.



Entrance door

External entrance door

To open

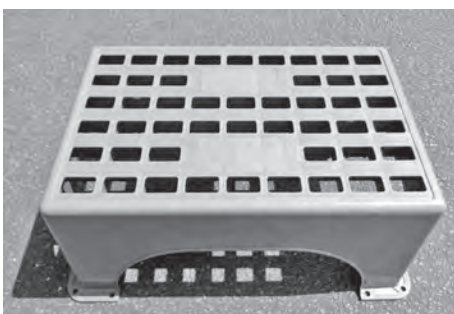
- Gently turn the key to the left (for a door with the hinges on the left and right for a door with the hinges to the right) until you hear the lock open.
- Turn the key to a horizontal position and pull it out.
- Pull on the door handle.
- Open the door.

To close

- Close the door.
- Gently turn the key to the right (for a door with the hinges on the left and left for a door with the hinges to the right)
- Turn the key to an upright position and pull it out.



To avoid damage, do not use the frame for the flyscreen as assistance when entering the caravan.



Entry step tread

Entry step

When entering and exiting the vehicle:

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



Note the varied step heights and, when exiting, ensure you will step onto firm and even ground. The entry step can support a maximum load of 200 kg.



Entrance door

Interior of entrance door

Opening the door

- Press the door handle ① down and push the door out to open it.

Closing the door

- Use the door handle ② to guide the door back into its frame and pull it inwards until it clearly and noticeably locks.

Disposal bin

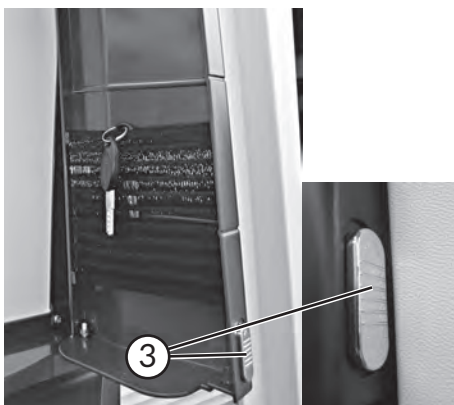
A small brush and dustpan have been integrated in the lid of the disposal bin ④. They can be removed as required.



Emptying the waste bin

Emptying the waste bin

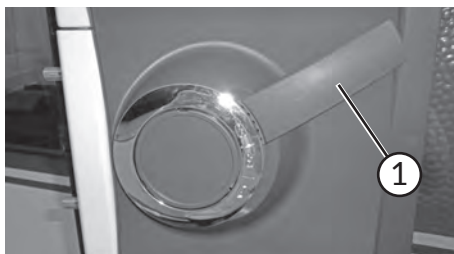
- To empty the waste bin, first open the lid.
- Carefully release the grey mounting frame from its position.
- The bin can then be opened by folding it down and the contents can be removed.



Compartment locks

Door compartments

The compartments in the entrance door can be opened by setting the lock ③ accordingly. To open, push the lock ③ up. When closing the compartments, ensure that they are fully locked into place.



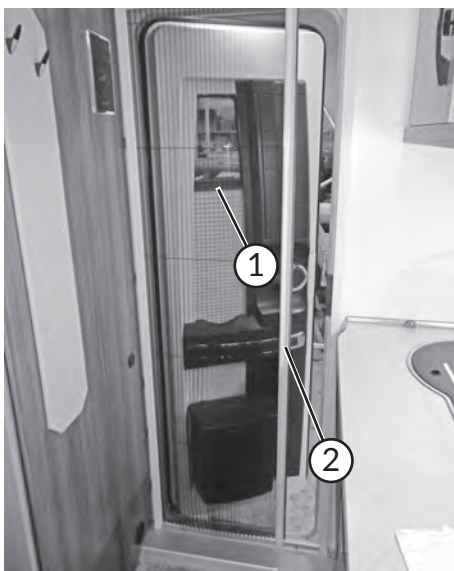
Locked door handle

Locking the door from the inside

- Turn the door handle ① to an angle of about 45° upwards (see illustration).



In this position, the door is locked and can only be opened from the outside with the key for the entrance door.



Pleated fly screen for entrance door

The door blind and flyscreen



Pull the door blind and the flyscreen on the entrance door to the desired position. To open, carefully guide the rail back to the original position in order to fold the plissés correctly.

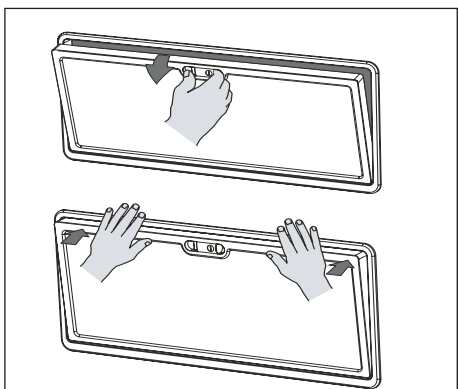


The flyscreen can only be pulled out if the door is open. Only shut the door after the flyscreen has been pushed back into its original position!

- ① Guide frame for the door blind
- ② Guide frame for the fly screen



Access locker



Opening and closing the locker door

Access locker

To open

- Unlock with the key.
- Hold the locking knob between your thumb and index finger and press firmly.
- Open the door downward.

To close

- Lift the door upward.
- Press the door on the upper left and right-hand corners to ensure that all of the locks actually click into place.
- Lock again with the key.



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



Spray the rubber seals on the access locker doors regularly with silicone spray to ensure that they will always move easily and operate reliably.



Garage door

Garage door*

Opening

- Unlock both locks with the key. The handles will spring out ①.
- Turn the handle to the left.
- Swing the door to the side or up, depending on your model.

Closing

- Swing the door shut.
- Turn the handle to the right until the door is pulled into the seal.
- Lock both locks with the key and push the handles in until they click into place.



Handles

Gas box Lid



The gas box is permanently vented (see also Chapter 9 Gas). Since the gas box has not been constructed to be waterproof, moisture may permeate the gas box.

For this reason as well, only gas bottles and the intended objects placed there by the factory (winding handle, chocks, entry step, etc.) may be carried in the gas box. Food, electrical devices, etc., must be stored in the trailer or the car.



Never use force to shut the gas box lid. The spring force of the hinges shuts the lid of the gas box lid; after a few seconds, it will fall into the lock by itself.



Gas box lid handle



Opening the gas box lid

To open

- Unlock the lock ① with the key.
- Turn the handle down by 90° to a vertical position.
- Swing the gas box lid slowly upwards.

To close

- Close the gas box lid and turn the handle by 90° to a horizontal position to lock it.
- Lock the lock with the key to secure it.



Handle of the rear storage compartment in Premium model

Rear storage Premium

To open

- Unlock the lock ① with the key.
- Turn the handle down by 90° to a vertical position.
- Slowly pull to open the rear storage locker lid.

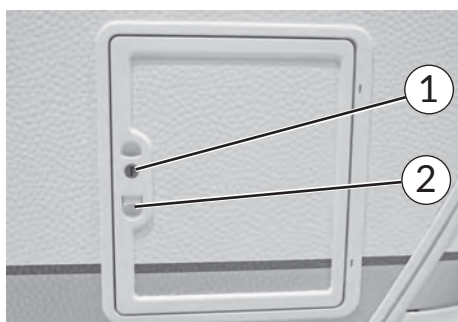
To close

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



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.



Toilet cassette door

Toilet cassette door

To open

- Unlock the lock ① with the key.
- Press the knob ② and swing the door to the side.

To close

- Push the cassette door closed until it snaps in.
- Lock the lock ① with the key.



Door retainer

Door retainers

The entrance door as well as some of the external locker doors can be held open using door retainers on the outside of the caravan.

To lock

- Open the door all the way.
- Press the male part that is fastened to the door into the female part on the outside wall of the caravan. Take care to ensure that it clicks firmly into place.

To unlock

- Pull the pieces apart.



Cover flap

Cover flap

The access to the water filler cap, BBQ point or electric hookup point are covered by these flaps; for example:



fresh water filler cap or city water supply connection*



external socket and aerial connection* in the awning



external gas socket*



CEE external socket

Opening

- Grasp the cover flap at the bottom of the latch and pull it up.

Closing

- Grasp the latch of the cover flap and close it until it clicks into place.

Please refer to the appropriate chapters on water (**Chapter 8**), gas (**Chapter 9**) and electricity (**Chapter 7**) for information on handling the individual components.



When driving, the cover flaps must always be firmly shut.

Never fill any type of liquid (e.g. diesel, oil or cleaning solutions) other than water into the fresh water tank.

5.3 Corner Steadies



Hexagon head for front corner steadies



In all models the hexagon head on which to place the winding handle is located in the front of the caravan through a hole in the front skirt next to the front marker light.

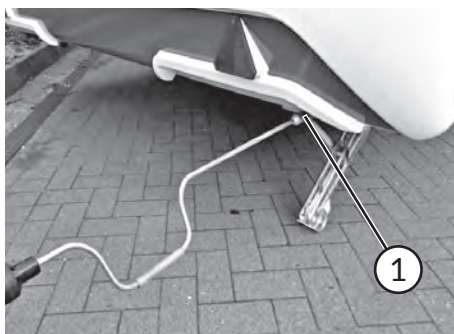
The corner steadies are located in the front and rear under the caravan.

Winding the corner steadies down

- Park the vehicle as horizontally as possible.
- On soft ground, lay a sturdy mat or suitably sized board under the feet of the corner steadies to prevent the caravan from sinking.
- Push the winding handle onto the hexagon head ① and lower the corner steadies.



The corner steadies must only be used for support, and not for leveling or lifting the caravan.

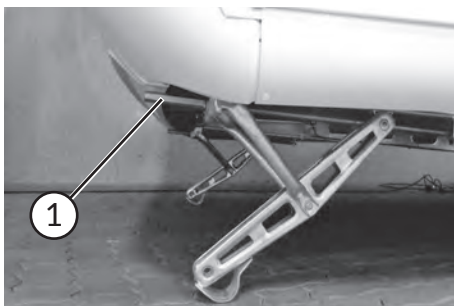


Hexagon head for rear corner steadies

Winding the corner steadies up

- With the winding handle, turn the corner steadies up to the horizontal position.

The winding handle for the corner steadies is located in the gas box at the front; it is firmly clipped into the clips on the bulkhead.



Supported caravan



Always lift the corner steadies all the way up before driving away!

5.4 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 lights or the air conditioning systems on the roof (stay at least 30 cm away).
- Do not step on the curved areas at the front and rear ends of the caravan.

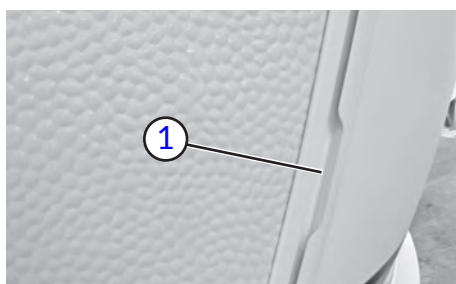


The maximum total load for the roof rail is 80 kg!



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

5.5 Guide rail for awning and draft skirt



Awning rail with opening

The bead of the awning slides into the guide rail for the awning on both sides of the caravan, both at the front and rear ends.

The slot in the awning rail is wider ① at the rear end of the caravan (above the rear lights). This makes it easier to insert the awning.



Further information on the measurements of the outer tent perimeter can be found in **Chapter 14 Technical Data**.



Guide rail for awning skirt

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



Wheel arch spat with optional awning skirt wheel cover

The wheel arch spat has an integrated rubber channel for sliding the awning skirt wheel cover. (The shaped awning skirt wheel cover is an optional extra.).

5.6 Bicycle carrier*



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

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



A frame bicycle carrier

A frame bicycle carrier

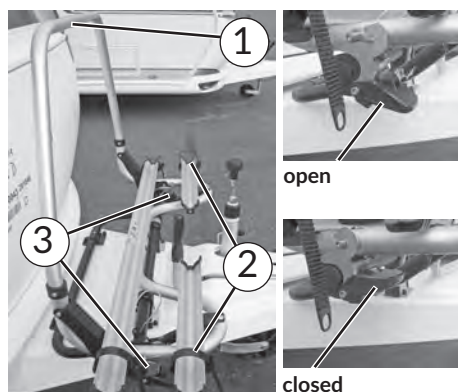
In all models a bicycle carrier can be mounted on the A frame.



After loading the bicycles, please check the nose weight and, if necessary, regulate it (see also Chapter 3.3 Loading).

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

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



Straps and locks

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 caravan is not being moved, the lever ① can be folded down in order to access the gas box. To do this, the locks ③ must be opened.



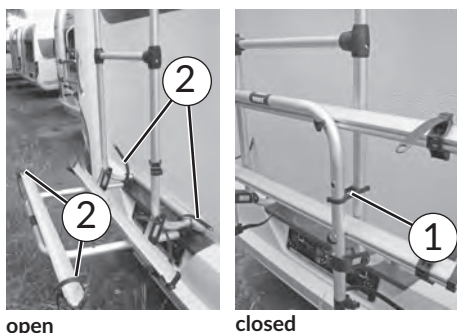
Rear-mounted bicycle carrier

Rear-mounted bicycle carrier

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

The towing characteristics of the caravan change 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 nose weight 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 any of the caravan exterior lights.

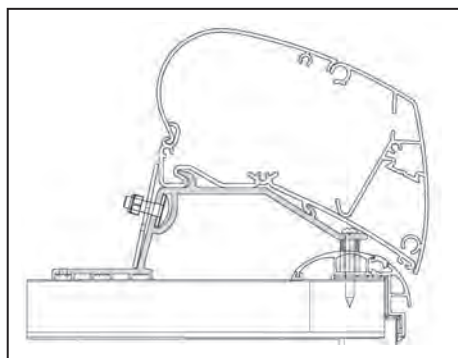


The maximum permissible load for the bicycle carrier is 40 kg.

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.

5.7 Roof mounted awning*



Mounting the roof awning (sectional view)



Roof awning

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.



- An awning offers protection from the sun, not against the elements.
- Do not place people or obstacles in the extension/retraction area of the awning.
- The awning winding mechanism is fitted with a mechanical block control to limit the extent to which it can be extended. Never attempt to exceed the block control by force.
- Always support the awning with the integrated support legs when extended.
- The awning must always be completely retracted and secured before driving.

Extending

- Insert the hook on the winding handle into the slot on the winding mechanism.
- Hold the handle with one hand on the upper twist grip and the other on the lower twist grip. During the operating procedure gently pull the handle towards you and hold it as vertically in the slot as possible.
- Turn the winding handle clockwise until the awning has been rolled out about 1 m.
- Unfold the adjustable support legs on the inside of the drop tube and use them to support the awning.
- Only then should you roll out the awning to the desired position.
- Remove the winding handle.

Retracting

- Insert the the end of the winding handle into the slot on the winding mechanism.
- Turn the the handle counter-clockwise until the awning has been rolled in except for the last meter.
- Retract the adjustable support legs, fold them up and secure them.
- Only then should you roll in the awning completely and secure it.
- Remove the handle and store it in the vehicle.



If the canvas is slack when extended, retract the awning until the canvas is tightly stretched again.

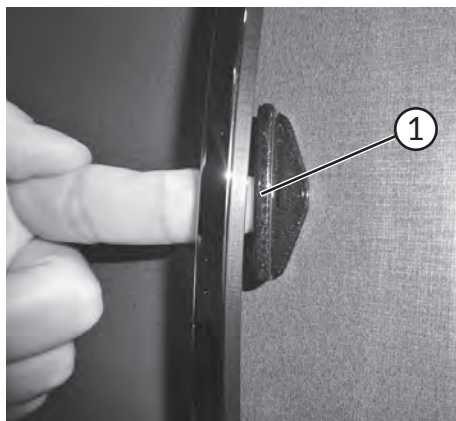


Installing an awning may have a negative influence on the trailer/driving performance of the caravan.



Read the operating instructions from the manufacturer carefully.

6.1 Cupboard and drawer operation



Furniture doors with a locking mechanism

Furniture doors with a locking mechanism

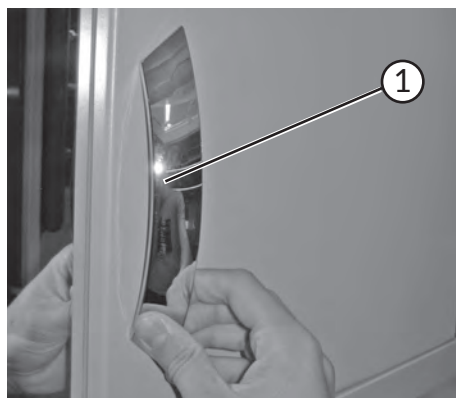
Wall cabinets in the kitchen for ONTOUR, De Luxe (Edition), Excellent, Prestige

To open

- Press the release ① 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.



Kitchen Wall cabinets (Premium)

Kitchen Wall cabinet handles (Premium)

To open

- Pull the long edge of the handle ① forwards and fold it in towards the short edge. (twist the handle inwards)
- Pull on the handle until the door opens.

To close

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



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



Mirror cabinets

Mirror cabinets, rear washroom (model-specific)

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.



Furniture doors with a soft close function

Furniture doors with a soft close function

Wall cabinets, storage cabinets

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 door to its final position.



Store only light objects in the upper storage cabinets.



Mirror cabinet with magnetic safety catch

Mirror cabinet doors/furniture doors with magnetic safety catches

To open

- Pull firmly on the handle or edge of the door and swing it open.

To close

- Press the door closed until you feel it lock.



These doors are held closed by a magnet. Therefore, only light-weight objects should be stored in the cupboards.



Door with magnetic lock



Washroom door handle

Washroom door

Simple washroom door

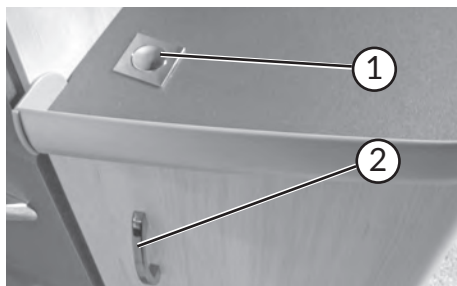
- Push down on the handle to open or shut the door.



Sliding door

Sliding doors

- To open or close the door, hold the handle and push or pull it to open or close.



Pushlock in connection with kitchen cabinet



Pushlock in connection with kitchen drawers

Kitchen drawer/cupboard with pushlock

Each individual drawer is secured by a separate pushlock ①.

To open

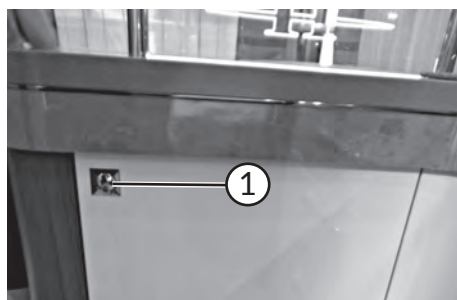
- Press the pushlock ① (latching button) so that the button pops out.
- Pull on the handle ② until the drawer slides out or the cupboard door opens.

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.



Please observe the maximum load of 15 kg per drawer.



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 push lock to swing the door open. The lower part of the cabinet will swing open with the door.
- Pull gently on the upper storage shelf to pull it carefully out of the cabinet.
- Carry out this procedure in reverse order to shut the cabinet.



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



Extendable shelves in the corner kitchen



Olive-shaped handle

Furniture doors with knob

Wardrobe

- Turn the knob to open and shut the door.



Sliding door for kitchen wall cabinet

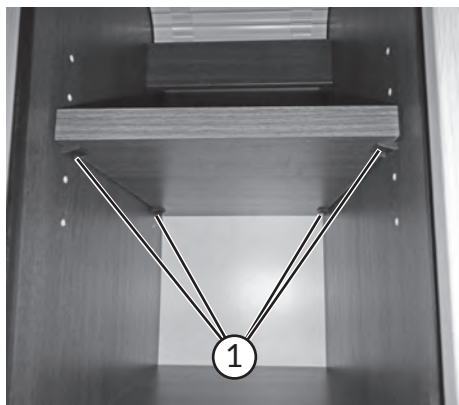
Sliding doors

To open

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

To close

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



Shelf in the kitchen wall cabinet

Shelf in the kitchen wall cabinet (model-specific)

The height of the shelf in the kitchen wall cabinet can be adjusted. It rests on the shelf supports and, as required, can be removed from the cabinet. The shelf can be adjusted to different heights. To change the height of the shelf:

- Remove the shelf from the cabinet.
- Pull the shelf supports ① out of the drilled holes and push them into the drilled holes at the required height. All shelf supports ① must be inserted at the same height.
- Push the shelf back into the cabinet above the shelf supports ① and lower it onto the shelf supports ① until it rests evenly on all four.



Chrome hooks in the washroom

Coat hooks

Different types of coat hooks have been mounted in the caravan.



Please ensure that the hooks are not weighed down while driving.

6.2 TV bracket*

230V sockets and the antenna terminal for the TV and the receiver are located directly next to the place of installation for the TV (model-specific location).



Please measure the installation dimensions of your caravan before you buy or install a television. The measurements depend on the model and optional extras. The maximal dimensions of the television are 535 x 351 x 50 mm. The TV bracket can only hold TVs that weigh no more than 8 kilos.

When driving, we recommend that you remove the TV from the bracket and store it securely.



Sliding TV bracket, extended

Sliding TV Bracket (for Model 620 CL only)

- To unlock, press the metal rail ① and, at the same time, extend the TV mount.
- To retract the mount, push it back to its original position until it is noticeably locked into place.



TV bracket, extended

Articulated TV Bracket

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



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

6.3 Tables



Metal elevating table base

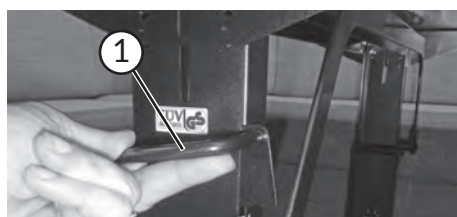
Metal elevating table base

To lower

- Pull upwards on the handle ① on the right-hand side.
- Use one hand to lightly press the table down and swing it down towards the middle of the caravan. The table only locks into place in this lowered position when the handle snaps back into its original position.

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.



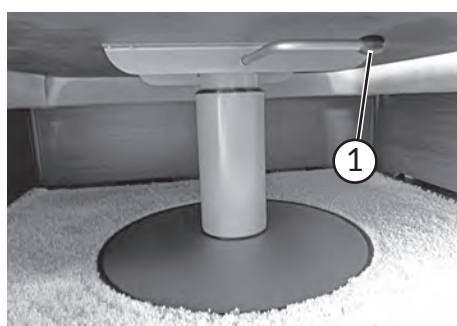
Handle for metal elevating table



Single-post elevating table leg

Single-post lifting

The single-post lifting table leg can be lowered and the table top can be moved around on top of the leg.



Lever ① to lower the table

To lower

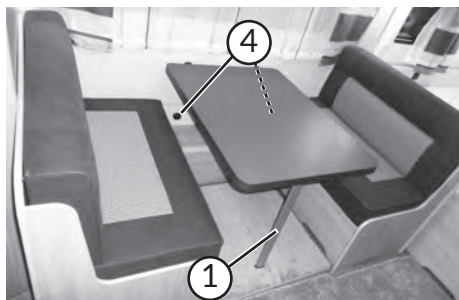
- Move the lever ① to the other side.
- Press on table top to lower the table.
- Move the lever ① back to its original position.



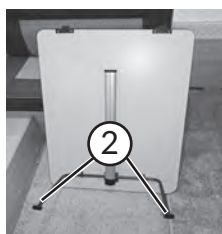
Securing the table



Neither the metal elevating table leg nor the single-post elevating table leg are fastened to the floor. Before driving, lower the table and, depending on the model, secure it with one or two pushbuttons either to the seat base or to the front/rear wall.



Hanging table

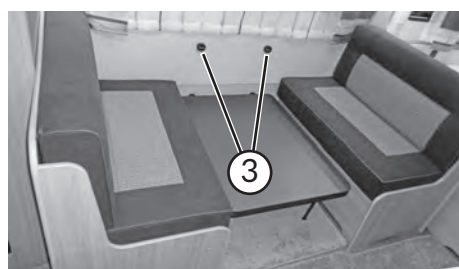


Supporting legs

Hanging table

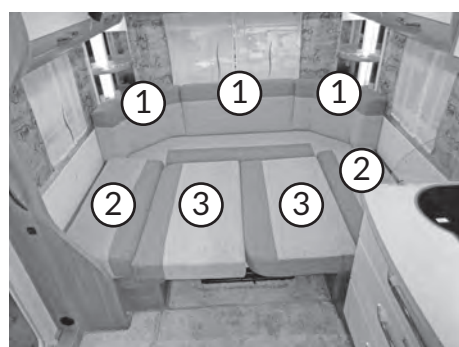
To lower

- 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 on its end.
- 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.



Lowered hanging table

6.4 How to convert seating areas into beds



Converting the seating area to a bed

Converting the seating area

The seat groups can be converted into comfortable beds.

Preparing to convert the bed

- Lower the table (see Chapter 6.3 Tables).
- If necessary, fold out the bed expansion in the seating area (model-specific).

Notes on arranging the cushions:

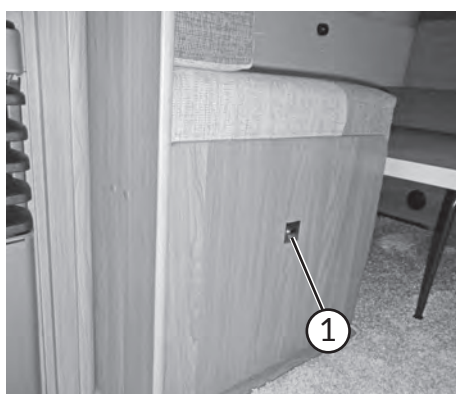
- How to arrange the cushions depends on the caravan model.
- In some caravan models, one or more additional cushions are required to convert the bed. These are included separately in the caravan.
- In main seating area, the rear seat cushions ① remain in place.
- Depending on the model, it may be necessary to remove the side back ② and seat cushions ③. To do this, push the seat cushions ③ towards the middle and place the back cushions ② horizontally along the sides. Any open space that can still be seen/felt should be filled with one or more additional cushions.



When converting seating areas 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).

In some models, the cushions hang over the edge of the table after the seating area has been converted into a bed. They can be damaged if they are bent or folded over the edge.

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



Pushlock safety catch

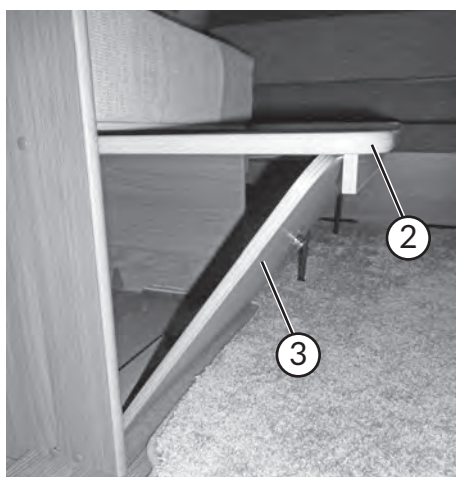
Bed extension in the seating area (model-specific)

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

Conversion

- Press the outer panel ① to unlock the bed extension.
- Lay the outer panel ③ fully on the floor in order to raise the inner panel ②.
- Hook the outer panel ③ underneath the groove of the inner panel ②.

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



Widening the seating bench



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

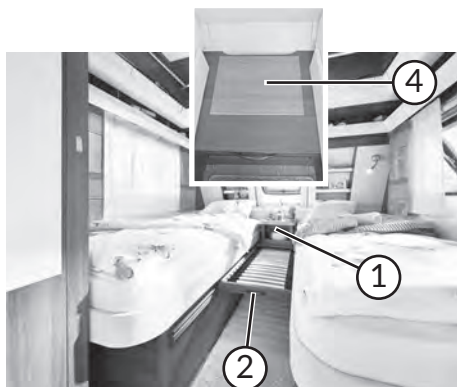


Single beds, Island beds



All of the Island beds and longitudinal singles have been designed and tested to hold up to 100 kilos per person.

When setting up the beds, lift them carefully to prevent the adjoining furniture from being scratched.



Converting into a wider bed



Widening the beds

Bed Extension for Single Beds*

Converting the bed extension

- Lift up the bedside 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.



The extension for widening the beds can carry a max. of 100 kilos.

Only place loads on the bed extension when it has been pulled out completely and the mattresses have been laid in place.

While driving, the bedside table must be stored under bed frames. Otherwise, the bedside table might move when braking suddenly and damage the interior of the caravan.



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.



Upright position



Sleeping position

Island bed

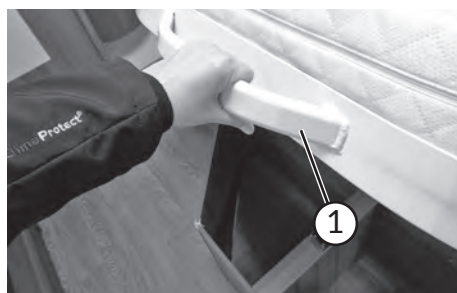
To create more space and allow more freedom of movement around the Island bed, it is possible to change its position. The Island bed can be repositioned either as an upright or in a reclining position. The fresh water tank as well as a generous storage space are located underneath the bed.

Adjusting the Island bed

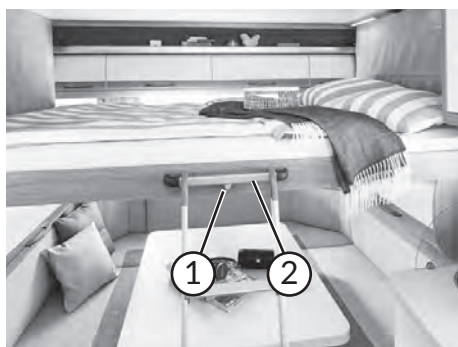
- Stand in front of the handle ① and pull it towards you until the entire bed forms a flat surface.
- If you wish to return the Island bed to its upright position, push the handle away from you, applying slight force.
- Use the handle to pull the bed up to reach the fresh water tank or the storage space.



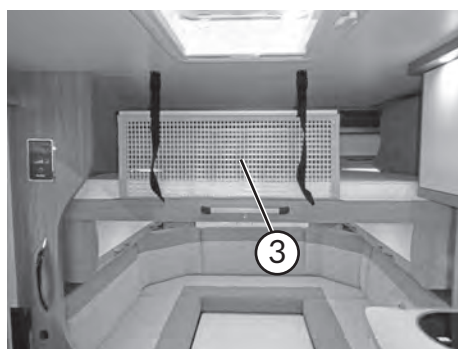
Remove all of the pillows and blankets (including the bedspread) before changing the position of the Island bed.



Handle



Drop down bed above the seating area



Drop down bed with netting to prevent people from falling out

Drop down bed with cable pull technology (515 UHK/515 UHL)

- If necessary, remove the backs from the seating area.
- Switch off the lighting underneath the alcove bed.
- Release the lock for the drop down bed by holding the knob ① firmly pressed.
- Use the handle ② to pull the drop down bed to the desired position (but no further down than it will go).
- Hang the ladder (stored in the wardrobe when the caravan is delivered) over the handle ②.
- When sleeping, always clip the netting that protects you from falling out ③ into place (located underneath the mattress).



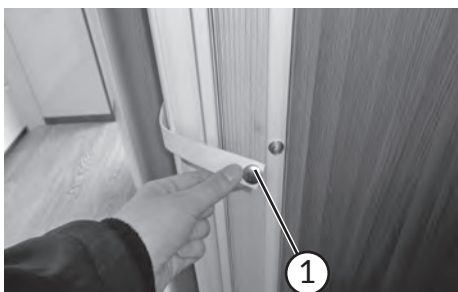
Maximum load for the Drop down bed: **200 kilos**

- Before driving, return the bed to its original upright position and lock it into place.



When returning the bed to its storage position, ensure that the fabric facing on the sides does not slip out and behind the bed, where it would get caught in the mechanical system.

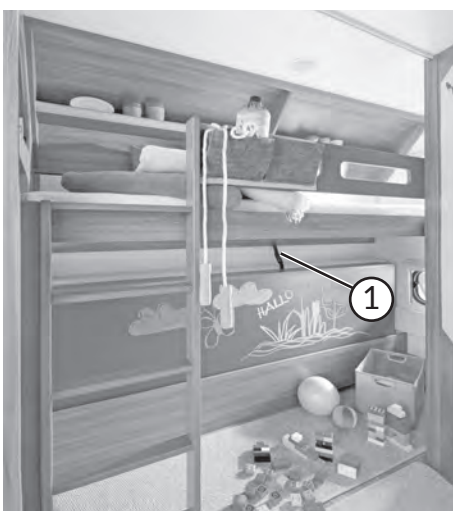
When the caravan is not in use, lower the bed somewhat or remove the mattress from the drop down bed to ensure there is enough air circulation in this area of the vehicle.



Securing the concertina door while driving

Concertina door for sleeping area

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



Children's bed with drawing board

Children's beds



The children's beds are not suitable for unsupervised use by children under the age of 6.

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



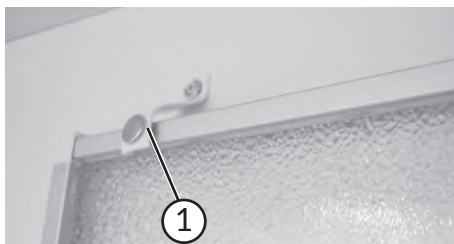
If the upper bed is used by children, take care to ensure that they do not fall off. Never leave small children unattended in the caravan.

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 beds is 100 kg.

6.5 Washroom



Securing the shower door while driving



Closed shower door



Shower cubicle door in the rear washroom



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

To fold the shower door out

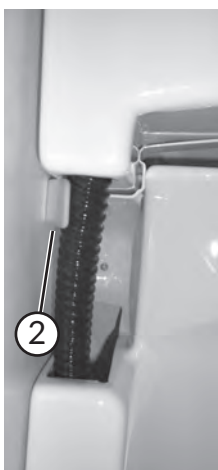
- Loosen the pushbutton ① .
- Fold out the handles ② on the shower partition.
- Fold out the shower door and guide it to the opposite side.

To shut the shower door

- Guide the shower door 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 down

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

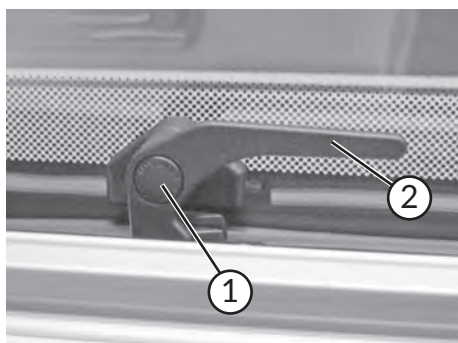


If the clips do not automatically lock and unlock, they must be moved manually.

6.6 Windows



Some window catches have lock buttons ①. To open these window catches, press the lock buttons ①. Various window fixings have been fitted in the vehicle.



Catch



Closed



Vent position

Window with ratcheting stays

To open

- Turn all of the window latches ② by 90°.
- Press the window catch 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 to unhook the stay.
- Close the window.
- Turn all of the window catches ② to the original position so that they clasp behind the latches and pull the pane into the seal.



Apart from the open and closed positions, the window catches can also be locked in the middle slot of the latches to allow air in, this is the vent position.



The windows by the children's beds can only be opened slightly (this is added protection against falling out).



Fully adjustable window stays

Fully adjustable window stays

To open

- Should there be a locking button, press it to work the window catch.
- Turn all catches ① by 90°.
- Press the window catch outwards with your hand until it is open as far as you would like. Then use your other hand to tighten the turn screw ③ until you feel the resistance and the window is held in place.

To close

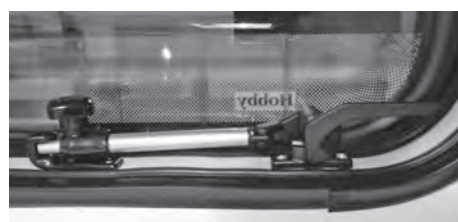
- Loosen the turn screw ③ to allow you to close the window.
- Turn all the catches back to their original position so that they lock behind the latches and pull the window into the seal. Should there be lock buttons, they must click back to their original position.



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



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



Closed window



Blind/ fly screen

Blind/ fly screen

To close the black-out blind

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

To open the black-out blind

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

To close the fly screen

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

To open the fly screen

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



Do not let the blind or the fly screen retract on its own, keep hold of it.!



Do not leave the blinds closed over a longer period of time. Should a blind lose its tension over a period of time, use a flat screwdriver to retighten the tension spring on the blind. Insert the screwdriver and turn it clockwise one or two revolutions.

Check the tension and repeat this process until the desired tension has been reached.



Overstretching the blind can permanently damage the retracting spring and impair this function.



Integrated kitchen window

Integrated windows

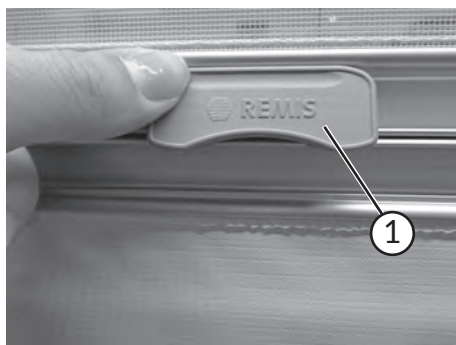
Kitchen window

Opening and closing the blinds:

- Pull the blinds slowly and evenly up or down the guide rail until the desired position has been reached.

Closing the fly screen:

- Pull the insect screen slowly and evenly to the bottom of the guide rail. Press the catch ① to hook it onto the handle of the blind.



Spring catch on the fly screen

Opening the fly screen:

- Press the catch ① and then pull the insect screen slowly and evenly to the top of the guide rail.

Combining the blind and fly screen:

- First, pull the sunshade slowly and evenly along the guide rail to the desired position. Then pull the insect screen slowly and evenly down the guide rail as far until it meets the blind, press the spring catch and hook it into place.



Integrated front window

Front window



The blind and fly screen for these windows are fully adjustable. Pull them slowly and evenly to the desired position.



The combined blind and pleated fly screen must be opened before setting up the bed if the bed protrudes into the front window when it has been set up. Otherwise the pleated screen might be damaged.

When the caravan is not in use, leave the blinds open to prevent consequential damage.

6.7 Roof lights

Safety instructions



- Never open the roof lights if there is a strong wind / rain / hail, etc. or when the temperature outside 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 fly screen and blind (fully open position).
- Close blind only 3/4 of the way if the sun shines in strongly; danger of heat accumulation!
- Leave the blinds completely open if you do not plan on using the caravan for a prolonged period of time.
- 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



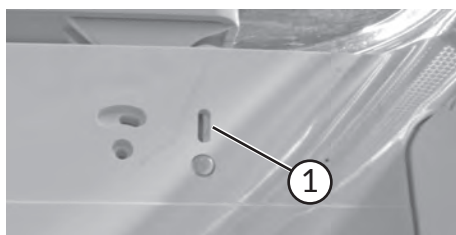
Before opening the roof light, ensure that the area above the opening of the light is free. The roof light can be opened to an angle of 60°.

To open

- Take hold of the handle and fold it out into the operating position. Turn the handle clockwise to open the roof light out to the desired position. When you have reached the maximum opening angle you will feel the resistance.

To close

- Turn the handle anti-clockwise until the light is closed and you feel the resistance. The control pin ① is visible when the sky-light is shut. Finally turn the handle so it can be put back in its parked position. The roof light is only securely locked when the handle is in the parked position.



Control pin



Small roof light

Small roof light

To open

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

To close

- Guide the adjusting lever along the guide rail and close the roof bonnet. This roof light will only be securely locked once the raising bar is locked into place behind the lock button ①.



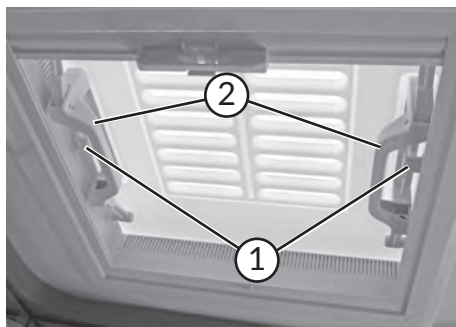
Locking knob



The maximum speed is 100 km/h, because noise may be generated or damage caused, depending on the superstructure or place of installation.

Fly screens and blinds (plissés)

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



Roof vent (washroom)

Roof vent

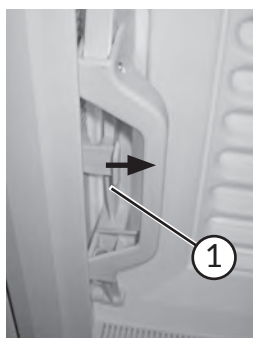
The roof vent can be pushed up either on one or both sides.

To open

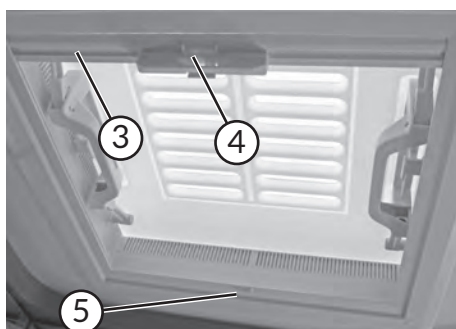
- Press the catch ① diagonally upwards towards the inside of the roof vent until it unhooks from its locked position. At the same time, using the handle ② to press the roof vent upwards.

To close

- Use both handles ② to pull the roof vent firmly downwards until both catches ① have latched into place.



Roof vent catch



Roof vent (washroom)

Blind/fly screen

To close

- Pull the handle ③ of the blind to the opposite side and hook the clip ④ into the counterpart ⑤.

To open

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



Open blind/fly 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 the signs on electrical components giving safety instructions or danger warnings.
- The installation spaces around electrical equipment such as distribution fuse boards, electric power supply, etc., may not be used as additional storage spaces.
- Smoking and naked flame are forbidden when checking electrical equipment.
- Inexpert handling of the vehicle's electrical system may endanger your own life as well as that of others.
- The standard version of the caravan is not equipped for internal battery supply (self-sufficient operation). To connect to an external 230 V mains connection, use only a weather-proof, 3-wire extension cord with a CEE plug and connector.
- To operate 12V devices (e.g. refrigerator, etc.) safely while driving, please ensure that the car delivers sufficient voltage. In some cars, the vehicle's operating system protects the battery by switching off devices. For further information, please contact the manufacturer of your car.

7.2 Operation of the installed electrical systems

Advice and instructions

Important

- The caravan's electric system should preferably be inspected within a period of less than three years. If the caravan is used frequently, an electrical engineering specialist should inspect the electric system every year.
- Only specialists may make possible changes to the electrical system.
- If necessary, disconnect the battery and switch off the 230V mains before carrying out maintenance work.

Batteries*

- Please observe the battery manufacturer's operating instructions.
- The acid in the battery is poisonous and corrosive. Avoid contact with eyes and skin.
- The completely discharged battery must be recharged for at least 24 hours. The battery may be damaged if it has been discharged for more than 8 weeks.
- Avoid complete discharge, as otherwise the performance and lifetime of the battery will be significantly reduced.
- Check the level of the battery fluid regularly (acid batteries); AGM-batteries require no maintenance, but **must be continuously recharged.**
- Check that the battery terminals are secure and remove any layers of oxidation.

- If the battery is not used for a longer period of time (four weeks or more) press the pushbutton (**see page 95**). The standby current used continuously by some electrical devices discharges the battery. Even if the main switch on the control panel has been switched off, the battery can still be charged by the battery charger.
- If the battery has been removed, isolate the positive terminal (to prevent short circuits).

Battery charger

- The charge controller operates with the use of a sensor or using $I_{U_1} U_0$ charging technology provided the sensor has not been calibrated or the CIBUS system is offline. Please refer to **Chapter 7.3 Battery Management** to calibrate the sensor.
- In the case of misuse the guarantee and manufacturer's liability will no longer apply.
- Ensure that the battery charger is sufficiently ventilated.

Tank probe

The probe with rods measures the contents of the fresh water tank.

- Never let the water stand too long in the tank, to prevent scaling (in the waste water and waste tanks as well).
- Flush the tanks regularly.

230V automatic circuit breaker with an earth leakage circuit breaker

The 230V automatic circuit breaker supplies and protects the 230V devices.

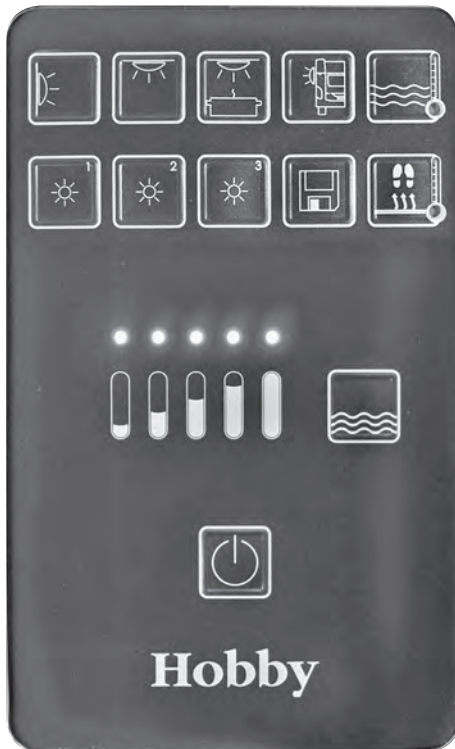
- To switch off the 230V power supply in the entire system, set the 230V automatic circuit breaker to "0" (OFF).

Fuses

- Only replace a blown fuse after the cause of the error has been fixed by an authorised specialist.
- The new fuse must have the same amperage as the old one.

7.3 Control panel

The system consists of a control panel, a standard or TFT panel (model-specific or optional extra) with a keypad and several remote controls. It enables you to operate the different lights 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)



TFT control panel
(Premium models or optional extra)



Vehicles that have been equipped with a Truma Combi heating system also have a TFT control panel.

① Control knob



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. Truma Therme water heater, 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 adjusted.
- 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 caravans, 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 tow vehicle if they have been centrally activated using the main switch on the control panel.



Wall light/lighting
in the seating area



Ceiling light

Wall lights / lighting in the seating area and Ceiling Lamp

- Briefly press the button to switch each lamp on and off. Press longer on the button to adjust 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.

If the intensity has been reduced to a minimum by dimming the lights, the lamp will switch itself off. Since this setting is saved, the dimmer must be reset to the brightest level before the light will shine again. For technical reasons, if the light is set to the very lowest dimmed level, the light may flicker. If this bothers you, please increase the brightness of the light..



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



Ambience (optional for ONTOUR/De Luxe)

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



In the ONTOUR/De Luxe models, these buttons have no functions if the optional extra has not been ordered for the caravan.



Memory button

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



Awning light

- Press the button to switch the awning light on and off. It is not possible to switch this light on if the caravan has been hooked up to the car by means of the 13-pin plug and the engine is running.



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



Kitchen light

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



Water heater with LED display

- Press the button to switch the water heater on and off. An illuminated LED signals that the water heater has been switched on. (LED: only standard panel)
- When the main switch is turned off, the water heater will also be switched off.
- If your caravan has an 14 litre electro boiler (special request) rather than a water heater, the electro boiler will be switched on and off.



In the case of some special requests, e.g. an Alde heating system, as well as when the caravan has been equipped with a (model-specific) Combi heating system, this switch has no function even though the control light is shining (see Chapter 10.2).



Floor heating with LED display

- 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 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 (only standard panel)

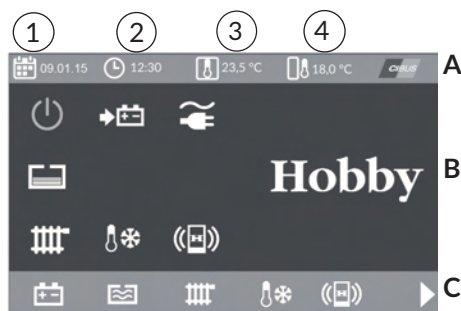
When you press this button, the fill level of the fresh water tank is displayed via an LED chain. The level of the fresh and waste water tanks is displayed in 5 steps:

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 caravan horizontally to obtain a reliable result from the water level indicator.

Main menu on the TFT control panel



Fixed header A

Permanently displays:

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

Main display B

This part of the screen shows the current status of certain appliances. i.e. it shows whether the heating is switched on or if the caravan is on mains hook up.

Stand-by mode

- The display dims slightly if no function has been carried out within a period of one minute.
- The display is switched off and the screen is black if no function has been carried out within a period of ten minutes.



On/Off switch
for power supply



230 V mains connection



12 V car

green = panel activated
orange = panel deactivated (all 12V devices that can be switched on and off using the main switch are off)

Depending on the source of power, either one of the icons on the left will appear.

If the tow vehicle's engine is started and the mains connection has not yet been disconnected, the following message will appear:



Warning: car and mains connection

This warning will first appear 3 times and must be acknowledged. The warning will not appear again when the defect has been fixed. Otherwise, the warning will continue to be shown until the tow vehicle has been switched off or the 13 pin cable has been disconnected.



Fresh water tank

This icon shows the current fill level of the tank.
red = empty



Battery management*

Only when equipped with a self-sufficient package.



Battery being charged



Battery being discharged

red = malfunction



Therme



Alde-warm water heating system* or Truma Combi heating system (model-specific)



Ultraheat*



Floor heating*



Air-conditioning system*

Heating:

Only icons for appliance fitted to the caravan will appear.

Exception: The under floor heating icon (must be hidden manually).



The separate, manufacturer's own control panel for the Truma heating system must be switched on so that the TFT control panel recognizes the device.

green = in operation

red = malfunction

(does not apply for therme and floor heating)

green = in operation

red = malfunction

Current mode:



Automatic



Air circulation



Heating



Cooling



HOBBY Connect*

green = in operation; active connection

orange = system is starting up or shutting down

Soft key menu bar C

This is used to access the individual menus for the items fitted and their current settings.

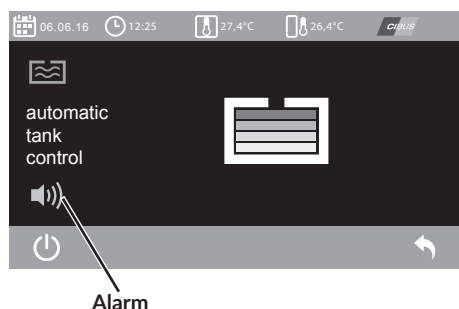
Soft keys

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.

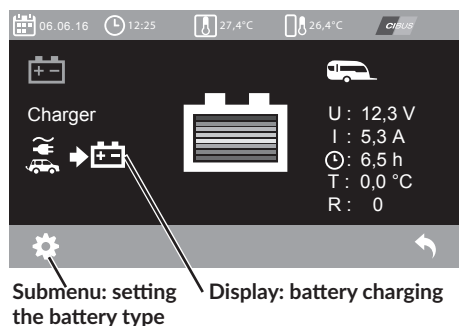
Selected functions / icons are displayed in yellow; values that require changing are highlighted in white.



Fresh water tank

The 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 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 management*

The current status of the 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 = current charging voltage

I = current charging/discharge current

⌚ = remaining time to charge/operate the battery in hours

T = battery temperature

R = calibration check of the battery sensor



The temperature of the battery 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 caravan must be taken to an authorised specialist.

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.

Manually calibrating the sensor

The system can be manually calibrated

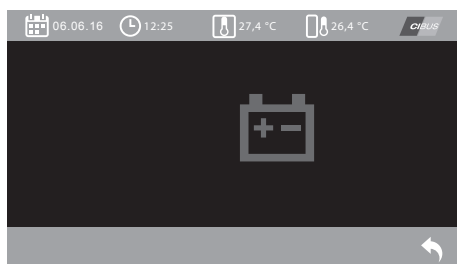
- while using the 230V mains operation or
- if no electrical device has been switched on in 12V operation.

To do this, the 30A main fuse must be switched off by pressing the pushbutton on the battery container (see “7.4 Operation via 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.

Charger (charging the battery)



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

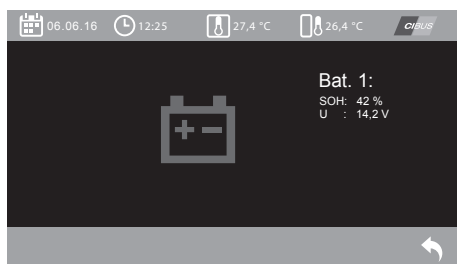


Error messages

Warning message: Low voltage

This warning appears when a voltage of 10.8V or less is measured for a battery for a duration of at least 3 minutes. The icon for the battery in question appears in the menu.

The message can be acknowledged; the battery should be charged immediately.

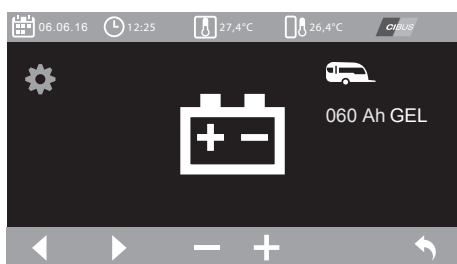


Warning message: age of battery (SoH = State of Health)

This warning appears when the original capacity of a battery drops to a value of less than 50%.

To enable this message to appear, the battery sensor must be calibrated.

The message can be acknowledged; the battery should be replaced.



Setting the battery type

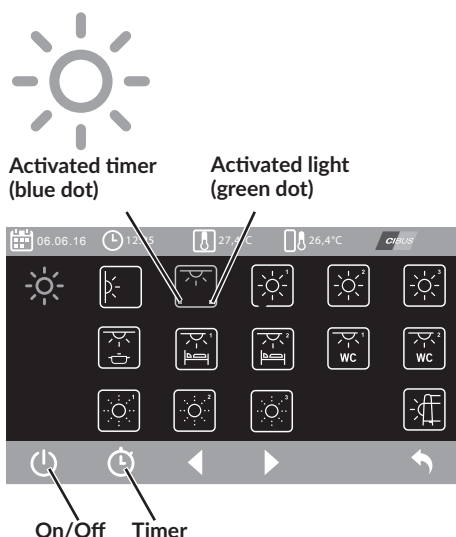
The type and capacity of the batteries have been set by the manufacturer. These settings must be changed when the type of battery is changed.

Use the arrow keys or the control knob to select the desired value. Increase or decrease it by means of the +/- functions. If the control knob is used to change a value, the new value must be confirmed by pressing on the control knob.



If the set values do not match those of the battery that was installed, incorrect values will be displayed in the battery management. Setting the type of battery has an effect on the charging behaviour; therefore, this must be set correctly.

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.



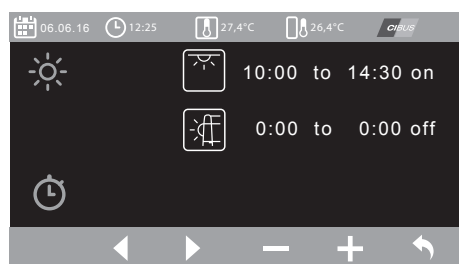
Lighting system

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).

-  Wall lights above centre seating arrangement/seating bench
-  Ceiling light
-  Kitchen light
-  Kitchen wall cabinet
-  Right bed
-  Left bed
-  Shower/Washroom/Washing area
-  Ambient lighting
(not fitted in the ONTOUR and De Luxe standard versions)
-  The awning light
(automatically switched off as soon as the tow vehicles engine is started)
-  Additional lighting (model-specific)

Access the submenu for programming the timer by means of the timer function. Only the ceiling light and awning tent light can be operated using the timer.

blue dot = timer activated
green dot = light switched on



Programming the timer

To set the timer for the lights rotate the control knob to select the desired light 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 or de 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”.



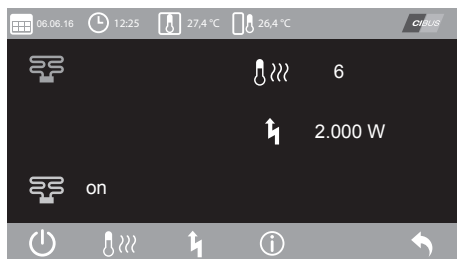
The activated timer is indicated in the main menu for the lighting system by a blue dot in the corresponding light icon.

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 power 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 switched on.



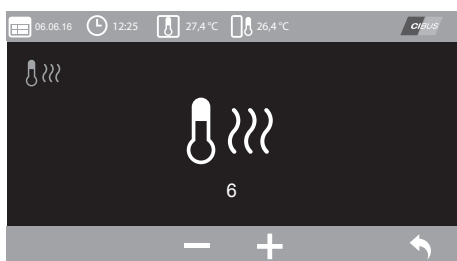
Next to this icon, the value

ON = on or

OFF = The ultraheat(electric heating) is not switched on (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 temperature

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



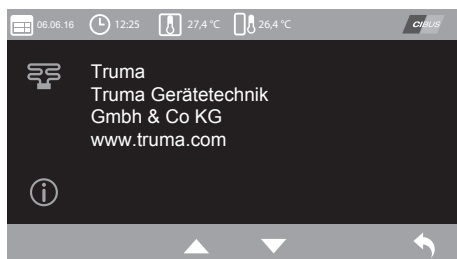
Setting the power level

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

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



Please also observe the instructions in **Chapter 10.2.2 Electric auxiliary heating system.**



Info menu

Information about the device manufacturer is shown here.

It is possible to move from the main menu for the auxiliary heating (ultraheat) menu by pressing the back button again. the “Back” button. It is possible to move from the main menu for the auxiliary heating (ultraheat) menu by pressing the back button again. After one minute, all menus automatically switch back to the main menu on the control panel.



Truma Combi heating system (model-specific) and Alde hot-water heating system*

The Truma Combi heating system is part of the standard equipment in models 460 SFf, 460 SL, 495 WFB, 540 FU, 560 WFU, 560 FC, 650 KFU, 660 WFC, 660 WFU and 720 KWFU/WLC/WQC . As an optional extra, this can be replaced by a Truma Combi e-heating system (can be operated electrically). The specifications for UK supplied caravans can differ from those listed above (please speak to your UK dealer)

In certain models, it is also possible to install an Alde hot-water heating system as an optional extra instead of a therme or Combi heating system.

The functions on the TFT control panel are practically identical for all three options. The standard Combi heating system is described below. Differences between this and the optional extras are indicated.



The TFT control panel can only be used to control the basic functions of the heating system. To use enhanced functions, the system must be controlled by the separate, manufacturer's own control panel.

Green icons indicate the functions that are operating.



The user can see at a glance 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*). The lower menu icon is shown in green when the heating system is switched on..

Next to this icon, the value

ON = on or

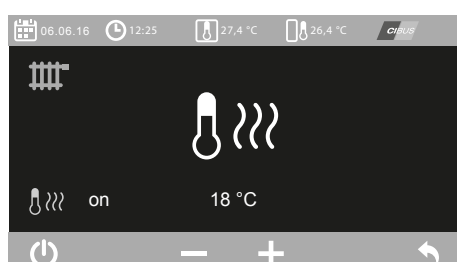
OFF= heating system is not switched on. (white icon) is shown.

The heating system is switched on or off using the "On/Off" function in menu bar C.



If the "Off" function is used to switch off the heating, the values that have been set will remain saved. If the "On" function is used to switch the heating back on, the functions last used will automatically reactivate themselves.

The icons for temperature, power source and power setting 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.

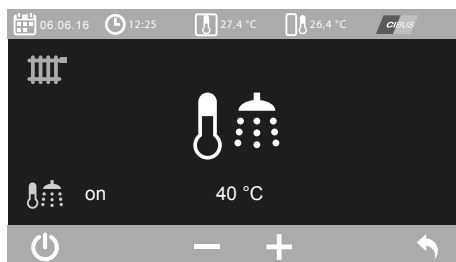


Setting the desired room temperature

In steps of 1° C from +5° C to +30° C



The Alde hot water heating system can be operated in steps of 0.5° C.



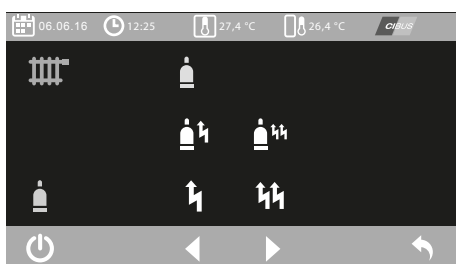
Short-term increase in the amount of hot water

Temporarily increases the hot water temperature from 40° C to 60° C if there is an increase in hot water consumption.



The Alde hot water heating system can be increased from 50° C to 65° C.

To change the temperature, use the control knob to select the temperature you want (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 temperature. Press the control knob to confirm the change. Use the “On/Off” function to switch the hot-water heater on and off.



The menu shown above can only be selected for the Truma Combi e-heating system* and the Alde hot water heating system*:

Type of operation

Gas, mixed operation (gas+electric) or electric can be selected. If mixed operation or electric operation have been selected, the power level must also be selected.

Truma: 1 lightning bolt = 0,9kW, 2 lightning bolts = 1,8kW

Alde: 1 lightning bolt = 1kW, 2 lightning bolt = 2kW and 3 lightning bolt = 3kW.)



From a setting of 2kW or more, the power supply feeding the caravan must be 16amp (must have a 16amp fuse). Please speak to the site owner or manager

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 instructions in **Chapter 10**.



Info menu

Information on the device manufacturer is shown here.



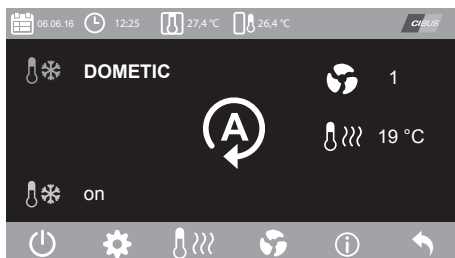
Corresponding data has been stored for the Alde hot water heating system.

It is possible to move from the main menu for the auxiliary heating (ultraheat) menu by pressing the back button again. After one minute, all menus automatically switch back to the main menu on the control panel.



DOMETIC* air-conditioning system

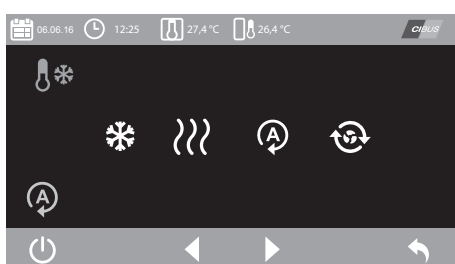
The chosen setting (heating or cooling), fan level and desired room temperature are displayed in the menu for the Dometic air-conditioning system. The lower menu icon is shown in green when the air-conditioning system is switched on.



Next to this icon, the type of operation

ON = on (green icon) or

OFF = air-conditioning system is switched off (white icon) is shown.



Submenu: Selecting the type of operation



cooling



heating

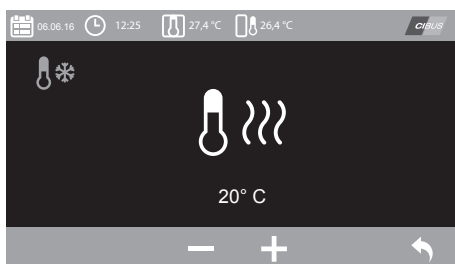


automatic mode



air circulation mode

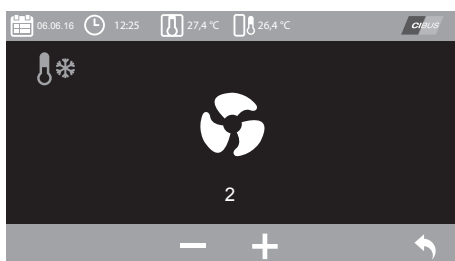
The type of operation can be changed using the “+/-” soft keys on menu bar C or by turning the control knob. The new type of operation must be confirmed by pressing the control knob or by means of the “On/Off” soft key.



Setting the temperature

The desired temperature can be set here (16 - 31° C).

This is not possible in air circulation mode, because neither the cooling nor the heating function are then active.



Setting the fan speed

Set the desired fan speed 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.

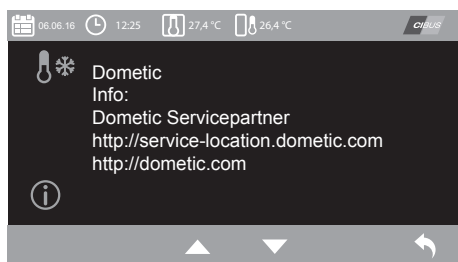


The fan level can only be selected manually for “Cooling” and “Air circulation”. For all other types of operation, the roof air conditioning system controls the fan automatically.

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



Please also observe the instructions in **Chapter 10.9 Roof air-conditioning system**.



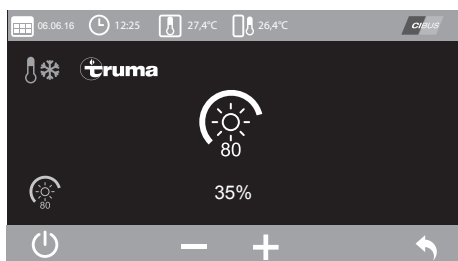
Info menu

Information on the device manufacturer is shown here.

It is possible to move from the main menu for the auxiliary heating (ultraheat) menu by pressing the back button again. After one minute, all menus automatically switch back to the main menu on the control panel.



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

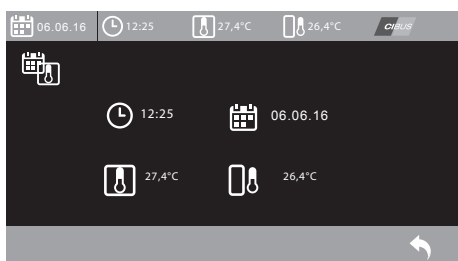


TRUMA* air-conditioning system

If a TRUMA air-conditioning system is subsequently fitted, it is also possible to select the submenu to regulate the lights built into the unit.

Increasing or reducing the setting by means of the "+/-" function or the control knob changes the brightness of the lights integrated into the air-conditioning unit (0 - 100%). Press the control knob or use the "On/Off" function (left soft key) to confirm the new setting.

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.



date



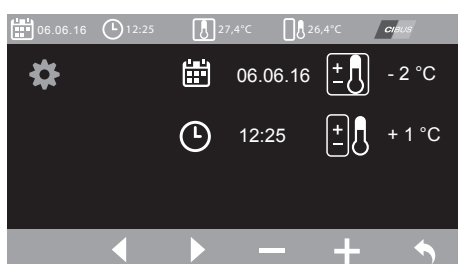
time



inside temperature



outside temperature



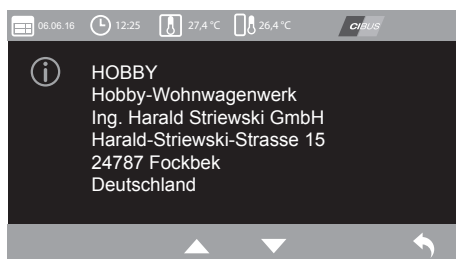
Settings menu (for data in the fixed header A)

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 setting. Press the control knob; it is then possible to change the settings by turning the knob (right = increase setting; left = decrease setting) or by using the "+/-" function. Press the control knob to confirm the changed setting. Only then will it be saved.

The wake-up Alarm time is set and confirmed in the same way. Use the "On/Off" function to activate the alarm clock. The activated alarm clock is shown in green.

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 $\pm 12^{\circ}\text{C}$.

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.

7.3.1 HobbyConnect*



HobbyConnect enables most CI BUS-enabled components in the recreational vehicle to be operated via mobile devices (smartphone/tablet/PC/notebook).

Normally, the **MyHobby app** is free of charge and available as a demo version even without the HobbyConnect system.



The components in your own recreational vehicle are not connected to the app via the demo version.



- The MyHobby app is only available for iOS or Android operating systems.
- The MyHobby app is constantly being improved and updated. Therefore, new In-App functions are on offer from time to time.
- An HTML version (access to the vehicle via Internet) is currently being developed.

There must be a **HobbyConnect system** (i.e. an installed Connect Box with an integrated SIM card) in the caravan in order to establish a connection between the CIBUS-enabled components in the caravan and the app.

The connection between the caravan and the app can only be established if the Connect Box has been activated on the server and assigned to the corresponding vehicle. In order to activate the Connect Box, the access code (MyHobby Code) must be entered in the **MyHobby app**.



Upon request by the customer, the responsible dealer will activate the Connect Box. The customer will then receive the access code via e-mail or the appropriate key card will be handed over by the dealer.



The Connect Box automatically connects itself to the server via the SIM card as soon as the Box has been connected to the electric system. Only connect the Box to the on-board equipment just before using the HobbyConnect system.

The SIM card includes a 12-month m2m **telephone contract** (for data transmission via the Internet). The contractual period begins as soon as the system has been connected. Before the term is over, the **MyHobby app** will call on the user to purchase an extension for the telephone contract. After 12 months, the SIM card will be deactivated if no extension has been purchased. If the existing contract is extended, it is then possible to use the HobbyConnect system for a further 12 months. If the subscription runs out, the SIM card will be deactivated. To reactivate the HobbyConnect system, the provider will send an e-mail requesting payment.



- The telephone contract runs for 12 months. Contract extensions must be purchased.
- The SIM card no longer works after the renewal period has expired.
- A new SIM card can be obtained together with a new HobbyConnect box through your dealer.
- Your cell phone provider may charge extra if you use an Internet connection abroad.



- If the contract is not extended, the components can only be operated by remote control via Bluetooth when standing in the near vicinity.
- To enable data to be transferred, the camper must be located within the group of countries shown in hatched lines on the map on **page 87**.
- The HobbyConnect system collects, processes and uses data in accordance with the consent given under "Data Protection". To stop such data, especially in connection with the location of the caravan, from being stored further, simply remove the SIM card from the control unit.

General information on using the HobbyConnect system

Access data and user settings are administered via the Hobby dealer.

- Contact your dealer if your user data should change.
- Treat your access code (MyHobby Code) with the strictest confidence. Anyone who has this access code can take over the remote control of the connected components. Report the loss of the access code immediately to your dealer.

7. Installation of electrical devices

- Make note of any changes in the user settings and user accounts when purchasing or selling a vehicle that has been equipped with the HobbyConnect system.
- Please note that your device must be able to send and receive mobile data. If this function has been deactivated or you do not have a mobile Internet connection, the HobbyConnect system can only be controlled via Bluetooth.



Connect Box

Default settings

First, please check whether the installed Hobby Connect Box is connected to the micro USB connection and supplied with power.

The USB power supply cable must be connected to the Hobby Connect Box. Blinking red and green LED lights at the top left indicate whether or not the box is working.



Key card

The Hobby Box code for connecting the app to the vehicle can be found in the enclosed documents.



Do not confuse the serial number with the Hobby code!

If no Hobby code has been noted on the card, please contact your Hobby dealer, who will send you the Hobby code via e-mail. **(Please refer to the MyHobby Code section.)**



Should you not be able to log in with your access data, this may be because your account has not yet been activated. In this case, please speak to your Hobby dealer.



Using the "MyHobby" app



Descriptions and illustrations may vary, depending on the operating system of the mobile device.



III. 1

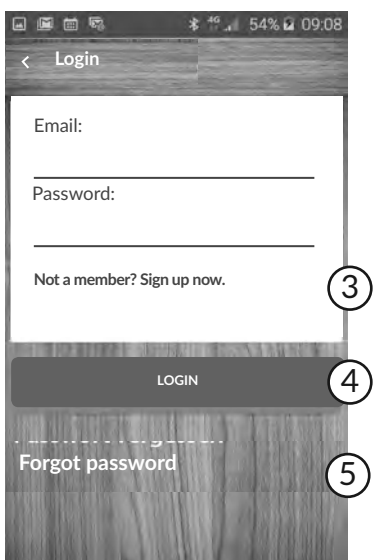
Install the **MyHobby app** on your device and then start the app.

Start screen when accessing the app if a user has not yet been registered.

Use "Connect MyHobby" ① to start the app.

You will be asked to register the first time you start the app. Use the menu ② to register. To register: follow the instructions in the sections below for the "Android operating system" or the "iOS operating system", depending on which system your mobile device uses.

If the app has already been started, select "MyHobby Code" ⑦ to view your account data.



III. 2

Android Operating System

The interface for registering in the Android operating system is shown on the left.

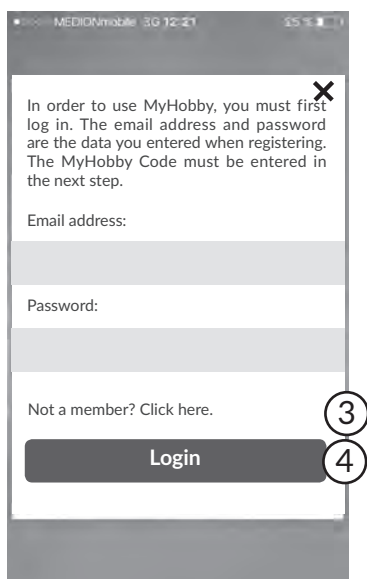
Click on "Not a member? Sign up now." ③ to register. Complete registration as described in III. 4.

Use the "Forgot password?" function ⑤ to reset the password and have a new password sent to the e-mail address entered.



III. 2a

Use the "Forgot password?" function ⑤ to switch to a submenu and have a new password sent to the e-mail address entered. Enter a new e-mail address in the input field and use the "Reset password" button to confirm it.

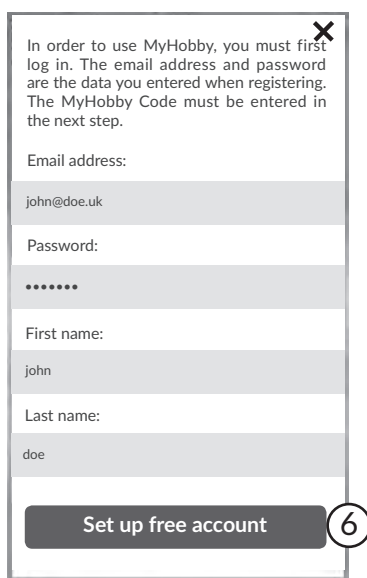


III. 3

iOS Operating System

Click on "Not a member? Click here." ③ to register.

Complete registration as described in III. 4.

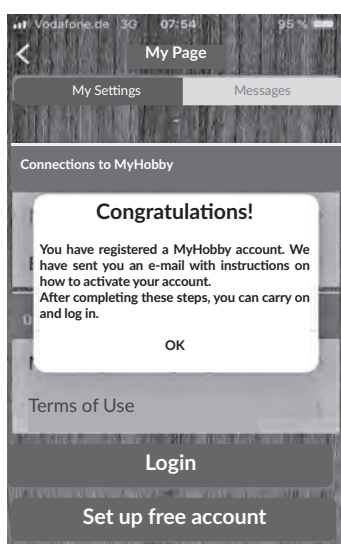


III. 4 a

Enter your e-mail address, your first and last name and set up a password. Then click on the button "Set up free account" ⑥.

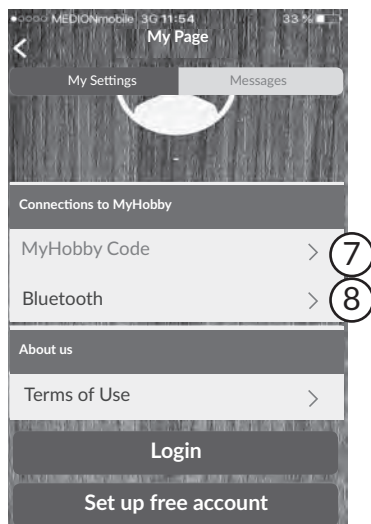
You will then receive an e-mail that includes a confirmation link. Click on the confirmation link to complete the registration process.

In future, simply enter this e-mail address and the password that has just been set up in login form (III. 2/III. 3) and click on the "Login" button ④ to start the app.



III. 4 b

This will take you to the Start menu.

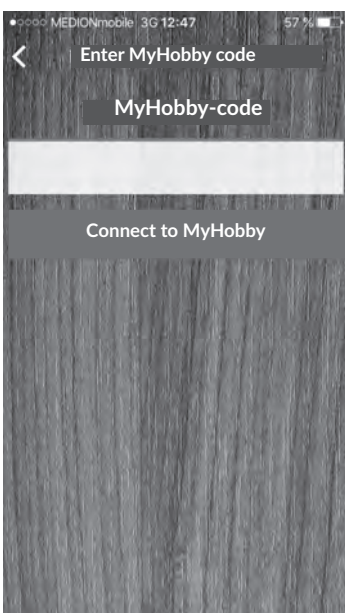


III. 5

MyHobby Code

To enable the dealer to generate the Hobby code, please have the following data at hand:

- the serial number of the MyHobby Connect Box (can be found on the box, in the enclosed documents or in the TFT menu for Hobby Connect under CB number: xxxxxx)
- and the vehicle identification number (VIN).



III. 6

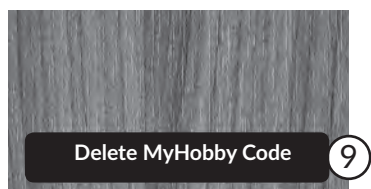
When you have received the Hobby code, select "MyHobby Code" ⑦ and enter the access code.



- Your dealer will give you the access code.
- Be careful to use the correct upper and lower case spelling.
- A message will be sent when the connection to the caravan has been established.



The Bluetooth function will be activated after the caravan has been connected to the app for the first time by entering the access code. Before this has been completed, it is not possible to connect via Bluetooth.



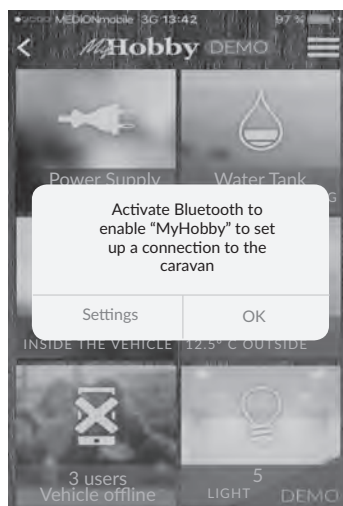
III. 7

The MyHobby Code that has been entered is shown at the top of the screen (removed here for reasons of data protection).

Use the "Delete MyHobby Code" button ⑨ to disconnect and delete the access code that was entered.

Furthermore, the red button indicates that the MyHobby code is correct and that you can now return to the main menu.

There are differences in the app's functions, depending on which components have been fitted, as well as different functions, depending on the type of caravan. **(See App Functions)**



III. 8

Setting up a Bluetooth connection

To set up a connection between your mobile device and the TFT control panel in the caravan, the Bluetooth function on both components must be activated.

Therefore, in order to use the app functions, you will be requested to activate Bluetooth on the app (III. 8).



III. 9

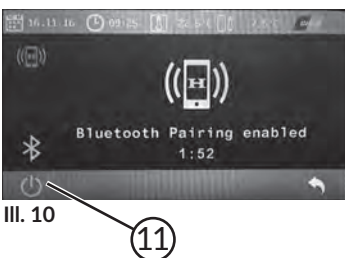
1. Activate the Bluetooth function on the TFT control panel in the caravan. Proceed as follows:

In the Start menu, select the submenu HobbyConnect ⑩ by means of the softkey or the control knob.

Activate and deactivate the Bluetooth connection by means of the On/Off function ⑪ in the submenu.



The system counts down the remaining time from 2 minutes. During this time, the caravan is displayed on the mobile device via Bluetooth.



III. 10

2. Activate the Bluetooth function on your mobile device. If necessary, use the manufacturer's operating instructions.



III. 11

When the Bluetooth functions have successfully been activated, use the "Bluetooth" button ⑧ on the app's Start menu to connect the components and then start the "Search" function ⑫

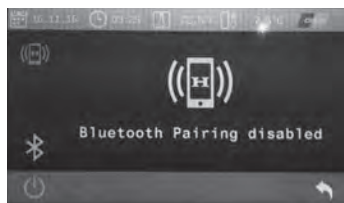


This procedure can take up to 30 seconds.



III. 12

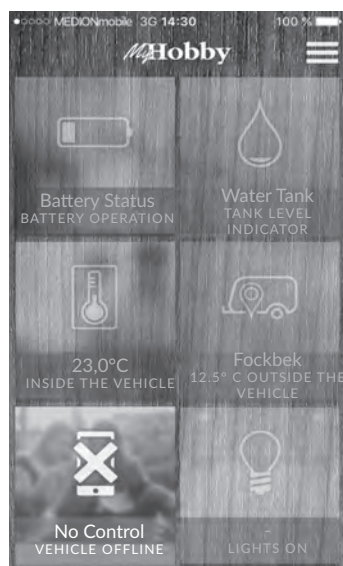
The picture on the left (III. 12) shows a successful Bluetooth connection.



III. 13

This message will appear on the TFT control panel if a Bluetooth connection could not be set up.

Please check the Bluetooth settings again on your mobile device.



III. 14



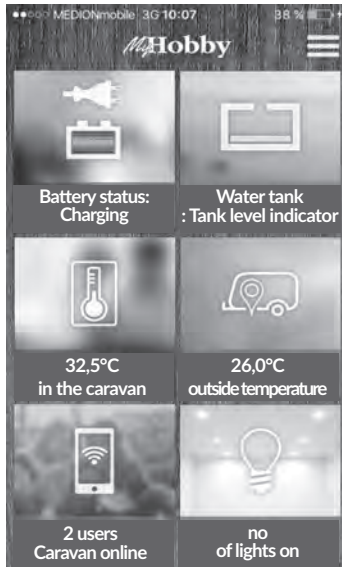
Special features indicate that a connection to the caravan could not be set up. The overview will be greyed out and "No control/vehicle offline" will be displayed.

This may be caused by the following:

- The box was not connected by means of the USB power supply cable.
- The box is not activated. The box activates itself automatically as soon as the caravan has been connected to the power supply for a certain period of time.
- The signal from the Connect Box is too weak. Depending on network reception, the caravan's location may be responsible for this.



Please contact your dealer if you have any questions or difficulties.



III. 15

Using the app functions in caravans

The user interface shows the functions that can be read out and/or controlled via the app.



The operating elements on the app interface may vary, depending on how the caravan has been equipped. Tap on the desired function once to enter the submenu and obtain detailed information on the function in question.



III. 16

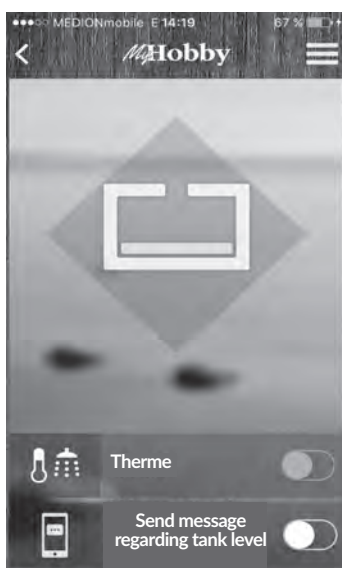
Battery Status

If the caravan is equipped with the self-sufficient package* the battery status will display the following:

- whether the battery is being discharged or charged,
- whether the battery charger is connected to the 230V mains
- and how much time the battery requires to be charged fully or how long the battery can continue to deliver power at the present current consumption.

Furthermore, if a battery sensor has been fitted, the present current strength and available voltage will be displayed.

Activate the notification option to receive a message when the battery is low.

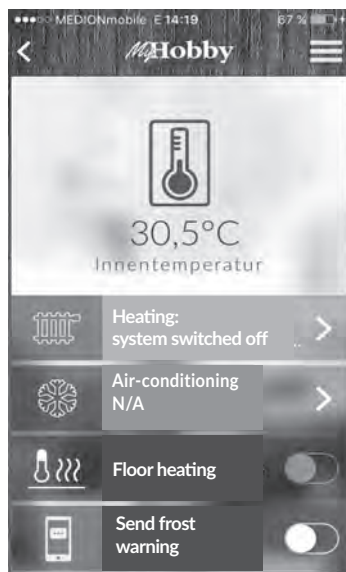


III. 17

Water Tank

The fill level of the fresh water tank is displayed here.

In addition, the therme can be switched on and off as required, depending on how much hot water is to be provided.



III. 18

Inside temperature

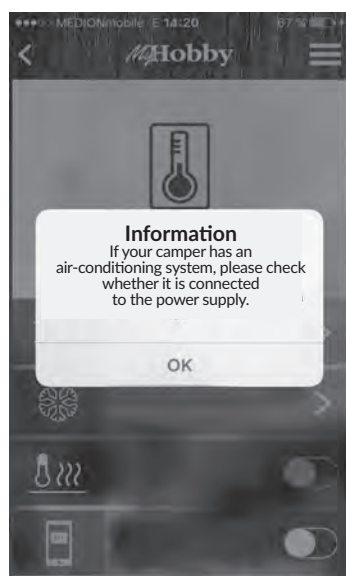
Depending on how the vehicle has been equipped, this function is used to regulate the air-conditioning system* and/or the floor heating system*.

If, for example, no air-conditioning system was fitted, the system will recognise this and inform the user accordingly. (Fig. 19)

In this menu, you can regulate and control

- the heating,
- the air-conditioning system
- and the floor heating system.

Furthermore, the function can be programmed to send you a message if the system recognises there is a danger of frost, enabling you to switch on the heating if necessary to prevent the caravan freezing up.



III. 19



III. 20 a

Weather and location

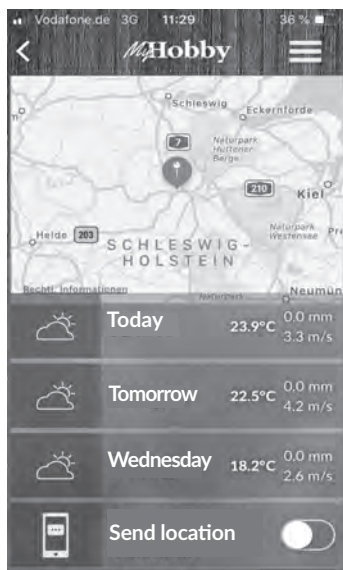
The outside temperature is detected via a sensor. A weather forecast is displayed for the next three days.

After parking the vehicle in a certain location, activate the function "Notify location".

This enables the system to understand that the camper is not to be moved from its location. Should the vehicle's position be changed, an automatic message will be sent to your mobile device as soon as the radius has been changed by more than 1 km.



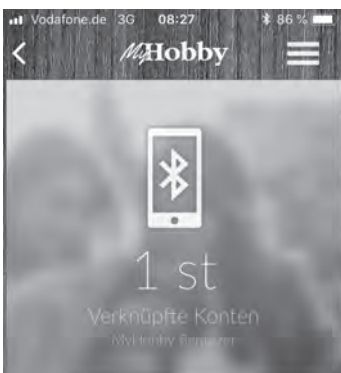
If you have deactivated the "Notify location" function on your mobile device, the last known location will be used. The weather report may then vary considerably.



III. 20 b

GPS data is used to show the position of the mobile home.

This data is not saved and the current location is always displayed provided there is a connection. Click on the map to be redirected to the Google Maps view.



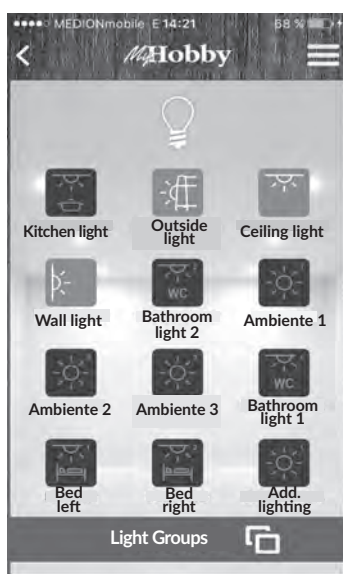
III. 21

Users

This menu displays the number of users connected to the vehicle via the Internet. If you have logged in via Bluetooth, this will be displayed here.



A maximum of eight users can connect simultaneously to the vehicle via the Internet. If Bluetooth is used to connect to the vehicle, only one user can access the system.



III. 22

Lighting

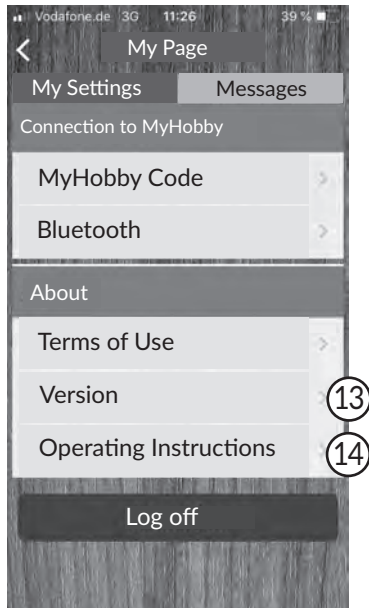
The lighting menu can be used to switch lights on and off individually or as a light group (several lights at the same time).

To set up a light group, switch on the desired lights and save them under Light Group.

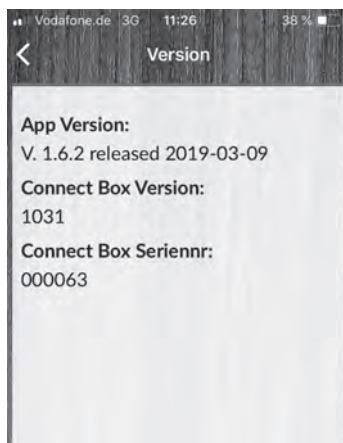
Scroll down further to find the main switch that turns all of the lights off.



The app cannot be used to dim the lights.



III. 23



III. 24

Version

Click on the submenu “Version”¹³ in the settings to find information on your HobbyConnect system.

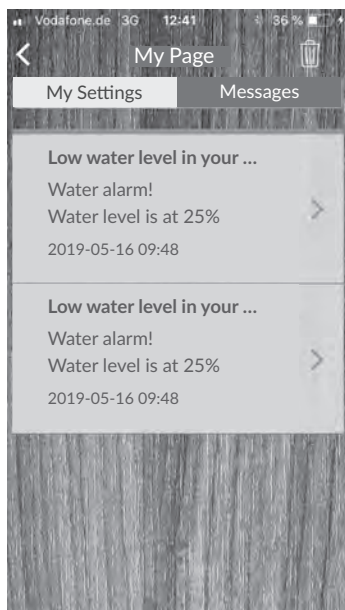


III. 25

Operating Instructions

The digital version of the Operating Instructions can be downloaded via the HobbyConnect system. Click on the submenu “Operating Instructions”¹⁴, enter the model year and type of vehicle and then click on the “Download” button.

7. Installation of electrical devices



III. 26

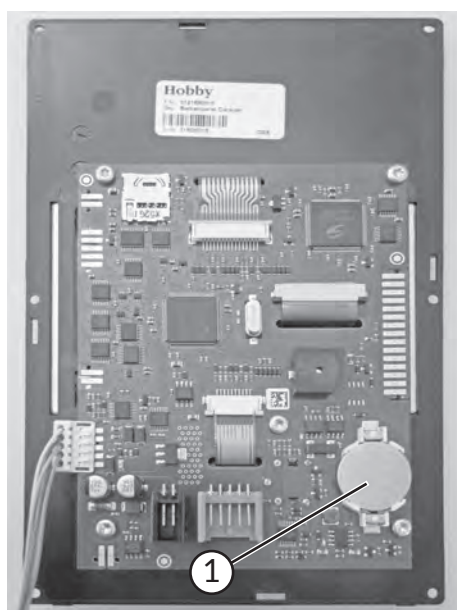
If necessary, the messages displayed in the system can be deleted by clicking on the Trash icon in the upper right-hand corner of the overview of messages (Fig. 26).

The MyHobby App is available in the following countries:



Possible errors

Possible errors	Suggested solution	Other
The app cannot be found in the store.	Check the settings on the device; write MyHobby as one word and not two.	Check the app settings in the respective country.
The Hobby Connect Box is not recognised.	Check whether the device is connected to the power system.	The red and green LED lights must blink in the upper left-hand corner.
The box is connected to the power system, but it is not recognised.	Check the data cable on the box. Restart the device by separating it from the power supply system for 10 seconds and then reconnecting it.	Contact your dealer.
Logged into the app, but the box is in offline mode.	Have your dealer check GSM and GSM reception.	If necessary, change the location and then check again.
Only the air-conditioning system is not recognised.	Press the main switch located directly on the roof air-conditioning system to operate the device.	Contact your dealer.
The connection was interrupted.	Disconnect the power cable from the box for 10 seconds and then restart.	Still no connection: have your dealer check the data.
App connection exists, but elements in the vehicle do not react to switching.	Check whether the HobbyConnect icon is displayed on the TFT control panel. If necessary, exit from the demo mode.	If no icon is visible, check the power supply. If necessary, disconnect it briefly.
Hobby code does not work.	Enter again. Be careful to use the correct upper and lower case spelling.	Should several attempts fail, contact your dealer.
Bluetooth connection does not work.	Check the settings on your mobile device to ensure that Bluetooth has been activated.	The distance to the vehicle is too great.



Circuit board (reverse side) of TFT display

General information regarding the TFT display

The time and date are powered by a 3V 210 mAh, CR2032 type battery ①. If, therefore, the time should be incorrect or the clock should stop working, this battery ① must be replaced. It is mounted on the reverse of the circuit board of the TFT display. To replace this battery, 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 battery, please ensure that plus and minus are in the right direction. Incorrect polarity may cause the display to become defective.



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 awning light



Please ensure that the buttons on the remote control are not pressed longer than necessary, i.e. only until the desired function has been carried out. Pressing them longer than necessary reduces the lifetime of the battery in the remote control.

The battery in the remote control must be exchanged if the LED only lights up dimly when you press a button or if you notice that the range of transmission is significantly reduced. Loosen the screw on the back of the remote control to separate the upper and lower parts of the casing. Take out the flat battery and replace it with a new one. Check to ensure you have put the battery in the right way (+ / -). When putting the upper and lower parts of the casing back together again, ensure that the circuit board is in the right position in the lower part and that the operational controls in the upper part do not fall out of the guide rails.



3-key control panel

Remote control(s), bed/kitchen

- Briefly press the key to switch the:

Pos.- No.	Bed	Kitchen
①	ceiling lighting (in the ONTOUR/De Luxe model = ceiling light over the bed) (otherwise = ambient interior lighting)	Indirect lighting / ambient lighting (model-specific)
②	left bed light	Ceiling light
③	right bed light	Spotlights in the kitchen ceiling

Press longer on the key to dim the light if required. 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
 - ④ lightning in the shower
 - ⑤ lightning over the washstand on and off.



If the caravan 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 campers 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.

7.4 Electrical supply



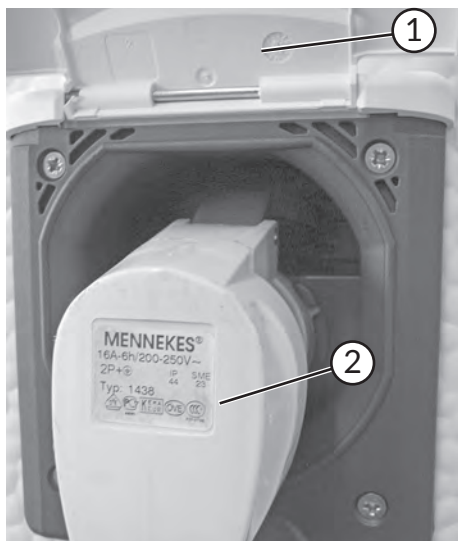
CEE external socket

An electrical supply to the caravan can be obtained from the following connections:

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

Supply via mains hook up

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



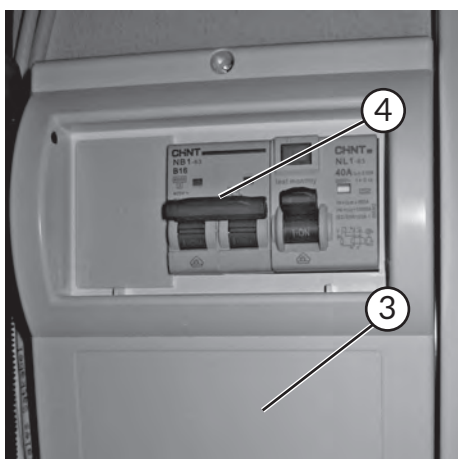
Connected 230V hook up

To connect to a mains hook up point

- Pull out the 13-pin plug that connects to the tow 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 (see Chapter 5.2 Cover Flaps).
- Completely unwind the mains 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.



Always first unhook the caravan from the car before setting up the 230V mains connection.



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 must be used.

Protecting the 230V system

The 230 V system is protected by a two-pin 13 A automatic circuit breaker (3), which is located in the wardrobe (460 DL + 470 UL ONTOUR in the seating area). (Exceptions to this include special installations, such as ultraheat, hot-water heating, etc.. In this case, an additional two-pin 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 caravan to an external 230V mains.



When you are using a cable drum, this **must** be completely unwound, when the caravan is in use (drawing mains power), as otherwise induction may cause the cable to heat up, which could lead to a fire (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 and test button

Residual current device

The standard version of your caravan 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 trip 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.



The tripping time for the residual current device (RCD) with a residual current of 30 mA is less than 0.1 seconds.

After connecting up to an electrical supply and switching the power on in the caravan, 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 trip when you press the test button ②. The rocker switch ④ (p. 91) jumps down; after it has successfully been checked it must be switched back up to the "On" position.

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 switched 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.

7. Installation of electrical devices

Devices that cause it to trip when in use show that there is a fault; 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.



13-pole plug

Operation via the tow vehicle

When driving, the battery of the tow vehicle takes over the supply of the 12 V supply if pin 9 of the 13-pin socket system on the tow vehicle is connected.

Use the main switch on the control panel to switch off 12V operation (when the caravan is hooked to the car) on longer stopovers and breaks to conserve power in the car's battery.

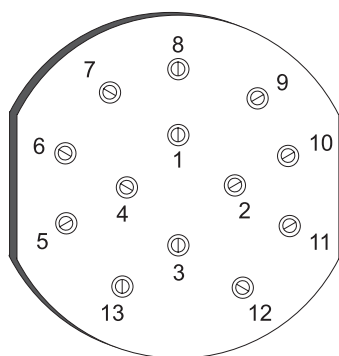
When running on 12 volts, the refrigerator only functions if the motor of the tow vehicle is turned on. Pins 10 and 11 of the 13-pin socket system.



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



If operation is carried out via the tow vehicle, a maximum of 2 electrical devices in the caravan can be switched at the same time using the control panel. This is not the case when a 12v battery system (self sufficient package) is installed.



Connector pins on 13-pin plug in accordance with ISO 11446

Connector pin functions on the 13-pin plug

PIN	Colour of wire	Wire size	Electrical devices
1	yellow	1,5	Left indicator
2	blue	1,5	rear fog Light
3	white	2,5	Earthing for pins 1 to 8
4	green	1,5	Right indicator
5	brown	1,5	Rear tail light, marker light, licence plate illumination on the right
6	red	1,5	Brake light
7	black	1,5	Rear light, clearance light number plate light on the left
8	pink	1,5	Reversing light
9	orange	2,5	Continuous 12v supply
10	dark grey	2,5	Fridge supply activated by the tow vehicles ignition.
11	white/black	2,5	Earth for fridge
12	light grey	1,5	Not normally used (sometimes used as earth link).
13	white/red	2,5	Earth for pin 9 only

Operation via 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 batteries, use only batteries of the same make and capacity.
(Setting the battery type on the control panel: **see p. 68**)
- Before disconnecting or connecting the battery, disconnect the electric connection to the tow vehicle and switch off the 230 V supply, the 12 V supply as well as all electrical devices.
- Before replacing fuses you must first turn off the battery charger.
- Before replacing a blown fuse you must first fix whatever caused the fuse to blow.
- Fuses should only be replaced by fuses with the same fuse protection value.



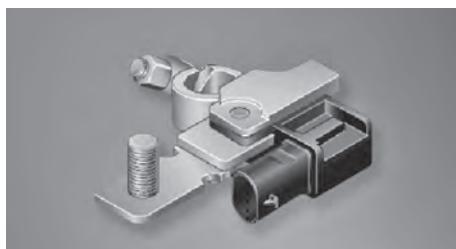
Battery

Using and charging the battery*

If the caravan is not connected to the 230 V mains supply, the battery will supply the electrical system with 12 V DC voltage (the 230V sockets are not active in this operating mode).

Since the battery only has a limited capacity, the electrical devices should not be operated for a long periods of time without charging the battery or connecting the caravan to the 230 V mains connection. Some electrical devices continuously use standby current from the battery. This flattens the battery. The battery is charged via the battery charger from two possible input sources:

- 230V mains connection
- from the car's alternator when connected to the caravan by means of the 13-pin plug and only if the ignition has been switched on.



Intelligent Battery Sensor (IBS)

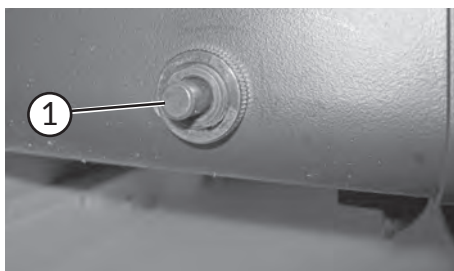
Battery Sensor

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. Please refer to **Chapter 7.3** to calibrate the sensor.

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 charged 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 it is too low to operate 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.

7. Installation of electrical devices



Pushbutton



Battery container

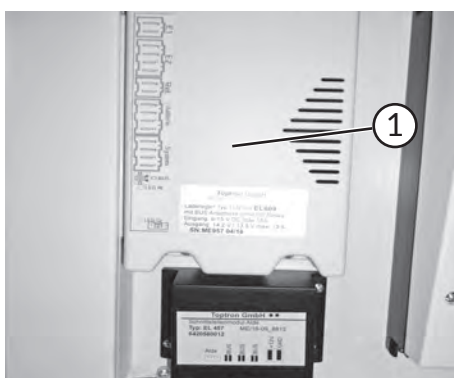
Pushbutton

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 long period of time, please disconnect the battery from the electrical system in order to prevent the battery from being excessively discharged.



- Always charge the ancillary battery for at least 10 hours before each journey, directly after each journey and before you take the caravan temporarily out of service:
- Before each journey, please check that the battery is charged (**see p. 67**). If necessary, connect it to the mains and press the main switch to start charging the battery.
- The battery is only charged if it's voltage has dropped to 8V.
- Use every opportunity during your journey to charge 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.
- If the caravan is not in use for a long period of time, the battery should be disconnected after it has been fully charged by pressing the pushbutton on the 12V electrical system.
- The battery loses its effectiveness after having been used for a while and at low temperatures.
- A warning will go off if the battery charge is less than 50% of its nominal capacity.
- The battery sensor is safeguarded by means of a 10 A fuse.



Battery charger ① in the wardrobe

Battery charger

The charger supplies the battery with electric power when there is bus-powered mains operation.



- Airing the battery charger insufficiently will cause a reduction in the charge current.
- The surface of the charger casing may become hot when the device is in operation.
- The battery charger may only be opened by a specialist.

7.5 Electrical system



CEE-Mains hook up socket

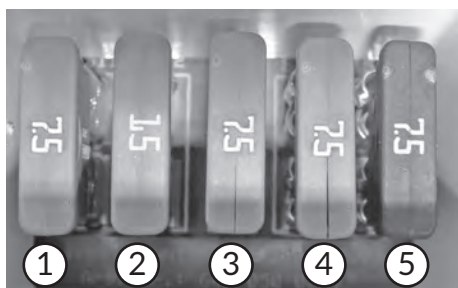
As soon as there is a mains connection, the electrical system will switch from battery operation to mains operation. The electrical supply unit uses a transformer to change the external mains voltage for the 12 Volt electrical devices. All of the lamps in the caravan use 12V. Only large electrical devices 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, wardrobe light (only WLU), awning light, wall lights, ceiling light, bedside lights

Electric circuit ② (15 A):

children's bedside lights

Electric circuit ③ (7,5 A):

wardrobelight, left bedside light (only WLU), ambience 2, kitchen, shower lights

Electric circuit ④ (7,5 A):

fan, lights around the washbasin, ambience 3, ambience 1

Electric circuit ⑤ (7,5 A):

water pump, Toilet flush, fridge light



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



Sockets inside the vehicle



Sockets located inside the vehicle may not be used for devices that are operated outside the vehicle.



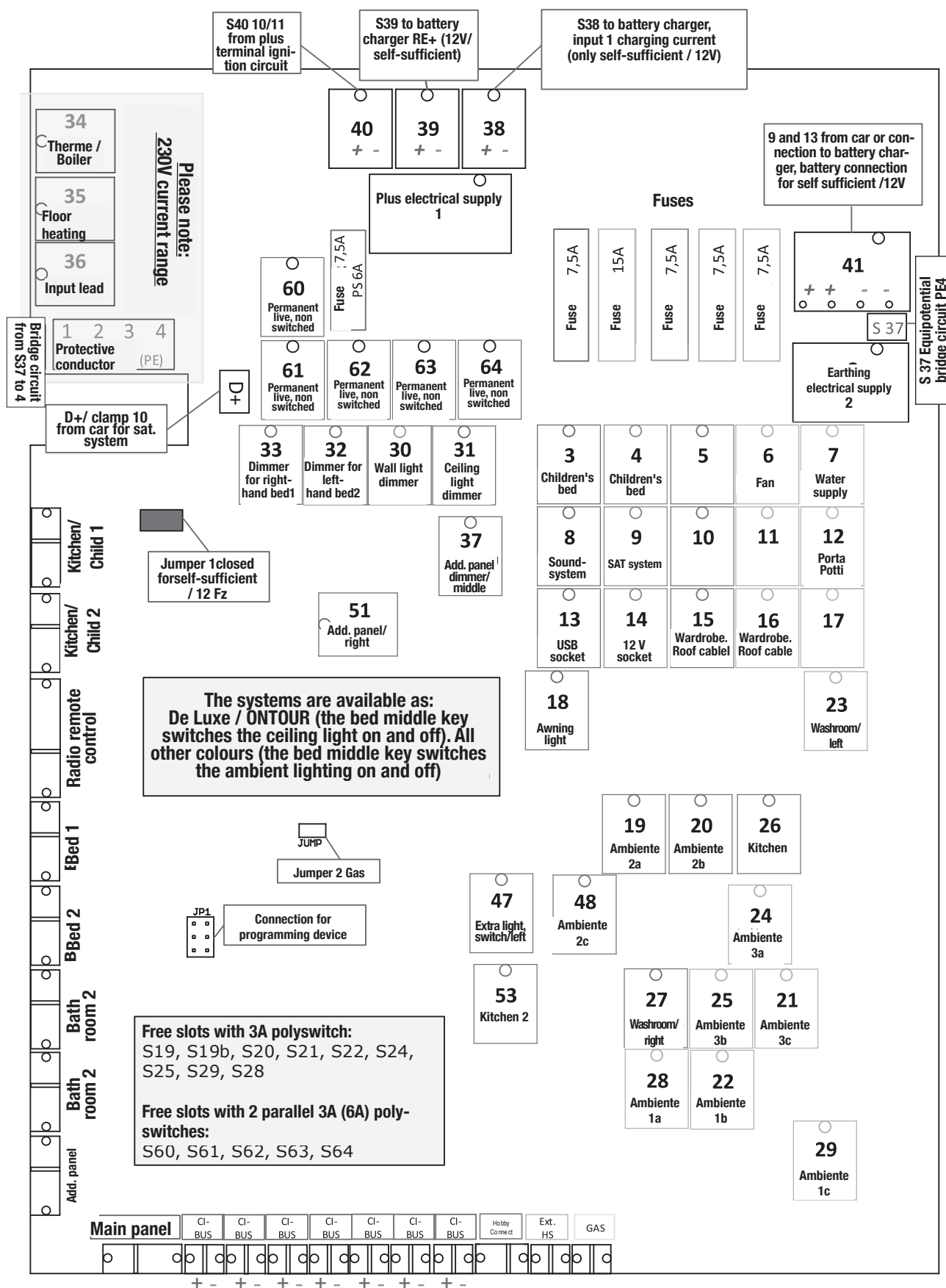
USB connection

USB charging socket* (model-specific)

The USB charging socket ① is suitable only for charging USB-compatible devices.

The 5V USB connection is supplied with power from the 12V electric system.

7.6 Diagram of the electrical distribution board



Contact assignments may differ slightly in some models.

7.7 TV Connections



TV connections

TV unit

The installation area for the flat-screen TV differs from model to model.

The required connections can be found right next to this space, possibly in a cupboard.

The corresponding connection for the satellite antenna (E3) is located underneath the base of the wardrobe.

The power cable (E3) has already been connected by the manufacturer to the control panel.

Cable colours:

white = mass
black = steady plus
brown = D+ signal



External socket and antenna terminal in the awning.

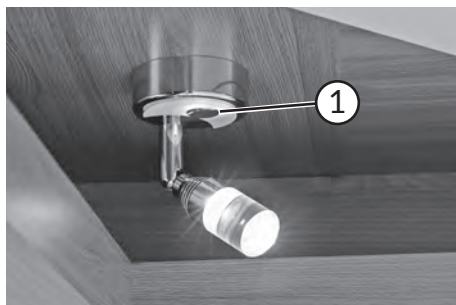
External socket in the awning, incl. satellite/TV connection

Your caravan also has a combined external socket and aerial connection in the awning (optional extra for De Luxe (Edition) and ONTOUR).

This can be used, for example, to set up a TV in the awning. Depending on how you wire it, the integrated aerial connection can be used as either an input or an output socket. For further information, please speak to your Hobby dealer

7.8 Additional Lights

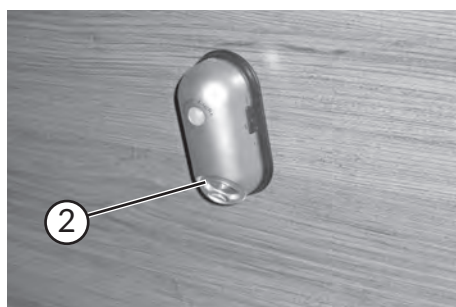
The switches for the lights described here are located directly on the lights themselves; they are not controlled via the control panel.



Touch spotlight

Touch spotlight (model-specific)

The touch spotlights are switched on and off by using the rocker switch ①. The light can be regulated with varying intensity.



Wardrobe light

Wardrobe light

The wardrobe light ② is switched on and off by opening the doors of the wardrobe (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.

The lamp can be removed from its holder and used as a torch.



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 on the bottom of the light.

8.1 General information

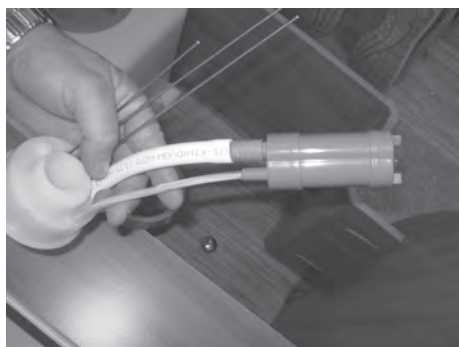


We recommend that you inspect any water you have left in the tank, this is very critical before using the water again.



- Water that is suitable for drinking should always be used when 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. Please find out in advance about the local water quality.
- 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 long 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 e.g. Milton fluid.

8.2 Water pump



Submersible pump

Function of the water pump

Fresh water is supplied to the heating system, kitchen and toilet via a submersible pump. The pump functions on electricity:

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

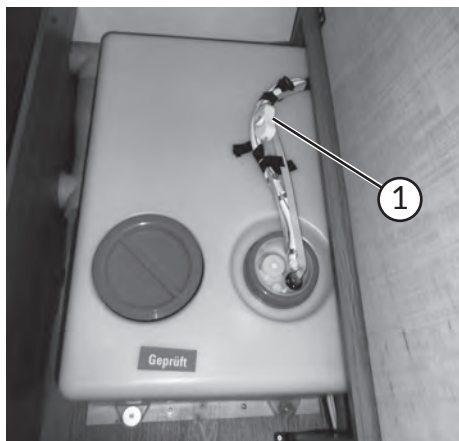
Rules for the submersible pump

- The pump is only suitable for water.
- The pump will operate at 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 submersible pump requires no maintenance.

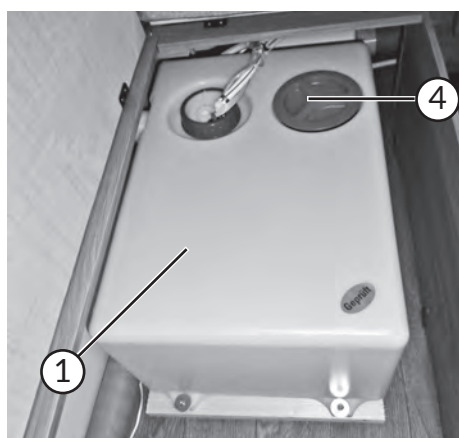
The pump is switched on and off by a micro switch in each tap.



Switch for the water pump

Water pump with on/off switch (country-specific feature)

Should the immersion pump be fitted with a separate on/off switch ① it can be switched on and off manually.



Fresh water tank

Fresh water tank

The tank ① has a volume of 25 or 47 l (model-specific or optional extra) and is located either under the bed or in the seating area.

The tank is filled with fresh water by means of the filler cap 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 locked and unlocked using the entrance door key.

To open

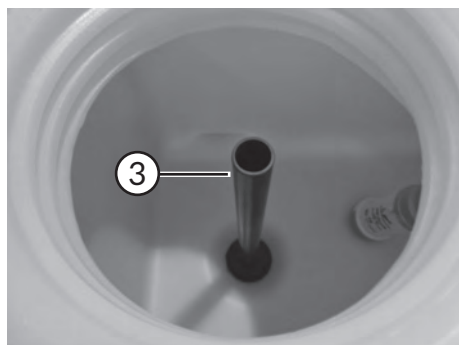
- Unlock the blue cap the lock with the key.
- Give the blue cap a strong turn anti clockwise and remove it.

To close

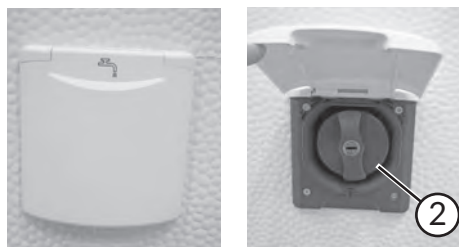
- Put the blue cap back on and turn it clockwise to shut it.
- Lock again with the key.

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

Water can be emptied from the tank by unscrewing and removing the overflow pipe ③.



Overflow pipe on the fresh water tank

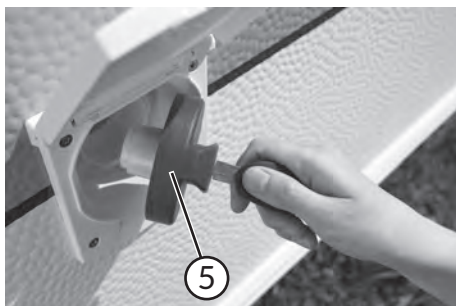


Filler cap for the fresh water tank

The water in the tank should be replaced regularly (see Chap. 12).



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



Blue water filler cap

Filling the water system

- Site the caravan in a horizontal position.
- Shut all of the water taps.
- Switch on the main switch on the control panel.
- Shut the drain valves on the therme (or on the boiler*/Combi heating system).
- Unlock the blue filler cap ⑤ and turn it anti-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/boiler (model-specific / optional extra) 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.
- Replace and lock the blue filler cap.



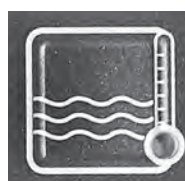
Use the control panel to check the amount of water in the fresh water tank.



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 (insulated).

How the water taps operate.

- The water will be mixed to the temperature depending on where the mixer tap handle is positioned (Hot or cold).



Hot water supply (model-specific)

- 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 65° 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 blown air system; in self-sufficient mode, it will be heated solely in this manner.



Therme

Instructions for the therme

- Use the control panel to switch off this equipment whenever the caravan is not in use.
- Empty the therme if there is a 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 switch on the Therme when it is empty.



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

If the caravan has been fitted with a boiler*, Combi heating system (model-specific) or an Alde hot-water heating system*, please observe the instructions set out in **Chapter 10**.

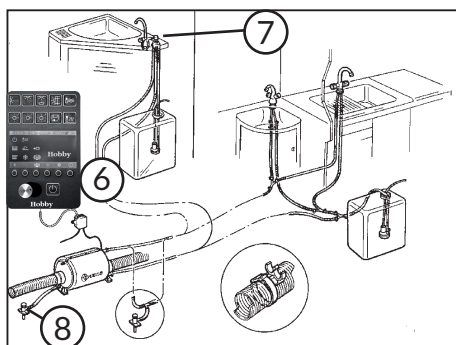
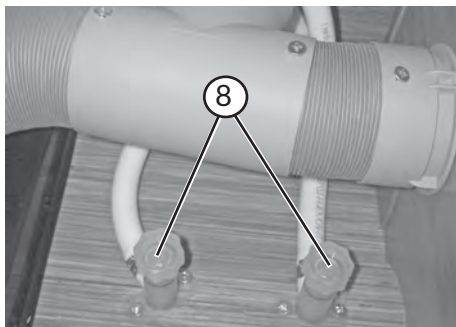


Diagram of hot water supply



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 and holding it (3 - 4 seconds).
- Open all of the water taps (7) to the centre setting.
- Hang up the adjustable shower head in the shower (**model-specific**).
- Open the drain valves (8) on the therme (The therme is located under the queen-sized bed/seating area.).
- Unscrew the cap on the cleaning port of the fresh water tank (1) (**page 101**).
- Unsecrew and remove the overflow pipe (3) (**p. 101**) in the fresh water tank.
- Take hold of the water pump and hold it up until the water pipes have emptied completely.
- Check whether the tank, therme, taps and pipes have emptied completely. If necessary, blow out any remaining water in the pipes using compressed air (max. 0.5 bar). Grease the overflow; see Chapter 12 Upkeep.
- Re-insert the overflow pipe and the water pump in the fresh water tank and close the openings.
- Leave the taps (7) and the drain valves (8) open.
- Clean the tank and rinse it 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 open 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.



Frost Control valve

Position of the Frost Control valve (only for models with a Combi heating system)

The Frost Control valve is always located directly next to the hot-air heater under the bed (460 SL) or seat bench.



The non-electric safety or drain valve will automatically open at temperatures under approx. 3°C and drain the boiler contents via a drain nozzle.

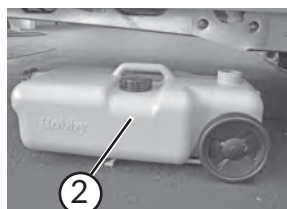
If the cold water system is operated without the boiler the boiler tank will still fill with water. In order to avoid frost damage the boiler must be drained via the drain valve, even when not in use.



Alde outlet valve



If an Alde hot water heater has been installed, the water runs off through an outlet valve ① on the hot water heater instead of through the therme (see also 10.2.5).



Waste water tank



Handle

Rolling waste water tank

The rollable waste water tank ② can be pushed under the caravan when the caravan is stationary. Position the waste water tank in such a way that the waste water from the waste water outlet is collected in the waste water tank. It collects the waste water and holds 23,5 litres. The waste water tank can be transported on wheels and has an extendable handle ③, allowing you to pull it to the appropriate waste disposal place for emptying.



Waste water tank in the gas box

While travelling, the waste water tank is stored in the gas box to save space.



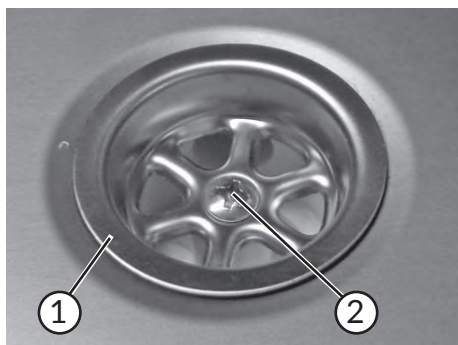
Empty the waste water tank before beginning your journey and then use the belt in the gas-box.



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



Sink



Waste fitting

Sink in the kitchen unit

When necessary, the sink waste ① can be removed by unscrewing the screw ②.

When the waste ① is then replaced in the sink and fastened, please observe the maximum tightening torque of the screw.



The maximum tightening torque for the fixing screw for the waste fitting in the sink is 1 Nm. If the screw is tightened any further, this may cause leaking or damage to the waste fitting.

Never pour boiling water into the sink drains. This can lead to deformities and leakages in the waste water system. Always add cold water first.



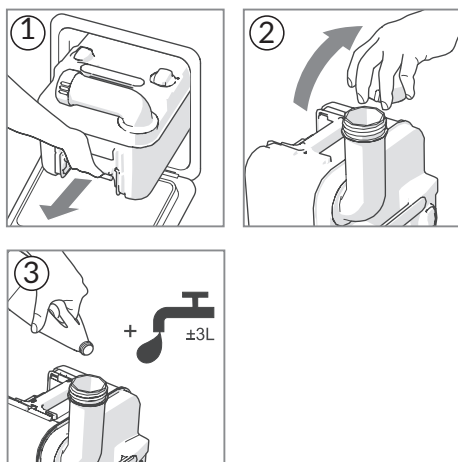
City water supply connection

City water supply*

The city water supply allows you to attach the caravan to a permanent water connection.

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

8.3 Water flushing toilet



Preparing the toilet waste tank (cassette) for use.

Before you can use the toilet, you must first prepare the waste tank as shown in Figures 1 to 3 on the left and then return it to its original position.



The waste tank must only be removed when the Sliding flap (can be seen inside the toilet bowl when closed, if open you can view the contents of the cassette) is closed.



Never add toilet liquids directly through the sliding flap or the toilet bowl, because this may damage the washer sliding flap in the top of the waste tank (cassette).

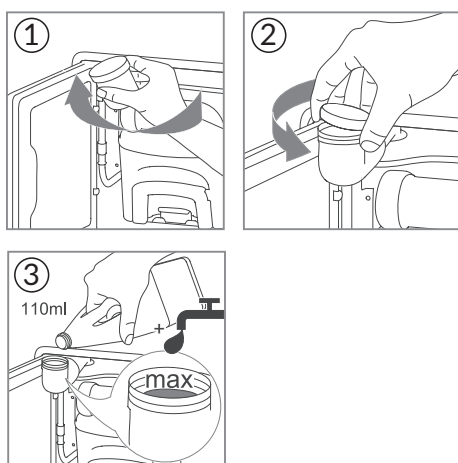
Always add liquids through the empty-ing support (Fig. 3)



We recommend that you press the vent button at the rear topside of the cassette before putting the waste tank back into its original position.



Use toilet fluids very sparingly. An overdose is no guarantee of preventing possible odours!



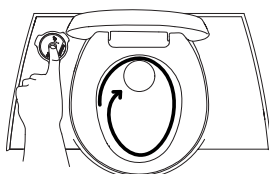
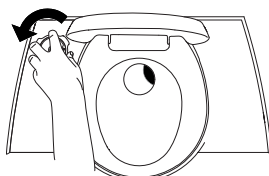
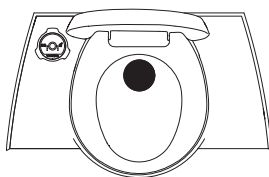
Filling the toilet flush tank (model-specific)

The next step is to prepare the flushing water tank as shown in Figures 1 to 3 on the left.



To avoid water damage in your caravan, ensure that you are not travelling with a flush tank that is too full.

Check the clear tube or the filling level indicator on the filler neck (C-500 only) to determine how much water is in the tank.



Toilet

Using the toilet

The toilet can be used when the sliding flap is either open or closed. To open the flap, turn the control knob anti-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.

Use only special toilet paper that is suitable for caravan toilets. Normal toilet paper can easily cause the toilet to block.

Flush the toilet by pressing the flush button for several seconds. Close the flap every time you have finished using the toilet.

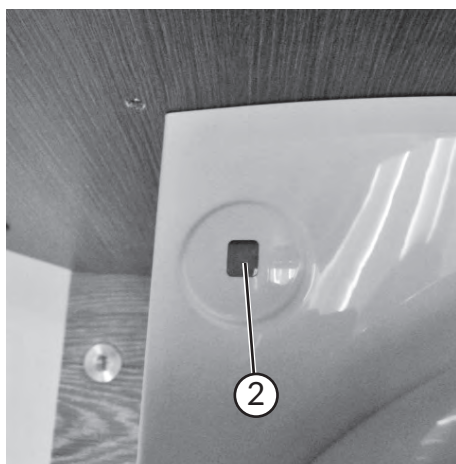


Swivel toilet (example)

Using the bench toilet

The button for flushing ① is located on the wall. The LED for the filling level indicator ② is located behind the turning unit and lights up when the waste tank is full and needs to be emptied.

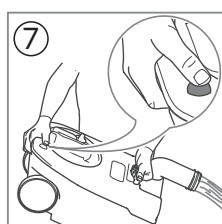
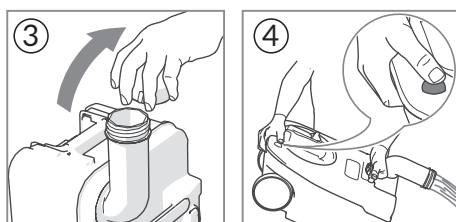
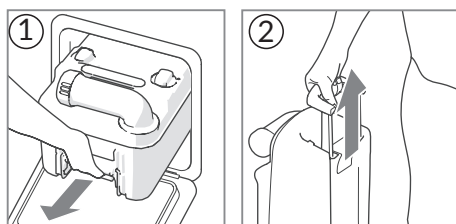
The lever ③ for opening the sliding flap is located on the left side.



Fill level indicator



Emptying the waste tank (cassette)



Emptying the waste tank (Cassette)

The cassette has a capacity of approx. 19,7 litres. It must be emptied when the 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 external toilet cassette door and follow the instructions shown in Figures 1 to 7 on the left.



The cassette can only be removed when the drain valve is closed.



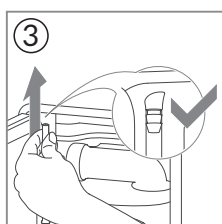
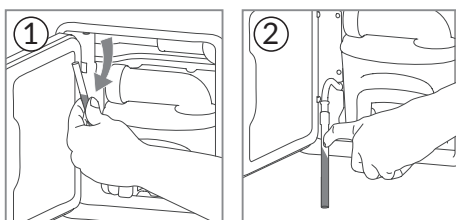
Empty the cassette only in special places for sanitary disposal.



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

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

To prevent damage by water to your vehicle, the waste tank should be no more than $\frac{3}{4}$ full when driving. Otherwise, it may leak through the ventilation system.



Emptying the flushing water tank (model-specific)

The flushing water tank holds 16.5 litres of water.



To prevent damage by water to your vehicle, the flushing water tank should be no more than half full when driving.

Only empty the flushing water tank fully when you do not plan to use the toilet for a longer period of time

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 system

- Have the gas system checked by an expert before the first use.
- The testing of the gas system and chimneys is to be repeated regularly by a liquid gas expert according to the national regulations (eg in Germany every 2 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.
- The safety regulators and hose lines must be replaced at least every 10 years; high-pressure hoses after 5 years (from the date they were manufactured. 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 bottle.
- Ignition sources such as open flames or smoking are strictly forbidden.
- Air the rooms.
- Clear the danger zone.
- Inform your immediate surroundings (groundsman) 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

- Fixtures and changes to the gas system may only be carried out by a recognised expert for liquid gas systems.
- Only devices with a uniform inlet pressure of 30 mbar may be operated.
- Any change in the gas system requires a new inspection by an expert and a gas safety certificate.



Connecting the gas regulator to the gas bottle



Positioning the gas bottle in the gas box

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.
- The gas regulator must have a fixed outlet pressure of 30 mbar. The requirements of EN 12864, Appendix D, apply accordingly. The flow rate of the pressure control device must be 1,2 kg/h.
- Connect the regulator knob or high-pressure hose* to the bottle carefully by hand (**NB: left-handed thread**).
- 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 bulkhead of the gas box. This requires the use of a high-pressure hose. Therefore, the low-pressure hoses that are normally used may not be fitted here.



High-pressure hoses are used for gas regulators that have been mounted on the bulkhead. This must be taken into account should it be necessary to replace the hose. Connections on gas pressure regulators are screwed on anti-clockwise.

High-pressure gas hoses must be replaced every 5 years (the manufacturing date printed on the hose is decisive for determining when this must be done).

Before first use

- The outlet 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 air inlets under the vehicle floor; otherwise, the levels of carbon monoxide could increase to dangerous levels.
- The safety ventilation openings must not be blocked.
- We recommend that you store a Type ABC (dry powder) fire extinguisher with a minimum capacity of 1 kg by the entrance door as well as a fire blanket next to the cooker, 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 Fire protection**).



Never use portable cooking or heating devices. The only exception are electrical heating devices (note their power consumption) - but not radiant heaters, because they constitute a fire and suffocation hazard.

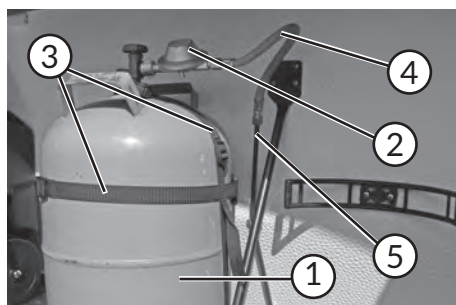


Read the operating instructions from the manufacturer carefully.

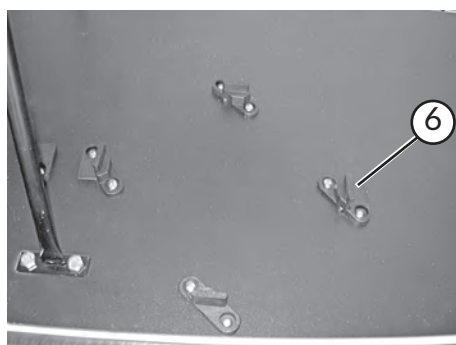
9.2 Gas supply

The caravan is equipped with a propane gas system (gas bottles are not included in the price). These facilities operate the following devices:

- cooker
- refrigerator
- heating element (in the Combi heating system: incl. an integrated boiler)
- oven*
- external gas point*
- possibly further special accessories



Securing the top of the gas bottle



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

Bottle box

The gas bottle box holds two 11 kg liquid gas bottles (1). Via a safety regulator (2), the gas bottles are attached by a hose (4) to the supply line (5). Each bottle must be fastened twice, either by means of two belts (3) or with a belt (3) and a safety mechanism on the floor of the gas bottle box (6).



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

Rules for the gas-bottle box

- Before every trip, check that the gas bottles are securely fastened. Place them in an upright position and turn off the valve.
- Pull any loose belts tight.
- The gas-bottle box is not suitable for transporting accessories (e.g. the awning, food or electrical devices).
- Ensure that the gas stop valves on the gas bottles can be easily reached at any time.
- The ventilation of the gas-bottle box (gap between the bottom of the bottle box and the front wall) must not be blocked.
- Lock the gas-bottle box to prevent unauthorised people from obtaining access.



Gas bottles must be turned off whenever you are driving.

Changing gas bottles

- Open the gas box lid.
- Shut the main shutoff valve on the gas bottle. **Note the direction of the arrow!**
- Unscrew the gas pressure regulator/high-pressure hose* with the gas hose by hand from the gas bottle (left-handed thread).
- Loosen the belts and remove the gas bottle.
- Place a full gas bottle back in the gas box.
- Fasten the tie down strap(s) securely.
- Screw the gas pressure regulator/high-pressure hose* by hand on to the gas bottle (left-handed thread).
- Open the valve on the full gas bottle that has been connected.
- Check whether there is any gas escaping from any gas fittings by spraying them with leak detection spray.
- Close the gas box lid.



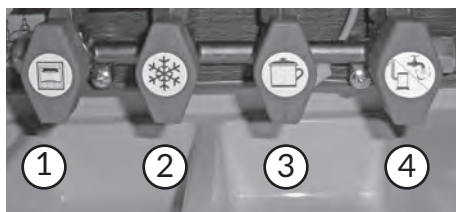
Never smoke or light open fires when changing gas bottles. After changing bottles, check whether gas is escaping from the any gas fittings by spraying these with a leak indicator. Gas-proof surfaces should be clean and intact.

When the pig tail is connected to the liquid gas bottle, ensure that it is free of kinks and not subject to stress. The regulator knob must be positioned above the valve on the bottle.

Gas shutoff valves and valves

A corresponding gas stop valve has been built in for each gas device that has been installed. These gas taps can be used to turn off the gas supply to each device.

Each tap has been labelled with an icon for the corresponding device.



Gas stop valves

- ① Oven*/Oven hob combination*
- ② Refrigerator
- ③ Gas hob
- ④ Heating

The placement of the gas safety shut off valves

- In the top drawer in the kitchen unit.

Rules for the gas safety shut off valves

- When driving, close all of the valves on gas devices.
- The photograph on the left shows the shutoff valves when they are open. To close the valves, they must be turned by 90°. Opened gas stop valves are set in the same direction as the gas line.
- No inflammable devices may be in operation when filling the petrol tank of the tow vehicle, on ferries and in the garage.



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

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 Gas socket, external *



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 connecting, the plug connection is plugged into the safety coupling.

If no gas hose has been attached, always use the protective cap to close off 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 Hobby 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 pack found in the vehicle.



Built-in devices may only be repaired by specialists.

Only the device manufacturer's original spare parts must 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 Heating

General information



Having the heater lit while driving is not allowed.

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

10.2.1 Truma-S hot-air heater



Truma-S- hot-air heating

Before first use

- Several air outlet nozzles have been built into the caravan. Pipes lead the hot air to the air outlet nozzles. Set the air vents so that the hot air can escape to where it is required.
- 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.
- If necessary, fill the therme/boiler* with water.
- Use the control panel to switch the device on.

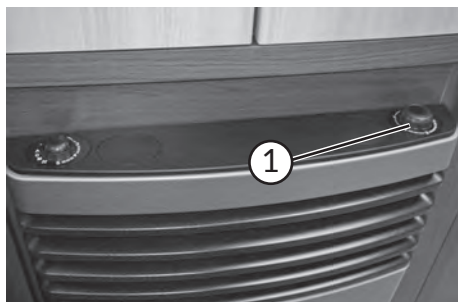
Place of installation

- In the wardrobe or the corner of the flue

To operate



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



Knob with thermostat and ignition

- Open the valve on the gas bottle and the gas shutoff valve in the top kitchen drawer.
- Turn the control knob ① to the thermostat position 1-5.
- Press the control knob ① down until it locks. The ignition is automatic from this position, until the gas is lit. The ignition spark is audible. The control light on the automatic ignitor blinks during ignition.
- Hold the control knob down for up to 10 seconds, so that the thermo couple heats up and keeps the gas valve on the heater open.
- If the gas line is filled with air, it can take up to a minute until the gas ignites. Hold the control knob ① down 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 gas valve (approx. 30 seconds).
- If no flame is ignited, the auto ignitor will continue to click until the control knob ① is switched to "0".



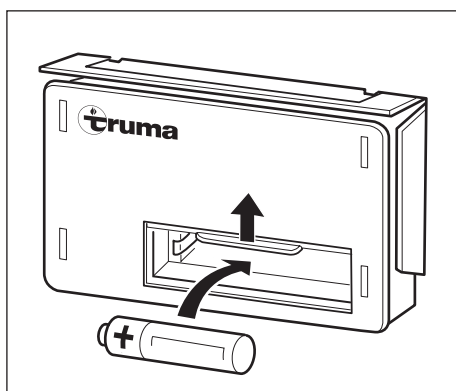
During initial operation of the heating system, there will be a slight nuisance caused by smoke and odours. Immediately turn the control knob ① on the heating to position „5“ and set the blown air fan to the highest position. Open all doors and windows and air the caravan well. The smoke and odours will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

To turn off

- Turn the control knob ① to position "0". The automatic ignitor is then shut off.
- Switch off the fan (set the rotary switch to "0").
- If the caravan is not in use for a long period of time, close the valve on the bottle and the shutoff valve for the heating in the kitchen drawer (**see Chapter 9**).

Changing the batteries in the auto ignitor block.

If you cannot hear any clicks from the ignitor or only hear them in intervals of more than one second, then you need to replace the battery.



Battery compartment

- Turn off the gas valve on the heating (**see Chapter 9**).
- Ensure that the heating has been switched off.
- Remove the heater front (see Truma operating instructions).
- Push the cover of the battery compartment upwards and replace the battery (ensure that the plus and minus poles are at the right ends).
- Close the battery compartment.
- Reattach the heater front.
- Use only a temperature-resistant (+70° C) and leakproof mignon battery.

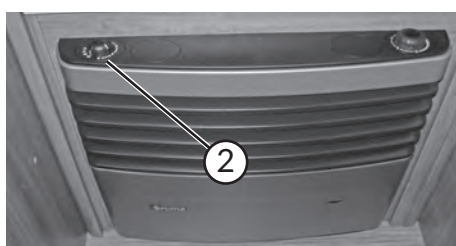


Insert new batteries before the beginning of each season.

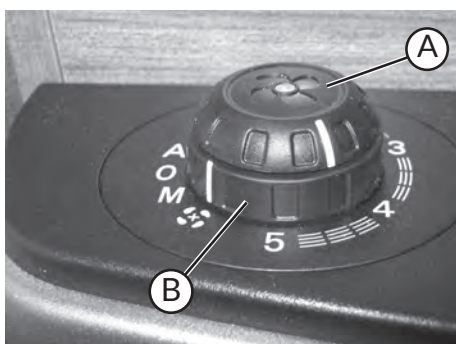
Also note the separate operating instructions from the manufacturer.

Circulation fan

The heating system in your caravan has been fitted with a recirculation air system(also referred to as the blown air fan) 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 be distributed to where it is required. The desired heating power can be regulated by using the fan control knob ②. The fan control ② is located on top of the heater front cover.



Double rotary knob for the blown air 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 fan speed 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 setting

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

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.

To start the fan, the heating system must either be connected to a 230V power supply, or 12V via the camper's battery should you be using a stand-alone power supply.

10.2.2 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 Truma-S-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



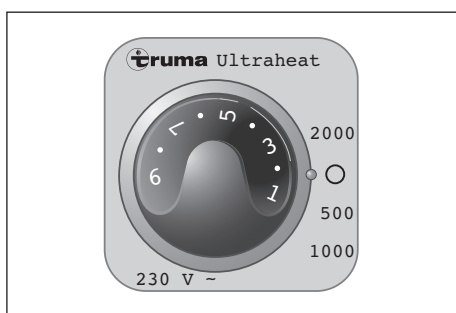
Before switching on the Ultraheat, please ensure that the fuse protection of the electrical supply at the caravan corresponds to the power setting you have selected.

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

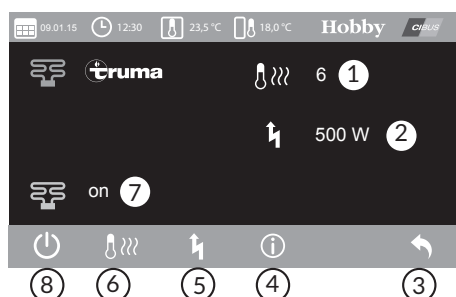
- Set the rotary switch to the desired power setting (green indicator light will light up during „Operation“).
- Set the desired room temperature using the rotary switch.

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 the power setting
- ③ "Back" function (to exit the menu)
- ④ Information on device manufacturer
- ⑤ Selecting the power supply setting submenu
- ⑥ Selecting the Temperature level submenu
- ⑦ Shows heating in operation: on = yes; off = no
- ⑧ Heating function On/Off



More information on how to operate the Truma Ultraheat using the TFT control panel can be found in **Chapter 7**.

10.2.3 Truma Combi Heating System C4/C6 (E)*



Truma-Combi-warm-air heater

The combined LPG heating consists of a warm air heater with an integrated hot water boiler (capacity: 10 l). The heating system is fully operational with or without the hot water system. It has been installed in various models instead of the standard Truma-S hot-air heating system (Type WFB / WFU / WFC / WLC / KWFU / FU / FC / Sff / SL / KFU / WQC).

As an optional extra, these models can be fitted with the Combi E heating system, which has additional heating elements for electric operation. UK supplied caravans with a combi fitted as standard will have a combi 6e fitted.

General information

Place of installation:

- In the seating area (**exception: SL model: under the bed**).

Initial operation

- Several air vents have been built into the caravan. Tubes transport the hot air to the air vents. Set the air vents so that the hot air can be distributed to where it is required.
- Check that the chimney is clear. Remove any covers.
- Open the gas bottle and gas shutoff valve in the kitchen drawer.
- An additional 12V / 230V connection is required to start the device.



- Only operate the device if it is in perfect technical condition.
- Always have malfunctions repaired immediately. Only repair malfunctions yourself if such malfunctions are described in the troubleshooting instructions in this manual.
- Do not carry out any repairs on or make any changes to the device.
- Only have a defect device repaired by the manufacturer or their service department.



If the system's power supply is interrupted, the time must be reset.

Use the panel by the entrance to operate the basic functions of the Combi heating system (**see Chapter 7**).

The change to the iNet-ready version was carried out during the current season. Depending on when the caravan was manufactured, iNet-ready functions are available, whereby the Truma CP plus control panel functions as an interface for operating connected devices via the Truma App and iNet Box.

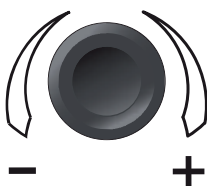


Truma control panel "CP plus"

Operating and display controls

- ① Display
- ② Status line
- ③ Menu line (top)
- ④ Menu line (bottom)
- ⑤ Display: 230V mains voltage (hook up power)
- ⑥ Display: timer
- ⑦ Settings / values
- ⑧ Control knob / pushbutton
- ⑨ Reset button

The control knob / pushbutton ⑧ is used to select the menus in lines ③ and ④ and change the settings. The data is shown on the display ①; the background is illuminated. Use the reset button ⑨ to return to the previous menu.



Adjusting knob / pushbutton

The control knob / pushbutton ⑧ is used to select and change specified values and parameters. The changes are saved by briefly pressing the button. Selected menu items flash.

Turn to the right (+)

- Goes through the menu list from left to right.
- Increases the values.

Turn to the left (-)

- Goes through the menu list from right to left.
- Decreases the values.



Press the button briefly

- Saves a selected value.
- Selects a menu item; changes to the setting mode.

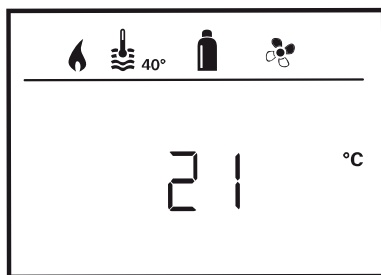


Press (for 3 seconds)

- Main function ON / OFF
- iNet-ready: use the control knob / pushbutton to change the function (see APP mode)

Reset button

Press the reset button ⑨ to return to the previous menu and reject the settings. This means that the previous values will continue to apply.



To operate

Start / stand-by screen

A few seconds after the control panel has been connected to the power supply, a start screen will appear.

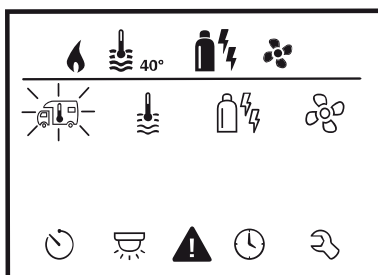
If nothing is entered for several minutes, a stand-by screen will automatically be displayed.



When the time is set (see "Setting the time") the display alternates between the time and the room temperature that has been set. If no time has been set, the set room temperature will be displayed permanently.

Functions

The functions in the menu lines ③ and ④ of the control panel can be selected in any sequence. The operating parameters are shown in the status line ② or in the display ⑤ and ⑥. Functions may vary, depending on the equipped fittings and model.



Selecting the setting mode

Press the control knob / pushbutton

The display shows the setting mode. The first icon flashes.

To switch on/off

To switch on

- Press the adjusting knob / pushbutton.



Previously set values / operating parameters will be reactivated when the control panel is switched back on.

To switch off

- Press the control knob / pushbutton for longer than 4 seconds.
iNet-ready: After 2 seconds, "APP" appears on the display; after a further 2 seconds, "OFF" appears on the display.



Due to an internal lag feed in the heating or air-conditioning system, it may take a few minutes for the Truma CP plus control panel to switch off (during this time you will see "OFF" on the display).

APP mode in connection with an iNet Box

Function

In APP mode, the connected devices as well as the Truma CP plus control panel switch to stand-by.

- no heating function
- no hot water generated
- air-conditioning system does not work
- the timer on the Truma CP plus control panel does not work

The CP plus control panel continues to receive commands via the Truma APP or the air-conditioning system's infra-red remote control. The connected devices can still be operated.

Turning on the APP mode

- Press the control knob/pushbutton for approx. 2 seconds until "APP" appears on the display.
- Let go of the control knob/pushbutton.
- The previously saved values will be saved.

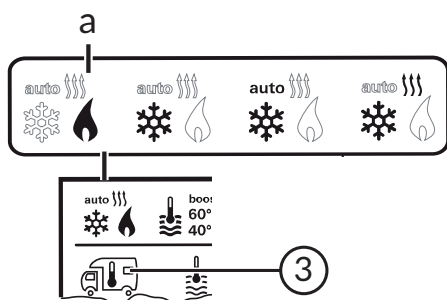
Turning off the APP mode

The APP mode is turned off

- when new values are transferred via the Truma APP or the air-conditioning system's infra-red remote control;
- when the Truma CP plus control panel is alerted by pressing the control knob/pushbutton. The previously saved values will then be imported for renewed operation.



Changing the room temperature



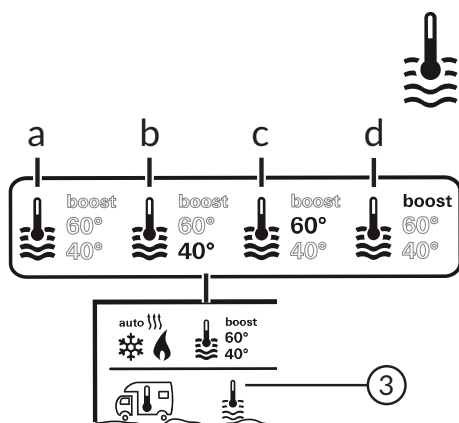
Use the control knob / pushbutton to select the icon in the menu line ③

- Press to switch to the setting mode.
- Use the control knob / pushbutton to select the desired temperature.
- Press the control knob / pushbutton to confirm the temperature.

a = heating¹⁾

- Heating is switched on, icon lights up.
- Adjustable range of temperature: 5 - 30°C (in increments of 1°C)
- Use the control knob / pushbutton for fast temperature changes (on stand-by screen).

¹⁾ The icon will continue to flash as long as the required room temperature has not been reached.



Changing the hot water temperature

Use the control knob / pushbutton to select the icon in the menu line ③

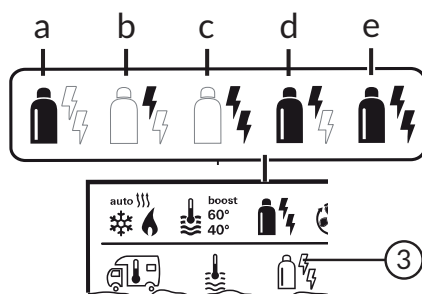
- Press to switch to the setting mode.
- Use the control knob / pushbutton to select the required temperature.
- Press the control knob / pushbutton to confirm the temperature.

a = **boiler**¹⁾ is switched on
b = **40°** ^{**} hot water temperature of 40°C
c = **60°** hot water temperature of 60°C
d = **BOOST**¹⁾ specifically heats up the contents of the boiler (boiler operation) fast for a max. period of 40 min.

- ¹⁾ The icon will flash until the required water temperature is reached.
²⁾ Hot water temperature of 40°C can only be maintained at 40° C for a limited period of time if both the room and the water are being heated.



Selecting the type of energy* (for Combi-E heating only)



Use the control knob / pushbutton to select the icon in the menu line ③

- Press to switch to the setting mode.
- Use the adjusting knob / pushbutton to select the desired type of energy
- Press the adjusting knob / pushbutton to confirm the temperature.

Icon	Type of operation	Type of energy
a	Gas	Gas
b	EL 1	Electricity
c	EL 2	Electricity
d	MIX 1 ¹⁾	Electricity + Gas
e	MIX 2 ¹⁾	Electricity + Gas

Electric heating power: Level 1: 900W; level 2: 1800W

¹⁾ Mixed operation (electric and mixed operation are optional extras)



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

As soon as the heating has been switched on (room temperature and hot water temperature have been activated) the type of energy selected in the previous heating operation is displayed in the status line.
Manufacturer's default setting: gas.

Special features in mixed operation

Interrupting the 230V power supply

The heating system will switch automatically to gas operation. As soon as the 230V power supply has been reinstated, the heating system will automatically switch back to mixed operation.

Malfunction in the combustion process (e.g. lack of fuel)

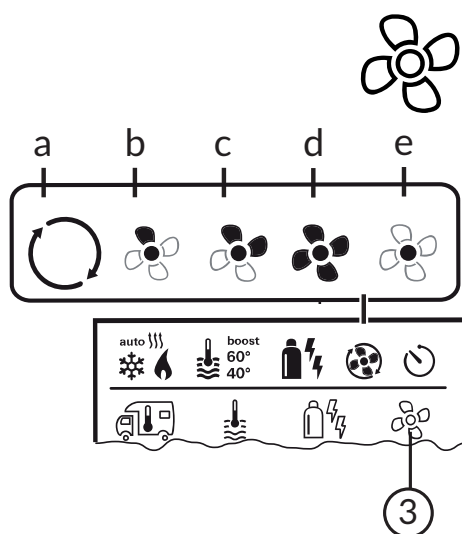
Combi Gas

The heating system will switch automatically to electric operation. If it is running in mixed operation, the cause of the malfunction must be eliminated. Use the control panel to switch the heating off and then on again.

Special features in electric operation

- If the 230V power supply is interrupted and the 12V supply has been switched on, an error code will be shown on the display.
- As soon as the 230V power supply has been reinstated, the heating system will automatically be restarted using the previous settings. The error code will disappear.

Selecting the fan speed



Use the control knob / pushbutton to select the icon in the menu line ③.

- Press to switch to the setting mode.
- Use the control knob / pushbutton to select the desired fan speed.
- Press the control knob / pushbutton to confirm the temperature.

Icon	Type of operation	Description
-	OFF	Fan is switched off. (Can only be used if no device is being operated.)
a	VENT ¹⁾	Air circulation, if no device is being operated. RPM can be selected in 10 increments.
b	ECO	Automatic regulation of the fan depends on the heating power, optimised for the current heating requirement.
c	HIGH ²⁾	high fan level
d	BOOST	To heat room rapidly Available if the difference between the selected and the actual room temperature is more than 10°C.
e	NIGHT	Heating runs on a partial load only; the set room temperature may not be reached (depending on the size of the vehicle and the outside temperature).

¹⁾ Can lead to higher fan motor wear, depending on how often it is selected.

²⁾ The "HIGH" fan speed has a higher current consumption, higher noise level and higher fan motor wear.



As soon as the heating has been switched on (room temperature, and hot water temperature have been activated) the fan speed selected in the previous heating operation is displayed in the status line. Manufacturer's default setting: "ECO".



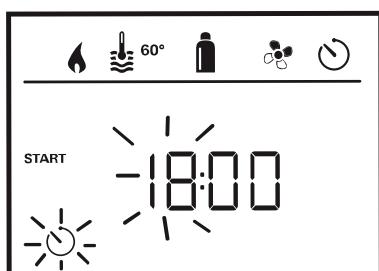
Setting the timer



The timer can only be selected if the clock on the control panel has been set.
If the timer has been activated (ON), the menu item Activate timer (OFF) is first displayed.

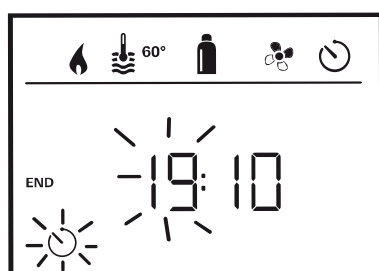
Use the control knob / pushbutton to select the icon in the menu line ④ .

- Press to switch to the setting mode.



Entering the start time

- Use the control knob / pushbutton to set the hours and then the minutes.



Entering the end time

- Use the control knob / pushbutton to set the hours and then the minutes.



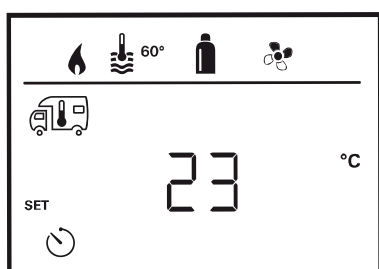
Danger of poisoning from exhaust fumes.

The activated preselection timer switches the heating on even if the caravan has been parked. In enclosed spaces (such as garages, workshops) the exhaust fumes from the heating can lead to poisoning. If the recreational vehicle is parked in an enclosed space:

- close the fuel supply (gas) to the heating system;
- deactivate the preselection timer on the Truma CP plus control panel (OFF);
- switch the heating off on the Truma CP plus control panel.

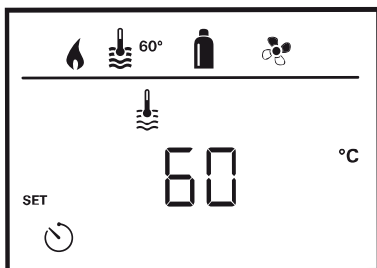


If the start/end time was exceeded during entry, the operating parameters will only be taken into account after the next start/end time has been reached. Until then, the operating parameters set outside the timer will remain valid.



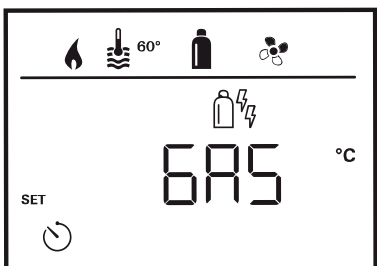
Setting the room temperature

- Use the control knob / pushbutton to select the desired room temperature.
- Press the control knob / pushbutton to confirm the temperature.



Setting the hot water temperature

- Use the control knob / pushbutton to select the required hot water temperature.
- Press the control knob / pushbutton to confirm the temperature.

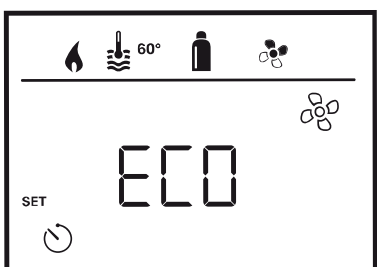


Selecting the type of energy *

- Use the control knob / pushbutton to select the desired type of energy.
- Press the control knob / pushbutton to confirm the temperature.



The menu item "Select type of energy" will be depicted when a heating system that uses electric heating elements has been connected (optional extra).

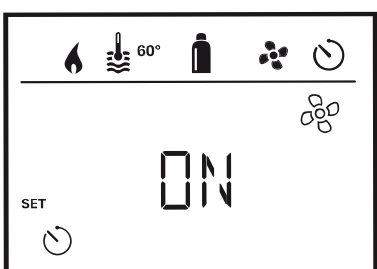


Selecting the fan speed

- Use the control knob / pushbutton to select the desired fan speed.
- Press the control knob / pushbutton to confirm the temperature.



The menu item "Select fan speed" will be depicted when the heating / hot water temperature has been set.

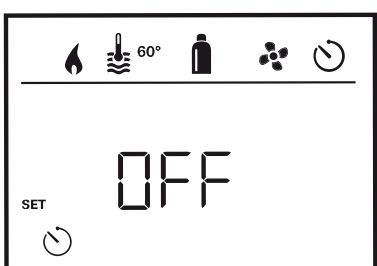


Activating the timer (ON)

- Use the control knob / pushbutton to activate the timer (ON).
- Press the control knob / pushbutton to confirm the time entered.



The timer will continue to remain active, even for several days, until it has been deactivated (OFF).
The icon for the timer will flash when the timer has been programmed and is active.

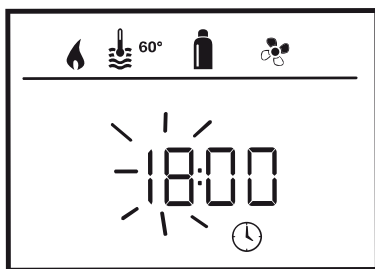


Deactivating the timer (OFF)

- Press to switch to the setting mode.
- Use the control knob / pushbutton to deactivate the timer (OFF).
- Press the control knob / pushbutton to confirm the time entered.



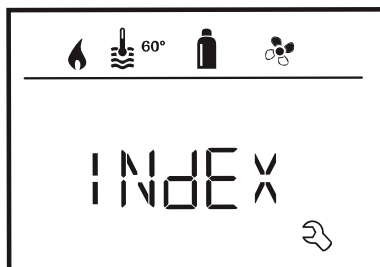
Setting the time



- The hours flash.
- Use the control knob / pushbutton to set the hours (24-hour mode).
- After pressing the control knob / pushbutton once again, the minutes will blink.
- Press the control knob / pushbutton to confirm the time entered.



Service menu



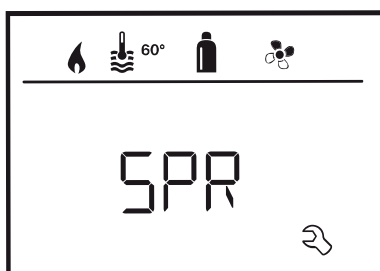
To show the version number of the connected devices

Show the version number of the heating or control panel.



Changing the background illumination of the control panel

The background illumination can be changed in 10 increments.



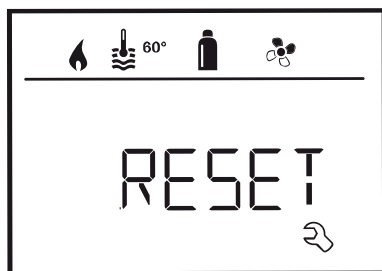
Changing the language

Select the desired language from the languages available (e.g. English, German, French, Italian).



Calibrating the temperature sensor (OFFSET)

The temperature sensor for the heating can be individually adjusted to the size of the vehicle. The offset can be set in increments of 0,5°C within a range of 0°C to -5°C.

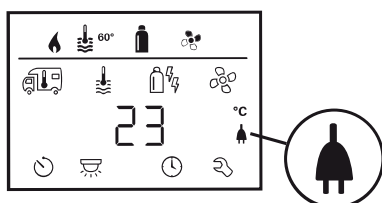


Resetting to manufacturer's default setting (RESET)

The reset function resets the control panel to the manufacturer's default setting. It deletes all of the settings you have previously made.

Confirming the reset

- Press the control knob / pushbutton



Display: 230V mains voltage

The icon signals that the 230V mains voltage (hook up power) is available.



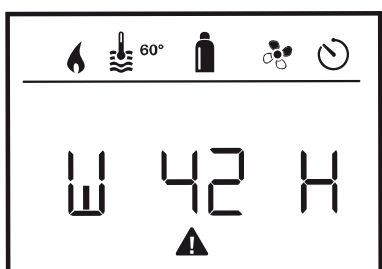
This can only be displayed in connection with a Combi E CP plus heating system that includes additional heating elements for electric operation (**optional extra**).



Warning



A warning icon appears to signal a warning that one of the operating parameters has reached an undefined status. In this case, the device in question will continue to operate. As soon as the operating parameter is once again within its specified range of values, the icon will disappear.



Reading out the warning code

- Use the control knob / pushbutton to select the icon.
- Press the control knob / pushbutton. The current warning code will be displayed. Use the error list to determine the cause of the warning and eliminate it.

W = Warning

42 = Error code

H = Heating

Cause eliminated / Return to setting mode

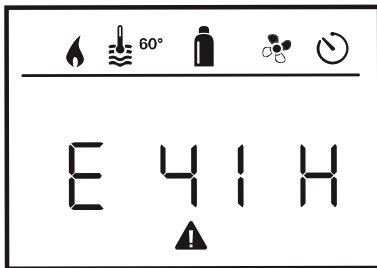
- Press the control knob / pushbutton.

Cause not eliminated / Return to setting mode

- Press the reset button.



In this case, the warning will not be acknowledged on the control panel and the warning icon will continue to be displayed. The control panel will remain in a warning state. Other connected devices can be operated.



Malfunction

If there is a malfunction, the control panel will immediately go to "Malfunction" mode and display the Malfunction error code.

E = Malfunction

41 = Error code

H = Heating

Cause eliminated / Return to setting mode

- Press the control knob / pushbutton.
- The corresponding device will be restarted.



Due to an internal lag feed in the connected devices, this may take a few minutes.

If the cause has not been eliminated, the malfunction will occur again and the control panel will once again go to "Malfunction" mode.

Cause not eliminated / Return to setting mode

- Press the reset button.



In this case, the malfunction will not be acknowledged on the control panel and the warning icon will continue to be displayed. The device will remain in a state of malfunction. Other connected devices can be operated.

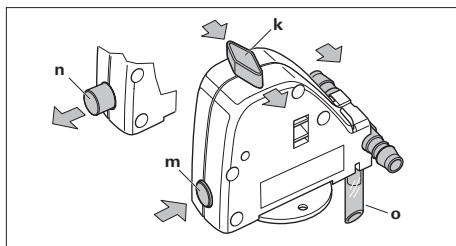


Diagram of Frost Control

FrostControl

FrostControl is a non-electric safety or drain valve. If there is a risk of sub-zero temperatures it automatically drains the content of the boiler via a drain outlet.

If the system is under excess pressure intermittent pressure equalisation will automatically take place via the safety valve.

- k** Rotary switch position "ON"
- m** Push button position "CLOSED"
- n** Push button position "DRAIN"
- o** Drain outlet (to the outside through the vehicle floor)

To activate

- Push in the knob at position (**m**) slightly and, at the same time, move it 90° towards position (**k**).
- If the switch is in position (**k**), the knob will remain in position (**m**).

To deactivate

- Turn the switch at position (**k**) by 90° so that it is parallel to the frost control.
- At the same time, the knob will jump from position (**m**) to (**n**).



The drain valve can only be closed manually using the push button (Position **m**) and the boiler filled if the valve temperature is above approx. 7°C.

If the temperature of the safety/drain valve is lower than approx. 3°C, the push button will pop out (Position **n**) and the contents of the boiler will be emptied via the drain outlet (**o**).

10.2.4 Electrical under floor heating*

The heated area is located in the central walking area of the floor. It is 60 cm wide. It serves not only to heat the room, but also reduces the loss of heat via the floor. The length depends on the type of vehicle.



To turn on the 24 V floor heating

You will find the switch on the service panel. The floor heating only works when the caravan is connected to the 230V mains supply. It heats self-sufficiently. To use the electrical floor heating system, it is not necessary to switch on any further heating devices.

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 heat build-up in one spot, do not place objects for a long period of time on the floor heating.
Do not drill any holes in the floor or screw in any screws.

10.2.5 Alde heating and hot water system*



Alde hot water heating system



Installation position in the wardrobe

The Compact 3020 HE 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 must 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 storage cupboards.
- A 12V / 230V connection is required to start the device.



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
- Mains electricity (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 HE".

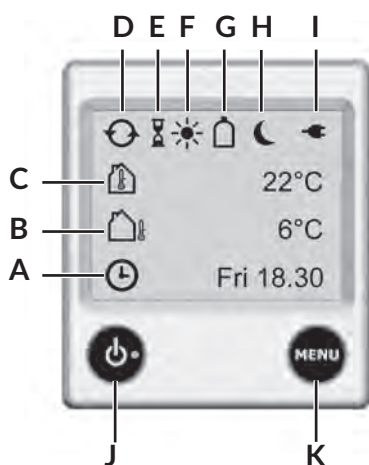
If the caravan is equipped with a TFT control panel, the basic functions of the hot water heating system can be controlled using the panel next to the entrance door (see Chap 7).



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.



Basic menu

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 turns 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.



Settings menu



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 caravan 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.

Hot-water floor heating system for ALDE hot-water heating *

If the caravan is fitted with a hot-water floor heating system, the floor is heated by a system of pipes through which hot water flows. In combination with heat transfer plates the heat is dispersed throughout the entire floor of the vehicle.



Valves in open position



Valves in closed position

Switching the hot-water floor heating system on and off

To operate the hot-water floor heating system, the hot-water heating system must be switched on. This can be controlled via the TFT control panel* or via HobbyConnect* (**see also descriptions in Chapters 7.3 and 7.3.1**) as well as via the manufacturer's own control panel for the ALDE 3020 HE.

The hot-water floor heating system is controlled via regulating valves located in the front and rear areas of the caravan (depending on the layout plan). These valves are used to set the flow control for the hot-water floor heating system. However, how intense the heat is depends on the heat setting for the hot-water heating.

Maximum opening is reached by setting the valves in the direction of the pipes. If the valves are turned by 90° to the right, they are then closed.



To prevent heat build-up in one spot, do not place objects for a long period of time on the hot-water floor heating system.

Never drill holes in the floor or insert screws.

To prevent damage to the regulating valves, do not use the space around the valves for storage.

10.3 Electro Boiler *



Boiler

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



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 tap and leave it open until the boiler has been filled by displacing the air and the water flows.
- Shut the tap.

Emptying the boiler

- Use the control panel to switch off the energy supply.
- Open the taps in the kitchen and the washroom.
- Open the drain 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 (therme switch). 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 control panel to turn off the boiler.



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

10.4 Dometic Refrigerator



Dometic refrigerator

Super-Slim-Tower

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 caravan with the refrigerator vents stands in the shade (see Chapter 5.1).



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

Lock on the refrigerator door



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



Lock Dometic

Standard refrigerator

To open

- Press in the button and pull open the refrigerator door.

To close

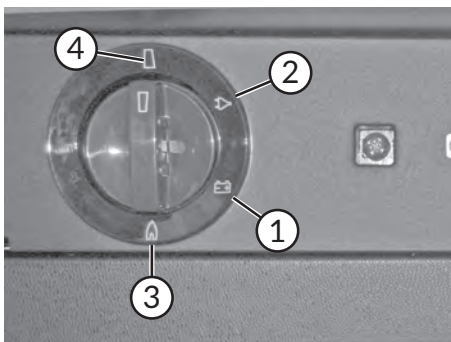
- There is an automatic lock on the door. When you shut the refrigerator door and press it firmly, it will lock itself automatically.



Lock Super-Slim-Tower

Super-Slim-Tower

To close the refrigerator, press the door shut.

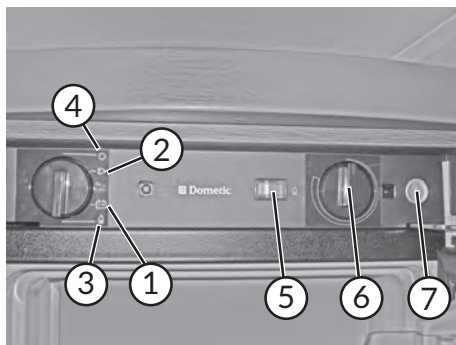


Modes for operating the refrigerator

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 towvehicle ① (ignition on),
- 230 V operation: electrical supply from mains hook up 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 long period of time, turn off the 12 V operation and, if required, select another mode of operation.

- Set the energy selection switch to battery operation ①.
- 12 V operation will only work when the motor of the tow 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 gas valve marked "refrigerator".
- Turn the thermostat ⑥ to full and keep it pressed in. 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 valve marked "refrigerator".



It is not permitted to operate the refrigerator with gas

- while driving
- at petrol stations
- on ferries
- 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 hot food in the refrigerator; always let it cool off first. If possible, store only chilled goods.
- 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.

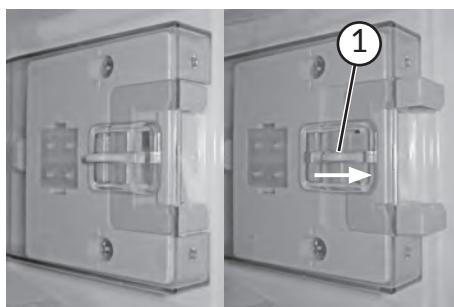


It is not suitable for freezing food nor for the proper storage of medication.



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.



Normal position

Ventilation position

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

To activate the ventilation position, lightly press the slider ① in and pull it forwards.



Do not leave the refrigerator in the ventilation position while driving!

Removable freezer (Super-Slim-Tower)

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



Unlocking 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.



Removing the base of the freezer



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

10.5 Gas hob



Combined sink and hob

The kitchen segment of the caravan is equipped with a 3 burner gas hob.

Before first use:

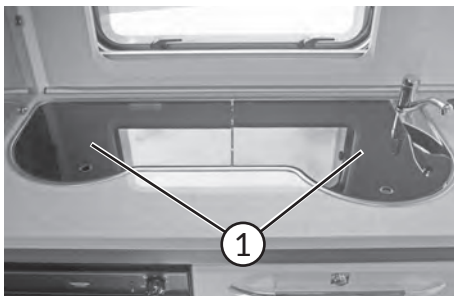
- Open the bottle valve and the gas valve in the kitchen drawer.
- The skylight or the kitchen window must be open when operating the cooker.
- Operation knobs, which must be pressed to ignite gas devices, must automatically spring back into the original position upon release.



Please observe the enclosed manufacturer's operating instructions.

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.

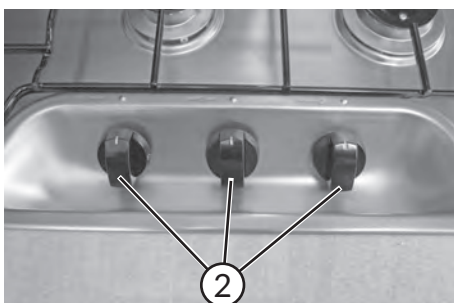
The cooker may not be used when the glass lid is closed.



Glass cover

Operation

- Turn the tap to the side and lift up the glass cover ①. Open the main shutoff valve on the gas bottle and the gas stop valve for the cooker.
- Set the burner control knob ② of the required burner in the ignition position (large flame) and press.
- The burners ignite automatically.
- Press the control knob ② and hold firmly for a further 5 - 10 seconds until the flame is stable and burns steadily and the thermocouple for the flame operates.
- Release the control knob ② and position it to the desired setting (large or small flame).
- If the ignition is unsuccessful, repeat the process from the beginning.
- To switch the gas flame off, turn the control knob ② back to the "0" setting.
- Close the gas cooker's gas valve.



Control knobs for burners on the gas hob



Use oven gloves or mitts when handling hot pots, pans and similar objects. Risk of burns and scalding!

Do not allow the flame to burn higher than the top edge of your pot; keep it lower.

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

Do not shut the glass cover ① after cooking until the burners have cooled down.

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

10.6 Extractor hood*



Extractor 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 (infinitely variable).



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 extractor regularly, as it collects the fat from kitchen odours.

10.7 Oven*/Hob-Oven Combination*



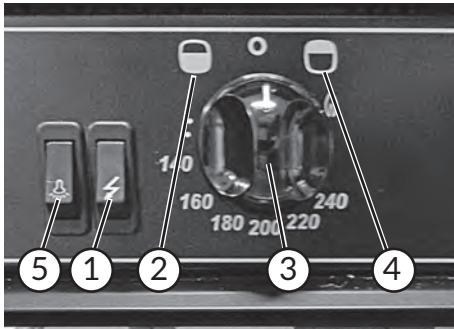
- The ventilation openings on the device must not be blocked.
- A skylight or window must be open when operating this device.
- Open the gas valve for the oven / Hob-oven combination. Should you smell gas, immediately close the valve and the gas bottles.
- The oven door must be open during ignition.
- Never operate the device if there is nothing in it (i.e. no food to be heated up).
- Never use the grill* for more than 25 minutes at a time and always leave the oven door open when doing so.
- The device must never be used to heat the caravan.
- The grill and the oven must not be operated simultaneously.
- Under no circumstances should this device be plugged into the 230V mains!
- Never operate the device while driving!



Please refer to the separate manufacturer's operating manual.



Oven



Using oven

Oven

- ① Ignitor switch
- ② Oven
- ③ Temperature control knob
- ④ Grill
- ⑤ Oven interior light

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 valve 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 temperature control knob and turn it to the desired ignition position (oven or grill).
- Press the temperature control knob. Gas will flow to the burner and the ignition will light the flame.
- Keep pressing the temperature control knob for 10 seconds until the ignition safety valve keeps the gas supply open.
- Let go of the temperature control knob and turn it to the desired temperature (oven only).
- The flame must burn steadily.
- Close the oven door carefully, to prevent the flame from extinguishing.



- 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 valve marked "oven".



Hob-oven combination



Control knobs for hob-oven combination

Hob-Oven Combination**

The Hob-oven combination* can only be fitted in for the Prestige model. The combination includes both an oven and a grill as well as three gas burners and an electric hot plate. This optional extra also includes a sink cover.

Switching the gas burners on

- Press the control knob ① .
- Turn the control knob ① to the "High Flame" position.
- Hold the control knob ① pressed for 10-15 seconds and then release it.
- Set the flame to the desired position.

To switch off

- Turn the control knob ① to the "0" position.
- Close the main shutoff valve on the gas bottle and the gas stop valve for the Hob-oven combination.

Switching the electric hot plate on

- Turn the control knob ② to the desired position (1-6).

To switch off

- Turn the control knob ② to the "0" position.

Switching the grill on

- Open the grill door and press the control knob ③ .
- Hold the control knob ③ pressed and turn it to the "High Flame" position.
- Hold the control knob ③ pressed for 10-15 seconds and then release it.
- Set the desired temperature.

To switch off

- Turn the control knob ③ to the "0" position.
- Close the main shutoff valve on the gas bottle and the gas stop valve for the cooker-oven combination.

Switching the oven on

- Open the oven door and press the control knob ④ .
- Hold the control knob ④ pressed and turn it to the "High Flame" position (setting 9).
- Hold the control knob ④ pressed for 10-15 seconds and then release it.
- Set the desired setting/temperature and close the oven door.

To switch off

- Turn the control knob ④ to the "0" position.
- Close the main shutoff valve on the gas bottle and the gas stop valve for the cooker-oven combination.



- 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.

10.8 Microwave*



Microwave

The kitchen in the caravan can be fitted with a 230V microwave, which is installed behind a door 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 door or sliding door open when operating the microwave. **Risk of overheating!** Do not use the microwave when the door is open because the microwaves can do damage.



Operating the microwave

- ① Display
- ② **Power:** Select the desired microwave power
- ③ **Express:** To heat liquids
- ④ **Cook:** To heat certain foods
- ⑤ **Defrost:** To defrost frozen foods
- ⑥ **Clock:** To set the time
- ⑦ **Preset:** To set the time
- ⑧ **Instant/Start:** To stop/start the cooking program
- ⑨ **Pause/Cancel:** To interrupt or cancel settings
- ⑩ **Minus sign:** Reduces the cooking time/weight during operation
- ⑪ **Plus sign:** Increases the cooking time/weight during operation
- ⑫ Door opener

Cooking

- Put the food in the microwave and shut the door.
- Press POWER ② to select the desired level (20P, 40P, 60P, 80P, 100P). Please refer to the separate operating instructions for information on the individual power settings.
- Press the keys ⑩ and ⑪ to enter the desired cooking time.
- Press the “Instant/Start” key ⑧.

“End” appears on the display when the program has finished. If the door of the microwave is not opened at the end of the cooking time, you will hear three beeps. Open the microwave door and remove the food that has been heated.



There is a risk of burns and scalding from heated food!



The maximum cooking time is 60 minutes. If maximum power has been set, the microwave will automatically reduce the power after a certain period of time to maintain the service life of the device.

Use only dishes that are suitable for microwaves.

Please refer to the separate operating instructions for safety instructions and detailed information on how to operate, use and care for the microwave.

10.9 Rooftop Air Conditioning *



Roof air-conditioning system

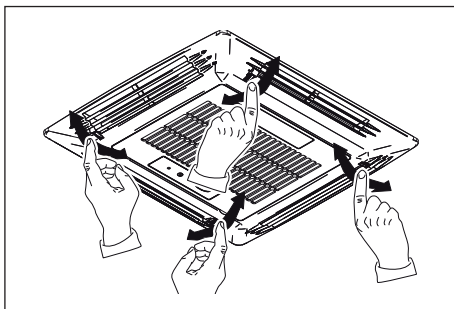
The air conditioner is located instead of the roof light on the living room ceiling.

Use the TFT display to set the roof air-conditioning system (see Chap. 7.3 Installation of electrical devices).

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 caravan where it is cooled down. The resultant moisture will condense inside the caravan.



Setting the direction in which the air is blown

To set the direction of ventilation

The air supply within the caravan 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 blue pack.

- Any changes to the status of the caravan as delivered by the manufacturer may alter driving performance and roadworthiness.
- Any accessories, add-ons, modifications or mounted parts that have not been approved by HOBBY may cause damage to the caravan and impair its roadworthiness. Even if a professional, 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 specification, they must be taken into consideration when determining the full load.

Object	Weight [kg]	Object	Weight [kg]
Chassis/Security		Kitchen	
Hitchlock anti-theft device		Extractor hood, DOMETIC	3.0
WINTERHOFF "ROBSTOP"	3.0	Hob-oven combination incl. THETFORD grill	29.8
Increased load, Premium, 1800 kg to 2000 kg	14.0	Microwave DOMETIC (20 litres)	5.0
Increased load, single axle, up to	36.0	Oven (36 l) with electric ignition and interior lighting	15.0
Increased load, tandem axle	8.0		
Increased/decreased load without technical changes	0.0	Sleeping area	
KNOTT ETS Plus stabilisation system	5.7	7-zone memory foam mattress with spring wood frame	2.9
Light alloy rims	0.0	Bed extension for single beds (incl. additional cushions)	5.0
Light alloy spare tyre, black, polished, instead of tyre repair kit	26.0	Bedsread	1.5
Spare tyre (mounted underneath the chassis)	28.2	Optional 3rd Bunk bed	15.0
Spare tyre instead of tyre repair kit (mounted underneath the chassis)	26.0	Bathroom	
		Clothes line in shower	0.5
		Concealed shower mixer and shower curtain for external washroom	2.8
		Fly screen for bathroom window	1.5
Superstructure		Water/gas/electricity	
Drawbar bicycle carrier for 2 bicycles	10.0	12V self-sufficient package incl. battery charger with booster, battery, battery sensor and battery container	29.0
External storage locker beneath bunk bed	5.0	47 l fresh water tank (instead of 25 l fresh water tank)	28.0
Front window, hinged (cannot be retrofitted)	11.3	Battery charger for 12V power supply with booster, battery sensor and battery container	2.7
Rear lights with dynamic indicator	1.0	Cable adapter 7/13-pole for connecting cars	0.3
Rear-mounted bicycle carrier for 2 bicycles	7.5	City water supply	0.5
Stowage locker THETFORD with central lock	0.5	Electric boiler TRUMA 14 l	15.0
THULE OMNISTOR sun awning 6300, 260 cm	23.0	External awning socket incl. 230V output, satellite/TV connection	0.4
THULE OMNISTOR sun awning 6300, 300 cm	26.0	Gas socket, external	1.5
THULE OMNISTOR sun awning 6300, 350 cm	30.0	HOBBY-CONNECT, remote control for on-board equipment via app	0.6
THULE OMNISTOR sun awning 6300, 400 cm	32.0		
THULE OMNISTOR sun awning 6300, 450 cm	35.0		
THULE OMNISTOR sun awning 6300, 500 cm	45.0		
Living room			
Ambient lighting	0.3		
Fitted carpet, removable, up to	10.0		
Single-post elevating table	8.0		
Upholstery combination	0.0		

Object	Weight [kg]
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Remote control for lighting system	0.3
TFT control panel for lighting system and tank, incl. CI BUS	0.1
USB twin charger socket up to	0.1
Water pump with additional switch	0.4

Heating/air-conditioning

Electric auxiliary heating system TRUMA Ultraheat	2.0
Floor heating	4.00 - 6.00
Heating TRUMA Upgrade from Combi 4/6 to Combi 6 (E)	up to 1.1
Hot-water floor heating (only in conjunction with hot-water heating ALDE)	35.0
Hot-water heater ALDE COMPACT 3020	41.5
Pre wiring for roof air-conditioning system	0.5
Roof air-conditioning system DOMETIC FreshJet	32.0

Multimedia

Articulated bracket for TV incl. required connections	2.0
Slide out bracket for flat screen TV incl. required connections (for 620 CL)	2.6
TV antenna mast TELECO	0.9

12.1 Maintenance

Maintenance intervals

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

Rules for maintenance intervals

- The 1st annual maintenance check should be carried out by an authorised HOBBY dealer no later than 12 months after the initial registration date.
- 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.



The inspection of the gas system and flues, for which a fee is payable, should be carried out regularly by a liquid gas expert in accordance with national regulations (annually in Great Britain). This inspection is to be conducted and certified in accordance with the German Association of Gas and Water Experts, worksheet DVGW G 607, and EN 1949. The caravan operator is responsible for scheduling this inspection in good time.

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

Note that high-pressure gas hoses must be replaced after 5 years.

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.

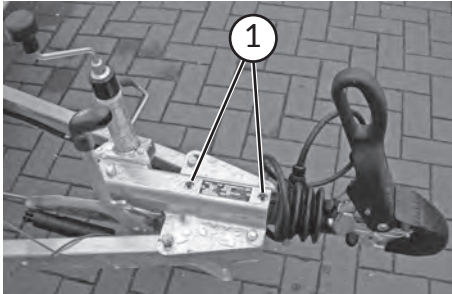


Hobby's voluntarily granted (5 year) warranty against leaks in the mobile home, as set out in the guarantee conditions, will only take effect if the (chargeable) inspections for leaks were carried out correctly. To this end, the mobile home must be taken to a Hobby dealer 12-18 months after receipt of the vehicle. After the initial inspection for leaks, this inspection must be repeated every 12 months during the warranty period.

Hobby recommends that you contact a service partner before driving there and enquire 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 overrun 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.
- Check from time to time to ensure that the bearing surfaces of the brake 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.

IMPORTANT: The friction pads of the WS 3000 safety hitch may NEVER be oiled or greased.



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 Hitch head

Tow ball on base vehicle

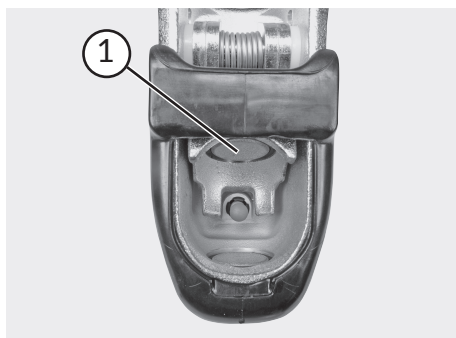
Ensure that the tow ball meets the required dimensions and is undamaged, clean and free of grease. When using dacromet-coated (dull silver anti-corrosion coating) as well as lacquered coupling balls, the coating must be removed completely with sandpaper (200-240 grain) so that it does not create deposits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

Stabiliser hitch

Keep the friction linings inside the stabiliser hitch clean and free of grease (Fig. 5). When the friction pads are dirty, the surface can be cleaned with 200-240 grain sandpaper. Then clean the surface with a thinning solvent 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.



Hitch head



Friction pads

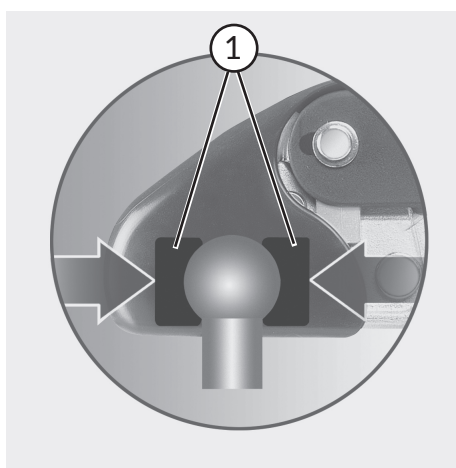


Diagram of friction pads

Changing the friction pads

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 towing your caravan; these noises, however, have no influence on the operative effectiveness of the stabiliser hitch.

Possible causes of these noises can be:

1. a painted (dacromet coated) ball on the tow vehicle.
2. A galvanized or varnished tow ball on the tow vehicle.
3. A damaged, rusty or dirty tow ball on the tow vehicle.
4. dirty friction pads ① on the stabiliser hitch head.
5. the towbar or brake rod in the linings of the overrunning equipment are running dry.

Hints

For 1., 2. 3. and 4.:

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

for 5:

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

12.3 Brakes

Initial inspection

The brakes must first be inspected after you have driven 500 km. Inspections must be documented in the KNOTT service manual by the authorised specialist who carries out the inspection. A documented report is just as much a prerequisite for any possible guarantee claims as is the compliance with the regulations for maintenance and upkeep.



After exchanging the brake pads, drive the first 100 km carefully, because the full brake force has not yet been reached.

12.4 Changing bulbs in the rear lights

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



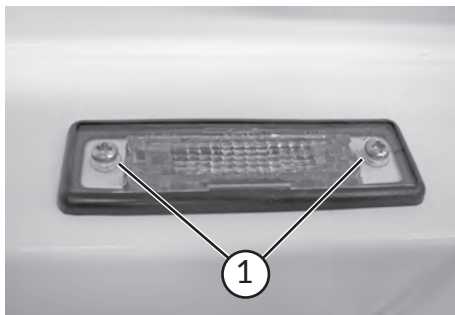
Some of the rear lights in the Premium models are fitted with LED lights, whereby each individual light has a standardised alignment. Therefore, due to the authorisation required, individual LED lights may not be changed. Should they be defect, the entire rear light must be replaced.



Disconnect the power supply before changing the lamps!

Lamps can be hot!

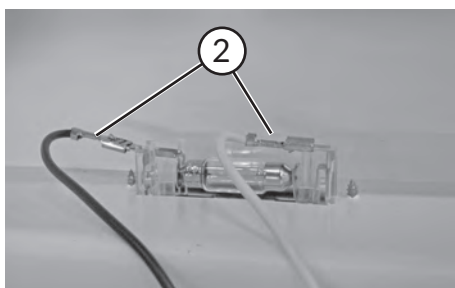
Ensure that no liquids (e.g. rain) flow into the covers.



Registration plate light

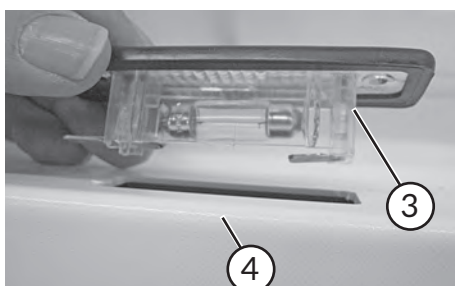
Changing the licence plate illumination

- To change the registration plate light, first unscrew these screws ①.



Removing the cable

- Remove the two wires ② and attach them to the new light (They can re connected to any terminal).



Lamp

- When putting in the new light, take care to ensure that the closed side ③ of the light points towards the plastic on the rear bumper ②. Otherwise there is a danger that the plastic on the rear bumper will melt when heat is generated.
- Firmly tighten the screws ① to fasten the light securely.



Multifunction light in Prestige model

Changing the rear lamps in the models Ontour, De Luxe (Edition), Excellent und Prestige



The LED components in the rear light cannot be changed separately. In case of defects, the entire rear lamp must be exchanged.

- ① Rear light (LED)
- ② Fog tail light (light bulb)
- ③ LED/dynamic indicator (LED)*
- ④ Reversing light (light bulb)
- ⑤ Indicator (light bulb)
- ⑥ Brake light (light bulb)



Fig. 1

Releasing the rear lamp from the sealing

- Release the rear lamp by carefully applying a plastic wedge beneath the outer edge of the lamp (Fig. 1).
- Before lifting the lamp out of the sealing, use one hand to hold the inner edge of the lamp in place (Fig. 2). When releasing the lamp, ensure that it does not shift or is wedged towards the centre of the vehicle.
- Release the lamp slowly and evenly from the sealing



Take care when changing the bulbs so as not to damage them.



Fig. 2

- The sockets of the light bulbs are marked with arrows; unscrew them as described on the bulb. Replace the defect bulb and then screw the socket back into the rear lamp retainer.



Never mix up the predefined positions of the lamps on the rear lamp and always ensure that they are screwed tightly into place.



Reverse side of rear light



Marking on the lamp

Inserting the rear lamp in the sealing

- Place the rear lamp back in the sealing by carefully pushing the rear light into the inner corner and pressing it lightly into place.
- Then press the outer edge into the sealing, whereby the inner corner of the lamp must not be shifted.
- Check that the lamp is fully locked into place and fits smoothly.
- Finally, do a visual and a functional check of the rear lights.

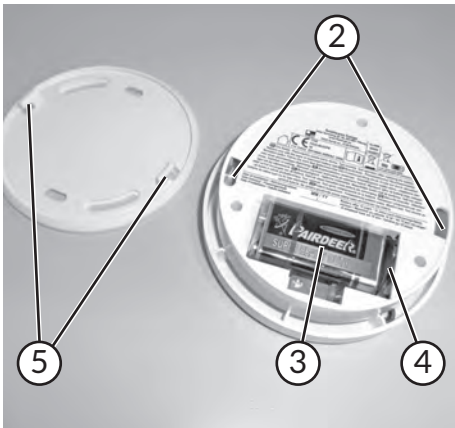
12.5 Changing the battery and maintenance of the smoke detector



Please observe the operating instructions of the device manufacturer.



Rauchmelder geschlossen



Rauchmelder geöffnet

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 slots are not dirty or blocked 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.

- 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 anti-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.

12.6 Ventilation

Sufficient ventilation and de-aeration of the vehicle interior is essential to maintaining a comfortable climate. You will notice an increased amount of condensation inside the caravan on cooler days or after it has not been used for a prolonged period of time. This condensation may be particularly heavy on single-glazed windows. Damp spots are sometimes even noticeable on furniture surfaces, the inner side of outside walls, and often also in cupboards. Furthermore, such dampness can cause mould to build up, which then rapidly spreads to other surfaces. This situation not only impairs your sense of well-being, but can also lead to damaged components. This condensation is generally caused by the air in the room. One of the properties of air is that it can absorb water. The hotter the air is, the more water it can absorb (relative humidity). If air that is totally saturated with water vapour cools down and reaches its saturation point, it gives off part of the water in the form of condensation. This is also known as a "cold bridge". However, condensation occurs primarily when there is little airflow due to structural conditions or insufficient airing.

Condensation forms most readily

- in tight spaces,
- from the breath and perspiration of the passengers,
- by having damp clothing, inside the caravan,
- Operating the gas cooker and oven*.
- Showering, washing or doing the washing-up with very warm or hot water

While sleeping, a person loses about one litre of water per night through the pores of their skin and breathing. The additional water vapour in the air must be discharged from the recreational vehicle by airing it sufficiently at regular intervals. An air change of 0.5 to 1 ACH (Air change per hour) is required if only for reasons of hygiene to ensure that the level of toxic substances and odorous pollutants in the air in the room remains low.



Ensure sufficient air circulation to prevent damage from the collection of condensation!

To ensure the ideal air exchange, open all of the cupboard and wall cabinet doors when airing and reheating the caravan.

Air the caravan as required in an energy-conscious manner. Although this means that some heating energy will be lost, it is in the interests of a healthy room temperature and to prevent any damage from moisture. What is important is to ensure that the loss of heating energy is kept as low as possible. This is best achieved by airing intensively for a brief period at regular intervals. Therefore, you should open the skylights, windows and doors as far as possible for a short time, thus creating a draft. After approx. 10 to 15 minutes the stale, moist air in the room will be replaced by fresh, dry air which, after heating up, can again absorb additional water vapour.

12.7 Upkeep

The following applies for their care:

- Clean plastic parts (e.g. bumpers, skirts) with water of up to 60° C and mild household cleansers.
- Clean greasy or oily surfaces with spirits.



Only wash the caravan 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 only be washed when it is dirty.

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 off thoroughly with plenty of water.
- Dry the vehicle with a chamois leather or soft dry 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 doors, waste gas flues or skylights. This may damage the caravan or water could get inside the caravan.

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

- Repair all damages without undue delay to prevent further damage caused by 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.

Clean the corner steadies with water and a damp sponge, then dry and grease them, especially the spindle.

Skylights, windows and doors

Window surfaces require particularly careful treatment as they scratch very easily, never clean using a brush.

Rules for upkeep

- Rub the rubber seals lightly with talcum powder.
- 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.

Roof



To prevent the paint on the roof of the caravan from corroding, the roof plate should be cleaned at least once a year.

Cleaning the interior



To reduce problems arising from dampness, use water sparingly when cleaning inside.



Do not use razor blades to clean the mirror or window panes! Wipe mirrors and windows with a damp micro-fibre cloth or leather cloth, wiping in circles. Do not use any cleaning solutions.

Rules for cleaning seat covers, upholstery covers and curtains

- Clean seat covers with a soft brush or vacuum cleaner.
- Have mattresses, cushions, bedspreads and curtains dry-cleaned when they are badly soiled. Do not wash them yourself! Never remove the covers from mattresses or cushions.
- Clean with the foam with 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.
- Use a vacuum cleaner on the 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 lukewarm 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 the PVC flooring if it is walked on regularly. When in use, clean the floor daily with a vacuum cleaner 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 hob:

- Clean metal surfaces with normal household cleaners or special stainless-steel cleansing agents.



Fresh water tank

The following applies for the fresh water tank

- Rinse it regularly with clean, clear water.
- Pull out the overflow pipe and clean the sealing surface with a gentle cleaning solution.
- Clean the sealing surfaces in the tank and grease them with Vaseline.
- Replace the pipe with a gentle turn to protect the seal.

Cleaning the fresh water tank

- After emptying the water from the fresh water tank, use a cloth to remove the remaining liquid that has collected in the groove.

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.
- **Truma therme/Combi heating system (model-specific):**
The boiler must be descaled regularly (at least twice a year). We recommend using suitable commercial agents for cleaning, disinfecting and taking care of the boiler. Products that contain chlorine are unsuitable.

Combi heating system only:

- The chemical method used to control microorganisms in the device can also be supplemented by regularly heating the water in the boiler to 70° C.
- The safety / outlet valve (FrostControl) must be operated regularly (at least twice a year) to remove lime deposits and to ensure that it is not blocked.
- The glycol mixture in the ALDE hot-water heating * system should be replaced every two years, because certain properties such as protection against corrosion deteriorate.

- **Oven/Hob-oven combination:**
 - Never use scouring agents, hard brushes or sharp metal scrapers to clean the device or the glass surface.
 - Ensure that the holes in the burner rings are not clogged.
 - The control knobs can be removed for easier cleaning.
- 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 extractor 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!

12.8 Winterizing 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 an enclosed space if it is dry and well-aired. Otherwise, it is better to leave your caravan in the open.
- Cover the hitch head. Grease the brake linkage and winding stanchions.
- Jack up the caravan if possible. Extend the corner steadies to relieve the burden on wheels and axles to some extent. Use axle stands to support the chassis.
- Close all gas bottles and emergency shutoff valves.
- If your vehicle has a 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 caravan so as not to hamper ventilation.

The following applies for the external structure:

- Wash the caravan thoroughly (see 12.7).
- Check the vehicle for damages to the paint 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 paint lacquer.
- Use a protective agent to protect the metal parts of the chassis against rust.
- Check the chassis for damage and, if necessary, repair it. In case of severe damages, contact your dealer.
- Ensure that no water can get into the venting on the floor, heating system and refrigerator venting (fit winter covers*).

The following applies for tanks and containers:

- Clean, disinfect, descale and completely empty all water pipes and taps. Leave taps open.
- Clean the fresh water tank and empty it by pulling out the overflow pipe (see Chapter 8.2 Fresh water).
- Clean and empty the waste water tank.
- Clean and empty the toilet flushing tank (model-specific) and the waste tank. Clean the toilet sliding flap, apply a lubricant for seals and leave it open.
- Completely empty the therme/Combi heating system/boiler*.
- If your caravan is equipped with a hotwater heater: rinse the water heater thoroughly and empty all of the water.

The following applies for the interior fittings:

- Clean the interior of your caravan. Vacuum carpets, cushions and mattresses. Alternatively, place them in such a way inside the caravan 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 10.4).
- After cleaning them, leave storage spaces, cupboards, drawers and furniture doors open to help air circulation.
- Leave vents for forced ventilation open. If the caravan is kept in an enclosed 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 caravan to prevent the build-up of mould from condensation.
- Switch off the 12 V main switch.

12.9 Winter useage



Caravanning in winter

Preparations include:

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 caravan 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 lacquered 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 damage to the caravan caused by condensation.

- Do not block vents for forced ventilation.
- Set the heating to maximum power when heating up the caravan. Open storage spaces, cupboards, drawers, furniture doors, 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 storage 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 fitted 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.
- Avoid continuous airing during the heating period. Open windows cause a considerably greater loss of heat than brief airing.
- Turn down the heating when airing. Be careful when there is frost outside! The heating system should only be turned off when briefly airing the caravan; otherwise, there is a danger that the water may freeze.
- Do not let the interior cool down completely when you are away or at night; set the heating to low and leave it on.



Continue to heat the vehicle while you are sleeping!

- 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 awning. It will help to acclimatise the caravan and keep the dirt out.

The following applies for containers:

- If the interior is sufficiently heated, the fresh water tank, water pipes and therme/Combi heating system/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 waste 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 cassette 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, winter covers on refrigerators, etc.

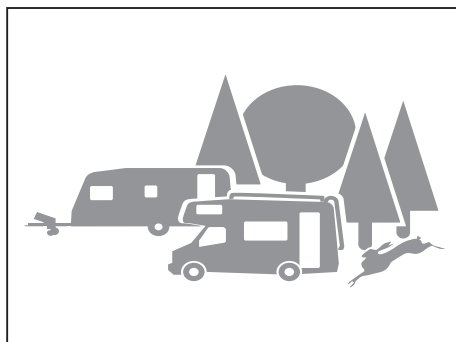
Saving energy in winter

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 caravan and the heating valve.
- Open the door as little and as briefly as possible.
- If you are camping in winter, attach an awning as protection against the cold.

13.1 The environment and mobile travel



Environmentally sound use

Naturally, motor home, caravan and van owners and users are especially responsible for the environment. Therefore, you should always use your caravan in an environmentally sound manner.

Rules for environmentally sound use

- If you plan on spending a long period of time in cities and communities, find out in advance about special campsites for cars with caravans and use them.
- Do not interfere with the quietude and cleanliness of nature.
- Dispose of waste water, faeces and rubbish properly.
- Act in an exemplary manner so that motor home, van and caravan users are not generally regarded as environmental polluters.



Rules for waste water disposal:

- Collect waste water on board only in built-in waste water tanks or, in an emergency, in suitable containers!
- Never dispose of waste water in greenery or in drains! Street surface water drains 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 toilet cassette at designated sites, never out in the open! Generally, waste disposal stations can be found at rest facilities, camping grounds or petrol 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 toilet cassette to become too full. Empty the tank immediately, at the latest when the fill indicator lights up.
- Never dispose of waste water in drains! Street surface water drains 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 rubbish disposal

- Separate rubbish and bring recycleable materials to the appropriate collection sites.
- Empty disposal bins as often as possible in the bins or containers provided for this purpose. This prevents unpleasant odours and rubbish build-up.

Rules for rest areas

- Always clean up picnic spots before you leave, even if the rubbish has been left by someone else.
- Never dispose of your household rubbish in the containers provided in rest areas.
- Do not let the motor of your tow 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.



Protecting the environment is not only in the interest of nature, but also in the interest of all motor home, van and caravan users!

14.1 Chassis data

Model	Typ	ONTOUR	De Luxe Edition	De Luxe	IC Silverline	Excellent	Prestige	Premium	g.v.w.r. [kg]	Per- mitted axle load	Axle(s)	Wheel brake	Leading equip- ment	Stabiliser Hitch	Towbar
390 SF	30EG	•							1200	1200	VGB 13 M	20-2425/1	KFL 12 B	WS 3000 H45	One Piece
400 SFe	30EG			•					1300	1300	VGB 13 M	20-2425/1	KFL 12 B	WS 3000 H45	One Piece
440 SF	30EG			•					1300	1300	VGB 13 M	20-2425/1	KFL 12 B	WS 3000 H45	One Piece
455 UF	30EG			•					1350	1350	VGB 13 M	20-2425/1	KFL 12 B	WS 3000 H45	One Piece
460 UFe	30EG		•	•		•			1350	1350	VGB 13 M	20-2425/1	KFL 12 B	WS 3000 H45	One Piece
460 LU	30EG			•					1350	1350	VGB 13 M	20-2425/1	KFL 12 B	WS 3000 H45	One Piece
460 DL	30EG	•							1300	1300	VGB 13 M	20-2425/1	KFL 12 B	WS 3000 H45	One Piece
460 Sff	30EG			•		•			1350	1350	VGB 13 M	20-2425/1	KFL 12 B	WS 3000 H45	One Piece
460 SL	30EG					•			1500	1500	VGB 15 MV	20-2425/1	KFL 20 A	WS 3000 H45	One Piece
470 UL	30EG	•							1350	1350	VGB 13 M	20-2425/1	KFL 12 B	WS 3000 H45	One Piece
470 KMF	30EG	•							1350	1350	VGB 13 M	20-2425/1	KFL 12 B	WS 3000 H45	One Piece
490 KMF	24EG		•	•					1400	1400	VGB 15 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
495 UL	24EG		•	•		•	•		1500	1500	VGB 15 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
495 UL	24EG				•				1800	1800	VGB 18 MV	25-2025	KFL 20 A	WS 3000 H50	ZHL 15 A
495 UL	24EG							•	1700	1700	VGB 18 MV	25-2025	KFL 20 A	WS 3000 H50	ZHL 15 A
495 UFe	24EG					•			1500	1500	VGB 15 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
495 WFB	24EG			•		•			1500	1500	VGB 15 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
540 KMFe	24EG			•					1600	1600	VGB 16 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
540 FU	24EG			•		•			1500	1500	VGB 15 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
540 Uff	24EG			•		•			1500	1500	VGB 15 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
540 UL	24EG			•		•			1500	1500	VGB 15 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
540 WLU	24EG					•			1500	1500	VGB 15 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
515 UHK	24EG			•					1600	1600	VGB 16 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
515 UHL	24EG			•					1600	1600	VGB 16 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
545 KMF	24EG		•	•					1600	1600	VGB 16 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
560 CFe	24EG					•			1600	1600	VGB 16 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
560 CFe	24EG							•	1800	1800	VGB 18 MV	25-2025	KFL 20 A	WS 3000 H50	ZHL 15 A
560 FC	24EG						•		1600	1600	VGB 16 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
560 KMFe	24EG		•	•					1700	1700	VGB 18 MV	25-2025	KFL 20 A	WS 3000 H50	ZHL 15 A
560 KMFe	24EG				•				2000	2000	DB 20 MV	25-2025	KFL 20 A	WS 3000 H50	ZHL 20 A
560 LU	24EG					•	•		1600	1600	VGB 16 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
560 UL	24EG							•	1800	1800	VGB 18 MV	25-2025	KFL 20 A	WS 3000 H50	ZHL 15 A
560 WFU	24EG					•	•		1600	1600	VGB 16 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
560 WLU	24EG						•		1600	1600	VGB 16 MV	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 15 A
620 CL	27EG						•		1900	1000/1000	VGB 10 M	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 20 A
650 KFU	27EG			•					1900	1000/1000	VGB 10 M	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 20 A
650 KMFe	27EG		•						1900	1000/1000	VGB 10 M	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 20 A
650 Uff	27EG							•	2000	1100/1100	VGB 13 M	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 20 A
650 UKFe	27EG							•	2000	1100/1100	VGB 13 M	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 20 A
650 UMFe	27EG					•			1900	1000/1000	VGB 10 M	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 20 A
660 WFC	27EG						•		1900	1000/1000	VGB 10 M	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 20 A
660 WFU	27EG							•	2000	1100/1100	VGB 13 M	20-2425/1	KFL 20 A	WS 3000 H50	ZHL 20 A
720 UKFe	19EG						•		2200	1200/1200	VGB 13 M	20-2425/1	KFL 27 A	WS 3000 D50	ZHL 27 C
720 KWFU	19EG						•		2200	1200/1200	VGB 13 M	20-2425/1	KFL 27 A	WS 3000 D50	ZHL 27 C
720 WLC	19EG						•		2200	1200/1200	VGB 13 M	20-2425/1	KFL 27 A	WS 3000 D50	ZHL 27 C
720 WQC	19EG						•		2200	1200/1200	VGB 13 M	20-2425/1	KFL 27 A	WS 3000 D50	ZHL 27 C

14. Technical Data

Size	Rims Wheel mounting	Model	Tyre size	Wheel arch	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	684 x 224	3663	2200	1950	3524	4102	4590	5780
5½ J x 14	5/112, ET 30	Steel	195/70 R 14 XL	684 x 224	3857	2300	2050	3637	4296	4787	5964
5½ J x 14	5/112, ET 30	Steel	195/70 R 14 XL	684 x 224	4033	2300	2050	3710	4472	4963	6140
5½ J x 14	5/112, ET 30	Steel	195/70 R 14 XL	684 x 224	4372	2300	2050	3834	4811	5302	6479
5½ J x 14	5/112, ET 30	Steel	195/70 R 14 XL	684 x 224	4522	2300	2050	3891	4961	5452	6629
5½ J x 14	5/112, ET 30	Steel	195/70 R 14 XL	684 x 224	4644	2300	2050	4025	5083	5574	6751
5½ J x 14	5/112, ET 30	Steel	195/70 R 14 XL	684 x 224	4488	2200	1950	3984	4927	5415	6605
5½ J x 14	5/112, ET 30	Steel	195/70 R 14 XL	684 x 224	4644	2300	2050	4106	5083	5574	6751
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	684 x 224	4644	2300	2050	4106	5083	5574	6751
5½ J x 14	5/112, ET 30	Steel	195/70 R 14 XL	684 x 224	4592	2200	1950	3998	5031	5519	6709
5½ J x 14	5/112, ET 30	Steel	195/70 R 14 XL	684 x 224	4592	2200	1950	4008	5031	5519	6709
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	684 x 224	4766	2300	2050	4109	5205	5696	6888
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	684 x 224	5005	2300	2050	4201	5444	5935	7127
6 J x 15	5/112, ET 30	TR9-6015	195/70 R 15 C	684 x 224	5005	2300	2050	4201	5444	5935	7127
6 J x 15	5/112, ET 30	TR9-6015	195/70 R 15 C	684 x 224	5293	2300	2050	4468	5562	6434	7630
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	684 x 224	4648	2300	2050	3981	5087	5578	6770
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	684 x 224	5005	2300	2050	4180	5444	5935	7127
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	684 x 224	5323	2300	2050	4269	5762	6253	7445
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	684 x 224	5152	2300	2050	4288	5591	6082	7274
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	684 x 224	5223	2300	2050	4372	5662	6153	7345
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	684 x 224	5171	2300	2050	4289	5610	6101	7293
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	762 x 258	5152	2300	2050	4217	5591	6082	7274
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	762 x 258	5411	2300	2050	4459	5850	6341	7533
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	762 x 258	5411	2300	2050	4459	5850	6341	7533
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	762 x 258	5323	2500	2250	4422	5762	6256	7425
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	762 x 258	5411	2500	2250	4289	5850	6344	7513
6 J x 14	5/112, ET 30	TR9-6014	195 R 14 C	762 x 258	5696	2500	2250	4539	5965	6843	8016
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	762 x 258	5411	2500	2250	4392	5850	6344	7513
5½ J x 15	5/112, ET 30	Steel	195/70 R 15 C	762 x 258	5411	2500	2250	4336	5850	6344	7513
6 J x 15	5/112, ET 30	TR9-6015	225/70 R 15 C	762 x 258	5411	2500	2250	4336	5850	6344	7513
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	762 x 258	5411	2500	2250	4381	5850	6344	7513
6 J x 14	5/112, ET 30	TR9-6014	195 R 14 C	762 x 258	5696	2500	2250	4621	5965	6843	8016
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	762 x 258	5459	2500	2250	4367	5898	6392	7561
5½ J x 14	5/112, ET 30	Steel	185 R 14 C	762 x 258	5411	2500	2250	4339	5850	6344	7513
4½ J x 13	4/100, ET 30	Steel	155/80 R 13 XL	Tandem	5923	2500	2250	4287	6362	6856	8025
4½ J x 13	4/100, ET 30	Steel	155/80 R 13 XL	Tandem	6273	2500	2250	4462	6712	7206	8375
4½ J x 13	4/100, ET 30	Steel	155/80 R 13 XL	Tandem	6223	2500	2250	4387	6662	7156	8325
5 J x 13	4/100, ET 30	TR9-5013	165 R 13 C	Tandem	6508	2500	2250	4760	6777	7655	8828
5 J x 13	4/100, ET 30	TR9-5013	165 R 13 C	Tandem	6559	2500	2250	4623	6828	7706	8879
4½ J x 13	4/100, ET 30	Steel	155/80 R 13 XL	Tandem	6223	2500	2250	4412	6662	7156	8325
4½ J x 13	4/100, ET 30	Steel	155/80 R 13 XL	Tandem	6223	2500	2250	4490	6662	7156	8325
5 J x 13	4/100, ET 30	TR9-5013	165 R 13 C	Tandem	6545	2500	2250	4807	6814	7692	8865
4½ J x 13	4/100, ET 30	Steel	165 R 13 C	Tandem	6923	2500	2250	4786	7362	7856	9030
4½ J x 13	4/100, ET 30	Steel	165 R 13 C	Tandem	6923	2500	2250	4710	7362	7856	9042
4½ J x 13	4/100, ET 30	Steel	165 R 13 C	Tandem	6923	2500	2250	4786	7362	7856	9042
4½ J x 13	4/100, ET 30	Steel	165 R 13 C	Tandem	6923	2500	2250	4786	7362	7856	9042

14.2 Possibilities for increasing loads

Basic version

Model	Typ	ONTOUR	De Luxe Edition	De Luxe	IC Silverline	Excellent	Prestige	Premium	g.v.w.r. [kg]	Axle load [kg]	Axle	Tyres	Brakes	Leading equip- ment	Forked A frame
390 SF	P28B	•							1200	1200	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	F28K			•					1300	1300	VGB 13 M	195/70 R 14 XL LI 96	20-2425/1	KFL 12 B	One-Piece
455 UF	N22K			•					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 LU	J52K			•					1350	1350	VGB 13 M	195/70 R 14 XL LI 96	20-2425/1	KFL 12 B	One-Piece
460 DL	R68B	•							1300	1300	VGB 13 M	195/70 R 14 XL LI 96	20-2425/1	KFL 12 B	One-Piece
460 Sff	H48?			•		•			1350	1350	VGB 13 M	195/70 R 14 XL LI 96	20-2425/1	KFL 12 B	One-Piece
460 SL	L29L					•			1500	1500	VGB 15 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	One-Piece
470 UL	V24B	•							1350	1350	VGB 13 M	195/70 R 14 XL LI 96	20-2425/1	KFL 12 B	One-Piece
470 KMF	K33B	•							1350	1350	VGB 13 M	195/70 R 14 XL LI 96	20-2425/1	KFL 12 B	One-Piece
490 KMF	A33?		•	•					1400	1400	VGB 15 MV	185 R 14 C LI 102	20-2425/1	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?		•	•		•	•								
495 UL	L24K				•				1800	1800	VGB 18 MV	195/70 R 15 C LI 104	25-2025	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 UFe	F43L					•			1500	1500	VGB 15 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
						•									
495 WFB	D64?			•		•			1500	1500	VGB 15 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
				•		•									
540 KMFe	P33K			•					1600	1600	VGB 16 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
540 FU	E37?			•		•			1500	1500	VGB 15 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
				•		•									
540 Uff	K40?			•		•			1500	1500	VGB 15 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
				•		•									
540 UL	M24?			•		•			1500	1500	VGB 15 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
				•		•									
540 WLU	J49L					•			1500	1500	VGB 15 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
						•									
						•									
515 UHK	G67K			•					1600	1600	VGB 16 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
				•											
515 UHL	G69K			•					1600	1600	VGB 16 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
				•											
545 KMF	R33?		•	•					1600	1600	VGB 16 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
			•	•											
560 CFe	T58L					•			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
560 FC	X72M							•	1600	1600	VGB 16 MV	185 R 14 C LI 102	20-2425/1	KFL 20 A	ZHL 15 A
								•							

Maximum increased load

g.v.w.r. [kg]	Axle load [kg]	Axle New !	Additional rear crossbar	Wheels New !	Brakes New !	Leading equip- ment	Forked A frame New !	Weight
1500	1500	VGB 15 MV	no	185 R 14 C LI 102	no	KFL 20 A	no	13,0
1500	1500	VGB 15 MV	201.340.001	185 R 14 C LI 102	no	KFL 20 A	no	13,0
1500	1500	VGB 15 MV	201.340.001	185 R 14 C LI 102	no	KFL 20 A	no	13,0
1500	1500	VGB 15 MV	201.340.001	185 R 14 C LI 102	no	KFL 20 A	no	13,0
1500	1500	VGB 15 MV	201.340.001	185 R 14 C LI 102	no	KFL 20 A	no	13,0
1500	1500	VGB 15 MV	201.340.001	185 R 14 C LI 102	no	KFL 20 A	no	13,0
1500	1500	VGB 15 MV	no	185 R 14 C LI 102	no	KFL 20 A	no	13,0
1500	1500	VGB 15 MV	201.340.001	185 R 14 C LI 102	no	KFL 20 A	no	13,0
---	---	---	---	---	---	---	---	0,0
1500	1500	VGB 15 MV	no	185 R 14 C LI 102	no	KFL 20 A	no	13,0
1500	1500	VGB 15 MV	no	185 R 14 C LI 102	no	KFL 20 A	no	13,0
1500	1500	no	no	no	no	no	no	0,0
1600	1600	VGB 16 MV	no	no	no	no	no	0,0
1750/1800	1750/1800	VGB 18 MV	34 1462 93 03	195/70 R 15 C LI 104	25-2025	no	no	25,0
1600	1600	VGB 16 MV	no	no	no	no	no	0,0
1750/1800	1750/1800	VGB 18 MV	34 1462 93 03	195/70 R 15 C LI 104	25-2025	no	no	25,0
---	---	---	---	---	---	---	---	0,0
1750/1800	1750/1800	no	no	no	no	no	no	0,0
1600	1600	VGB 16 MV	no	no	no	no	no	0,0
1750/1800	1750/1800	VGB 18 MV	34 1462 93 03	195/70 R 15 C LI 104	25-2025	no	no	25,0
1600	1600	VGB 16 MV	no	no	no	no	no	0,0
1750/1800	1750/1800	VGB 18 MV	34 1462 93 03	195/70 R 15 C LI 104	25-2025	no	no	25,0
1750/1800	1750/1800	VGB 18 MV	34 1462 93 03	195/70 R 15 C LI 104	25-2025	no	no	25,0
1600	1600	VGB 16 MV	no	no	no	no	no	0,0
1750/1800	1750/1800	VGB 18 MV	34 1462 93 03	195/70 R 15 C LI 104	25-2025	no	no	25,0
1600	1600	VGB 16 MV	no	no	no	no	no	0,0
1750/1800	1750/1800	VGB 18 MV	34 1462 93 03	195/70 R 15 C LI 104	25-2025	no	no	25,0
1600	1600	VGB 16 MV	no	no	no	no	no	0,0
1750/1800	1750/1800	VGB 18 MV	34 1462 93 03	195/70 R 15 C LI 104	25-2025	no	no	25,0
1600	1600	VGB 16 MV	no	no	no	no	no	0,0
1750/1800	1750/1800	VGB 18 MV	34 1462 93 03	195/70 R 15 C LI 104	25-2025	no	no	25,0
1600	1600	VGB 16 MV	no	no	no	no	no	0,0
2000	2000	DB 20 MV	34 1462 93 03	225/70 R 15 C LI 112	25-2025	no	ZHL 20 A	36,0
1750/1800	1750/1800	VGB 18 MV	34 1462 93 03	195/70 R 15 C LI 104	25-2025	no	no	25,0
2000	2000	DB 20 MV	34 1462 93 03	225/70 R 15 C LI 112	25-2025	no	ZHL 20 A	36,0
1750/1800	1750/1800	VGB 18 MV	34 1462 93 03	195/70 R 15 C LI 104	25-2025	no	no	25,0
2000	2000	DB 20 MV	34 1462 93 03	225/70 R 15 C LI 112	25-2025	no	ZHL 20 A	36,0
1750/1800	1750/1800	VGB 18 MV	no	195/70 R 15 C LI 104	25-2025	no	no	23,0
2000	2000	DB 20 MV	no	225/70 R 15 C LI 112	25-2025	no	ZHL 20 A	33,0
1750/1800	1750/1800	VGB 18 MV	no	195/70 R 15 C LI 104	25-2025	no	no	23,0
2000	2000	DB 20 MV	no	225/70 R 15 C LI 112	25-2025	no	ZHL 20 A	33,0
2000	2000	DB 20 MV	no	225/70 R 15 C LI 112	no	no	ZHL 20 A	14,0
1750/1800	1750/1800	VGB 18 MV	no	195/70 R 15 C LI 104	25-2025	no	no	23,0
2000	2000	DB 20 MV	no	225/70 R 15 C LI 112	25-2025	no	ZHL 20 A	33,0

Basic version

Model	Typ	ONTOUR	De Luxe Edition	De Luxe	IC Silverline	Excellent	Prestige	Premium	g.v.w.r. [kg]	Axle load [kg]	Axle	Tyres	Brakes	Leading equip- ment	Forked A frame
560 KMFe	C33?		•	•					1700	1700	VGB 18 MV	195/70 R 15 C LI 104	25-2025	KFL 20 A	ZHL 15 A
			•	•											
560 KMFe	C33K				•				2000	2000	DB 20 MV	225/70 R 15 C LI 112	20-2425/1	KFL 20 A	ZHL 20 A
560 LU	B52?					•	•		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 WFU	Y50?					•	•		1600	1600	VGB 16 MV	185 R 14 C LI 102	20-2425/1	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
								•							
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 KFU	C46K			•					1900	1000/1000	VGB 10 M	155/80 R 13 XL LI 84	20-2425/1	KFL 20 A	ZHL 20 A
	C46K			•											
650 KMFe	B33A		•						1900	1000/1000	VGB 10 M	155/80 R 13 XL LI 84	20-2425/1	KFL 20 A	ZHL 20 A
	B33A		•												
650 UFF	J40H							•	2000	1100/1100	VGB 13 M	165 R 13 C LI 93	20-2425/1	KFL 20 A	ZHL 20 A
650 UKFe	R45H							•	2000	1100/1100	VGB 13 M	165 R 13 C LI 93	20-2425/1	KFL 20 A	ZHL 20 A
650 UMF	E25L					•			1900	1000/1000	VGB 10 M	155/80 R 13 XL LI 84	20-2425/1	KFL 20 A	ZHL 20 A
	E25L					•									
660 WFC	T65M							•	1900	1000/1000	VGB 10 M	155/80 R 13 XL LI 84	20-2425/1	KFL 20 A	ZHL 20 A
								•							
660 WFU	P50H							•	2000	1100/1100	VGB 13 M	165 R 13 C LI 93	20-2425/1	KFL 20 A	ZHL 20 A
720 UKFe	G45M							•	2200	1200/1200	VGB 13 M	165 R 13 C LI 93	20-2425/1	KFL 27 A	ZHL 27 C
720 KWFU	U66M							•	2200	1200/1200	VGB 13 M	165 R 13 C LI 93	20-2425/1	KFL 27 A	ZHL 27 C
720 WLC	V70M							•	2200	1200/1200	VGB 13 M	165 R 13 C LI 93	20-2425/1	KFL 27 A	ZHL 27 C
720 WQC	X71M							•	2200	1200/1200	VGB 13 M	165 R 13 C LI 93	20-2425/1	KFL 27 A	ZHL 27 C

Maximum increased load

g.v.w.r. [kg]	Axle load [kg]	Axle New !	Additional rear crossbar	Wheels New !	Brakes New !	Leading equipment	Forked A frame New !	Weight
1750/1800	1750/1800	no	no	no	no	no	no	0,0
2000	2000	DB 20 MV	no	225/70 R 15 C LI 112	no	no	ZHL 20 A	11,0
---	---	---	---	---	---	---	---	0,0
1750/1800	1750/1800	VGB 18 MV	no	195/70 R 15 C LI 104	25-2025	no	no	23,0
2000	2000	DB 20 MV	no	225/70 R 15 C LI 112	25-2025	no	ZHL 20 A	33,0
2000	2000	DB 20 MV	no	225/70 R 15 C LI 112	no	no	ZHL 20 A	14,0
1750/1800	1750/1800	VGB 18 MV	no	195/70 R 15 C LI 104	25-2025	no	no	23,0
2000	2000	DB 20 MV	no	225/70 R 15 C LI 112	25-2025	no	ZHL 20 A	33,0
1750/1800	1750/1800	VGB 18 MV	no	195/70 R 15 C LI 104	25-2025	no	no	23,0
2000	2000	DB 20 MV	no	225/70 R 15 C LI 112	25-2025	no	ZHL 20 A	33,0
2000	1100/1100	VGB 13 M	no	165 R 13 C LI 93	no	no	no	8,0
2200	1200/1200	VGB 13 M	no	165 R 13 C LI 93	no	KFL 27 A	no	8,0
2000	1100/1100	VGB 13 M	no	165 R 13 C LI 93	no	no	no	8,0
2200	1200/1200	VGB 13 M	no	165 R 13 C LI 93	no	KFL 27 A	no	8,0
2000	1100/1100	VGB 13 M	no	165 R 13 C LI 93	no	no	no	8,0
2200	1200/1200	VGB 13 M	no	165 R 13 C LI 93	no	KFL 27 A	no	8,0
2200	1200/1200	no	no	no	no	KFL 27 A	no	1,0
2200	1200/1200	no	no	no	no	KFL 27 A	no	1,0
2000	1100/1100	VGB 13 M	no	165 R 13 C LI 93	no	no	no	8,0
2200	1200/1200	VGB 13 M	no	165 R 13 C LI 93	no	KFL 27 A	no	8,0
2000	1100/1100	VGB 13 M	no	165 R 13 C LI 93	no	no	no	8,0
2200	1200/1200	VGB 13 M	no	165 R 13 C LI 93	no	KFL 27 A	no	8,0
2200	1200/1200	no	no	no	no	KFL 27 A	no	1,0
2500	1300/1300	no	no	no	no	no	no	0,0
2500	1300/1300	no	no	no	no	no	no	0,0
2500	1300/1300	no	no	no	no	no	no	0,0
2500	1300/1300	no	no	no	no	no	no	0,0

14.3 Weights of the vehicle and equipment

Modell	Unladen weight [kg]	Basic equipment [kg]	Mass in ready to drive condition [kg]	Technically permissible total mass. [kg]	Payload [kg]
390 SF ONTOUR	942	62	1004	1200	196
460 DL ONTOUR	1106	62	1168	1300	132
470 UL ONTOUR	1115	62	1177	1350	173
470 KMF ONTOUR	1091	47	1138	1350	212
460 UFe De Luxe Edition	1135	62	1197	1350	153
490 KMF de Luxe Edition	1196	62	1258	1400	142
495 UL de Luxe Edition	1223	62	1285	1500	215
545 KMF de Luxe Edition	1348	69	1417	1600	183
560 KMFe de Luxe Edition	1425	84	1509	1700	191
650 KMFe de Luxe Edition	1586	84	1670	1900	230
495 UL IC Silverline	1291	84	1375	1800	425
560 KMFe IC Silverline	1446	69	1515	2000	485
400 SFe de Luxe	1018	62	1080	1300	220
440 SF de Luxe	1025	62	1087	1300	213
455 UF de Luxe	1107	62	1169	1350	181
460 UFe de Luxe	1138	62	1200	1350	150
460 LU de Luxe	1122	62	1184	1350	166
460 SFf de Luxe	1129	52	1181	1350	169
490 KMF de Luxe	1193	62	1255	1400	145
495 UL de Luxe	1218	62	1280	1500	220
495 WFB de Luxe	1230	52	1282	1500	218
540 KMFe de Luxe	1303	84	1387	1600	213
540 FU de Luxe	1295	74	1369	1500	131
540 UFf de Luxe	1247	84	1331	1500	169
540 UL de Luxe	1266	84	1350	1500	150
515 UHK de Luxe	1373	84	1457	1600	143
515 UHL de Luxe	1368	84	1452	1600	148
545 KMF de Luxe	1345	69	1414	1600	186
560 KMFe de Luxe	1420	84	1504	1700	196
650 KFU De Luxe	1577	89	1666	1900	234
460 UFe Excellent	1140	62	1202	1350	148
460 SFf Excellent	1135	52	1187	1350	163
460 SL Sonder ccc	1225	52	1277	1500	223
495 UL Excellent	1233	62	1295	1500	205
495 UFe Excellent	1180	62	1242	1500	258
495 WFB Excellent	1240	52	1292	1500	208
540 FU Excellent	1301	74	1375	1500	125
540 UFf Excellent	1255	84	1339	1500	161
540 UL Excellent	1273	84	1357	1500	143
540 WLU Excellent	1245	69	1314	1500	186
560 CFe Excellent	1376	84	1460	1600	140
560 LU Excellent	1373	84	1457	1600	143

14. Technical Data

Model	Unladen weight [kg]	Basic equipment [kg]	Mass in ready to drive condition [kg]	Technically permissible total mass. [kg]	Payload [kg]
560 WFU Excellent	1390	74	1464	1600	136
650 UMF Excellent	1545	84	1629	1900	271
495 UL Prestige	1236	62	1298	1500	202
560 FC Prestige	1411	74	1485	1600	115
560 LU Prestige	1383	84	1467	1600	133
560 WFU Prestige	1392	74	1466	1600	134
560 WLU Prestige	1370	69	1439	1600	161
620 CL Prestige	1550	84	1634	1900	266
660 WFC Prestige	1581	74	1655	1900	245
720 UKFe Prestige	1781	84	1865	2200	335
720 KWFU Prestige	1750	74	1824	2200	376
720 WLC Prestige	1741	74	1815	2200	385
720 WQC Prestige	1737	74	1811	2200	389
495 UL Premium	1352	62	1414	1700	286
560 CFe Premium	1505	84	1589	1800	211
560 UL Premium	1515	84	1599	1800	201
650 UFF Premium	1614	84	1698	2000	302
650 UKFe Premium	1688	84	1772	2000	228
660 WFU Premium	1695	74	1769	2000	231

14.4 Tyres and Rims

Standard version								Metal wheel rims for the standard version				Light alloy rims for the standard version					
Model	Typ	ONTOUR	De Luxe Edition	De Luxe	IC Silverline	Excellent	Prestige Premium	Technically permissible total mass. [kg]	Axle load [kg]	Metal wheel rim	Tyre size	Air pres-sure (bar)	Light alloy rim, size	Light alloy rim, marking	Light alloy rim, colour	Tyre size	Air pres-sure (bar)
390 SF	P28B	•						1200	1200	5½ x 14	195/70 R 14 XL LI 96	3,2	6 x 14	TR9-6014	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	TR9-6014	silver	195/70 R 14 C LI 101	4,5
440 SF	F28K				•			1300	1300	5½ x 14	195/70 R 14 XL LI 96	3,2	6 x 14	TR9-6014	silver	195/70 R 14 C LI 101	4,5
455 UF	N22K				•			1350	1350	5½ x 14	195/70 R 14 XL LI 96	3,2	6 x 14	TR9-6014	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	TR9-6014	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	TR9-6014	silver	195/70 R 14 C LI 101	4,5
460 DL	R68B	•						1300	1300	5½ x 14	195/70 R 14 XL LI 96	3,2	6 x 14	TR9-6014	silver	195/70 R 14 C LI 101	4,5
460 Sff	H48?				•	•		1350	1350	5½ x 14	195/70 R 14 XL LI 96	3,2	6 x 14	TR9-6014	silver	195/70 R 14 C LI 101	4,5
460 SLCCC	L29L					•		1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	TR9-6014	silver	185 R 14 C LI 102	4,5
470 UL	V24B	•						1350	1350	5½ x 14	195/70 R 14 XL LI 96	3,2	6 x 14	TR9-6014	silver	195/70 R 14 C LI 101	4,5
470 KMF	K33B	•						1350	1350	5½ x 14	195/70 R 14 XL LI 96	3,2	6 x 14	TR9-6014	silver	195/70 R 14 C LI 101	4,5
490 KMF	A33?		•		•			1400	1400	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	TR9-6014	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	TR9-6014	silver	185 R 14 C LI 102	4,5
			•		•	•	•										
495 UL	L24K			•				1800	1800	Light alloy rims are part of the standard equipment			6 x 15	TR9-6015	silver	195/70 R 15 C LI 104	4,5
495 UL	L24H						•	1700	1700	Light alloy rims are part of the standard equipment			6 x 15	TR9-6015	black	195/70 R 15 C LI 104	4,5
495 UFe	F43L					•		1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	TR9-6014	silver	185 R 14 C LI 102	4,5
						•											
495 WFB	D64?				•	•		1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	TR9-6014	silver	185 R 14 C LI 102	4,5
					•	•											
540 KMFe	P33K				•			1600	1600	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	TR9-6014	silver	185 R 14 C LI 102	4,5
540 FU	E37?				•	•		1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	TR9-6014	silver	185 R 14 C LI 102	4,5
					•	•											
540 Uff	K40?				•	•		1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	TR9-6014	silver	185 R 14 C LI 102	4,5
					•	•											
540 UL	M24?				•	•		1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	TR9-6014	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	TR9-6014	silver	185 R 14 C LI 102	4,5
						•											
						•											
515 UHK	G67K				•			1600	1600	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	TR9-6014	silver	185 R 14 C LI 102	4,5
					•												
515 UHL	G69K				•			1600	1600	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	TR9-6014	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	TR9-6014	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	TR9-6014	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	TR9-6014	black	195 R 14 C LI 106	4,5
560 FC	X72M						•	1600	1600	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	TR9-6014	silver	185 R 14 C LI 102	4,5
							•										

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

14. Technical Data

Max. increase
(for increased load)

Metal wheel rims for
increased load

Light alloy rims for
increased load

Technically permissible total mass. [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)
1500	1500	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	TR9-6014	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	TR9-6014	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	TR9-6014	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	TR9-6014	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	TR9-6014	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	TR9-6014	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	TR9-6014	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	TR9-6014	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	TR9-6014	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	TR9-6014	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	TR9-6014	silver	185 R 14 C LI 102	4,5
1600	1600	5½ x 14	185 R 14 C LI 102	4,5	6 x 14	TR9-6014	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	TR9-6015	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	TR9-6014	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	TR9-6015	silver	195/70 R 15 C LI 104	4,5
---	---	---	---	---	---	---	---	---	---
1750	1750	Light alloy rims are part of the standard equipment			6 x 15	TR9-6015	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	TR9-6014	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	TR9-6015	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	TR9-6014	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	TR9-6015	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	TR9-6015	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	TR9-6015	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	TR9-6014	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	TR9-6015	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	TR9-6014	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	TR9-6015	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	TR9-6014	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	TR9-6015	silver	195/70 R 15 C LI 104	4,5
---	---	---	---	---	6 x 15	TR9-6015	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	TR9-6015	silver	195/70 R 15 C LI 104	4,5
---	---	---	---	---	6 x 15	TR9-6015	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	TR9-6015	silver	195/70 R 15 C LI 104	4,5
---	---	---	---	---	6 x 15	TR9-6015	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	TR9-6015	silver	195/70 R 15 C LI 104	4,5
2000	2000	5½ x 15	225/70 R 15 C LI 112	4,5	6 x 15	TR9-6015	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	TR9-6015	silver	195/70 R 15 C LI 104	4,5
---	---	---	---	---	6 x 15	TR9-6015	black	225/70 R 15 C LI 112	4,5
2000	2000	Light alloy rims are part of the standard equipment			6 x 15	TR9-6015	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	TR9-6015	silver	195/70 R 15 C LI 104	4,5
---	---	---	---	---	6 x 15	TR9-6015	black	225/70 R 15 C LI 112	4,5

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. As an option, silver light alloy rims are also available in black (optional extra)

Standard version								Metal wheel rims for the standard version				Light alloy rims for the standard version							
Model	Typ	ONTOUR	De Luxe Edition	De Luxe	IC Silverline	Excellent	Prestige	Premium	Technically permissible total mass. [kg]	Axle load [kg]	Metal wheel rim	Tyre size		Air pres- sure (bar)	Light alloy rim, size	Light alloy rim, marking	Light alloy rim, colour	Tyre size	Air pres- sure (bar)
560 KMFe	C33?		•		•				1700	1700	5½ x 15	195/70 R 15 C LI 104		4,5	6 x 15	TR9-6015	silver	195/70R15C LI 104	4,5
			•		•														
560 KMFe	C33K			•					2000	2000	Light alloy rims are part of the standard equipment				6 x 15	TR9-6015	silver	225/70R15CL I 112	4,5
560 LU	B52?					•	•		1600	1600	5½ x 14	185 R 14 C LI 102		4,5	6 x 14	TR9-6014	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	TR9-6014	black	195 R 14 C LI 106	4,5
560 WFU	Y50?					•	•		1600	1600	5½ x 14	185 R 14 C LI 102		4,5	6 x 14	TR9-6014	silver	185 R 14 C LI 102	4,5
						•	•												
560 WLU	H49M						•		1600	1600	5½ x 14	185 R 14 C LI 102		4,5	6 x 14	TR9-6014	silver	185 R 14 C LI 102	4,5
							•												
620 CL	S44M						•		1900	1000/1000	4½ x 13	155/80 R 13 XL LI 84		3,3	5 x 13	TR9-5013	silver	165 R 13 C LI 93	3,8
							•												
650 KFU	C46K				•				1900	1000/1000	4½ x 13	155/80 R 13 XL LI 84		3,3	5 x 13	TR9-5013	silver	165 R 13 C LI 93	3,8
					•														
650 KMFe	B33A		•						1900	1000/1000	4½ x 13	155/80 R 13 XL LI 84		3,3	5 x 13	TR9-5013	silver	165 R 13 C LI 93	3,8
			•																
650 UFF	J40H							•	2000	1100/1100	Light alloy rims are part of the standard equipment				5 x 13	TR9-5013	black	165 R 13 C LI 93	3,8
650 UKFe	R45H							•	2000	1100/1100	Light alloy rims are part of the standard equipment				5 x 13	TR9-5013	black	165 R 13 C LI 93	3,8
650 UMF	E25L					•			1900	1000/1000	4½ x 13	155/80 R 13 XL LI 84		3,3	5 x 13	TR9-5013	silver	165 R 13 C LI 93	3,8
						•													
660 WFC	T65M						•		1900	1000/1000	4½ x 13	155/80 R 13 XL LI 84		3,3	5 x 13	TR9-5013	silver	165 R 13 C LI 93	3,8
							•												
660 WFU	P50H							•	2000	1100/1100	Light alloy rims are part of the standard equipment				5 x 13	TR9-5013	black	165 R 13 C LI 93	3,8
720 UKFe	G45M						•		2200	1200/1200	4½ x 13	165 R 13 C LI 93		3,8	5 x 13	TR9-5013	silver	165 R 13 C LI 93	3,8
720 KWFU	U66M						•		2200	1200/1200	4½ x 13	165 R 13 C LI 93		3,8	5 x 13	TR9-5013	silver	165 R 13 C LI 93	3,8
720 WQC	X71M						•		2200	1200/1200	4½ x 13	165 R 13 C LI 93		3,8	5 x 13	TR9-5013	silver	165 R 13 C LI 93	3,8
720 WLC	V70M						•		2200	1200/1200	4½ x 13	165 R 13 C LI 93		3,8	5 x 13	TR9-5013	silver	165 R 13 C LI 93	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

Technically permissible total mass. [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)
1750	1750	5½ x 15	195/70 R 15 C LI 104	4,5	6 x 15	TR9-6015	silver	195/70 R 15 C LI 104	4,5
2000	2000	5½ x 15	225/70 R 15 C LI 112	4,5	6 x 15	TR9-6015	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	TR9-6015	silver	195/70 R 15 C LI 104	4,5
---	---	---	---	---	6 x 15	TR9-6015	black	225/70 R 15 C LI 112	4,5
2000	2000	Light alloy rims are part of the standard equipment			6 x 15	TR9-6015	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	TR9-6015	silver	195/70 R 15 C LI 104	4,5
---	---	---	---	---	6 x 15	TR9-6015	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	TR9-6015	silver	195/70 R 15 C LI 104	4,5
---	---	---	---	---	6 x 15	TR9-6015	black	225/70 R 15 C LI 112	4,5
2000	1100/1100	4½ x 13	165 R 13 C LI 93	3,8	5 x 13	TR9-5013	silver	165 R 13 C LI 93	3,8
2200	1200/1200	4½ x 13	165 R 13 C LI 93	3,8	5 x 13	TR9-5013	silver	165 R 13 C LI 93	3,8
2000	1100/1100	4½ x 13	165 R 13 C LI 93	3,8	5 x 13	TR9-5013	silver	165 R 13 C LI 93	3,8
2200	1200/1200	4½ x 13	165 R 13 C LI 93	3,8	5 x 13	TR9-5013	silver	165 R 13 C LI 93	3,8
2000	1100/1100	4½ x 13	165 R 13 C LI 93	3,8	5 x 13	TR9-5013	silver	165 R 13 C LI 93	3,8
2200	1200/1200	4½ x 13	165 R 13 C LI 93	3,8	5 x 13	TR9-5013	silver	165 R 13 C LI 93	3,8
2200	1200/1200	Light alloy rims are part of the standard equipment			5 x 13	TR9-5013	black	165 R 13 C LI 93	3,8
2200	1200/1200	Light alloy rims are part of the standard equipment			5 x 13	TR9-5013	black	165 R 13 C LI 93	3,8
2000	1100/1100	4½ x 13	165 R 13 C LI 93	3,8	5 x 13	TR9-5013	silver	165 R 13 C LI 93	3,8
2200	1200/1200	4½ x 13	165 R 13 C LI 93	3,8	5 x 13	TR9-5013	silver	165 R 13 C LI 93	3,8
2000	1100/1100	4½ x 13	165 R 13 C LI 93	3,8	5 x 13	TR9-5013	silver	165 R 13 C LI 93	3,8
2200	1200/1200	4½ x 13	165 R 13 C LI 93	3,8	5 x 13	TR9-5013	silver	165 R 13 C LI 93	3,8
2200	1200/1200	Light alloy rims are part of the standard equipment			5 x 13	TR9-5013	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	TR9-5013	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	TR9-5013	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	TR9-5013	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	TR9-5013	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. As an option, silver light alloy rims are also available in black (optional extra).

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 puncture.

Tyre size	Air pressure in bar
155/80 R 13 XL or reinforced	3,3
165 R 13 C	3,8
185 R 14 C	4,5
195/70 R 14 XL or reinforced	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

14.6 Measurements of Awning Perimeter

Model	Perimeter measurements [mm]
390 SF ONTOUR	8360
460 DL ONTOUR	9180
470 KMF ONTOUR	9290
470 UL ONTOUR	9290
400 SFe De Luxe	8550
440 SF De Luxe	8730
455 UF De Luxe	9070
460 UFe De Luxe	9220
460 LU De Luxe	9340
460 SFf De Luxe	9340
490 KMF De Luxe	9470
495 UL De Luxe	9710
495 WFB De Luxe	9710
515 UHL De Luxe	10120
515 UHK De Luxe	10120
540 UL De Luxe	9880
540 KMFe De Luxe	10300
540 FU De Luxe	9860
540 UFF De Luxe	9930
545 KMF De Luxe	10030
560 KMFe De Luxe	10130
650 KFU De Luxe	10990
460 UFe De Luxe Edition	9220
490 KMF De Luxe Edition	9470
495 UL De Luxe Edition	9710
545 KMF De Luxe Edition	10030
560 KMFe De Luxe Edition	10130
650 KMFe De Luxe Edition	10940
460 SL Excellent	9360
460 UFe Excellent	9220

Model	Perimeter measurements [mm]
460 SFf Excellent	9340
495 UFe Excellent	9350
495 UL Excellent	9710
495 WFB Excellent	9710
540 WLU Excellent	9860
540 FU Excellent	9860
540 UL Excellent	9880
540 UFF Excellent	9930
560 CFe Excellent	10120
560 LU Excellent	10120
560 WFU Excellent	10160
650 UMFe Excellent	10920
495 UL Prestige	9710
560 FC Prestige	10120
560 LU Prestige	10120
560 WLU Prestige	10120
560 WFU Prestige	10160
620 CL Prestige	10630
660 WFC Prestige	10940
720 WLC Prestige	11640
720 UKFe Prestige	11640
720 KWFU Prestige	11640
720 WQC Prestige	11640
495 UL Premium	9530
560 CFe Premium	9940
560 UL Premium	9940
650 UFF Premium	10740
650 UKFe Premium	10790
660 WFU Premium	10770



The measurement given depends on the optional extras, load and tyre size, and is to be regarded as a guiding value only. To determine the exact perimeter measurement of your awning, we recommend that you measure the caravan.

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