



Dear Camper Owners,

We would like to congratulate you on the purchase of your new HOBBY camper and hope that you will always enjoy traveling with it.

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

We wish you and your companions many enjoyable trips and hope you always have a safe journey.

Your
HOBBY Camper Plant
Ing. Harald Striewski GmbH

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1. Introduction

Our campers are continuously being further developed. Please understand that we reserve the right to make changes to their equipment, shape and technology. Therefore, HOBBY shall not be liable for any claims arising from the contents of this handbook. The equipment used at the time of printing is described in this handbook and should be transferred accordingly to the layouts of all the different camper variations. 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 camper.

1.1 General information

Your HOBBY camper 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 camper damaged if the safety instructions in this handbook and the warnings posted on adhesive labels in the camper are not followed.

Before the first trip

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

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

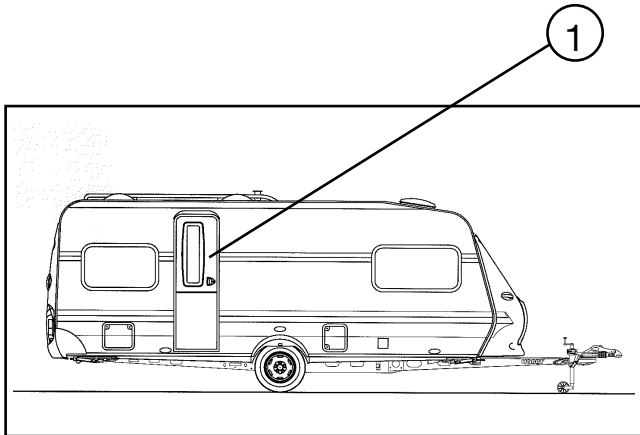


HOBBY grants a 5-year guarantee on the watertightness of the camper in accordance with guarantee conditions. When you accept the vehicle you will receive the guarantee booklet, "Five-Year Guarantee on Watertightness" from your HOBBY dealer.



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

1.2 Markings in these operation instructions



Markings in these operation instructions

The handbook explains the camper as follows:

Texts and illustrations

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

Lists

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

Procedural guidelines

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

Guidelines



Guidelines point out important details which ensure the trouble-free function of the camper 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 strain on the environment.

2. Safety

2.1 General information

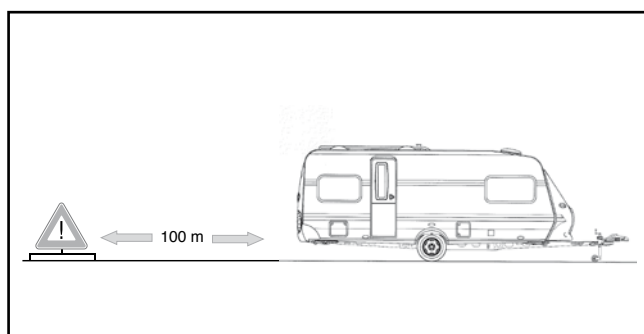
Keys

The following keys are provided with the camper:

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



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



Emergency equipment

To be prepared for an emergency, you need at least three basic items of rescue equipment (first aid kit, warning triangle and fire extinguisher) which you should carry at all times and know how to use.

- first aid kit
- warning triangle
- high-visibility vest

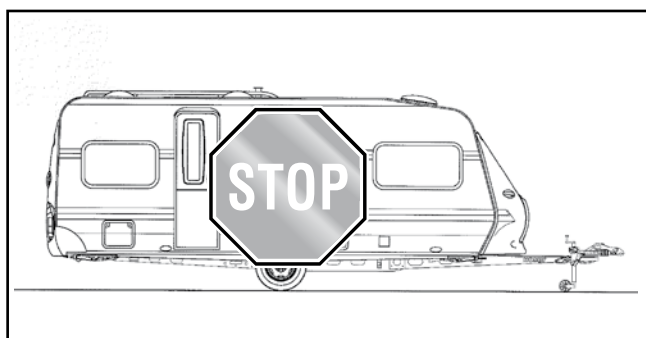
Fire prevention measures

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

Fighting a fire

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

2.2 Before the drive



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

Exterior

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

Preparation of the vehicle

- The camper must be hitched properly (see guidelines for the safety hitch WS3000).
- Release the handbrake of the camper and attach the contact-breaking cable to the coupling ball of the base vehicle.
- Tighten the tire bolts after driving the first 50 km.
- Plug the 13-channel plug in the socket of the base vehicle.
- Inspect the vehicle lighting.
- Turn the winding stanchions and the front landing wheel upward and secure them.
- Close gas bottles (heating is forbidden while driving).
- Empty the waste water tank.
- Close gas bottle compartment.
- Adjust outer mirrors on base vehicle.
- Check camper's tire pressure (see tire pressure table).
- Close all windows.
- Close the service flaps.
- Close and firmly lock roof bonnet.
- Shut off the light on the outer tent.
- Close and secure entry door.
- If necessary, pull the electrical cord to the 230 V mains supply out of the exterior socket.
- If necessary, pull the television antenna in-

ward as far as possible or fold over the satellite dish.

- If necessary, secure the roof load and lash it to prevent slippage.
- If necessary, secure all bicycles and lash them to prevent slippage, ensuring that they do not cover any lighting equipment.
- In winter, the roof must be free of snow and ice before you begin to drive.



Post a list with all significant weights and measurements of the carriage in a highly visible place in the base vehicle.

Interior

You must also prepare the interior of the vehicle.

Preparing the interior:

- Sort all loose objects and store them in their respective compartments.
- Heavy and/or voluminous objects (e.g. TV/radio) should be stored safely and secured against slipping.
- If necessary, redirect refrigerator to 12-volt operation.
- Shut off all interior lighting.
- Ensure that all fluids, including those in refrigerator, are secured to prevent leakage.
- Close main valve on gas container and quick-close valves on all gas-powered appliances.
- Close all doors (incl. refrigerator door), drawers and flaps tightly.
- Latch the sliding door.
- Lower table and secure it.



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

2.3 Loading

Rules for loading:

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



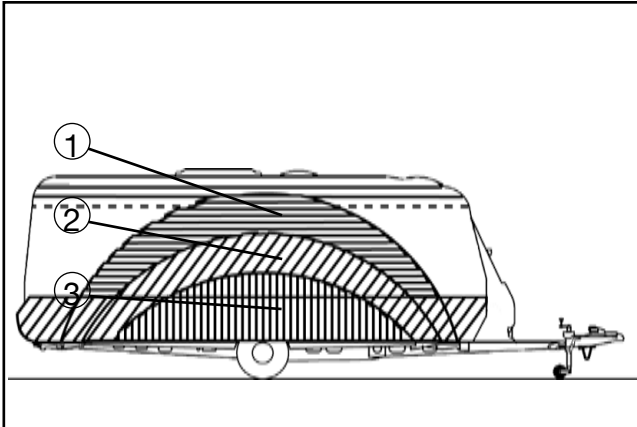
The gross vehicle weight rating indicated in the vehicle documents as well as the permitted drawbar load may not be exceeded. Also note the permissible drawbar load of your base vehicle.



Providing your base vehicle permits this and depending on the size of the camper, you can improve the driving quality by increasing the drawbar load.



The lower a vehicle's centre of gravity is, the better its performance in curves and on the road.



Stowage areas in the camper

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

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

Drawbar load

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

Rules for the drawbar load:

- Set the correct drawbar load by using, for example, use a drawbar load scale, which is positioned vertically below the hitch.
- Always check the drawbar load before you start to drive!
- The specified drawbar load (see handbook or type plate) and the permissible overall mass of the base vehicle and the camper may not be exceeded!

How to adjust the correct drawbar load:

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

2.4 Handling Performance Driving

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

Rules for driving

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

Driving around curves

Your carriage is considerably longer than a car.

Rules for driving around curves

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

Brakes

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

Rules for braking

- Note the longer braking distance on wet roads.
- When driving down mountains or steep hills, do not use a higher gear than when driving uphill.
- Principally, an overrunning brake system cannot differentiate between a "normal" braking procedure and driving over a pass, which lasts for a longer period of time. This can cause the wheel brakes to heat up strongly so that, if necessary, you must give them sufficient time to cool down.

Driving in reverse

Your HOBBY camper has a braking system with automatic reverse. This makes driving in reverse possible without activating the overrunning brake. However, in addition to rolling resistance, the residual brake force must first be overcome. The next time the camper moves forward the braking system will work normally again.

Rules for driving in reverse

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

Shunting

Your carriage is significantly larger than a car.

Rules for shunting

- There is a significant blind spot in shunting, even when the exterior mirrors are properly adjusted.
- Use a guide when turning into difficult parking spots.



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

2.5 After the drive

Choosing a parking place

Rules for choosing a parking place:

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



Do not compensate differences in height with the lift stanchions.

Securing the vehicle

Rules for securing the vehicle:

- Set the parking brake.
- Only extend the rotating stanchions as far as necessary so that the axle still bears part of the weight. (The crank is clipped to the bottom of the gas-bottle container.)
- Lay mats under the lifting stanchions when on soft ground.
- Use stop-blocks to secure the wheels.

Redirecting electrical devices

Rules for redirecting electrical devices

- Open the main shut-off valve on the gas bottle as well as the shut-off valves on the gas-powered appliances you require.
- Redirect the refrigerator from 12 V to gas or 230 V; otherwise, the battery of the base vehicle could be depleted.

Water installation

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

Therefore, check the water pipes and the fresh-water tank after each use to ensure they are clean. If necessary, use chemical or biological disinfectants and rinse well with sufficient fresh water.

3. Undercarriage and vehicle registration

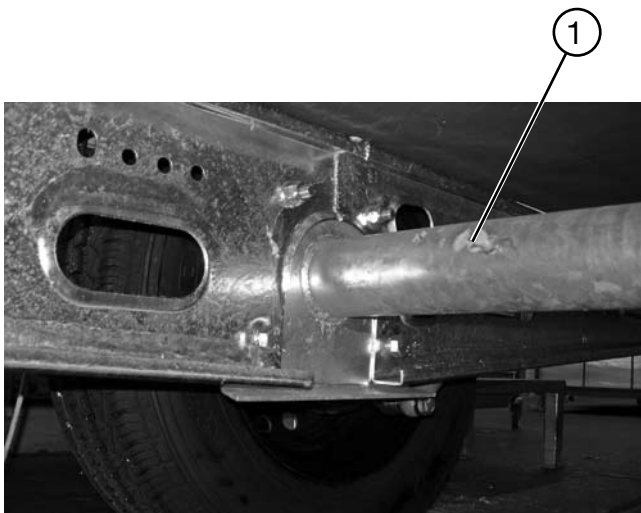
3.1 General information

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

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



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



Greasing and oiling

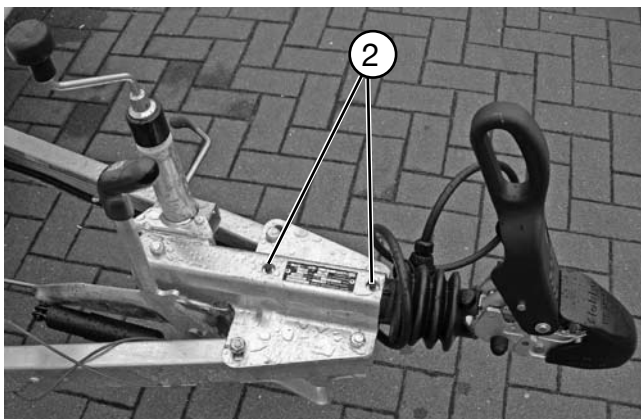
Regularly examine and grease the sliding parts and stationary parts of the undercarriage. If the camper is used seldom, yearly maintenance is required.

Rules for greasing and oiling

- After every 5,000 kilometers driven, but at least once a year, grease the swinging lever bearings on the turning rod spring axle unit.
- 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 (2) after every 5,000 kilometres of driving.

IMPORTANT: The friction elements of the WS 3000 safety hitch may NEVER be oiled or greased.

- Check from time to time to see that the stationary parts of the thrust rod are not jammed.
- Clean and oil all movable and stationary parts regularly.





The camper's turning rod spring axle unit is equipped 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.



The wheel brake may never be repositioned on the fixing lock or on the yoke end of the bars!
Only reposition the wheel brake on the self-securing stationary hexagonal nut!



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

3.2 Safety coupling WS 3000



The camper is equipped with an anti-rolling coupling in accordance with ISO 11555-1. This safety coupling stabilises the camper while driving and ensures better driving performance.

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



WARNING: The laws of physics cannot be defied with a safety hitch. 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. Please take note of the permitted drawbar load for your base vehicle.

You will find the current value for the drawbar load of the camper on the drawbar load scales.

Preparation for hitching/unhitching

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



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

Hitching

- The open tension ball coupler is set onto the coupling ball of the base vehicle. The tension ball coupler usually closes by applying downward pressure since the support load is sufficient (lever in position 2).



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

Inspection of hitch

- The hitch is attached properly/closed if the operation lever is in position (2).



If the WS 3000 is not properly attached to the coupling ball, the camper can detach from the base vehicle.



Fig. 1

Activation of the stabilization system

- To activate the stabilization system, the operation lever must be moved downward out of the closed position (2) until it locks in (3). The spring corpus will become tense in the process, so that contact pressure is created on the coupling ball via the friction elements. Afterward, the operation lever lies approximately parallel to the drawbar axle. Driving without the stabilization system is possible, however, and under certain street conditions, i.e. in ice and snow, advisable.

Inspection of the stabilization system

- After hitching and activating the stabilization system, the friction lining can be inspected. The rating plate (type plate) mounted onto the operation lever (Figure 2-1) indicates a triangular field marked with +/- signs, parallel to the slotted hole in the lever which points in the forward-driving direction. The tension ball coupler is adjusted on the front side in such a manner that the cap of a metal pin, visible in the slotted hole (Fig. 2-2) lies under the "+/-" signs on the marked side of the triangle.

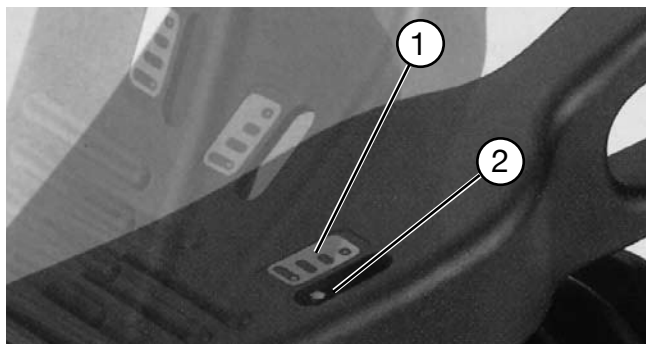


Fig. 2

Shutoff of the stabilization system

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

Unhitching

- Pull the operation lever slowly upward into the open position (position 1). After releasing the lighting plug and pull cord, the trailer can be unhitched from the base vehicle (e.g. with the help of a drawbar track wheel). We recommend that you park the trailer with the tension ball coupler closed if it will not be used for a significant period of time. To do this, lift the operation lever while pulling the ball socket (movable element with friction lining - Fig. 3.1) forward and slowly close the service lever.

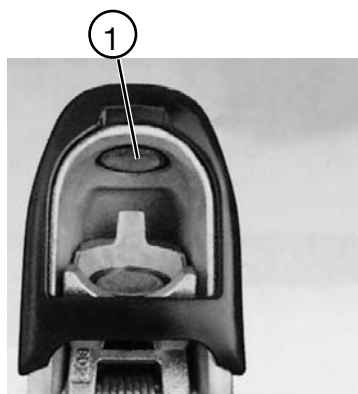


Fig. 3

Maintenance

Coupling ball on base vehicle

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

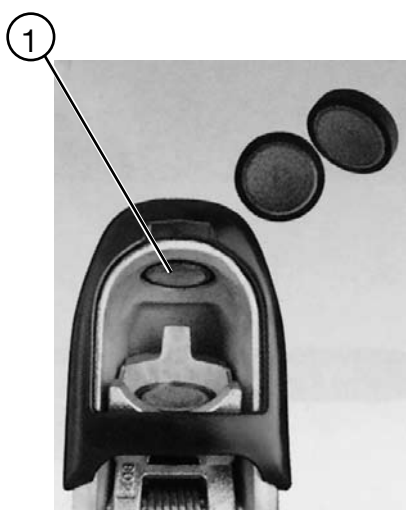
Fig. 4



Tension ball coupler

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

Fig. 5



Changing the friction lining

The front friction lining (1) can be changed in case of excessive wear. Note the detailed assembly instructions in the manufacturer's set of spare parts. The rear friction lining has such a large dimension that it does not have to be replaced.

Noises

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

Possible causes of these noises can be:

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

Hints for 1 and 2:

Remove the surface coating of the coupling ball with sandpaper (200-240 grain) and clean with a thinning solvent or spirit.

for 3:

Polish or clean dirty or damaged coupling balls.

for 4:

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

for 5:

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

3.3 Locking brake facilities



The components of the brake facilities, particularly the overrunning equipment, wheel brakes and towbar were checked in accordance with the appropriate EU Guidelines and may only be used in a licensed combination.

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

Parking the carriage

When parking the carriage, the locking brake of the camper must be activated.

To lock

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

To release

- Press the locking brake lever back into the original position.

3.4 Overrunning equipment and wheel brakes

Checking the overrunning equipment:

1. If it is possible to push the towbar more than halfway (approx. 5 mm) in when the locking brake has been activated, the braking system must be regulated immediately by an experienced shop.

2. To check the reaction point, activate the locking brake and push the camper backwards until the hand brake lever is completely tilted. Then push the safety clutch into the overrunning equipment. The towbar must extend into the neutral position by itself by means of the gas cushion in the hydraulic shock absorber. Should this procedure take longer than 30 seconds, the overrunning equipment must be checked by an experienced shop.

Wheel brakes

The linings of the wheel brakes are wear and tear parts; therefore, they must be checked every 5,000 km or at least once every year. One sure

sign of strong brake lining wear is described in the aforementioned check for the overrunning equipment: if the safety clutch can be pushed in more than approx. 5 mm. In this case, the wheel brakes must be regulated by an experienced shop or, if necessary, the brake shoes must be renewed.



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

3.5 Drawbars/Longitudinal beams

The main chassis beam and the towbar are connected by cone washer bolts (with the exception of the one-piece chassis). During regular maintenance, all of the screws must be checked and retightened, if necessary (105 Nm).



Bent or damaged drawbars must be replaced immediately. You are not allowed to repair damaged components.

3.6 Rotating stanchions



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

Turning the rotating stanchions outward

- Park the vehicle as horizontally as possible.
- On soft ground, lay a sturdy mat or suitably sized board under the rotating stanchions to prevent the camper from sinking.
- Turn the rotating stanchions outward.



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

Turning the rotating stanchions inward

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

The crank for the rotating stanchions is located at the front in the gas-bottle container. It is attached firmly to the bottom of the container.

3.7 Vehicle registration

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

The following documents are required to initiate the registration process:

- motor vehicle registration certificate, Part II
- insurance card
- personal identification or proof of residence
- possibly, power of attorney to have someone else register the camper

Please remember to apply for a suitable "100 km/h" sticker, should you require one.

3.8 General inspection

In accordance with Section 29 of German Road Traffic Licensing Regulations, your camper must undergo a major inspection every two years. This major inspection may be carried out by the TÜV (Technical Inspection Authority), DEKRA Vehicle Inspections or another accredited technical support organisation.

The following documents must be presented at each inspection:

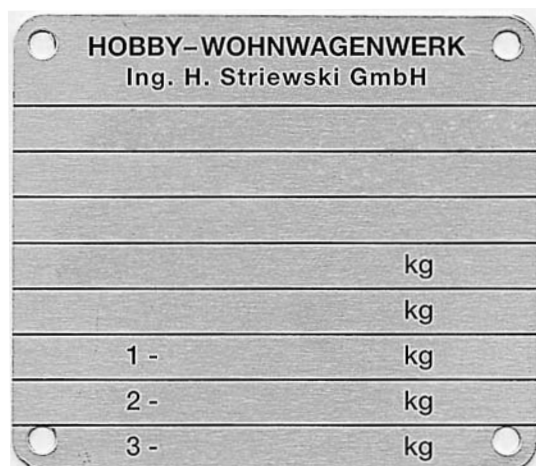
- motor vehicle registration certificate, Part I
- valid certificate of inspection for gas facilities, documenting installation. The initial certificate is located in the service package for the camper.

Vehicle ID number (FIN)

The 17-digit vehicle ID number, legible from the right, is located either on the front right-hand side of the forked drawbar (models 400 - 650) or on the right-hand side of the front crossmember (models 720/750).

Furthermore, the FIN is etched on the name plate.

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



Name plate

Permit number

Vehicle ID number (FIN)

Permissible maximum weight

Permissible axle load, 1st axle

Permissible axle load, 2nd axle

3.9 Fit for a Speed of 100 km/h

1. Your HOBBY camper is technically equipped for a maximum speed of 100 km/h. Under no circumstances may this speed be exceeded!
2. Note the permissible maximum speeds for trailer carriages in the country in which you are travelling!
3. Road traffic regulations in **Germany** were changed on 22 October 2005. Your camper was already set to a speed of 100 at the factory, and this has been entered in the camper's registration documents. Upon request, the 100 km/h sticker will be issued by the road traffic authority when the camper 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 camper is no more than 80 km/h!
 - 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 camper must be equipped with hydraulic vibration dampers (shock absorbers); naturally, your new HOBBY camper is equipped with these.
 - c) The camper's tires may be no more than six years old. They must be marked at least with an L (= 120 km/h) for the appropriate speed category.
 - d) The camper must be equipped with a stabilising unit in accordance with ISO 11555-1 (standard in this HOBBY series since 1997).

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

5. Free interchangeability of base vehicle and camper:

Different campers may be combined with different base vehicles.

You are responsible for ensuring that the preceding regulations are met if you plan to drive at 100 km/h. Should this not be the case, the maximum speed in Germany is 80 km/h!

6. The correct drawbar load gives you more safety:

Please refer to page 02-5 for the recommended drawbar load.

3.10 Definition of mass

Definition of masses (weights) for campers

The EU regulation 97/27/EG applies for calculating the masses (weights) and for the loading which results from these calculations. The EU regulations correspond to a great extent to the norm DIN EN 1645-2. 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. These weights were calculated as a result of lengthy and detailed experiments; for safety reasons, they may not be exceeded.

2. Mass in running order

The mass in running order corresponds to the weight of the standard vehicle including all standard equipment installed at the factory (e.g. all-inclusive package) plus the basic equipment (see Item 3).

3. Basic equipment

The basic equipment consists of all objects and fluids which are necessary for the safe and proper use of the vehicle. These include the masses for gas, water and electrical supply (see Item 13.3 for a detailed specification).

4. Additional load

The additional load is the difference between the "gross vehicle weight rating minus the mass in running order". The remaining additional load must be large enough to cover the weights of possible additional equipment and personal equipment.

5. Additional equipment

Additional equipment includes all items not part of the standard equipment preinstalled in the HOBBY factory or by the dealer. This also includes installations by special request.

The mass in running order refers to the vehicle as originally equipped by the dealer or factory. This increases accordingly if special equipment is installed.

Before the first use, we recommend that you weigh your vehicle on a calibrated vehicle scale. In this manner, you can determine the maximum permissible additional load for your vehicle.



If you are not sure whether you have overloaded the vehicle, weigh your vehicle on a public vehicle scale.



Overloading can lead to malfunction or even tire blowout!
This presents the danger of the vehicle spinning out of control, which endangers you as well as other drivers and pedestrians.

4. Wheels, tires

4.1 Tires

Only use those tires designated in the registration documents. Other tire sizes may only be used with the permission of the manufacturer (ABE).

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



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

If snow chains are used, note the manufacturer's assembly instructions.



You may not use snow chains if you are using tire size 195/70 R 15 C.

4.2 Tire pressure

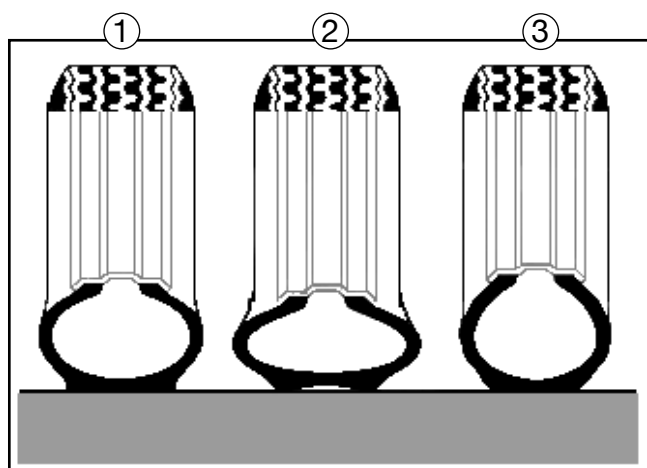
Only one tire size is now entered in the motor vehicle registration certificate, Parts I and II. This must not necessarily correspond with the size of the tires mounted on the vehicle. Should you have any queries, please contact your dealer.

Rules for checking tire pressure:

- Check and fix tire pressure every four weeks (but at least every three months) and before every drive.
- If driving on low tire pressure is unavoidable (i.e., from the campsite to the nearest service station) you should drive at a maximum speed of 20 km/h.
- Raise the pressure of the base vehicle's rear tires by 0.2 bar.
- Tires must be checked when they are cold.
- If tires are checked or the tire pressure corrected when tires are warm, the pressure must be up to 0.3 bar higher than if the tires are cold.

Rules for tire pressure:

- correct tire pressure (1)
- tire pressure too low (2)
- tire pressure too high (3)





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



The correct tire pressure is given in the table on wheels/tire pressure found under "Technical Information" or on the labels in the gas-bottle container and on the wheel cover.

4.3 Profile depth and age of tires

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



Tires age even when used rarely or not at all.

Tire manufacturers' recommendation

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

Age of tires

Tires should not be more than 6 years old, because on the one hand your permission to drive the camper at 100 km/h will elapse after this period and, on the other, the material wears out due to age and if the tires stand too long in one spot. The 4-digit DOT number on the side of the tire (if necessary, check the inside) shows the date of manufacture. The first 2 digits refer to the week, the last 2 to the year it was manufactured.



Example:

DOT 2207 refers to week 22 in manufacturing year 2007.

4.4 Rims

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

Rules for the use of other rims:

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



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

Rules for wheel screws:

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

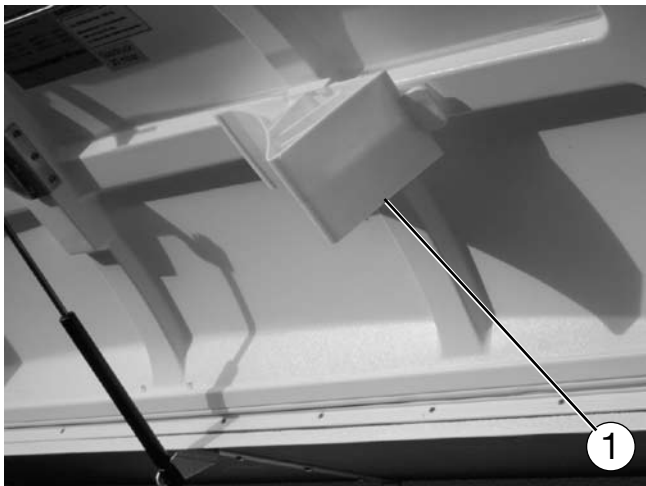
Adjusting torque

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



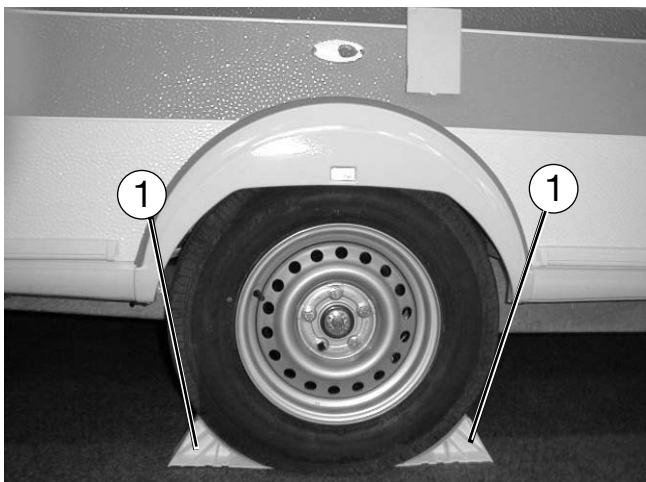
WARNING: When changing rims (steel -> aluminium / aluminium -> steel) ensure that you are using the correct wheel screws.

4.5 Changing the tire

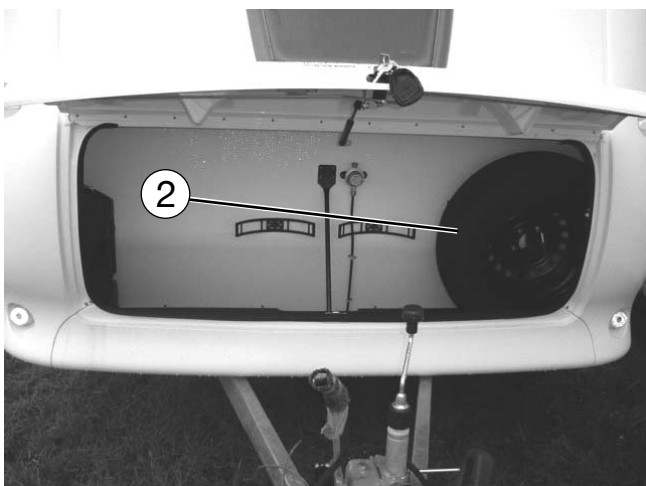


Preparing to change the tire

- If possible, only change the tire when the base vehicle is coupled to the camper.
- Park the trailer carriage on as firm and even a surface as possible.
- If you have tire trouble on a public road, turn on your hazard warning signal lights and set up the warning triangle.
- Base vehicle: Pull the handbrake, set the wheels straight, put the vehicle in gear or, if you are driving an automatic, set the gear to P.
- Caravan: Pull the handbrake, leave the support wheel in its driving position, deactivate the stabilization system (note: do not open completely).
- Remove the wheel chocks (1) from the bottle compartment.



- To secure the vehicle, place the wheel chock (1) in front of and behind the wheel that is still intact.
- Before jacking up the vehicle, turn the wheel screws once to loosen them, but do not unscrew them any further.



- The spare tire (not included, Fig. 2) can be stored in the same compartment at the front of the camper as the gas container (special fasteners required).



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

Warnings for changing the tire:



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



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



The rotating stanchions may not be used as a jack!



The jack is not part of the standard equipment in this series, and is therefore not included.



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

Changing the wheel

- Set the corresponding jack onto the axle pipe of the swinging lever group or on the longitudinal beam in the area of the axle attachments of the wheel to be changed.
- On campers with a double axle, always set the jack onto the rear axle; a hydraulic jack (not included) is recommended.
- If the vehicle is parked on soft ground, lay a stable reinforcement under jack (i.e., a board).
- Lift the vehicle until the wheel is 2 or 3 cm off the ground.
- Reposition the ratchet jack handle if it should slant when you jack up the vehicle.
- Remove the wheel fastening screws and the wheel.
- Attach the spare tire to the hub and adjust it.
- Reattach the wheel screws and tighten them lightly over the transversal.

- Lower the jack and remove it.
- Tighten the wheel fastening screws evenly with the wheel wrench. The nominal value of the attachment torque is 110 nm for steel rims and 120 nm for aluminium rims.
- Release the handbrake and reactivate the stabilization system.



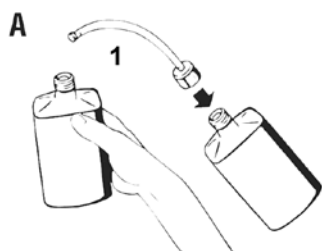
You should have a functional spare tire available at all times. Therefore, have the spare tire replaced without delay.



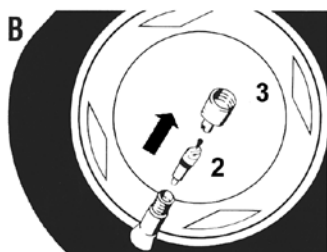
Tire repair kit



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



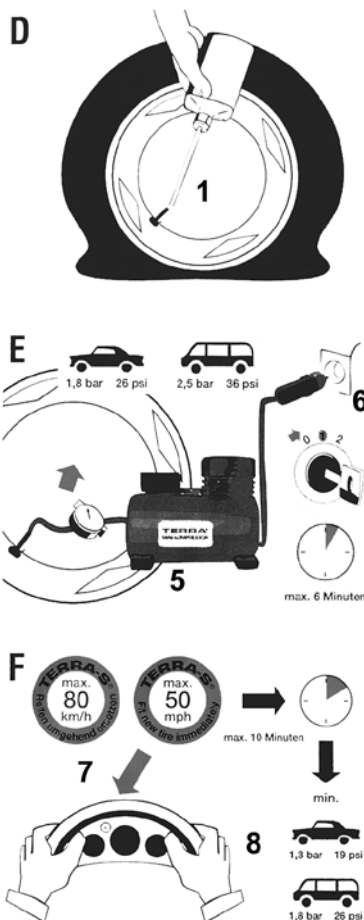
- A** Shake the bottle. Open the fill hose (1) on the bottle (foil seal is thereby punctured).



- B** Unscrew the valve cap from the tire valve. Remove the valve insert (2) with the valve-core remover (3). Do not lay the valve insert (2) down in sand or dirt.



- C** Pull the stopper (4) from the fill hose (1). Push the fill hose onto the tire valve.



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

E Open the air hose (5) on the tire valve. Insert the plug (6) into the cigar lighter socket. Then pump the tires (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 tire. Repeat the pumping process. Resume driving immediately, so that the sealant can be evenly distributed within the tire.

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

Check tire pressure after driving 10 minutes. If the tire pressure has fallen under this minimum value (8), you may not drive any further.

If the minimum value is still indicated (8), correct the tire pressure according to the tire pressure table in the gas bottle container. Drive carefully to the nearest mechanic and have the tire replaced.



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

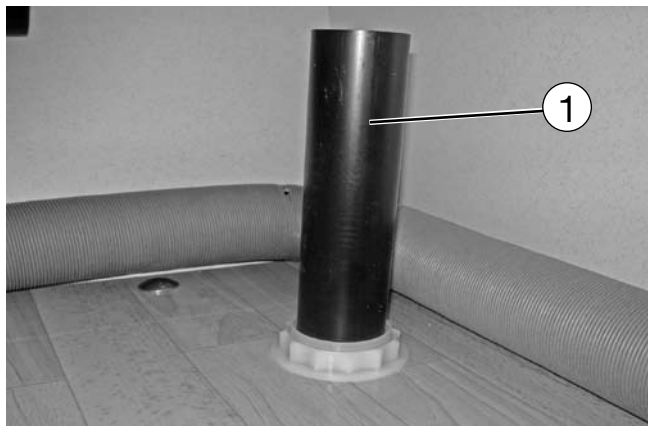
F Adhere the provided sticker to the combination instrument within sight of the driver. Dispose of used tire repair kit at a service station.



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

5. Exterior structure

5.1 Ventilation and De-aerating



Rules for forced ventilation

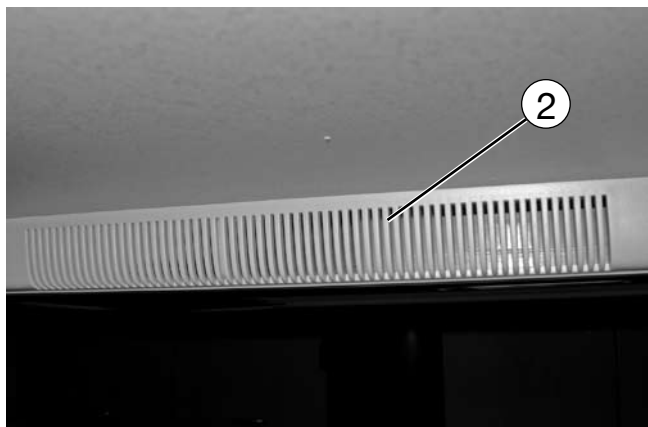
Proper ventilation and de-aerating of the vehicle is a prerequisite for ideal living comfort. A draft-free forced-ventilation system is located in the floor and a forced de-aerating system is located in the ceiling which should not be interfered with.



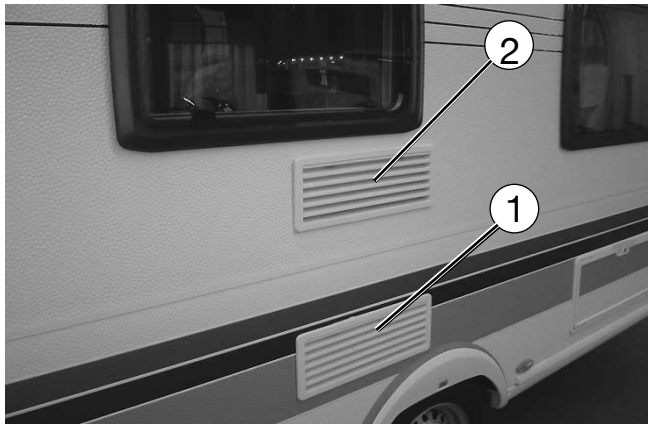
We recommend that you open the roof bonnets whenever you live in the camper.



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



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



Refrigerator

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



there is a danger of suffocation if ventilation openings are blocked! Therefore, do not block ventilation openings.



Special cover plates should be used during winter operation. You can buy these cover plates from your dealer.



We recommend that you remove the ventilation bars when outside temperatures are very high. This creates a high air circulation on the refrigerator and increases cooling capacity.

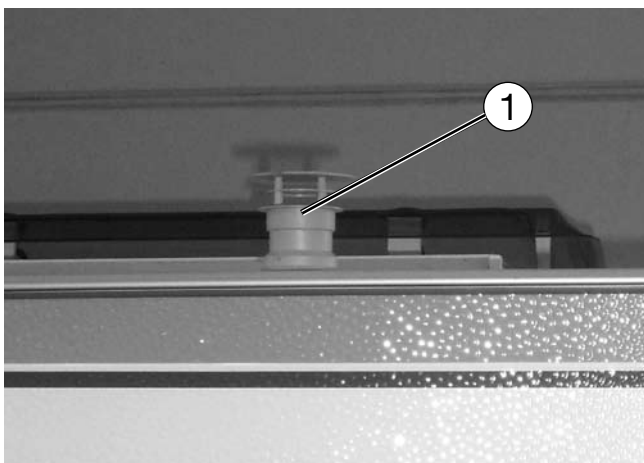


To remove ventilation bars:

- Turn the screw (3) to the left until it locks.
- First pull the ventilation bar carefully to the left.
- Then remove the ventilation bar.

Heating element

A ventilation flap provides the heating element under the floor of the vehicle with fresh air. The air from the heating element is carried outside by a flue. The flue is located on the roof of the camper (1).

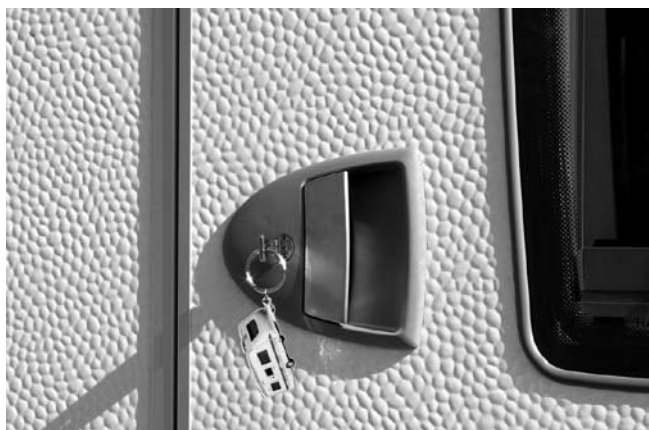


There is danger of suffocation if flue openings are blocked! Therefore, do not block flue openings.



Ensure unobstructed outflow from the flue during winter operation.

5.2 Vehicle keys



External Door lock model a



External Door lock model b

External entry door

To open:

- Unlatch the lock with the key.
- Pull the door handle.
- Open the door.

To close:

- Shut the door.
- Turn the key until the latch clicks audibly.
- Turn the key back into the vertical position and pull it out.



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



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



Only drive when the entry door is shut.



Entry door model a



Internal entry door

Model a:

To open:

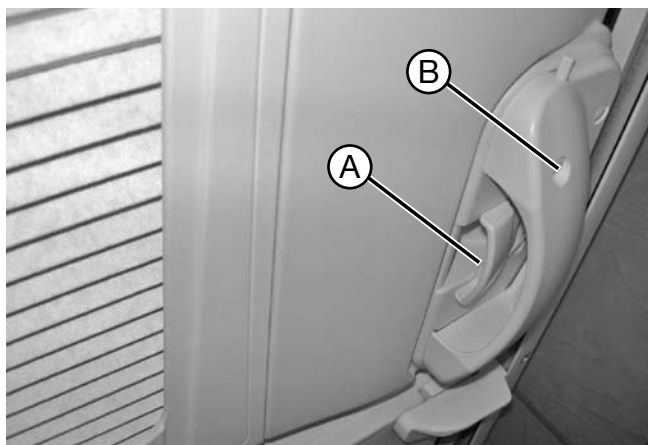
- Push the handle down towards the green dot, open the door and allow the handle to spring back.



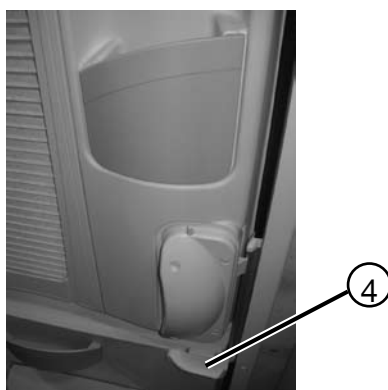
In this manner, a door locked from the outside can be opened from the inside.

To close:

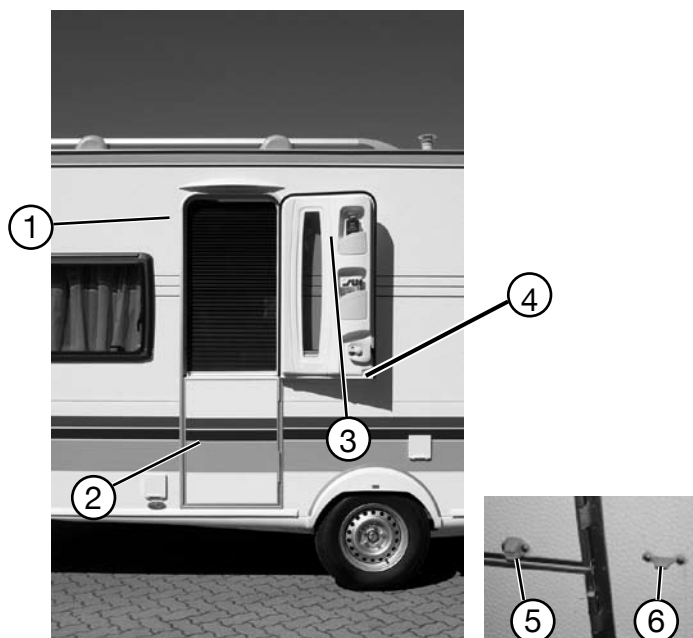
- Push the handle up towards the red dot, press and leave it in this position.



Entry door model b



Entry door model b



Model b:

To open:

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

To close:

- Pull the door shut.
- Press the locking button (B).

Stable entry door

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

Unlocking the upper part of the door

Model a:

- Push the bolt (4) towards the door hinge and then push outwards. Unlock the upper part of the door and open it outwards.
- The bolt (4) will snap back into its original position when you let it go.

Model b:

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



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

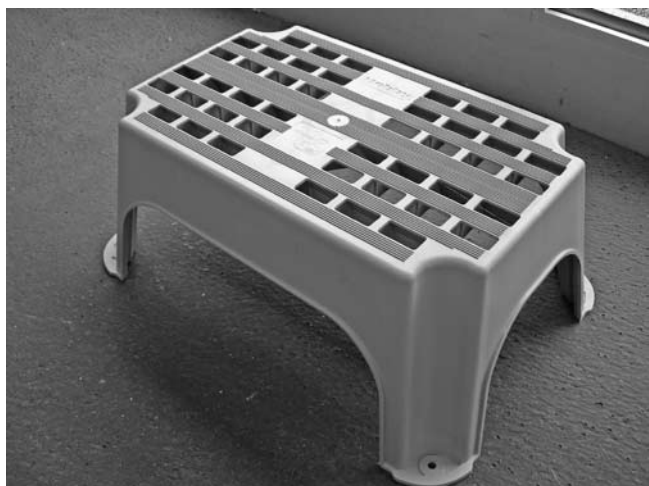
Locking the upper part of the door

Model a:

- Push the bolt (4) outward.
- Connect the upper part of the door (3) to the lower part (2).
- Push the bolt (4) inward or let it snap back and securely fasten both parts together.

Model b:

- Turn the lever (4) to a horizontal position in order to securely connect the upper and lower parts of the door.
- To close the whole door, press the handle into the frame (1).



Entry step tread

When entering and exiting the vehicle:

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



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

5.3 Service flap

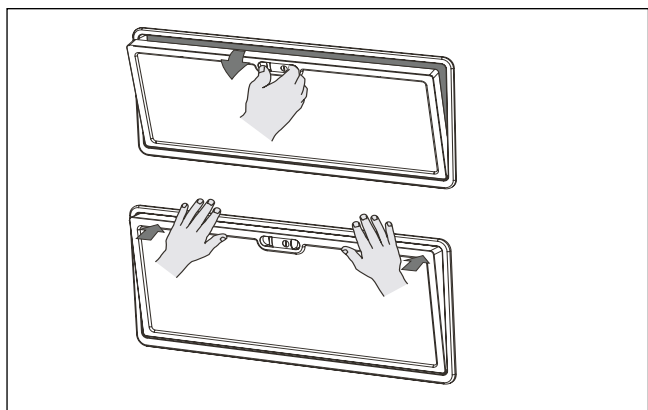


To open:

- Unlock the flap with a key.
- Press the locking button.
- Open the flap by pushing down.

To close:

- Close the flap by pushing it up.
- Press the top left and right-hand corners of the flap to ensure that all of the existing locks actually snap into place.
- Use the key to lock the flap.



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



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

5.4 Gas-bottle container flap



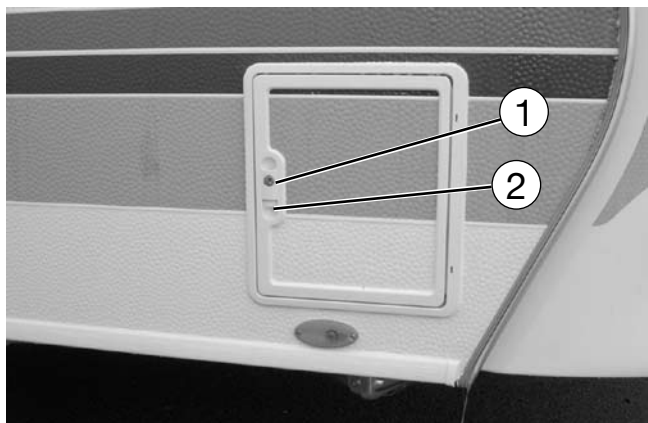
To open:

- Unlatch the lock (1) with the key.
- To unlock, turn the knob that pops out in a counter-clockwise direction and open the gas-bottle container lid.

To close:

- Shut the lid of the gas-bottle container.
- Lock the lid by turning the knob in a clockwise direction.
- Latch the lock (1) with the key.
- Press the knob until it snaps in and secure it.

5.5 Toilet flap



To Open:

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

To close:

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

5.6 Roof and roof rail



Rules for loading the roof rail:

- Fasten the carrier or the cross braces for the roof loads to the roof rail.
- Only store light baggage on the roof.
- Lash the roof load sufficiently and secure it against slippage or falling.
- Do not load the roof excessively! The heavier the roof load, the worse the overall handling of the vehicle.



The maximum permissible load for the roof rail is 50 kg.



Note the maximum permissible axle burdens. Calculate the measurements of the roof load in relation to the vehicle height. Post a note of the total vehicle height in a highly visible place near the driver. Then you no longer have to calculate when approaching bridges and thoroughfares. Do not cover the waste gas flue.

Rules for the roof load:

- Only stand or walk on the roof when the roof rail is attached. Use only a standardised and licensed ladder to climb up to the roof.
- The roof has not been made for concentrated single loads. Generously cover the standing area before you step on the roof. Materials with a smooth and soft surface, such as a Styrofoam board, are suitable for this.



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.

5.7 Guide rail for outer tent



The guide rail for the outer tent, which is used to insert the weather strip, is beaded at the rear of the camper on a level with the taillights as well as at the lower edge of the front end of the camper.



The filling ribbon of the guide rail for the outer tent deliberately hangs several centimetres out of the guide rail to ensure the rainwater and moisture will drip off. Never cut off the extra bit of filling ribbon that hangs out.



5.8 Bicycle carrier



The handling of the trailer carriage changes considerably when the bicycle carrier has been loaded. You should adjust your speed to take this into consideration:

- Ensure that you make full use of the permitted towbar load when the bicycle carrier has been loaded and correct it accordingly.
- Your critical speed will be dramatically reduced even if you have loaded the bicycle carrier optimally.
- The driver of the vehicle is responsible for ensuring that bicycles are fastened securely. The loading system must be folded up and secured with the available clips even when it is not loaded.
- Ensure that existing lighting equipment is not covered partially or completely by the load.

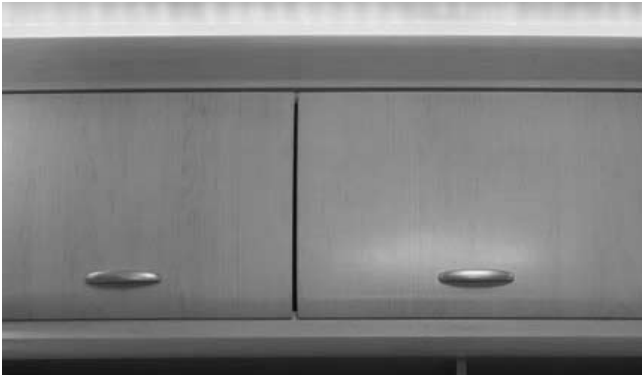


The maximum permissible load for the bicycle carrier is 50 kg.



6 Interior structure

6.1 Opening and closing doors and flaps



Stowage cupboards

To open:

- Pull the handle until the flap opens.

To close:

- Press the flap on the handle until you feel the flap shut.



Furniture doors with handle

Washroom door

- Push the handle to open and shut the door.



Furniture doors with knob

Wardrobe

- Turn the knob to open and shut the door.



Furniture doors with sliding handle

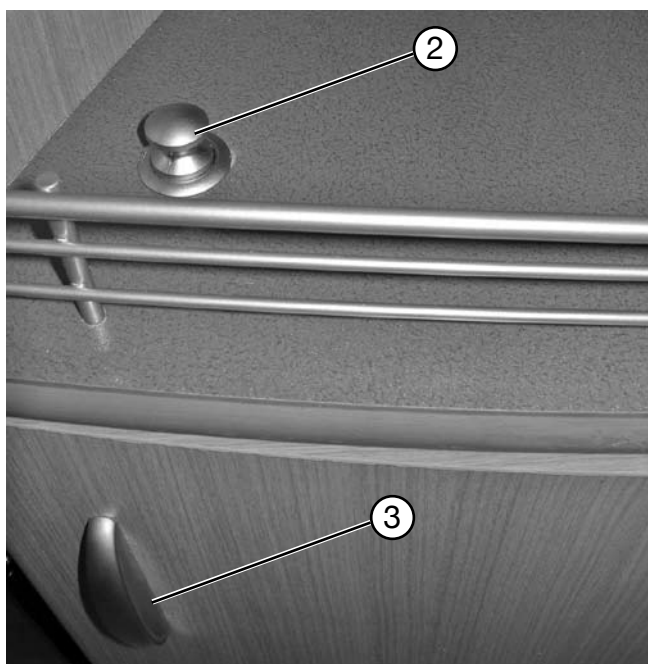
Kitchen cupboards (except Excelsior)

To open:

- Using your thumb and index finger, push the sliding handle (1) up.
- Pull on the handle until the cupboard door swings open to the side.

To close:

- Using your thumb and index finger, push the sliding handle (1) up.
- Using the handle, push the cupboard door closed.
- To fasten the door, let the sliding handle (1) snap back in its original position.



Push-lock drawers

Kitchen drawer

To open:

- Press the push-lock (2) until the knob jumps up.
- Pull on the handle (3) until the drawer slides out.

To close:

- Using the handle (3), push the drawer closed.
- Press the push-lock (2) until the knob snaps into place and the drawer is securely shut.



Close all flaps before driving off. This will prevent accidental opening during the drive which could cause objects to fall out.

6.2 Media oval (rotating TV/bar)

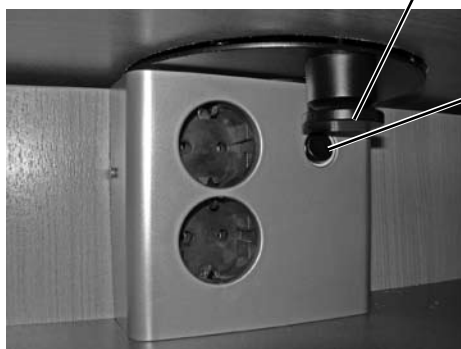


The media oval is a room divider, mounted on a pivot, which can be used as both a bar and a TV cupboard for flat screens.

To swing the media oval, pull the catch (1) and, after swinging out the media oval, press and snap the catch back into place to secure the media oval.

The switch (2) for turning the LED lighting for the bar on and off is located directly beneath the media oval next to the 230 V sockets for the kitchen. In most models, the lighting for the bar cannot be turned on and off using the control panel.

The 230 V sockets as well as the antenna terminal (3) for the television and the receiver are located underneath the media oval in the top compartment of the kitchen L-element. The 12 V socket (4) shown in the photo is not included in standard delivery. (It can be ordered as an option.)



The cables for the antenna terminals of both the media oval as well as the external socket in the outer tent converge loosely in the wardrobe to enable you to hook up your TVs wherever it suits you best.

6.3 Seat chests and conversion of beds

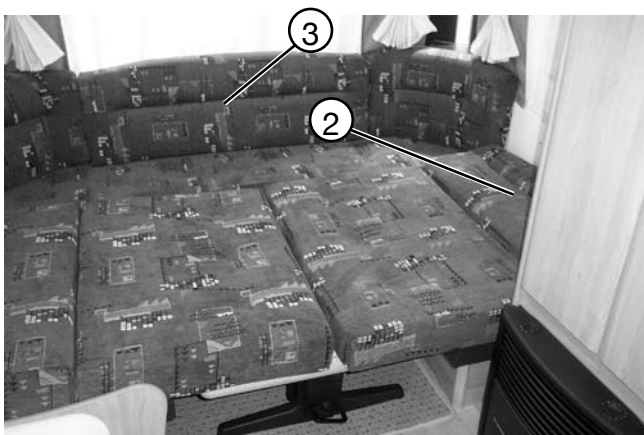
The seat groups can be converted into comfortable beds.



Elevating table model

Conversion:

- Remove the seat and back cushions.
- Pull the latch of the table frame upward and release.
- Pull the latch of the table frame towards the interior of the vehicle and lower the table.
- Replace the seat cushions and pull them to the middle of the table.



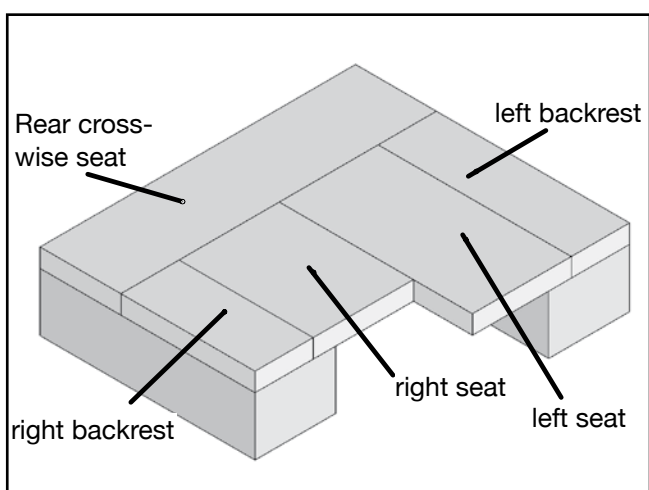
- Fill the empty spaces with the back cushions. To do this, turn the back cushions (2) around and lay them with the wider side against the front or standing wall.
- The back cushion (3) should be placed vertically into the gap to fill the remaining space in vehicles with a width of 2.5 m.



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



Bed expansion for vehicles with rear seat group



Setting up the beds

6.4 Children's beds



- Windows by the children's beds are secured against accidental opening, to effectively prevent children from falling out.



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

6.5 Windows



Hinged windows

To open:

The window can be adjusted to open at varying degrees:

- Turn the latch into the vertical position.
- Press the window outward until you hear a click. The window automatically remains in this position.



Windows by the children's beds are secured against accidental opening, to effectively prevent children from falling out.

To close:

- Lift the window slightly outward so that the hinge disengages.
- Close the window.
- Turn the latches (1) and (2) into the vertical position.

Black-out pleating and insect screens

The shades and insect screens are integrated in the window frame. The black-out pleating can be adjusted to any desired position.

To close the black-out pleating:

- Using the handle strip, pull the black-out pleating to the desired position and let go of the handle strip. The shade remains in this position.

To open the black-out pleating:

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



To shut the insect screen:

- Pull the insect screen (3) completely down with the strap (4) and let go. The screen remains in this position.

To open the insect screen:

- Pull the insect screen (3) slightly down with the strap (4) and then guide it upward. The screen rolls upward automatically.



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



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

6.6 Roof bonnets

Safety instructions



- Never open the roof bonnets in a strong wind or when it is raining, hailing, etc., or if the outside temperature is below -20°C !
- Never use force to open the roof bonnets 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 bonnet under a tree, in a garage, etc.
- Do not step on the roof bonnet.
- Close and lock roof bonnets before driving. Open insect screen and shade (home position).
- Close shade only 3/4 of the way if the sun shines in strongly; danger of heat accumulation!



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



Large roof bonnet model a



Large roof bonnet model b

During this season and depending on the model and version, two different types of roof bonnets will be installed. Please look at the photos opposite this text to decide which type has been installed in your camper and note the corresponding operating instructions.

To open the roof bonnet:

Before opening the roof bonnet, ensure that there is nothing above the bonnet, e.g. branches. The bonnet can be opened to an angle of 60°.

Model a:

- Push the crank ejector in the direction of the engraved arrow. This ejects the crank. Flip the crank to its user position. Turn the crank in a clockwise direction to open the bonnet to the desired position.

In case of an obstacle, the overload protection of the crank will be activated. You will hear a clear “grating” sound in the crank.

Model b:

- Reach into the opening of the crank case and flip the crank to its user position. Turn the crank in a clockwise direction to open the bonnet to the desired position. Once you reach the maximum angle of the opening you will feel definite resistance.

To close the roof bonnet:

Model a:

- Turn the crank in a counter-clockwise direction until the bonnet is shut and you hear a definite grating noise. Then flip the crank over and push it into the crank case. In case of an obstacle, the overload protection of the crank will be activated. In this case, turn the crank once more in a counter-clockwise direction until you can push the crank back into the crank case.

Model b:

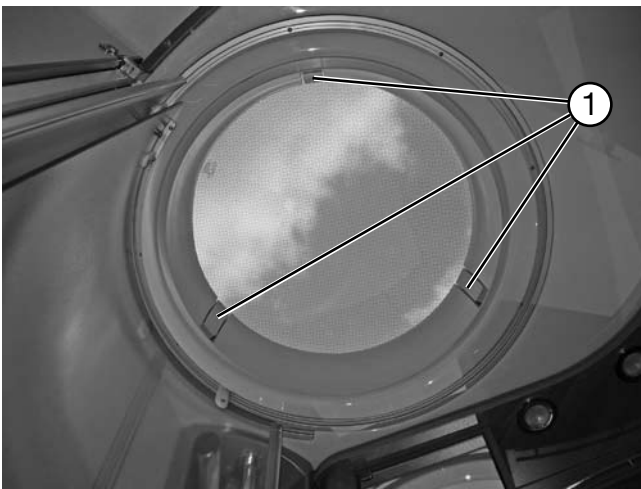
- Turn the crank in a counter-clockwise direction until the bonnet is shut and you can feel resistance. In this closed position, the crank can be folded back into the crank case. The crank must be folded into the crank case before you can securely lock the bonnet.

Shade

The shade is infinitely variable; simply pull the handle to the desired position or until the lock snaps into the handle of the insect screen.

Opening/closing the insect screen

Push the handle strip of the insect screen against the handle strip of the pleating until the lock snaps into the handle strips.



Round roof bonnet

To open:

- Pull the lower end of all three locking mechanisms (1) towards the middle of the window and release them.
- Push the full surface of the roof bonnet up until it locks into place.

To close:

- Close the roof bonnet.
- Press the locking mechanisms (1) firmly until they lock into place.

7. Installation of electrical devices

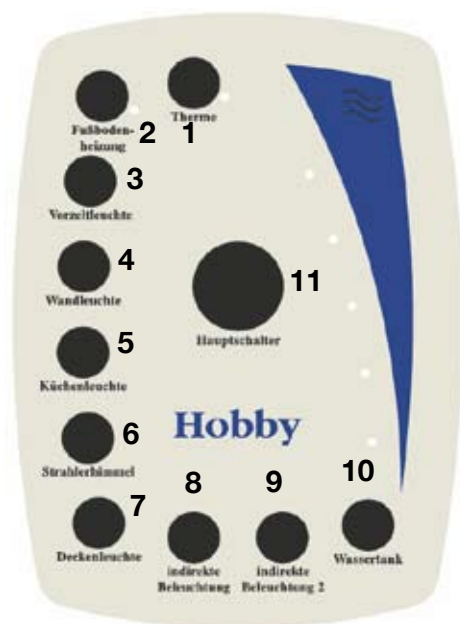
7.1 Safety tips

The installation of electrical devices in the HOB-BY camper have been carried out in accordance with the valid regulations and norms.

Please note:

- Do not remove safety tips and warnings on the electrical equipment.
- The installation spaces for electrical equipment such as distribution fuse boards, electric power supply, etc., may not be used as additional storage spaces.
- **If the vehicle is equipped with a battery:** Only accumulators with bound electrolytes (gel battery) may be installed.
- Turn off all equipment that uses 12 V before connecting or disconnecting the battery.
- Only authorised specialists may work on the electric system.

7.2 Service panel



Push-button

Function

1 Heating system

On/off switch - red LED shows function.

2 Floor heating
(not standard equipment)

On/off switch - red LED shows function.

3 Light in outer tent

On/off switch for light in outer tent.

4 Wall lamps

On/off switch for lamps.

Holding the push-button activates the dimmer function. Light increases and decreases.

5 Kitchen lamp

On/off switch for lamp.

6 Diffused reflecting lights

On/off switch for lamps.

7 Ceiling lamp

On/off switch for lamp.

Holding the push-button activates the dimmer function. Light increases and decreases.

8 Indirect lighting

On/off switch for indirect lighting (top).

9 Indirect lighting 2

On/off switch for indirect lighting (bottom).

10 Water tank

Filling level of the water tank indicated by means of LED lights located one above the other.

11 Main switch

1 short press of the switch

Turns off all of the appliances run by the system that are on, memorising their switching status (switched on/off or dimmed). The therme and floor heating are not switched off.

Pressing briefly on the switch turns on all the lights again as memorised.

If you press the **switch for 5 seconds** when turning everything off, all of the 12 V appliances will be turned off, including the therme and floor heating.

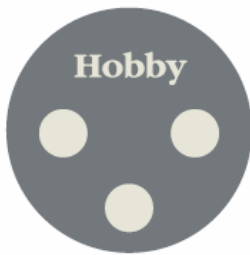
(Memory is reset.)

General note

The main switch is **only** for the appliances controlled by the system! All of the other appliances are not controlled or switched by the main switch, with the exception of all 230 V appliances which are controlled by the system (floor heating, therme) or appliances that require 12 V control voltage (in some cases: refrigerators).

Secondary panel 1

Sleeping area



Push-button

Left

Function

On/off switch for mounted spotlight on left side of bed.
Holding the push-button activates the dimmer function.
Light increases and decreases.

Centre

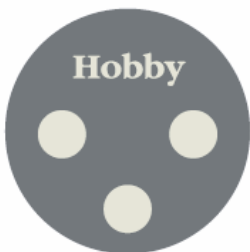
On/off switch for ceiling lamp over suite.
Holding the push-button activates the dimmer function.
Light increases and decreases.

Right

On/off switch for mounted spotlight on right side of bed.
Holding the push-button activates the dimmer function.
Light increases and decreases.

Secondary panel 2

Washroom



Push-button

Left

Function

On/off switch for mounted spotlight above Porta Potti portable toilet.
(no function)

Centre

Right

On/off switch for washroom lamp.

Remote control

The remote control allows you to operate the service panel according to your needs.
(Not part of standard equipment; available as an extra)

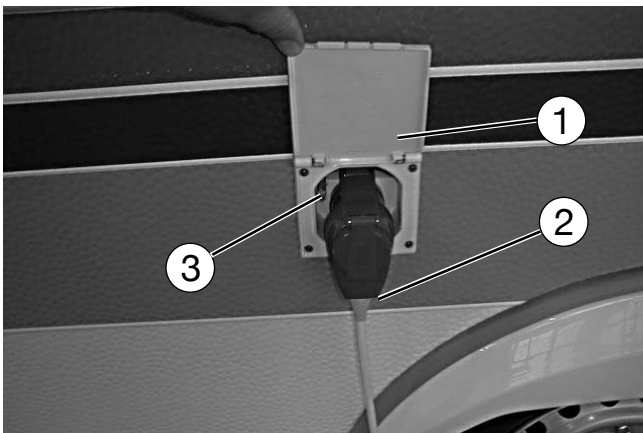
7.3 Electrical supply

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

- 230 V mains connection 50 Hz. (1)
- via the base vehicle if it is connected using the 13-pole plug (limited functions)
- via a built-in auxiliary battery (not included). Everything that uses 12 V, such as lighting, water supply, etc., is available.

Supply via mains connection

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



To connect:

- Turn off the automatic circuit breaker (4) by pressing the rocker switch down.
- Grab the bottom of the protective cover of the exterior socket (1) and flip it up.
- Completely unwind the connecting cable, insert the plug (2) and snap it into place.
- Turn the automatic circuit breaker (4) back on.

To disconnect:

- Turn off the automatic circuit breaker (4) by pressing the rocker switch down.
- Press the lever (3) in the exterior socket down.
- Pull out the CEE plug (2).
- Press the protective cover of the exterior socket down until it snaps into place.



The 230 V system is protected by a two-pole 13 A automatic circuit breaker (4), which is located in the wardrobe. (Exceptions to this include special installations such as ultraheat, hot-water heating, etc. In this case, an additional two-pole 16 A overload circuit breaker is installed.)



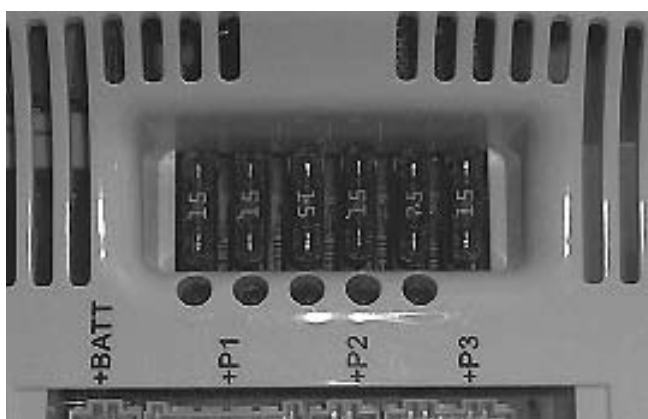
Rules for the mains connection:

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



If the mains operates via a cable drum, this must be completely unwound, as otherwise induction may cause the cable to heat up and burn.

- If a residual current operated device (special installations) has been installed in your camper, it must be checked regularly by activating the test button.
- The 230 V mains connection in the camper has been designed for a total power consumption of 2300 W. If additional devices requiring electricity are connected, such as water heaters, etc., you must ensure that this electric power value is not exceeded, taking other electrical equipment into account that is in use, e.g. refrigerator, therme, etc.



Assignment of fuses for power supply

Fuses are assigned as follows (from left to right):

- 1st circuit 1 / 15A
- 2nd circuit 2 / 15A
- 3rd circuit 3 / 15A
- 4th circuit 4 / 15A
- 5th circuit 5 / 7.5A for water supply, oven, etc.
- 6th circuit 6 / 15A for the charge controller, not via cut-off relay (not for 400 VA power supply)

7.4 Function of the electrical supply unit



The redirect from battery operation to the mains connection occurs automatically as soon as a mains connection is available. The electrical supply unit converts the external network voltage for those 12 volt devices present with a converter. All of the lamps in the camper are run on 12 V direct current. Only the large electrical devices, such as the therme, microwave, air conditioning, etc., are 230 V devices.

Exception: in the **Landhaus** model, some of the lamps are run on 230 V.

Your camper also has a combined exterior socket with an antenna connection. Here, for example, a television can be hooked up in the outr tent. The integrated antenna connection can be used as an entry or exit sleeve, according to your preference. You can get more detailed information from your HOBBY dealer (see also 6.2).

Operation via the base vehicle

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

12 V operation should be switched off on longer stopovers and breaks to prevent the vehicle's battery from fully discharging.

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



When operating via the base vehicle, a maximum of 3 appliances in the camper can be switched at the same time using the control panel, in order to reduce power consumption (exception: campers equipped with an Autark package).

Always break the electric circuit between the base vehicle and the camper before attaching a low voltage supply to the camper.

This camper series has not been equipped for internal battery supply.



Please follow the separate instructions for the "self-sufficient package" equipment, which are included with the camper's documents.

If an auxiliary battery is used, it must be replaced by the same type of battery with the same specification as the originally installed auxiliary battery, or as instructed by the manufacturer.

7.5 Changing the taillight bulbs



Carefully remove the protective caps with a screwdriver.



Remove the four fastening screws with a crosstip screwdriver.



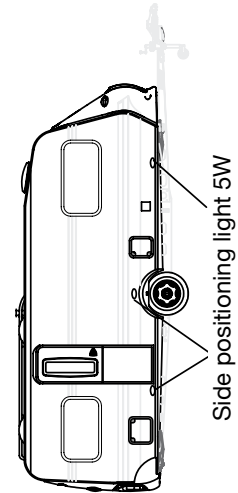
Now you can remove the taillight from the frame.



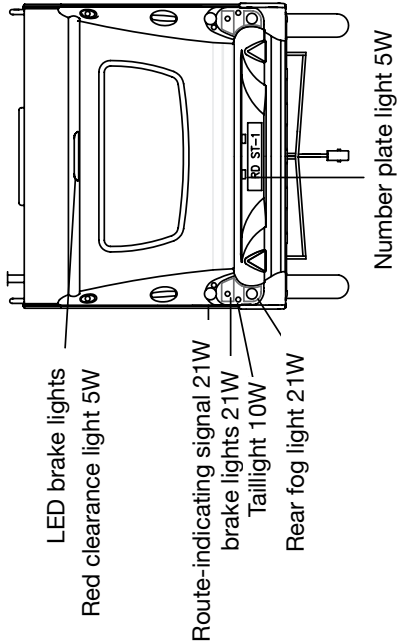
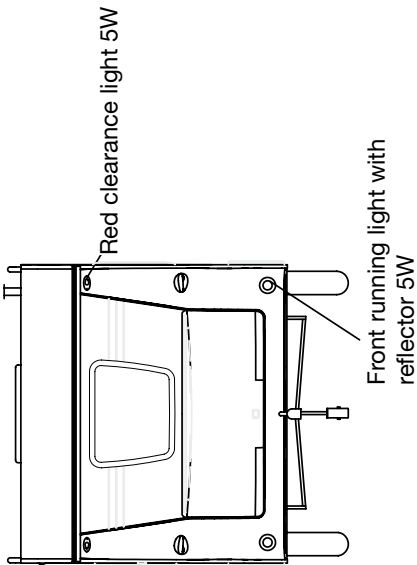
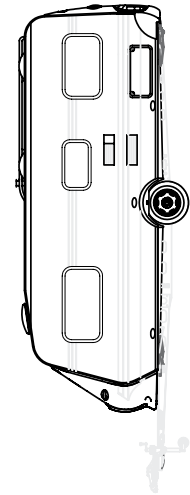
Remove the holder by loosening the screw.



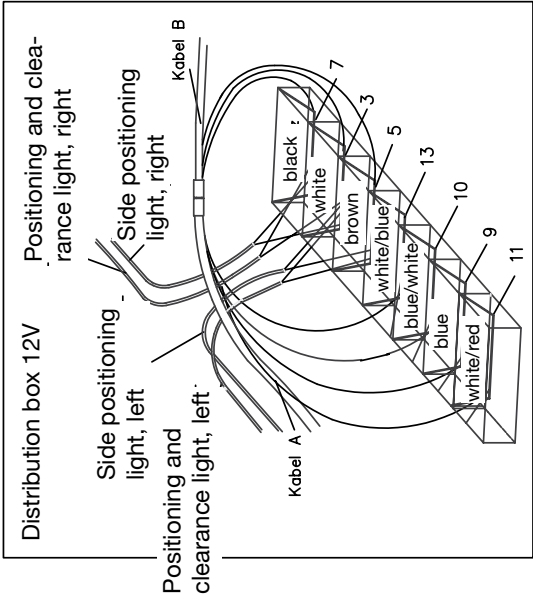
The bulbs are now freely accessible.
Put the taillight back together by repeating the process in reverse.



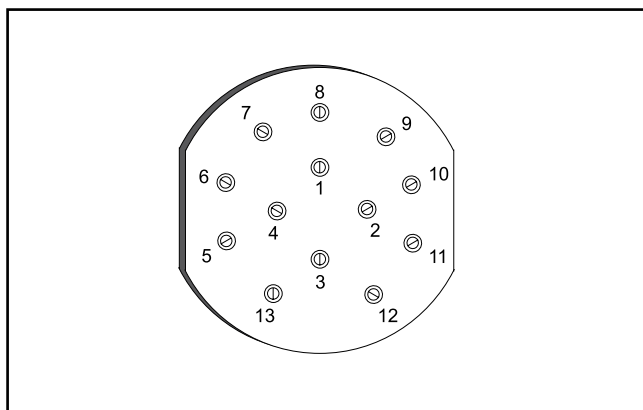
12 V Electrical Installation for
Vehicle - 2008



PIN	PIN Wire colour	mm2	Consumer
1	yellow	1,5	Route-indicating signal, left
2	blue	1,5	Rear fog light
3	white	2,5	Mass (for electric circuit 1-8)
4	green	1,5	Route-indicating signal, right
5	brown	1,5	Right taillight, clearance light, running light and number plate light
6	red	1,5	Brake lights
7	black	1,5	Left taillight, clearance light, running light and number plate light
8	orange	1,5	Reverse light
9	blue	2,5	Electric power supply (steady plus)
10	blue / white	2,5	Electric power supply, ignition-controlled
11	white / red	2,5	Mass for 10
12	violet	1,5	Trailer number plate, mass from 3
13	Vir/blá	2,5	Mass for 9



7.6 Circuit diagram (exterior)



"Jäger" outlet (13-poled)

View from connection side

Contact	Circuit
1	direction indicator, left
2	fog lamp
3	mass (for circuits 1 through 8)
4	direction indicator, right
5	right taillight, silhouette light, limitation lamp, and license-plate illumination
6	brake lights
7	left taillight, silhouette light, limitation lamp, and license-plate illumination
9	electrical supply (constant positive)
10	electrical supply, ignition switch controlled
11	mass for circuit 10
12	mass for trailer recognition
13	mass for circuit 9

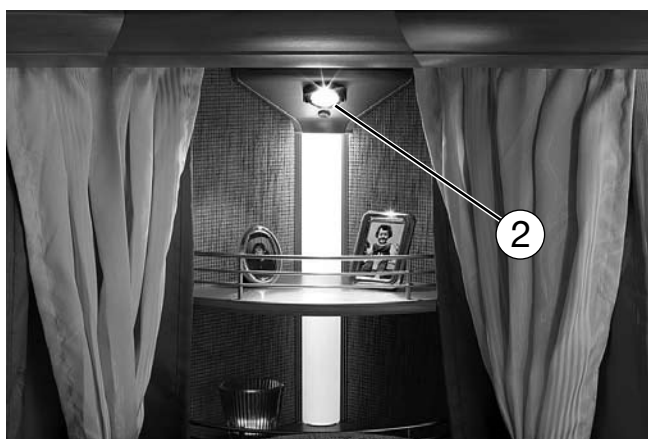
Contacts of sockets in accordance with DIN 1648-1:97

7.7 Lighting in the camper

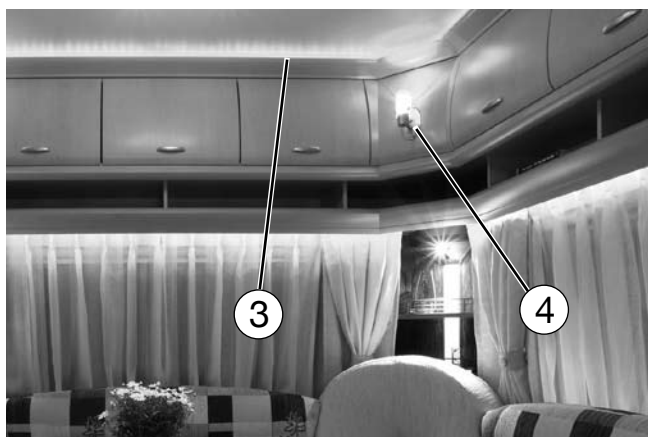
can be switched via the control panel



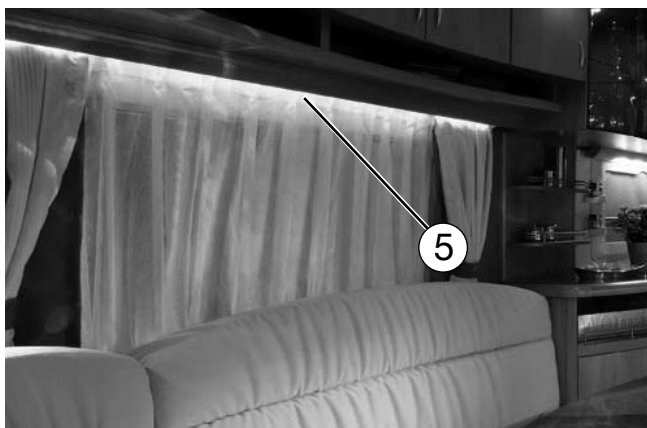
Surrounding LED spotlights (1) in the lounge area
(Excelsior: Halogen spotlights)



Corner shelf with integrated lamp can be switched on/off separately.



Indirect lighting above the stowage cupboards (3) and dimmable wall lights (4)



Indirect lighting (5) above the windows by the round seating arrangement



Dimmable ceiling lights above the seating arrangement (depending on the model)



The control panel is used to switch the kitchen light on and off.



The wardrobe lighting is activated via an integrated contact switch by opening the wardrobe doors (cannot be operated using the control panel). The LED lighting is battery-operated. Before using this for the first time, you must pull off the foil that protects the battery contacts.



Two 3 V lithium button cells, size CR 2025, are used to operate the wardrobe lighting. If necessary, they can be replaced through a slot in the side.



Turn the nose of the bear on the children's bedside light to switch it on and off.

This lamp can be dimmed and set to operate as a night-light ("blue ears") (cannot be operated using the control panel). The night-light can be switched on and off separately using the switch underneath the children's bedside light.



The light in the outer tent is switched on and off using the control panel.



When in use in public traffic, the light in the outer tent must be switched off.

7.8 Electric floor heating (Not part of standard delivery; available as an extra)

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

To turn on the 24 V floor heating:

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

Technical data:

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

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



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

8. Water

8.1 Water supply



The entire water system in your caravan has been manufactured from food-safe materials. Despite this, we recommend that you do not use this water for drinking.

General information

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

Function of the water supply

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

- via a 12 volt automobile battery if the camper is connected via a plug to the base vehicle,
- via a transformer if the camper is connected to the 230 volt main.

Rules for the immersion pump:

- The immersion pump is only suitable for water.
- The immersion pump tolerates temperatures up to 60° C for a short time.
- Avoid dry runs.
- Protect the pump from freezing.
- Hard blows or hits as well as very dirty water can destroy the pump.
- The pump can transmit at most 8.5 l/min.



Rolling 22 l fresh water tank with service flap

The fresh water tank can be rolled or carried.

To add water:

- Open the service flap.
- Remove the screw connector and pull the immersion pump from the fresh water tank.
- Pull out the canister.
- Add drinking water to the tank.
- Close the tank with the lid when transporting.

To remove water:

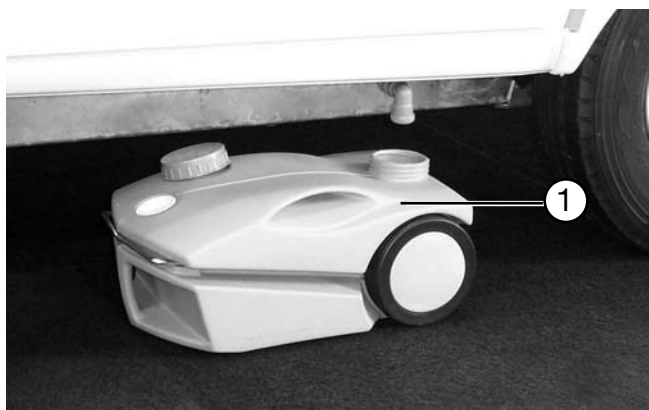
- Turn the faucets to "cold" or "hot".
The pump switches on automatically when operated via electricity.

To empty the tank:

- Open the service flap.
- Pull the immersion pump out of the fresh water tank.
- Pull out and empty the canister.

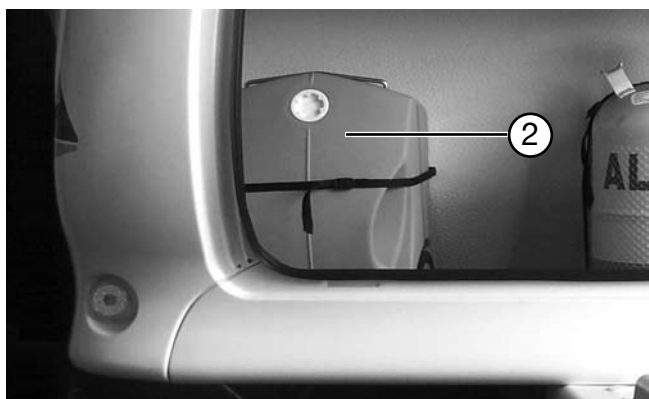
Depending on how the camper is outfitted, it can be delivered with a built-in tank.

Use the measuring cup to fill the 22 l built-in tank.



Rolling waste water tank

The rolling waste water tank (1) can be pushed under the vehicle when parked; it collects waste water. It has a 22 liter capacity. The waste water tank can be transported with a fold-out transport handle to dispose of the contents at the designated stations.



During the trip, the waste water tank can be stored in the gas-bottle container to save space.



50 l fixed tank from 540 series onwards

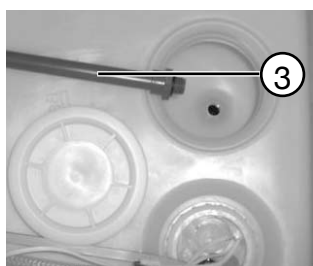
The tank has a volume of 50 liters.

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

The fresh water filler neck is identified by a blue screw cap as well as a water faucet symbol on the lower edge of the frame. The screw cap is opened and closed by means of the enclosed key for exterior flap locks and the door of the structure.

Should the tank overflow, the excess water is drained off underneath the vehicle by means of an overflow.

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



8.2 Warm water supply via Truma-Therme



Rules for warm water supply:

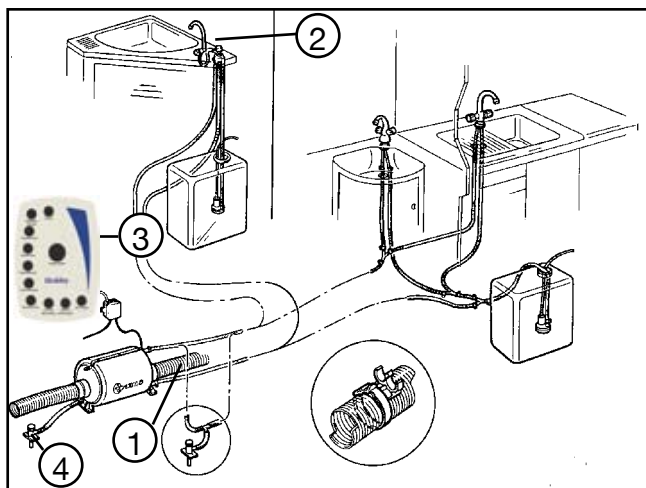
- Only use water suitable for drinking.



Note the user's guide before first use!

To fill the therme:

- Open the warm water faucet or set the one-level mixer to "warm".
- Leave the faucets open until the Truma-Therme is filled by blocking the air and hot water flows.



Plan for warm water supply

To remove water:

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

Emptying the therme:

- Switch off the electricity for the water pump by pressing the control panel (3) of the main switch for 5 seconds.
- Open all faucets.
- Set all pre-mixing valves to "warm" if necessary.
- Open the runoff valve (4).
- Check to see if water runs out.
- Close the runoff valve (4) after emptying (if necessary, blow the line out).

Electric operation:

- Use the control panel (see 7.2) to switch on the therme. The temperature of the water is regulated to 55° C by means of a thermostat.
- Power consumption: 300 W.

Rules for the therme:

- Use the control panel to switch off this equipment whenever the camper is not in use.
- Empty the therme at the risk of frost. Frozen water can cause the therme to burst!
- A depressuriser must be used if the pump is connected to a central water supply, or on stronger pumps. The pressure in the therme may not exceed 1.2 bar. In addition, a safety valve or runoff valve (1) must be used in the cold water tap.
- We recommend that you do not use the water from the therme as drinking water.

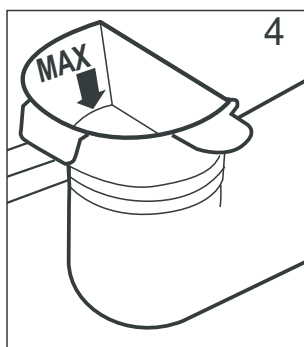
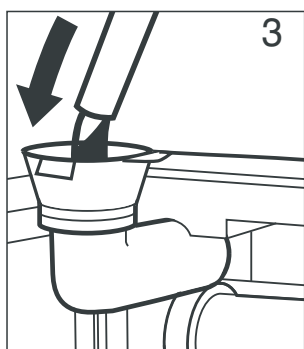
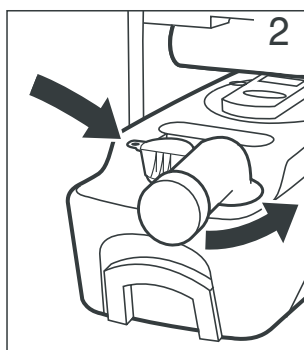
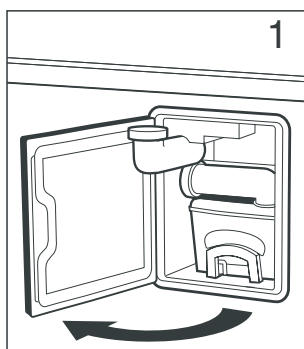


Never operate the therme electrically when it is empty.

WARNING:

The block circuit diagram only reflects the function. Due to the various floor plans, individual modifications are possible.

8.3 Water flushing toilet



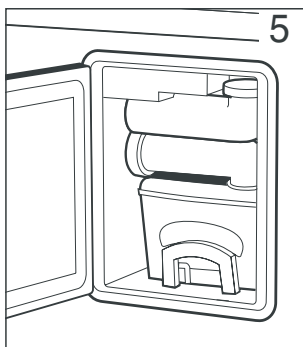
Toilets with fixed seat and fresh water tank

To prepare the toilet

1. Open the service flap on the exterior wall of your camper.
2. Swing the fill stanchions of the faeces tank in a 90° arch and remove the water tank extension (located under the handle closest to the drain nozzle).
3. Turn the water funnel outwards, remove the cap and place the extension over the funnel. Pour the required amount of Thetford toilet additive into the water tank. This ensures better flushing and cleansing and keeps the water in the fresh water tank fresh.
4. Fill the water tank with fresh water.



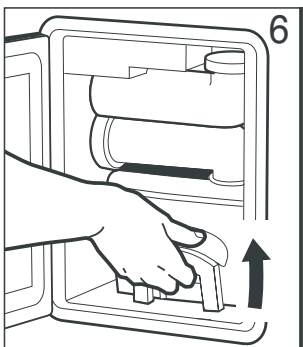
Ensure that the water level is below the water funnel.



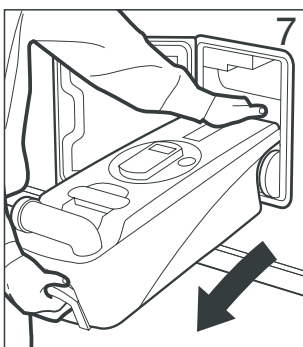
5. Remove the extension and return it to its original position on the faeces tank.



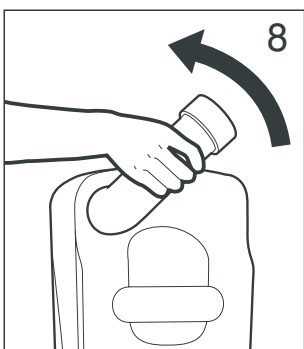
Depending on the amount of space between the door and the faeces tank, you can also use a peg to fasten the extension to the door. Screw the cap back onto the water funnel and press it back inside towards the fresh water tank.



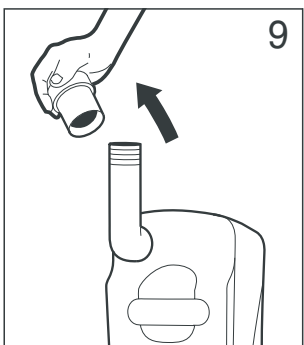
6. Remove the faeces tank by pulling the holder clamp up.



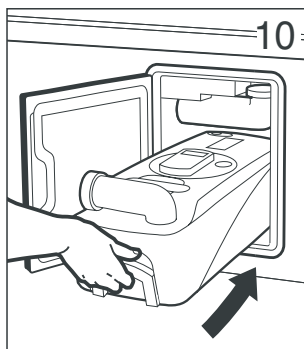
7. Pull the faeces tank outward until it clicks. Tilt it slightly and then pull it out completely.
8. Set the faeces tank upright and turn the pouring stanchion upward.
9. Turn the lid of the pouring stanchion with the measuring cup on the inside, and pour the required amount of toilet-bowl cleaner into the faeces tank. This prevents odours in the faeces tank and keeps the inside of the tank clean. Add about two more litres of water so that the floor of the faeces tank is completely covered. Then screw the measuring cup back onto the pouring stanchion and turn the pouring stanchion back to its original position.



The measuring cup for the pouring stanchion is in the same package as these instructions.



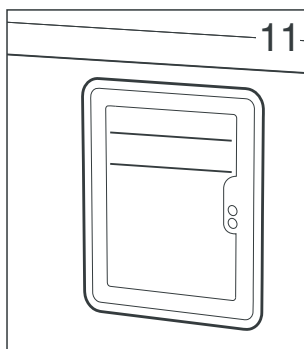
Never pour toilet-bowl cleaner through the valve or the toilet bowl. In the faeces tank, the liquid mixes immediately with water.



10. Push the faeces tank through the door back to its original position.



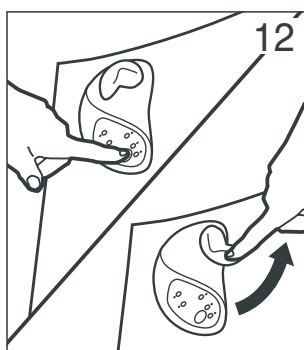
Do not use force the faeces tank back in; this could lead to severe damage.



11. Use the securing clamp to ensure that the faeces tank is locked into place and close the service flap.

Operation

12. Let some water run into the toilet-bowl by pressing briefly on the flush knob or open the valve by turning the lever counterclockwise. Your Thetford toilet is now ready for use.



13. After use, open the valve (if it is still closed) by turning the lever counterclockwise. Flush the toilet by pressing the flush knob for several seconds. Close the valve after use.



Never leave water in the bowl when the toilet is not in use. This does not reduce odours and can only lead to a blockage.



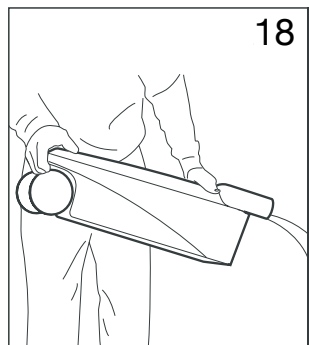
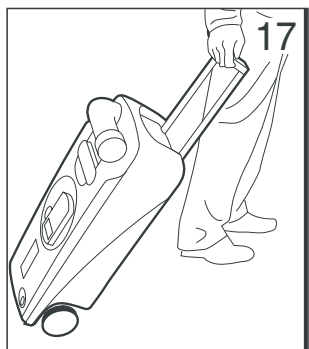
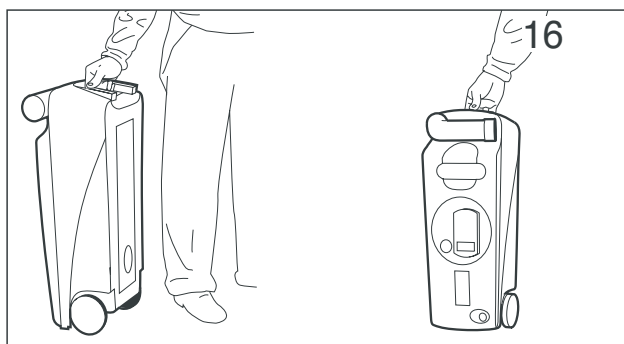
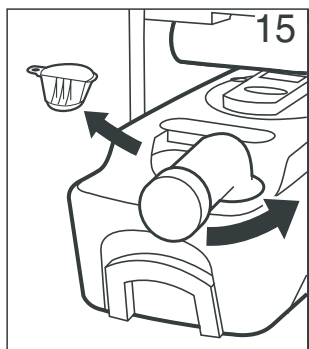
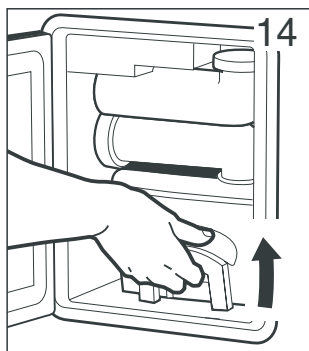
To avoid blockage, we recommend you use Aqua Soft, Thetford's fast-dissolving toilet paper.

Emptying the faeces tank:

The faeces tank holds 19 litres. It must be emptied at the latest when the level indicator lights up red. This happens when about 2 litres are left in the faeces tank (can be used approx. +/- 3 more times). We recommend that you empty the faeces tank before.



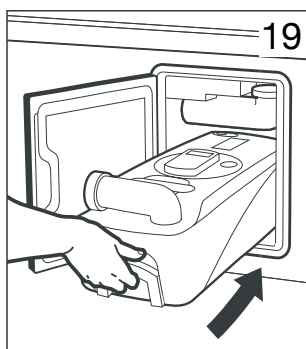
Never let the faeces tank get too full.



14. Ensure that the valve is closed. Open the service flap on the outside of the camper. Pull the holder clamp up and remove the faeces tank.
15. Remove the water tank extension first to prevent its being lost when emptying the faeces tank.
16. Place the faeces tank in a vertical position (tiltable lever on the top, wheels on the bottom). Press the lever down and move it away from the faeces tank so that the tank jumps out of its locked position.
17. Pull the lever up and wheel the faeces tank to a designated and approved disposal site.
18. Push the lever back. Turn the pouring stanchion upwards and remove the cap from the pouring stanchion. Hold the faeces tank in one hand, using its upper handle, and keep the other hand on the rear handle, enabling you to operate the ventilation knob with your thumb when you empty the tank. To empty the tank without splashing, press the ventilation knob carefully while emptying the tank. After emptying, rinse the tank thoroughly with water. Use water to clean the valve as well.



Only press the ventilation knob when the pouring stanchion is facing down!



19. If necessary, prepare the toilet once again for use. Replace the water tank extension in its original position on the faeces tank. Push the faeces tank back into the toilet and close the service flap.

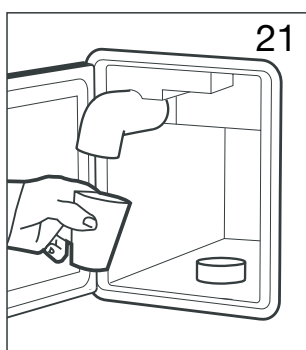
Storage

If you do not plan to use your Thetford toilet for a longer period of time, it is important that you follow these instructions first:



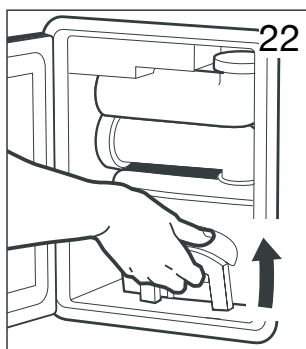
Drain the water from your camper's central water system.

20. Open the valve by turning the lever on the toilet counterclockwise. Now continue pressing on the blue knob until no more water runs into the toilet-bowl. Shut the valve.

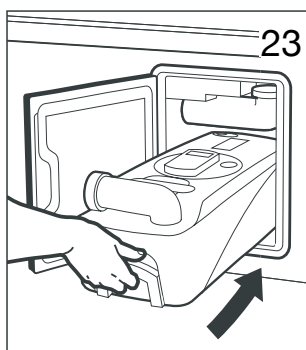


21. Open the flap on the outside of the camper and turn the water funnel outwards. Remove the cap and empty the water funnel by giving it a quarter turn counterclockwise.

22. Remove the faeces tank and empty it at a designated and approved disposal site. Follow the instructions for cleaning and maintenance.



23. Return the faeces tank to its position and open the valve by turning the lever on the toilet to the left.



9. Gas

9.1 General safety rules for the use of liquid gas facilities



The gas operation pressure is 30 mbar.

Inspection of the gas facilities

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



Installations and modifications

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



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.



Connections on gas pressure regulators are screwed on counterclockwise.

-
- Pressure regulators must have a fixed output pressure of 30 mbar. The requirements of EN 12864, Appendix D, apply accordingly. The regulator must have a rate of flow of 1.2 kg/h.
 - Connect the regulator knobs very carefully by hand. do not use keys, pliers or similar tools.
 - Use the de-icing system (Eis-Ex) for the regulator knobs when the temperature drops below 5° C.

Before first use

- Ventilation openings should remain unobstructed.
- If necessary, remove snow from the flue.
- Remove any dirt and snow/debris mixture from the suction openings under the vehicle floor; otherwise, the levels of carbon monoxide could increase to dangerous levels.
- The safety ventilation openings may not be closed.
- We recommend that you keep a fire extinguisher that uses drying powder, with a capacity of at least 1 kg, by the entry door, as well as a fire blanket by the cooker. Ensure that everyone is familiar with the fire prevention measures on site (see also 2.1 General information).



Read the operating instructions from the manufacturer carefully.

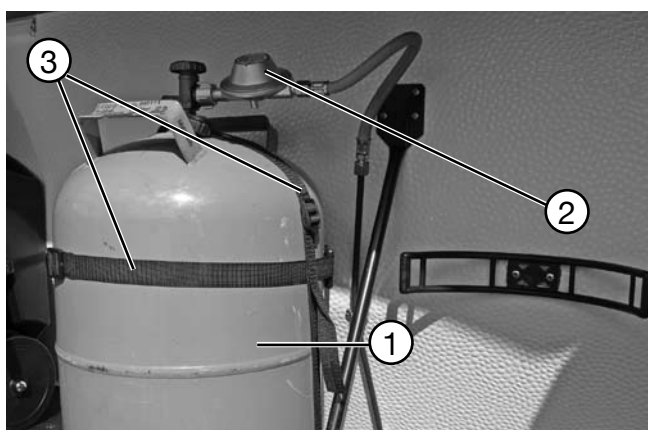


Never use portable cooking or heating equipment, except for electrical heating equipment (note the power consumption), but not radiant heaters, because these may cause a fire or risk of suffocation.

9.2 Gas supply

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

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



Bottle container

The gas-bottle container holds two 11 kg bottles of propane gas (1). The gas bottles are connected to the supply line by a safety regulator hose (2). Each of the bottles are fastened with two separate belts (3) to the bottom and the front wall of the gas-bottle container.



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

Rules for the gas-bottle container:

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



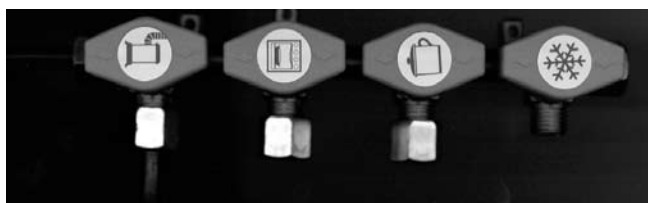
Gas bottles must be closed whenever you are driving.

Changing gas bottles:



Never smoke or light open fires when changing gas bottles. After changing bottles, check whether gas is escaping from the points of attachment by spraying these with a leak indicator.

- Open the flap of the gas-bottle container.
- Shut the main shutoff valve on the gas bottle.
- Manually unscrew the gas pressure regulator and gas hose from the gas bottle (left-handed thread).
- Loosen the belts and remove the gas bottle.
- Put full gas bottle back in the bottle container.
- Lash belts securely.
- Manually screw gas pressure regulator and gas hose onto the gas bottle (left-handed thread).
- Close the lid of the gas-bottle container.



Shutoff spigots and valves

The gas circulation to the corresponding device can be cut off with these spigots. The spigots are marked with stickers for the corresponding devices.

Place of installation of gas shutoff spigots

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

Rules for shutoff spigots and valves:

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

The symbols on the gas shutoff spigots have the following meanings:



Heating
element

Baking
oven

Gas
range

Refrigerator



If you suspect a leak in the gas system, you must immediately close all the shutoff spigots in the camper and the gas bottle valves in the bottle compartment.



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 Hot-air heating



Heating element S 5002 and S 3002



Heating while driving is forbidden.

- S 5002 model 560 to 750
- S 3002 model 400 to 540 (except 460 LU Excellent)

Place of installation:

- in the closet or the corner of the flue

Before first use:

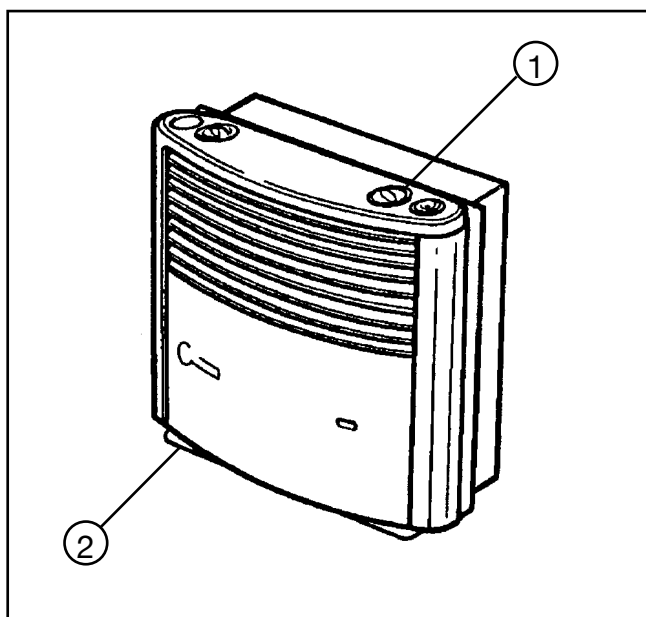
- Several air outlet nozzles have been built into the camper. Pipes lead the hot air to the air outlet nozzles. Turn the nozzles so that the hot air is expelled where you want it.
- Check whether the flue is unobstructed. Any covers must always be removed.
- Before the first ignition, ensure that the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

Operation:

- Open the bottle valve and the quick-close valve in the gas line.
- Turn the operation handle (1) to the thermostat position 1-10.
- Press the operation handle (1) down until it locks. The ignition is automatic from this position, until the flame burns. The ignition spark is audible. The control light on the automatic ignitor (2) blinks during ignition.
- Hold the operation handle in for up to 10 seconds, so that the ignition fuse kicks in.
- If the gas line is filled with air, it can take up to a minute until the gas is ready to burn. Hold the operation lever (1) in during this period, until the flame burns.



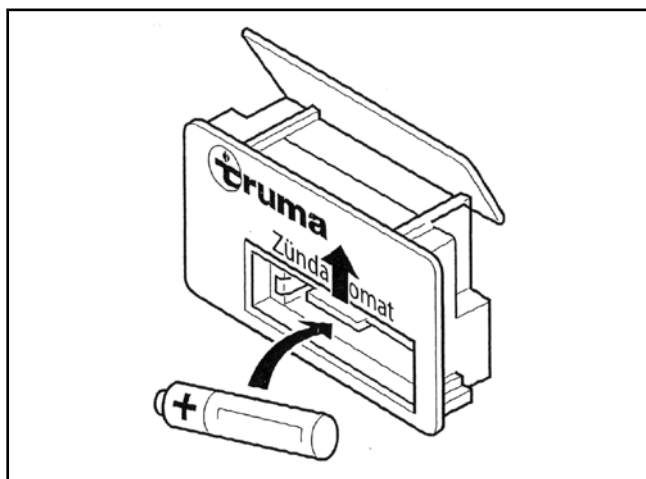
Never re-ignite before two minutes have passed. Otherwise, there is a danger of deflagration! This also applies when the flame on an already operational heating element extinguishes and is re-ignited.



- If the flame extinguishes again, re-ignition takes place during the closing phase of the fusible cut-out of the ignition safety switch (approx. 30 seconds).
- If no flame is ignited, the automatic ignitor (2) will continue to work until the operation handle (1) is switched to "0".

To shut off:

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



Changing batteries on the automatic ignitor:

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

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



Insert new batteries before the beginning of each heating season..



Also note the separate operating instructions from the manufacturer.

Circulation fan



Fig. 1

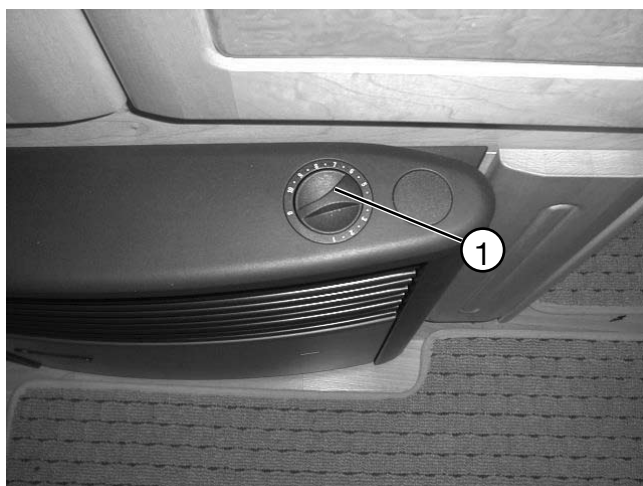


Fig. 2



Fig. 3

The heater in your camper is equipped with a circulation fan. It circulates the hot air throughout the interior of the camper. Use the knob to set the desired heating capacity. This knob (1) is located in the radiator cover (Fig. 1 and 2).

Adjustment by hand:

- Set the switch to position (1) (Fig. 3).
- Adjust the desired level via the turning knob (4).

To turn off:

- Set switch to position (2).

Automatic operation:

- Set switch to position (3). The level adjusts itself continuously to the corresponding release of warmth by the heating element. The highest level can be limited by the turning knob. The adjustment between this value and the slow-running setting takes place automatically.



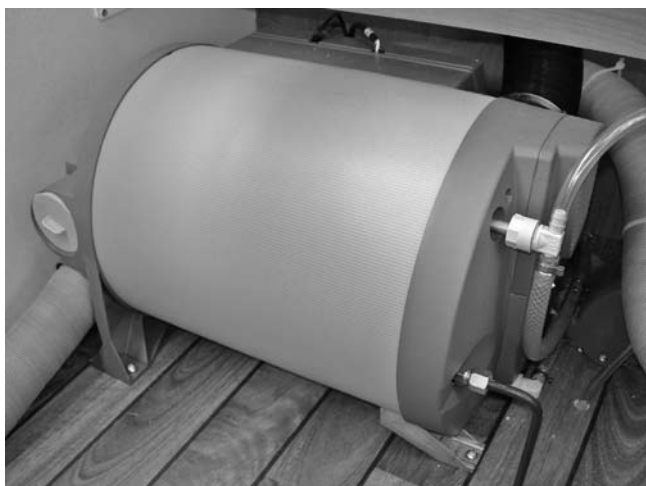
If less air is circulated or the noise from the blower increases, this means that the ventilation wheel is dirty. As a rule, the heating element casing and vacuum pipe should be removed from the heating element approximately every 500 hours of operation and the ventilation wheel should be gently cleaned with a thin brush.

9.4 Hot-air heating with integrated boiler

(only in 460 LU Excellent)



Heating while driving is forbidden.



The Combi 4 LPG heating is a hot-air heating system with an integrated hot-water boiler (contents: 10 l).

It is possible to operate the heating system both with and without water.

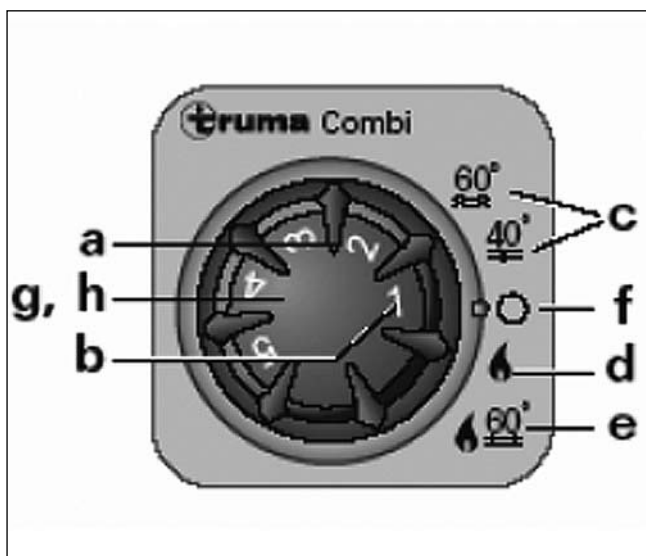
Location

- In the left single bed behind the washroom.

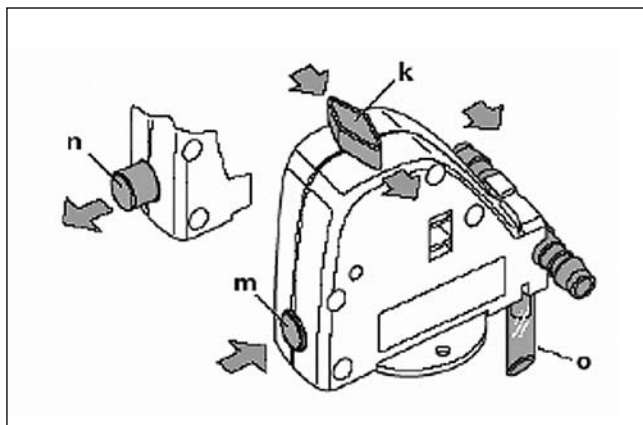
Initial operation

- Set the air exit nozzle in the camper so that the hot air exits where you want it to.
- Check that the flue is unobstructed. Any covers must always be removed.
- Open the gas bottle and the gas shutoff spigots.

Operating device



- a) knob for room temperature (1-5)
- b) green LED shines: "in operation"
green LED blinks:
"return water" has been activated to reduce the temperature of the device
- c) operating in summer
(water temperature 40° C or 60° C)
- d) operating in winter
(heating **without** controlled water temperature or with empty water system)
- e) operating in winter
(heating **with** controlled water temperature)
- f) knob is "Off"
- g) yellow LED shines: "boiler is in warm-up phase"
- h) red LED shines, red LED blinks:
"Malfunction" - take XXXXX and carefully clean fan wheel with a brush.



Frost control

“FrostControl” is a safety or drain valve that does not operate on electricity. If there is danger of frost, it automatically empties the contents of the boiler using a draining stanchion.

If there is excess pressure in the system, the pressure is automatically equalised intermittently by means of the safety valve.

- k) switch set to “Operation”
- m) button set to “Closed”
- n) button set to “Empty”
- o) draining stanchion (conducted outside through the floor of the vehicle)



Only when the temperature reaches approx. 7° C or more at the drain valve is it possible to close it manually using the button (setting m) and then fill the boiler.



When the temperature is under approx. 3° C at the drain valve, it will open automatically, the button pops out (setting n) and the water in the boiler drains off through the draining stanchion (o).



Operating in summer

- Turn the switch on the operating device to 40° C or 60° C (setting c, operating in summer). The green (b) and yellow (g) LEDs shine. After the set temperature for the water (40° C or 60° C) has been reached, the burner will turn itself off and the yellow LED (g) will go off.

Operating in winter

- Heating with controlled water temperature: Turn the switch to operative setting (e). Turn the knob (a) to the desired setting for the thermostat (1-5). The green LED (b) for operation will shine; at the same time, it shows the setting for the room temperature you have selected. The yellow LED (g) shows the warm-up phase for the water. The device automatically selects the required power setting. After the room temperature set on the operating device has been reached, the burner changes to the lowest setting and heats the water in the boiler to 60° C. The yellow LED (g) turns off when the water has reached this temperature.

- Heating without controlled water temperature: Turn the switch to operative setting (d). Turn the knob (a) to the desired setting for the thermostat (1-5). The green LED (b) for operation will shine; at the same time, it shows the setting for the room temperature you have selected. The yellow LED (g - warm-up phase for the water) shines only as long as the water temperature is below 5° C. The device automatically selects the required power setting. After the room temperature set on the operating device has been reached, the burner turns itself off. The hot-air fan continues to run at low speed for as long as the exit temperature (on the fan) is higher than 40° C. If the boiler has been filled, the water is automatically heated as well. The water temperature then depends on the thermal output that is given off and the heating period required to reach room temperature.
- Heating with an empty water system: Turn the switch to operative setting (d). Turn the knob (a) to the desired setting for the thermostat (1-5). The green LED (b) for operation will shine; at the same time, it shows the setting for the room temperature you have selected. The yellow LED (g) will shine only when the temperature in the device is below 5° C. The device automatically selects the required power setting. After the room temperature set on the operating device has been reached, the burner turns itself off.

To turn off the device:

- Use the switch to turn off the heating (setting f). The green LED (b) will turn off.



If the green LED (b) blinks after you switch the heating off, the return water is activated to reduce the temperature of the device. This will stop after a few minutes and the green LED (b) will turn off.



In case of malfunction, the red LED (h) will shine. Possible causes of defects are given in the manufacturer's instructions for searching for defects.

Filling the boiler

- Close the drain valve by pressing on the button until it locks in place.
- Turn on the 12 V power supply by means of the main switch on the control panel.
- Open all of the faucets and set them to “hot”. Leave them open until the boiler has been filled by displacement of the air.



If the temperature is below approx. 7° C, turn the heating on first to heat up the installation space and the FrostControl on the drain valve. After a few minutes, when the temperature at the FrostControl is above 7° C, you can close the drain valve.

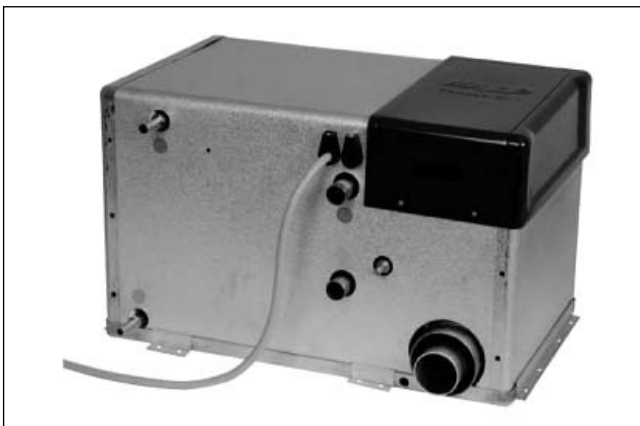
Emptying the boiler

- Turn off the 12 V power supply by means of the control panel.
- Open the hot water faucets.
- Give the switch on the drain valve a 180° turn until it locks in place (the button will pop out), the drain valve opens and the contents of the boiler are emptied outside.

Hot-water heating system (optional; not part of standard delivery)



Heating while driving is forbidden.



The Compact 3010 LPG heater is a hot-water heating system which heats hot water separately (contents: 8.5 l). It is possible to heat up the heating system without filling the hot-water heater with fresh water.

Location

- In the wardrobe (except in the Landhaus model).

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.
- You may not start the heating if the device has not been filled with glycol.
- To make the best possible use of the convection principle, the air must not be prevented from circulating throughout the camper, e.g. behind the back cushions, winter ventilation slots, in the bed frame and behind the stowage cupboards.

Modes of operation

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

Function modes

- Water heating
- Heating and water heating
- Heating

Operating device

When in the idle position, the device shows which heating functions have been activated; the background lighting of the display is off. After two minutes, the operating device automatically switches from the set position to the idle position if no button has been pressed or if the idle position has been set using the arrows. Begin by pressing any button. The background lights up and those functions that can be set will start to blink. Use the arrows to select the function you wish to set. Settings are saved automatically.



For further detailed information on operation, handling and maintaining the hot-water heating system, please refer to the separate operating instructions for “Alde Compact 3010”.



9.5 Refrigerator



Your camper is installed with a refrigerator made by Dometic or Thetford.

If the external temperature is high, full refrigerating capacity can only be ensured by means of sufficient ventilation. If necessary, to achieve better ventilation, the refrigerator's ventilation grille can be removed at the campsite.



Please follow the separate operating instructions provided by the manufacturer.

Methods of operation

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

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

12 V operation

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

230 V operation

- Set the energy selection switch to mains operation.
- Use the thermostat to regulate the temperature.
- To switch off, turn the energy selection switch to 0.



Gas operation

- Set the energy selection switch to gas operation.
- Open the main shutoff valve on the gas bottle and the gas shutoff spigot marked “refrigerator”.
- Turn the thermostat up full and keep it pressed down. The refrigerator will either ignite automatically or by using the knob for manual ignition (depending on your model).
- When it is ignited, let go of the thermostat. Repeat the previous step if it has not ignited.
- Use the thermostat to regulate the cooling efficiency.
- To switch off, turn the energy selection switch to 0.
- Close the main shutoff valve on the gas bottle and the gas shutoff spigot marked “refrigerator”.

Lock on the refrigerator door



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

There is an automatic lock on the refrigerator door.

If you close the refrigerator and press the door firmly shut, it will lock automatically. On Thetford models, there is an additional safety catch underneath the refrigerator. Dometic refrigerators may be additionally secured by means of a locking bolt on the door.



To prevent mould and unpleasant odours from arising, also lock the refrigerator door in the ventilation position whenever the refrigerator has been turned off.

9.6 Gas cooker



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

Before first use:

- Open the bottle valve and the quick-close valve in the gas line.
- The roof ventilation or the window must be open while operating the gas cooker.
- Operation handles, which must be pressed to ignite gas devices, must automatically spring back into the original position upon release.
- Before using the cooker, the enclosed protective device (3) must be set up or permanently attached to provide effective heat insulation for components and equipment that are at risk from fire.



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



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

Operation

- Open the cover (1).
- Set the turning knob (2) of the desired burner in the ignition position (large flame) and press.
- Ignite the burner with gas lighter fluid, a match and/or lighter.
- Hold the turning knob (2) in for an additional 10-15 seconds.
- Release the turning knob (2) and position it to the desired setting (large or small flame).
- If the ignition is unsuccessful, repeat the process from the beginning.



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



Keep the cover (1) open after cooking for as long as the burners are still giving off heat.



Do not store easily inflammable objects such as dish towels, napkins, etc., near the cooker. Use the protective device on the cooker at all times when cooking. Danger of fire!

9.7 Oven



- The ventilation openings on the oven must never be closed.
- Only operate the oven when it has been connected to the 230 V mains (automatic ignition).
- A skylight or window must be opened when operating the oven.
- The oven door must remain open while igniting the oven.
- 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.
- Never operate the oven when it is empty (i.e., without food that is to be heated).
- The grill (special equipment; not part of standard delivery) should never be used for longer than 25 minutes and only operated when the oven door is open.
- Never use the oven to heat the camper.

Turning on the oven:

- Switch on the 12 V power supply using the main switch on the control panel.
- Open the main shutoff valve on the gas bottle and the gas shutoff spigot marked “oven”.
- Open the oven door completely.
- Position the baking tray or grill so that it is not in direct contact with the flame.
- Press the switch lightly and set it to the desired ignition position (oven or grill, if available).
- Press the switch. Gas flows to the burner and the flame will ignite automatically.
- Press the switch for several seconds until the safety pilot valve keeps the gas flow open.
- Let go of the switch and turn it to the desired setting (oven only).
- Close the oven door carefully to prevent the flame from extinguishing.

Turning off the oven:

- Turn the switch to the neutral position. The flame will extinguish.
- Close the main shutoff valve on the gas bottle and the gas shutoff spigot marked “oven”.

10. Accessories

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

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

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

Object	Weight [kg]	Object	Weight [kg]
2 cross struts for roof rail	3.0	Heavy load-bearing supports	1.6
Accumulator case	2.0	Hot-water heater	27.5
Additional roof bonnet 400 x 400	3.4	Jack with box	6.0
Air-conditioning "HobbyCool 25" (Dometic)	25.0	LCD television multipurpose rack	0.5
Air-conditioning "Truma Saphir Comfort"	20.0	Leather furniture	7.0
Alde hot water boiler Compact 3010	14.0	Ornamental hub cap 2 x 14"	1.0
AL-KO spare tire carrier EH 1, model C	7.7	Ornamental hub cap 4 x 13"	2.0
Antenna mast "Teleco"	0.9	Oven with grill	14.1
Autark package	29.0	Oven without grill (F0300I)	13.5
Base vehicle anti-theft device "Robstop"	3.0	Regulator	2.8
Bedspread	1.5	Residual current operated device	0.3
Bicycle rack	6.8	SAT pivoting mast	2.0
Bunk bed, 3-storey	15.0	Sat. receiver, digital ("Kathrein")	3.0
Carpet (deluxe)	7-10.5	Sound system, "Blaupunkt"	11.5
City water connection	0.5	Spare tire carrier	1.0
Dometic exhauster hood with fan	3.0	Truma additional electric heating "Ultrahead"	2.0
Euro Mover II (tandem)	42.0	Truma Airmix convenience package	1.0
Euro Mover II	30.0	Truma electric boiler instead of therme	15.0
Extension to widen single beds	5.0	Truma gas boiler instead of therme	15.0
Folding bed, centred, crosswise	8.0	Truma gas/electric boiler instead of therme	16.0
Floor heating	5.0	Truma hot-air system "Isotherm"	3.0
Gas, external socket	1.5		

11. Maintenance and upkeep

11.1 Maintenance

Maintenance intervals

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

Rules for maintenance intervals

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



HOBBY grants a 5-year guarantee on the absence of leaks in the camper in accordance with the guarantee conditions. the vehicle is to be presented to your HOBBY dealer once a year for inspection. After 12 months, the first inspection for leaks is free of charge.



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



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

Greasing and oiling

Check and oil the movable and stationary parts of the vehicle at regular intervals. If the camper is used seldom, yearly maintenance is required.

Rules for greasing and oiling:

- Have the swinging lever bearings greased after every 2,000 to 3,000 kilometers driven.
- Grease the bearing spaces on the casing of the overrunning system.
- Oil movable parts such as bolts and joints.
- Grease the movable parts of the overrunning system after every 5,000 kilometers driven.
- Check to see that the stationary parts of the shearing rod are not jammed.
- Clean and oil all movable and stationary parts at regular intervals.



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.

11.2 Ventilation

Sufficient ventilation and de-aeration of the vehicle interior is essential to maintaining a comfortable climate. In addition, corrosion damage from sweat residue can be avoided.

Sweat residue forms most readily

- in tight spaces,
- from the breath and perspiration of the passengers,
- by carrying in damp clothing,
- when operating the gas cooker.



Ensure sufficient air circulation to prevent damage from the collection of sweat residue!

11.3 Upkeep

Cleaning the exterior

The vehicle should not be washed more often than necessary.



Only wash the vehicle at specially designed wash sites.



Use cleaning solvents as sparingly as possible. Aggressive cleaners such as rim cleaner pollute our environment.



Do not use cleaners which contain solvents.

Rules for cleaning the exterior:

- Rinse the vehicle with a light stream of water.
- Wipe the vehicle down with a soft sponge and typical shampoo solution.
Rinse the sponge often in the process.
- Afterwards, rinse with a great deal of water.
- Dry the vehicle with a suede cloth.
- Allow the vehicle to stand out in the open after washing to let it dry.



Dry spotlight and lamp frames thoroughly, since water can build up in these areas very easily.



Never use caustic cleaners or cleaners which contain solvents.

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 camper with it. Keep a minimum distance of 700 mm between the camper 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 camper. The temperature of the water must not exceed 60° C. Keep the water jet constantly moving during the entire washing process. The water jet must not be aimed directly at the clearance between the door frame and door leaf or the window frame and window leaf, electrical add-ons, pin-and-socket connectors, gaskets, sealing grill for refrigerator or the roof bonnets. This can damage the vehicle or allow water to seep into the interior.

Rules for waxing the surfaces:

- Treat the paint surfaces periodically with wax. Note the guidelines for use from the wax manufacturer. We recommend products by such manufacturers as VALMA, Turtle, Flash and System.

Rules for polishing surfaces:

- In exceptional cases, treat damaged paint surfaces with polish. We recommend paste polishes free of solvents.



Do not polish too often since polishing removes the top layer of paint. Frequent polishing causes more damage than it remedies.

Rules for treating tar and resin stains:

- Remove residues from tar and resin as well as other organic stains with petroleum ether or spirit.



Do not use aggressive solvents such as products containing esters or ketone.

Rules for damage repair:

- All damage should be repaired immediately to avoid further damage from corrosion. Consult your HOBBY dealer.

Undercarriage

The undercarriage of the camper has been specially coated. Any damage to the protective coating should be repaired immediately.

Windows and doors

Rules for upkeep:

- Rub the insulation of doors and windows lightly with talcum.
- Only clean acrylic glass window panes with a clean, moist sponge and a soft towel. Dry cleaning can scratch the panes.



Do not use strong and aggressive cleaners which contain softeners or solvents!



Talcum is available in auto specialty stores.

Cleaning the interior

Rules for cleaning seat covers, upholstery covers and curtains:

- Clean seat covers with a soft brush or vacuum cleaner.
- Have heavily soiled upholstery covers and curtains dry cleaned; do not wash them yourself!
- Clean with the foam of a gentle detergent if required.

Rules for cleaning the carpet:

- Clean with a vacuum cleaner or brush.
- If necessary, treat or shampoo with carpet foam.

Rules for cleaning PVC surfaces:



Sand and dust can damage the surface of a PVC surface that is walked on regularly. When in use, clean the floor daily with a Hoover or broom.

- Clean the surface with a special solvent for PVC surfaces. Do not place carpets on wet PVC surfaces. Carpets and PVC surfaces could stick together.
- Never use chemical cleaners or steel wool, because they will damage the PVC surface.

Rules for furniture surfaces:

- Clean wooden furniture finishes with a moist cloth or sponge.

- Rub dry with a soft, dust-free cloth.
- Use mild furniture polish.



Do not use scouring solvents or intensive cleaners since these can scratch the surface!

Rules for cleaning the toilet area:

- Clean with neutral liquid soap and a non-scouring 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.



Do not use scouring cleaners in the toilet area either!



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.

Rules for cleaning the sink:

- Only clean the sink with typical household cleaners or special stainless steel cleaners.

Accessories

Rules for upkeep:

- Clean synthetic parts (i.e. bumpers, protective covers) with warm water (up to 60° C) and mild household cleaner.
- Clean greasy or oily surfaces with spirit.
- If necessary, grease door hinges and lifting stanchions.
- Clean the fresh water taps, fresh water tank and waste water tank annually.



Do not use scouring solvents since these could scratch the surface!



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!

11.4 Winter operation

Preparation

Due to the overall vehicle conception, (aluminium sandwich construction with insulated windows) your camper is suitable for winter operation.

WARNING: We recommend that you optimise your camper in accordance with your personal tastes for winter camping.

Your dealer will gladly advise you in these matters.

Rules for preparation:

- Examine the vehicle for damage to paint or through rust, and repair if necessary.
- Ensure that no water can seep into the forced de-aeration system in the floor or into the heating element.
- Protect the metal parts of the lower floor against rust with a wax-based protective agent.
- Preserve lacquered surfaces with a suitable agent.

Perform all necessary winter-proofing

General rules:

- Only leave the camper in an enclosed space if this space is dry and well ventilated. Otherwise, park the camper out in the open.

Rules for inner furnishings:

- Empty and clean the refrigerator. Leave the refrigerator door open.
- Leave storage spaces and closets open for ventilation purposes.
- Position cushions and mattresses in such a way that they do not come into contact with condensation.
- If necessary, heat the entire camper to prevent mould build-up from condensation moisture.
- Set up a dehumidifier inside the vehicle and dry or change the granulate material regularly.
- Disconnect (or ideally, remove) batteries and check the energy level at least once a month, recharging if necessary.
- Completely empty the entire water system.

Winter operation

In the course of winter operation, condensation forms at low temperatures when the vehicle is occupied. Sufficient ventilation plays a very significant role in ensuring a suitable air quality within the vehicle and preventing damage by condensation.

Rules for ventilation:

- Set the heating element to the highest position and open ceiling barriers, curtains and shades while the vehicle is initially being heated. In doing this, you ensure optimum ventilation and de-aeration.
- Only operate the heating element when the air circulation unit is on.
- In the morning, remove all cushions, ventilate all storage compartments and dry moist spots.
- Install a chimney extension with a minimum length of 10 cm.



If condensation should build up somewhere in spite of these preventive measures, just wipe it away.

Frost protection measures

If the interior is sufficiently heated, it is unlikely that the fresh water tank, taps and warm water boiler would freeze. Only fill the fresh water tank after the vehicle has been heated. We do recommend, however, an additional heating element for the tank when exterior temperatures drop sharply. Your dealer will show you several possibilities. (Not included)

Rules for the waste water tank:

- Add antifreeze or table salt to the waste water in low temperatures.
- Catch waste water outside the vehicle.
- Keep the spout of the waste water tank open.

After the end of the winter season

Rules for upkeep:

- Carry out a thorough undercarriage wash. This removes thawing agents (salts, lye residue).
- Clean the exterior of the camper and use commercially available car wax to preserve steel parts.
- Should you have installed one, do not forget to remove the chimney extension.



Only wash the vehicle at specially designated sites.



Use cleaners as sparingly as possible. Aggressive cleaners (i.e., rim cleaner) pollute the environment.

Rules for the exterior structure:

- Turn stanchions down; afterwards, relieve pressure on wheels and axles.
- Preserve painted exterior surfaces with a suitable material.
- Treat the metal parts of the undercarriage with a wax-based anti-rust agent.
- Cover with tarpaulins, ensuring that ventilation is not obstructed.
- Leave the forced ventilation system open.
- Air the camper thoroughly every three to four weeks.

Rules for containers:

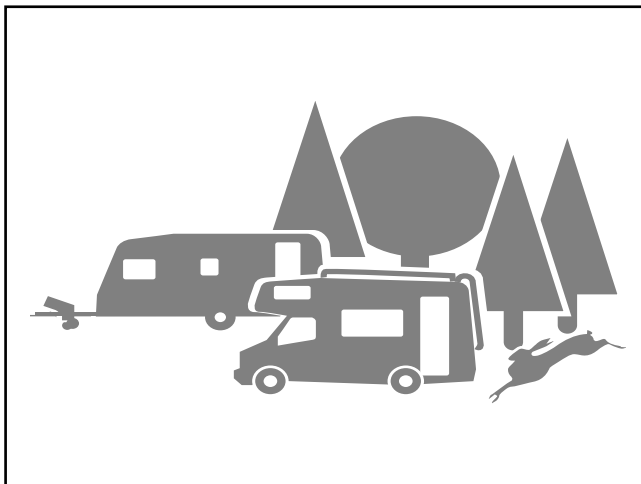
- Empty and clean the fresh water tank with a pump, if necessary with a plunger.
- Empty and clean the waste water tank.
- Empty and clean the WC tank.
- Empty the hot-water boiler completely: switch off the 12 V power supply by means of the main switch on the control panel and open all of the water faucets. In addition, we recommend that you separate the water pump from the fresh water system.
- Ensure that no water can seep into the forced ventilation system in the floor and into the heating element.



Also note the guidelines and operating instructions from the manufacturers of all built-in devices.

12. Waste disposal and environmental protection

12.1 The environment and mobile travel



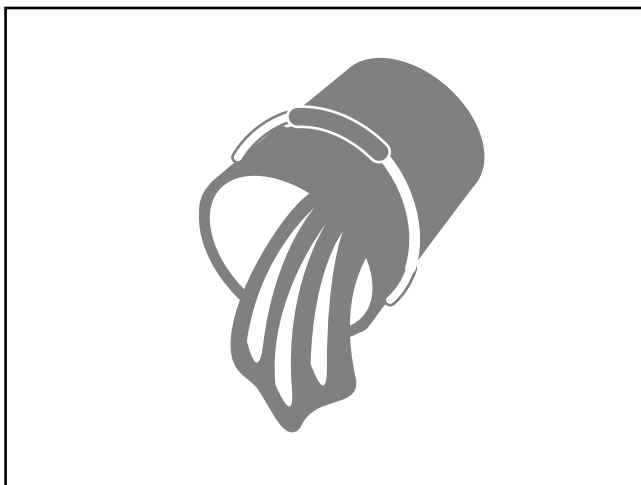
Environmentally sound use

By nature of their activities, camper users bear a considerable responsibility towards the environment.

Therefore, you should always use your camper in an environmentally sound manner.

Rules for environmentally sound use:

- Do not interfere with the quietude and cleanliness of nature.
- Dispose of waste water, faeces and trash properly.
- Act as a role model, so that campers are not stereotyped as environmental polluters.
- If you plan to stay longer in cities and municipalities, please park in an area that is specifically marked for trailer combinations. Find out in advance where these areas are located.



Rules for waste water disposal:

- Only collect waste water in the built-in tanks or, if absolutely necessary, in similarly suitable containers!
- Never dispose of waste water in greenery or in gullies! Street sewer lines often do not lead to waste water treatment plants.
- Empty the waste water tank as often as possible, even if it is not yet full (for hygienic reasons). If possible, rinse the waste water tank out with fresh water each time after emptying.



Only empty the faeces tank at designated sites, never out in the open! Disposal stations are typically located at highway rest stops, campsites or service stations.



Rules for the disposal of faeces:

- Only add approved cleaners to the faeces tank.



The use of other cleaners can be avoided by the installation of an active charcoal filter system.



Apply cleaning fluid very sparingly. Excessive application does not guarantee the prevention of odour build-up!

Disposal:

- Never allow the faeces tank to become too full. Empty the tank immediately, at the latest when the fill indicator lights up.
- Never dispose of waste water in gullies! Street sewer lines often do not lead to waste water treatment plants.



Only empty the faeces tank in the designated areas, not out in the open!



Rules for trash disposal:

- Separate trash and bring recycleable materials to the appropriate collection sites.
- Empty trash containers in designated areas as often as possible. This prevents unpleasant odours and trash build-up.

Rules for rest areas:

- Always keep rest areas clean, even if the mess was created by others.
- Never dispose of your household trash in the containers provided in rest areas.
- Do not let the motor of your base vehicle run unnecessarily while standing still. A cold motor causes a lot of contamination while idling. The quickest way to reach operating temperature is while driving.



The preservation of the environment is not just in the best interests of nature, but also in the best interests of all campers!

13. Technical data

13.1 Tire pressure values

As a rule of thumb, it may be assumed that a filled tire suffers a loss of pressure of 0.1 bar every two months. Check the pressure regularly to avoid damage to tires or a burst.

Tire size	Air pressure in bar
155 R 13 C 8PR	4,5
155 R 13 C 6PR	3,8
165 R 13 C	3,8
185 R 14 C	4,5
195/70 R 15 C	4,5
185/70 R 13	3,0
195/70 R 14	3,0

13.2 Weights in accordance with 97/27/EG, 2008

Type	Weight empty [kg]	Basic equipment [kg]	Mass in running order [kg]	g.v.w.r. [kg]	Add. load [kg]
400 SF De Luxe	892	59	951	1100	149
400 KB De Luxe	900	59	959	1100	141
440 SF De Luxe	982	59	1041	1200	159
450 UF De Luxe	990	59	1049	1200	151
460 UFe De Luxe	1068	59	1127	1300	173
460 LU De Luxe	1117	59	1176	1400	224
495 UL De Luxe	1139	59	1198	1400	202
495 UK De Luxe	1158	59	1217	1400	183
500 KMFe De Luxe	1175	59	1234	1400	166
520 TMF De Luxe	1142	87	1229	1500	271
540 UL De Luxe	1189	87	1276	1500	224
540 UF De Luxe	1193	87	1280	1500	220
540 UK De Luxe	1206	87	1293	1500	207
560 KMFe De Luxe	1342	87	1429	1600	171
400 SF Excellent	901	59	960	1100	140
410 SFe Excellent	1005	59	1064	1200	136

440 SF Excellent	1001	59	1060	1200	140
450 UF Excellent	997	59	1056	1200	144
460 UFe Excellent	1071	59	1130	1300	170
460 LU Excellent	1131	59	1190	1400	210
495 UL Excellent	1147	59	1206	1400	194
495 UFe Excellent	1155	59	1214	1400	186
500 KMFe Excellent	1183	59	1242	1400	158
540 UL Excellent	1209	87	1296	1500	204
540 UF Excellent	1218	87	1305	1500	195
540 UK Excellent	1230	87	1317	1500	183
540 WLU Excellent	1244	87	1331	1500	169
540 UFe Excellent	1232	87	1319	1500	181
540 UFf Excellent	1210	87	1297	1500	203
560 UL Excellent	1298	87	1385	1600	215
560 UF Excellent	1302	87	1389	1600	211
560 UFe Excellent	1312	87	1399	1600	201
560 UFf Excellent	1297	87	1384	1600	216
560 KMFe Excellent	1353	87	1440	1600	160
560 WLU Excellent	1348	87	1435	1600	165
570 SMF Excellent	1313	87	1400	1600	200
640 SMF Excellent	1532	87	1619	1900	281
540 UL Excelsior	1252	87	1339	1600	261
540 UF Excelsior	1258	87	1345	1600	255
540 UFe Excelsior	1282	87	1369	1600	231
560 UFe Excelsior	1360	87	1447	1600	153
610 UL Excelsior	1496	87	1583	1900	317
610 UF Excelsior	1502	87	1589	1900	311
650 UFf Excelsior	1537	87	1624	1900	276
495 UFe Prestige	1186	59	1245	1500	255
540 UL Prestige	1227	87	1314	1600	286
540 UF Prestige	1230	87	1317	1600	283
540 WLU Prestige	1238	87	1325	1600	275
540 UFe Prestige	1227	87	1314	1600	286
560 UL Prestige	1304	87	1391	1600	209
560 UF Prestige	1307	87	1394	1600	206
560 UKF Prestige	1317	87	1404	1600	196
560 UFe Prestige	1333	87	1420	1600	180
560 KMFe Prestige	1346	87	1433	1600	167
560 WLU Prestige	1351	87	1438	1600	162
610 UL Prestige	1437	87	1524	1800	276

610 UF Prestige	1443	87	1530	1800	270
650 KFU Prestige	1534	87	1621	1900	279
650 WFU Prestige	1529	87	1616	1900	284
650 UMF Prestige	1497	87	1584	1900	316
650 KMFe Prestige	1510	87	1597	1900	303
690 SMF Prestige	1758	87	1845	2000	155
720 UML Prestige	1708	87	1795	2000	205
720 UMF Prestige	1716	87	1803	2000	197
720 UKFe Prestige	1740	87	1827	2000	173
750 UMF Landhaus	1967	87	2054	2200	146
750 UML Landhaus	1960	87	2047	2200	153

13.3 Basic equipment

The basic equipment includes all of the equipment objects and fluids that are required for the safe and correct use of the vehicle.

This includes the weights of:

	400 - 500	520 - 750	
a) liquid gas supply			
no. of 11 kg gas bottles:	2	2	kg
weight of an aluminium gas bottle:	5.5	5.5	kg
weight of an 11 kg gas bottle:	11	11	kg
Total:	33	33	kg
b) fluids			
22 l rolling fresh water tank	22	--	kg
50 l fixed fresh water tank	--	50	kg
c) electric supply			
connecting cable for low voltage:	4	4	kg
Total basic equipment:	59	87	kg

13.4 Technical data

Trade name	Technical designation	De Luxe	Excellent	Prestige	Excelsior	g.v.w.r.	permitted axle load	Axle	Leading equipment	Towbar	Wheel brake
400 SF	30 A	•	•			1100	1100	DB 13 M	KFL 12 B	One Piece	20-2425/1
400 KB	30 A	•				1100	1100	DB 13 M	KFL 12 B	One Piece	20-2425/1
410 SFe	30 G		•			1200	1200	DB 13 M	KFL 12 B	One Piece	20-2425/1
440 SF	30 F	•	•			1200	1200	DB 13 M	KFL 12 B	One Piece	20-2425/1
450 UF	30 B	•	•			1200	1200	DB 13 M	KFL 12 B	One Piece	20-2425/1
460 UFe	30 C	•	•			1300	1300	DB 13 M	KFL 12 B	One Piece	20-2425/1
460 LU	30 J	•	•			1400	1350	DB 13 M	KFL 12 B	One Piece	20-2425/1
495 UFe	30 E		•			1400	1400	DB 15 MV/M	KF 20 A	One Piece	20-2425/1
495 UL	30 D	•	•			1400	1400	DB 15 MV/M	KF 20 A	One Piece	20-2425/1
495 UK	30 D	•				1400	1400	DB 15 MV/M	KF 20 A	One Piece	20-2425/1
500 KMFe	30 K	•	•			1400	1400	DB 15 MV/M	KF 20 A	One Piece	20-2425/1
520 TMF	30 M	•				1500	1500	DB 15 MV/M	KF 20 A	One Piece	20-2425/1
495 UFe	24 F			•		1500	1500	DB 15 MV/M	KF 20 A	ZHL 15	20-2425/1
540 UL/UF/UK	24 M	•	•			1500	1500	DB 15 MV/M	KF 20 A	ZHL 15	20-2425/1
540 UL/UF	24 M			•		1600	1600	DB 16 MV	KF 20 A	ZHL 15	20-2425/1
540 UL/UF	24 A				•	1600	1600	DB 16 MV	KF 20 A	ZHL 15	20-2425/1
540 UFe	24 E		•			1500	1500	DB 15 MV/M	KF 20 A	ZHL 15	20-2425/1
540 UFe	24 E			•	•	1600	1600	DB 16 MV	KF 20 A	ZHL 15	20-2425/1
540 WLU	24 J		•			1500	1500	DB 15 MV/M	KF 20 A	ZHL 15	20-2425/1
540 WLU	24 J			•		1600	1600	DB 16 MV	KF 20 A	ZHL 15	20-2425/1
540 Uff	24 K		•			1500	1500	DB 15 MV/M	KF 20 A	ZHL 15	20-2425/1
560 UL/UF	24 B		•	•		1600	1600	DB 16 MV	KF 20 A	ZHL 15	20-2425/1
560 UKF	24 B			•		1600	1600	DB 16 MV	KF 20 A	ZHL 15	20-2425/1
560 KMFe	24 C	•	•	•		1600	1600	DB 16 MV	KF 20 A	ZHL 15	20-2425/1
560 Uff	24 D		•			1600	1600	DB 16 MV	KF 20 A	ZHL 15	20-2425/1
560 UFe	24 G		•	•	•	1600	1600	DB 16 MV	KF 20 A	ZHL 15	20-2425/1
560 WLU	24 H		•	•		1600	1600	DB 16 MV	KF 20 A	ZHL 15	20-2425/1
570 SMF	24 N		•			1600	1600	DB 16 MV	KF 20 A	ZHL 15	20-2425/1
610 UL/UF	27 A			•		1800	1000/1000	DB 10 L	KF 20 A	ZHL 20	20-2425/1
610 UL/UF	27 H				•	1900	1000/1000	DB 10 L	KF 20 A	ZHL 20	20-2425/1
650 UMFe/KMFe	27 B			•		1900	1000/1000	DB 10 L	KF 20 A	ZHL 20	20-2425/1
650 KFU	27 C			•		1900	1000/1000	DB 10 L	KF 20 A	ZHL 20	20-2425/1
640 SMF	27 F		•			1900	1000/1000	DB 10 L	KF 20 A	ZHL 20	20-2425/1
650 Uff	27 J				•	1900	1000/1000	DB 10 L	KF 20 A	ZHL 20	20-2425/1
650 WFU	27 G			•		1900	1000/1000	DB 10 L	KF 20 A	ZHL 20	20-2425/1
690 SMF	19 H			•		2000	1050/1050	DB 13 M	KF 20 A	ZHF 20	20-2425/1
720 UML/UMF	19 D			•		2000	1050/1050	DB 13 M	KF 20 A	ZHF 20	20-2425/1
720 UKFe	19 G			•		2000	1050/1050	DB 13 M	KF 20 A	ZHF 20	20-2425/1
750 UML/UMF	19 E			(•)		2200	1200/1200	DB 13 M	KF 25 A	ZHL 27 C1	20-2425/1

* The size of the tires that were actually mounted may deviate somewhat from this information.

Trade name	Tire size	Fitting dimensions	Wheel rim	Air [bar]	Total width	Track	Distance towbar wheel + track wheel	Length of caravan	Length	Total length
400 SF	195/70 R 14	5/112, ET 30	5½ J x 14	3,0	2200	1950	3620	4112	4705	5902
400 KB	195/70 R 14	5/112, ET 30	5½ J x 14	3,0	2200	1950	3620	4112	4705	5902
410 SFe	195/70 R 14	5/112, ET 30	5½ J x 14	3,0	2300	2050	3731	4384	4977	6174
440 SF	195/70 R 14	5/112, ET 30	5½ J x 14	3,0	2300	2050	3789	4479	5072	6269
450 UF	195/70 R 14	5/112, ET 30	5½ J x 14	3,0	2200	1950	3761	4590	5183	6380
460 UFe	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2300	2050	3964	4811	5404	6601
460 LU	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2300	2050	3964	4811	5404	6601
495 UFe	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2300	2050	4114	5087	5680	6877
495 UL	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2300	2050	4295	5292	5885	7082
495 UK	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2300	2050	4295	5292	5885	7082
500 KMFe	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2300	2050	4248	5369	5962	7165
520 TMF	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2300	2050	4385	5369	5962	7165
495 UFe	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2300	2050	4108	5089	5682	6879
540 UL/UF/UK	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2300	2050	4365	5620	6213	7410
540 UL/UF	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2300	2050	4365	5620	6213	7410
540 UL/UF	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2300	2050	4345	5580	6173	7370
540 UFe	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2300	2050	4305	5580	6173	7370
540 UFe	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2300	2050	4305	5580	6173	7370
540 WLU	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2300	2050	4333	5580	6173	7370
540 WLU	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2300	2050	4333	5580	6173	7370
540 Uff	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2300	2050	4566	5620	6213	7410
560 UL/UF	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2500	2250	4441	5800	6393	7571
560 UKF	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2500	2250	4441	5800	6393	7571
560 KMFe	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2500	2250	4456	5850	6443	7621
560 Uff	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2500	2250	4541	5850	6443	7621
560 UFe	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2500	2250	4367	5800	6393	7571
560 WLU	185 R 14 C	5/112, ET 30	5½ J x 14	4,5	2500	2250	4472	5830	6423	7601
570 SMF	185 R 14 C	5/112, ET 30	6 J x 14	4,5	2500	2250	4541	5850	6443	7621
610 UL/UF	155 R 13 C	4/100, ET 30	4½ J x 13	3,8	2500	2250	4373	6327	6920	8098
610 UL/UF	155 R 13 C	4/100, ET 30	4½ J x 13	3,8	2500	2250	4463	6524	7117	8295
650 UMFe/KMFe	155 R 13 C	4/100, ET 30	4½ J x 13	3,8	2500	2250	4468	6662	7255	8433
650 KFU	155 R 13 C	4/100, ET 30	4½ J x 13	3,8	2500	2250	4555	6712	7305	8483
640 SMF	155 R 13 C	4/100, ET 30	5 J x 13	3,8	2500	2250	4518	6762	7355	8533
650 Uff	155 R 13 C	4/100, ET 30	4½ J x 13	3,8	2500	2250	4595	6712	7305	8483
650 WFU	155 R 13 C	4/100, ET 30	4½ J x 13	3,8	2500	2250	4548	6662	7255	8433
690 SMF	155 R 13 C	4/100, ET 30	5 J x 13	3,8	2500	2250	5026	7400	7993	9171
720 UML/UMF	155 R 13 C	4/100, ET 30	4½ J x 13	3,8	2500	2250	4824	7362	7955	9150
720 UKFe	155 R 13 C	4/100, ET 30	4½ J x 13	3,8	2500	2250	4894	7362	7955	9150
750 UML/UMF	155 R 13 C	4/100, ET 30	4½ J x 13	4,5	2510	2250	4808	8058	8388	9427

* The size of the tires that were actually mounted may deviate somewhat from this information.

13.5 Lighting

12 V Vehicle lighting			
Position	Description	Voltage	Voltage
exterior	left blinker	12	21
exterior	right blinker	12	21
exterior	stationary light	12	5
exterior	brake light	12	21
exterior	license plate	12	5
exterior	silhouette lamp	12	3
exterior	side marker lamp	12	3
exterior	side marker	12	3
exterior	3rd brake light	12	-

12 V Interior lighting	
Lamp	Lighting
Ceiling lamp, round, grey	1 x 21W
Ceiling lamp, round, grey	1 x 21W
12 V halogen ceiling lamp	3 x 10W
Panorama roof bonnet, upper and lower part	4 x 5W
Closet lamp	LED
Children's bed lamp	1 x 21W
Washroom lamp	3 x 10W
Corner lamp	2 x 10W
Kitchen lamp, silver, 12 V	3 x 21W
Kitchen lamp, silver, 230/12V	1 x 21W
Built-in spotlight 1980/12H/G/chrome	1 x 10W
built-in spotlight with lamp cover	1 x 10W
Built-in spotlight, silver	1 x 5W
Spotlight	1 x 10W
Lamp hanger, silver	1 x 21W
Lamp hanger, alder	1 x 21W
Indirect lighting 3 x B9	3 x 4W
Indirect lighting 5 x B9	5 x 4W
Indirect lighting 6 x B9	6 x 4W
Indirect lighting 7 x B9	7 x 4W
Indirect lighting 7 x B9	7 x 4W
Indirect lighting 10 x B9	10 x 4W
Entry lamp	2x10W

230 V Interior lighting	
Lamp	Lighting
Ceiling lamp	3 x 15W
Ceiling lamp, round, grey	1 x 25W
Ceiling lamp, round, grey	1 x 25W
Ceiling lamp, round, grey (GB)	1 x 40W
Children's bed lamp	1 x 25W
Kitchen lamp, silver	2 x 25W
Kitchen lamp, silver (GB)	2 x 25W
Kitchen lamp, silver 230/12V	2 x 25W
Spotlight 1934 / dull silver	1 x 30W
Lamp hanger, alder	1 x 40W
Lamp hanger, silver	1 x 40W

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