BÜRSTNER

Instruction Manual

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EN

Dear Reader ...

We would like to congratulate you on the purchase of your new motorhome. You have selected a top-quality vehicle which will afford you many years of enjoyment.

To enable you to always use and operate your motorhome properly and easily, your Bürstner dealer will first provide you detailed instructions for all important functions when you take delivery.

This manual, the instruction manuals from the base vehicle manufacturer as well as the instruction manuals from the appliance manufacturer will always be at hand to answer any questions you may have regarding your motorhome.

Before your first journey

Please familiarise yourself with this manual rather than relying on it strictly for reference.

Fill in the warranty cards for the appliances and special equipment in the individual instructions and send these cards to the respective manufacturers. This ensures your warranty claim for each appliance.

Please also always observe the use and instruction manual of the chassis manufacturer.

The terms used in this instruction manual with regard to weight specifications are explained again in detail at the end of the instruction manual (legal information on weight-related data). For further details on the weight data, please also visit the "Weight information" section of our homepage at www.buerstner.com/de/en/weight-information

Contents

Please read this instruction manual completely before using the vehicle for the first time!

Always keep this instruction manual in the vehicle. Also inform all other users of the safety regulations.

▶ The non-observance of this symbol can lead to personal injury.

▷ The non-observance of this symbol can lead to damage being caused to, or inside the vehicle.

▷ This symbol indicates recommendations or special aspects.

▷ This symbol indicates actions which lead to environmental awareness.

This instruction manual contains sections which describe model-specific equipment or special equipment. These sections are specially marked. It may be that your vehicle has not been fitted with this special equipment. In some cases, the actual equipment of your vehicle may therefore be different from that shown in some illustrations and descriptions.

However, your vehicle may be fitted with other special equipment not described in this instruction manual.

Special equipment is described when an explanation is required.

Adhere to the instruction manuals which are separately enclosed.

▷ The details "right", "left", "front" and "rear" always refer to the vehicle in direction of travel.

▷ All dimensions and weight details are "approximate".

Should the vehicle be subjected to damage due to a failure to follow the instructions in this instruction manual, then the guarantee claim is deemed invalid.

Our vehicles are subjected to continuous development. Please understand that we reserve the right to alter the form, equipment and technology. Therefore, no claims can be made against the manufacturer as a result of the contents of this instruction manual. The equipment which was known and included at the time of going to press is described.

1.1 General

The vehicle is constructed in accordance with the latest technology and the recognised safety regulations. Nevertheless, personal injury may result and the vehicle may be damaged if the safety instructions in this instruction manual are not followed.

Before using the vehicle for the first time, equip it with the legally prescribed equipment (e.g. first aid kit, warning vest, hazard warning triangle etc.). Observe the relevant equipment regulations when travelling abroad.

Only use the vehicle in a technically impeccable condition. Follow the instructions in the instruction manual.

Malfunctions which impair the safety of persons or the vehicle should be immediately remedied by qualified personnel. To avoid further damages, observe the duty to avert, minimise or mitigate loss for the user during faults.

Have the vehicle's braking and gas systems inspected and repaired by an authorised specialist workshop only.

Alterations to the body are only to be carried out with the authorisation of the manufacturer.

The vehicle is designed for the exclusive transport of persons. Luggage and accessories may only be transported up to the maximum permissible gross weight.

Observe the test and inspection periods stipulated by the manufacturer.

1.2 Environmental tips

- ▷ Be considerate of the environment.
- ▷ Remember that: All kinds of waste water and household waste are not to be disposed of in drains or in the open countryside.
- ▷ On board, collect waste water only in the waste water tank or – if necessary – in other containers designed for that purpose.
- ▷ Only empty the waste water tank at disposal stations, at camping sites or caravan sites, that are especially provided for this purpose. When stopping in towns and communities, observe the instructions at caravan sites or ask where there are disposal stations.
- ▷ Empty waste water tank as often as possible, even when it is not completely full (hygiene).
- ▷ If possible, flush out waste water tank and, if necessary, drainage pipe with fresh water every time it is emptied.
- ▷ Separate household waste according to glass, tin cans, plastic and wet waste also when on a journey. Enquire at the town or community authority about disposal points. Household waste is not to be disposed of in waste paper baskets which are situated at car parks.
- ▷ Empty waste bins as often as possible into the containers provided for this purpose. This helps to avoid unpleasant smells and an accumulation of rubbish on board.

- When parked, do not allow the engine to run more than necessary. When running idle, a cold engine releases more contaminants than usual. The running temperature of the engine is achieved more quickly whilst the vehicle is in motion.
- When staying in towns and communities for long periods, search for parking areas which are specially reserved for motorhomes. Enquire at the town or community authority about parking spaces.
- Always leave the parking places in a clean condition.

1 Introduction

2.1 Warranty Conditions

1. BÜRSTNER GmbH & Co. KG, Weststraße 33, 77694 Kehl (Guarantor) grants a 6-year water ingress warranty on vehicles manufactured from model year 2019 onwards, up to a maximum mileage of 120,000 km and that the following components of the vehicle are sealed in such a way that there is no ingress of moisture from the outside to the inside (interior) during normal, contractual and non-commercial use of the vehicle.

   - Closed elevating roof
   - Rubber seals and sealing joints
   - Power supply flap

   The party covered by the warranty is responsible for proving that the vehicle is covered by the warranty.

2. In the event of proof of a warranty claim due to faulty sealing (cf. Point 1.), the guarantor is exclusively obliged under these warranty conditions to repair the affected vehicle parts free of charge or to replace the affected parts, depending on what the guarantor considers necessary to remedy the water ingress. The required work shall be carried out by the guarantor or by an authorised workshop in accordance with the guarantor's guidelines. Should additional costs arise while remedying the water ingress due to installations or other changes to the vehicle compared to the original condition, these shall be borne by the guarantor. The cost of warranty work carried out by neither the guarantor nor one of the guarantor's authorised workshops is non-refundable, irrespective of the existence of a warranty claim. The party covered by the warranty shall not be entitled to other claims under this warranty, in particular regarding subsequent delivery, withdrawal from the purchase contract, price reduction or compensation for damages (including consequential damages), as well as compensation for direct or indirect, material or immaterial consequential damages. Excluded are e.g. claims for compensation for transport or travel costs, towing costs, loss of earnings or holiday cancellation, as well as compensation for futile expenditure. The legal rights of the party covered by the warranty with regards to its seller remain unaffected by this warranty. The legal rights of the party covered by the warranty with regards to its seller remain independent of claims under this warranty.

3. Depending on which occurs earlier, the warranty period begins either on the date of first registration or on the handover of the vehicle to the original purchaser, but no later than one year after the first delivery of the vehicle to the dealer.
   It applies for the duration of the vehicle's usability, but no longer than 10 years or up to a maximum mileage of 120,000 km, whichever occurs earlier. Change of ownership of the vehicle does not affect the warranty. The warranty shall expire if the yearly inspections required in accordance with Point 4. are not carried out. The performance of warranty work does not extend the warranty period, nor does it result in the period starting anew.

4. The successful assertion of a warranty claim is dependent on the vehicle undergoing a yearly water ingress test at a BÜRSTNER authorised workshop. This inspection shall be carried out each year within the 11th to 13th month after the beginning of the warranty period (cf. Point 3.). The costs of carrying out the water ingress test shall be borne by the party covered by the warranty. Claims under this warranty by the party covered by the warranty are only valid if the performance of the yearly inspections has been properly verified by a BÜRSTNER authorised workshop.
   This includes an inspection record filled out by the BÜRSTNER authorised dealer. Proof of the regular performance of water ingress tests shall be provided by the party covered by the warranty.
5. The occurrence of water ingress, or moisture indicative of water ingress, shall be reported by the party covered by the warranty to a BÜRSTNER authorised workshop, in writing, within 15 days of becoming aware of the issue. Knowledge is equivalent to grossly negligent and negligent ignorance. Compliance with the 15-day deadline is dependent on receipt of the notification at a BÜRSTNER authorised workshop. The notification shall be attached to the warranty document. If the water ingress is not reported correctly and in due time, no claims under this warranty are possible.
6. The necessity, method and scope of remedying the water ingress is at the sole discretion of the guarantor or its authorised workshops.
7. Warranty claims are excluded in the event of:
   - Forces of nature (e.g. floods, hail, etc.) and animal damage of any kind.
   - Damage resulting from an accident.
   - Water ingress due to conversions or additions to the vehicle that were not carried out by a BÜRSTNER authorised workshop.
   - Water ingress due to improper damage repairs that were not carried out by a BÜRSTNER authorised workshop.
   - Damage to the outer shell discovered during inspections that was not repaired immediately by the party covered by the warranty.
   - Aluminium corrosion that cannot be attributed to water ingress.
   - If the vehicle is modified using spare parts that have not been authorised by BÜRSTNER, and a warranty claim arises as a result.
   - Condensation due to insufficient ventilation.
   - Improper, non-contractual handling and use of the vehicle.
   - Damage due to incorrect use of care products or cleaning agents (see “Care” instructions in the instruction manual.)
   - Damage due to non-compliance with the instruction manual or the manufacturer’s repair and maintenance instructions.
   - All other damages that are not the responsibility of the guarantor or an authorised workshop of the guarantor.
8. Water ingress tests are subject to a fee. The costs of the inspections shall be paid by the party covered by the warranty (cf. Point 4).
9. As far as legally permissible, the exclusive place of jurisdiction shall be Kehl, Germany. The place of performance for all claims under this Warranty is Kehl. This warranty is governed exclusively by the law of the Federal Republic of Germany. This applies regardless of the place of residence or business of the party covered by the warranty.

2.2 Proof of water ingress tests

Providing proof

▷ The annual water ingress tests are a prerequisite for the weatherproof guarantee of the housing body.

It is mandatory that the inspection record is filled in completely, entered in the online system, and printed out for you after each carried out test by your dealer.

2.2.1 Vehicle data

The following inspection records apply exclusively to the vehicle:

Datum	Entry
Model, type	
Chassis number	
Key no.	
First registration / date of handover	
Purchased from company	

2.2.2 Water ingress test (certificates)

12 months _____ Stamp of the Bürstner dealer	24 months _____ Stamp of the Bürstner dealer
Date Signature	Date Signature
36 months _____ Stamp of the Bürstner dealer	48 months _____ Stamp of the Bürstner dealer
Date Signature	Date Signature
60 months _____ Stamp of the Bürstner dealer	
Date Signature	

Date: January 2021

Chapter overview

This chapter contains important safety instructions. The safety instructions are for the protection of persons and property.

3.1 Fire prevention

3.1.1 Avoidance of fire risks

- ▶ Never leave children in the vehicle unattended.
- ▶ Keep flammable materials clear of heating and cooking appliances.
- ▶ Never use portable heating or cooking appliances.
- ▶ Only authorised qualified personnel may make changes to the electrical system, gas system or appliances.

3.1.2 Fire-fighting

- ▶ Always carry a dry powder fire extinguisher in the vehicle. The fire extinguisher must be approved, tested and close at hand.
- ▶ The fire extinguisher is not included in the scope of delivery.
- ▶ Have the fire extinguisher tested at regular intervals by authorised qualified personnel. Observe the date of testing.
- ▶ Keep a fire blanket near the cooker.
- ▶ Observe the country- and location-specific requirements for fire-fighting in the place where you are staying and keep the required tools on hand.

3.1.3 In case of fire

- ▶ Evacuate all passengers.
- ▶ Cut off the electrical power supply and disconnect from the mains.
- ▶ Close regulator tap on the gas bottle.
- ▶ Sound the alarm and call the fire brigade.
- ▶ Fight the fire if this is possible without risk.

- ▷ Acquaint yourself with the position and operation of the emergency exits.
- ▷ Keep escape routes clear.
- ▷ Observe the fire extinguisher instructions for use.

All windows and doors which meet the following requirements are considered as emergency exits:

- Open to the outside or can be shifted in horizontal direction
- Opening angle at least 70°
- Minimum diameter of clearance = 450 mm
- Maximum distance from the vehicle floor = 950 mm

3.2 General

- ▶ The oxygen in the vehicle interior is used up by breathing and the use of gas operated appliances. That is why the used air must be replaced permanently. For this purpose, forced ventilation options (e.g. skylights with forced ventilation) are fitted to the vehicle. Never cover or block forced ventilations from the inside or outside with objects such as e.g. a winter mat. Keep forced ventilations clear of snow and leaves. There is a danger of suffocation due to increased CO_2 levels.
- ▶ Observe the headroom of the doors.

- ▷ As far as the fitted appliances (cooker, icebox, etc.) and the base vehicle (engine, brakes, etc.) are concerned, the operating manuals and instruction manuals are authoritative. It is imperative that they be observed.
- ▷ Fitting accessories or special equipment can alter the dimensions, weight and road behaviour of the vehicle. Some of the add-on parts must be entered in the vehicle documents.
- ▷ Only use wheel rims and tyres which are approved for the vehicle. Information concerning the size of the approved wheel rims and tyres is included in the vehicle documents or can be obtained from authorised dealers and service centres.
- ▷ Firmly apply the handbrake when parking the vehicle.

- ▷ When leaving the vehicle, it is imperative that all doors, external flaps and windows are closed.
- ▷ Always carry the legally prescribed equipment (e.g. first aid kit, warning vest, hazard warning triangle etc.) with you. The regulations of the host country apply when travelling abroad.
- ▷ The vehicle may only be driven by drivers who hold a driving licence which is valid for the respective vehicle class.
- ▷ When selling the vehicle, hand over all instruction manuals for the vehicle and the fitted appliances.

3.3 Road safety

- ▶ Before commencing the journey, carry out a functional check of indicating and lighting equipment, the steering and the brakes.
- ▶ If the vehicle has been stationary for a long period (approx. 10 months) have the braking and gas systems checked by an authorised specialist workshop.
- ▶ Before commencing the journey, rotate all swivel seats in the direction of travel and lock in position. During the journey, the swivel seats must remain locked in place in the direction of travel.
- ▶ Before commencing the journey, lock the individual seats or the double bench in the 2nd/3rd row of seats (see section 5.8).
- ▶ Carefully store all moving parts and all loose objects before starting your journey.
- ▶ Before commencing the journey, store the suspension table securely.

- ▶ During the journey, persons are only to sit on the permitted seats (see chapter 5). The authorised number of seats is stipulated in the vehicle documents.
- ▶ Seat belts must be worn by all passengers.
- ▶ Fasten your seat belts before the beginning of the journey and keep them fastened during the journey.
- ▶ Always secure children with the children safety equipment prescribed for the respective height and weight.
- ▶ Only attach the child restraint system to seats that are specified for this purpose. Only forward-facing child restraint systems are permitted.
- ▶ In case of underpasses, tunnels or similar obstacles, note the total height of the vehicle (including the roof load).
- ▶ In winter, the roof must be free of snow and ice before commencing the journey.
- ▶ Check tyre pressure before a journey or every 2 weeks. Wrong tyre pressure causes excessive wear and can lead to damage or even to tyre burst. You can lose control of the vehicle (see section 14.6).
- ▶ Do not operate the heater at petrol stations. Danger of explosion!
- ▶ Do not operate the heater in closed spaces. Danger of suffocation!

- ▷ Before commencing the journey, distribute the payload evenly within the vehicle (see chapter 4).
- ▷ When loading the vehicle and during breaks in the journey, e.g. when reloading luggage or food, observe the technically permissible maximum laden mass and the technically permissible maximum mass on the axle (see the vehicle documents).
- ▷ Before commencing the journey, close all cupboard doors, all drawers and flaps.
- ▷ Before commencing the journey, close the windows.
- ▷ During the initial journey and each time after changing a wheel, re-tighten the wheel bolts/wheel nuts after 50 km (30 miles). Subsequently inspect them at regular intervals in order to ensure that they are firmly seated. See chapter 14 for tightening torque.
- ▷ Tyres must not be older than 6 years as the material becomes brittle over time (see chapter 14).
- ▷ When using snow chains, the tyres, wheel suspension and steering are subjected to an additional load. When using snow chains, drive slowly (maximum speed 50 km/h) and only on streets which are completely covered with snow. Otherwise the vehicle could be damaged.

3.4 Towing

- ▶ Care is to be taken when connecting and detaching a trailer. Risk of accident and injury!
- ▶ No persons are to be between the motorhome and the trailer during positioning for connecting and detaching.

3.5 Gas system

3.5.1 General instructions

- The operator of the gas system is responsible for the performance of recurring inspections and for complying with the maintenance intervals.
- Before commencing the journey, when leaving the vehicle or when the gas devices are not in use, close all gas isolator taps and the main regulator tap on the gas bottle.
- All gas-operated devices (heater, cooker) must be switched off for refuelling, on ferries or in the garage. Danger of explosion!
- Do not use gas-operated devices in closed spaces (e.g. garages). Danger of poisoning and suffocation!
- Only have the gas system maintained, repaired or altered by an authorised specialist workshop.
- Have the gas system checked by an authorised specialist workshop according to the national regulations before commissioning. This also applies for not registered vehicles. For modifications to the gas system have the gas system immediately checked by an authorised specialist workshop.
- The gas pressure regulator, the gas tubes, and the exhaust gas pipes must also be inspected. The gas pressure regulator and the gas tubes must be replaced observing the nationally defined deadlines (the latest after 10 years). The vehicle owner is responsible for seeing that this is carried out.
- In case of a defect of the gas system (gas odour, high gas consumption) there is danger of explosion! Close regulator tap on the gas bottle immediately. Open doors and windows and ventilate well.
- If the gas system is defective: Do not smoke; do not ignite any open flames, and do not operate electric switches (light switches etc.). Check the tightness of gas-conducting parts and lines with leakage search spray. Do not check with an open flame.
- Only the stipulated devices may be connected to internal connections. Do not operate any device outside the vehicle if it is connected to an internal connector.
- Cooking is prohibited during the journey.
- Before using the cooker make sure that there is sufficient ventilation. Open a window.
- Do not use the gas cooker for heating purposes.
- If there are several gas devices, each gas device must have its own gas isolator tap. If individual gas devices are not in use, close the respective gas isolator tap.
- Ignition safety valves must close within 1 minute after the gas flame has extinguished. A clicking sound is audible. Check function from time to time.
- The built-in gas devices are exclusively meant for use with propane or butane gas or a mixture of both. The gas pressure regulator as well as all built-in gas devices are designed for a gas pressure of 30 mbar.

- Propane gas is capable of gasification up to -42 °C, whereas butane gas gasifies at 0 °C. Below these temperatures no gas pressure is available. Butane gas is unsuitable for use in winter.
- Due to its function and construction, the gas bottle compartment is a space which is open to the exterior. Never cover or block up the standard forced ventilations. Otherwise gas that is emitted can not be diverted to the outside.
- The gas bottle compartment must not be used as storage space.
- Secure the gas bottle compartment against unauthorised access. To do this, lock the compartment.
- The regulator tap on the gas bottle must be accessible.
- Only connect gas-operated devices (e.g. gas grill) which have been designed for a gas pressure of 30 mbar.
- Exhaust fumes must be able to escape into the atmosphere unhindered and fresh air must be able to enter unhindered. For this reason, keep the exhaust pipe and intake openings clean and unobstructed (e.g. free from snow and ice). For this reason, no snow walls or aprons may lie against the vehicle.

3.5.2 Gas bottle

- Handle full or emptied gas bottles outside the vehicle only with closed regulator tap and attached protective cap.
- Gas bottle must be transported within the designated gas bottle compartment.
- Place the gas bottle in vertical position in the gas bottle compartment.
- Fasten the gas bottle so that it is unable to turn or tilt.
- Connect the gas tube to the gas bottle without tension.
- If the gas bottles are not connected to the gas tube, always place the protective cap on top.
- Close the regulator tap on the gas bottle before the gas pressure regulator or gas tube are removed from the gas bottle.
- Depending on the connection, unscrew the gas tube from the gas bottle and screw it on the gas bottle again by hand or using an suitable special spanner. The screw connection on the gas bottle generally has a left-hand thread. **Do not** tighten too firmly.
- Only use special gas pressure regulators with a safety valve designed for vehicle use. Other gas pressure regulators are not permitted and cannot meet the demanding requirements.
- Use the gas pressure regulator defroster if the temperature falls below 5 °C.
- Use only 3 kg gas bottles. Only use camping gas bottles with a built-in check valve (blue bottles with a maximum of 3 kg content) in conjunction with the supplied safety valve (regulator tap).
- Use the shortest possible tube lengths (150 cm max.) for external gas bottles.
- Never block the floor ventilation openings below the gas bottle.

3.6 Electrical system

- Only allow qualified personnel to work on the electrical system.
- Prior to carrying out work on the electrical system, switch off all devices and lights, disconnect the battery and disconnect the vehicle from the mains.
- Only use original fuses with the stipulated values.
- Only replace defective fuses when the cause of the defect is known and has been remedied.
- Never bridge or repair fuses.

3.7 Water system

- Water left standing in the water tank or in the water pipes becomes undrinkable after a short period. Therefore, before each use of the vehicle, thoroughly clean the water pipes and the water tank. After each use of the vehicle completely empty the water tank and the water pipes.
- In the case of lay-ups lasting more than a week, disinfect the water system before using the vehicle (see section 12.2.3).

▷ If the vehicle is not used for several days or if it is not heated when there is a risk of frost, empty the entire water system. Make sure that the 12 V power supply on the panel is switched off. Otherwise, the water pump will overheat and may get damaged. Leave the water taps on in central position. Leave all drain cocks open. Frost damage to appliances, frost damage to the vehicle and deposits in water-carrying components can be avoided in this way.

Chapter overview

This chapter contains important information which has to be noted before commencing your journey or carrying out any tasks before the journey.

At the end of the chapter there is a checklist which once again summarises the most important points.

4.1 Initial start-up

▷ During the initial journey and each time after changing a wheel, re-tighten the wheel bolts/wheel nuts after 50 km (30 miles). Subsequently inspect them at regular intervals in order to ensure that they are firmly seated. See chapter 14 for tightening torque.

The motorhome is supplied with a set of keys, consisting of keys for the base vehicle and keys for the body.

Always deposit a replacement key outside the vehicle. Make a note of the key number. Our authorised dealers and workshops can offer assistance in case of loss.

4.2 Payload

▶ Overloading the vehicle and the axles can lead, for example, to a worsened steering response (changed driving behaviour), to an overload of the tyres and thus to an increased risk of tyre bursts or to an increase in braking distance. This creates the risk of the vehicle getting out of control and you endangering yourself and other road users. If you are not sure whether the laden vehicle complies with the technically permissible maximum laden mass, there is the possibility of weighing/checking the vehicle on public scales or at individual dealers.

▶ The vehicle documents state the technically permissible maximum laden mass or the mass including special equipment ex works (actual vehicle mass), but not the weight of the laden vehicle (see section 4.2.1). For your own safety, we recommend that you have your laden vehicle (with all passengers, luggage and personal objects) weighed on a public weighbridge before commencing the journey.

▶ Adapt the speed to the payload. The stopping distance is increased if the payload is high.

▷ Do not exceed the technically permissible maximum laden mass and the technically permissible maximum mass on the axle as stated in the vehicle documents by the payload.

▷ Built-in accessories and special equipment reduce the payload.

▷ On loading, make sure that the payload's centre of gravity is as low as possible (directly above the floor of the vehicle). Otherwise this may affect the driving characteristics of the vehicle.

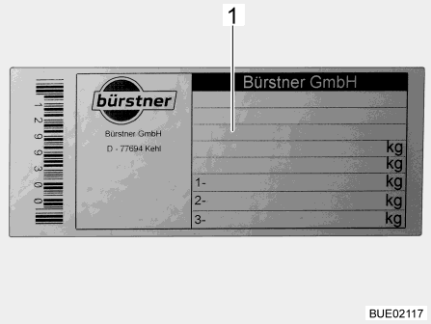
▷ If the vehicle exceeds the technically permissible maximum laden mass specified by the manufacturer in the actual mobile operation, there is a risk of legal consequences such as a fine or the loss of insurance.

4.2.1 Terms

▷ Technically speaking, the term "mass" has now replaced the term "weight". However, "weight" is still the term more frequent in common use. For better understanding, "mass" is therefore only used in the following sections for fixed formulations.

Technically permissible maximum laden mass

The technically permissible maximum laden mass is a value set by the manufacturer (e.g. 3500 kg), which the vehicle must never exceed for safety reasons, even in laden condition. You can find information on the technically permissible maximum laden mass of the model you have chosen in the registration papers and on the factory plate of the body manufacturer attached to the vehicle.



1 Chassis number

Fig. 1 Factory plate

The technically permissible maximum laden mass consists of the **actual vehicle mass** and the **payload**.

The manufacturer has specified the technically permissible maximum laden mass (maximum permissible gross weight) under CoC 16.1 in the CoC vehicle documents.

Actual vehicle mass

The actual vehicle mass consists of the mass in running order and the weight of the special equipment fitted at the factory.

Mass in running order

The mass in running order is the weight of the ready-to-drive series vehicle (excluding special equipment fitted at the factory).

The mass in running order is made up as follows:

- Unladen weight (mass of the empty vehicle) with factory-installed standard equipment (excluding special equipment fitted at the factory)
- Driver's weight
- Basic equipment weight
- Greases, oils and cooling liquids filled in
- Fresh water tank filled up to 100 %
- Aluminium gas bottle filled up to 100 %
- Fuel tank filled to 90 %

75 kg are calculated for the weight of the driver, regardless of how much the driver really weighs.

Basic equipment includes all equipment and fluids required for safe and proper vehicle use. The weight of the basic equipment includes:

- A full fresh water system
- A full heating system
- The power cables for the 230 V power supply
- A full toilet flushing system
- The installation kit for an auxiliary battery if an auxiliary battery can be used

The waste water and sewage tanks are empty.

Example for calculating the basic equipment

Water tank in the ready-to-drive state with 20 l (overflow open)	20 kg
Camping gas bottle	+ 3.0 kg
Boiler with 20 l	+ 20 kg
230 V power cable	+ 4 kg
Total	**= 47 kg**

The vehicle mass in a ready-to-drive condition is specified under CoC 13 in the CoC vehicle documents (e.g. 2900 kg). The actual vehicle mass is specified under CoC 13.2 in the CoC vehicle documents (e.g. 2950 kg).

Remaining payload capacity

To determine the remaining payload capacity, it is important that you know the real weighed mass of your vehicle. When your vehicle is completed, we therefore determine the real weight of your vehicle for the first time by weighing it at the end of the belt. This includes the mass in running order plus the weight of all ordered and factory-fitted special equipment.

Using this real weighed mass, you can calculate the remaining payload capacity for luggage or other accessories.

Example:
Maximum permissible gross weight - real weighed mass - mass of the passengers = remaining payload capacity
3500 kg - 3000 kg - 225 kg (3 x 75 kg) = 275 kg

▷ Please note that the factory calculation of the remaining payload capacity assumes a flat rate of 75 kg per seat for the mass of the driver (included in the real weighed mass) and the mass of the passengers. Due to differing body weights, the real remaining payload capacity of your vehicle may be affected.

▷ The real mass of your vehicle weighed at the factory may vary slightly in retrospect due to weather conditions and, for example, the associated absorption or release of moisture. Any further subsequent modification of your vehicle, e.g. through the additional installation of accessories at the dealer's or other extensions and/or conversions, will additionally influence the notified real weighed mass of the vehicle and consequently also the remaining payload capacity. It is the responsibility of the dealer after collection from the factory and until delivery, and subsequently your responsibility from the time of handover by the dealer, to prevent the technically permissible maximum laden mass from being exceeded. If you are not sure whether the laden vehicle complies with the technically permissible maximum laden mass, there is the possibility of weighing/checking the vehicle on public scales or at individual dealers.

▷ We will inform your dealer of the actual mass of your vehicle weighed by us at the factory and the remaining payload capacity when we issue the invoice. The latter is required to pass the information on to you. If this has not been done, you can contact your dealer and ask for the information. Our scales meet all legal and standard requirements and are regularly maintained, tested and calibrated. A slight tolerance is nevertheless technically unavoidable. In addition, the weight of the vehicle may vary slightly due to weather conditions and, for example, the associated absorption or release of moisture. The real weight of the vehicle can therefore deviate by a few kilograms from the reported real weight.

The payload is made up as follows:

- Conventional load
- Special equipment
- Personal equipment

▷ The vehicle's payload can be increased by reducing the actual vehicle mass. To do this, it is allowed for example to empty the fluid containers or to remove the gas bottles.

You will find explanations on the individual components of the payload in the following text.

Conventional load

The conventional load is the weight specified by the manufacturer for the passengers.

Conventional load means: 75 kg are calculated for every seat specified by the manufacturer, regardless of how much the passengers actually weigh. The driver's seat is already included in the mass in running order and must **not** be counted.

The manufacturer specifies the number of seats under CoC 42 in the CoC vehicle documents.

Special equipment

Special equipment includes all equipment not included in the standard equipment which is fitted to the vehicle under the responsibility of the manufacturer.

- Caravan coupling
- Awning
- Bike or motorcycle rack
- Satellite unit
- Microwave oven

Information about the weights of the various special equipment devices can be obtained from the manufacturer.

Personal equipment

Personal equipment includes all items carried in the vehicle that are not included in the conventional load and special equipment. For example, personal equipment can include the following:

- Foodstuffs
- Crockery
- Television
- Radio
- Clothes
- Bedding
- Toys
- Books
- Toiletries

No matter where kept, personal equipment also includes:

- Animals
- Bikes
- Boats
- Surfboards
- Sports equipment

For the personal equipment, according to the applicable regulations, the manufacturer must use a minimum weight that is determined according to the following formula:

Formula

Minimum weight M (kg) = 10 x N + 10 x L

Explanation

N = maximum number of people including the driver, as stated by the manufacturer

L = total length of the vehicle in metres

4.2.2 Calculating the payload

- ▶ Never exceed the technically permissible maximum laden mass!
- ▶ The vehicle documents state the technically permissible maximum laden mass or the mass including special equipment ex works (actual vehicle mass), but not the weight of the laden vehicle (see section 4.2.1). For your own safety, we recommend that you have your loaded vehicle (with all passengers, luggage and personal objects) weighed on a public weighbridge before you set out on your journey.

The payload (see section 4.2.1) is the difference in weight between

- the technically permissible maximum laden mass and
- the actual vehicle mass.

Example for calculating the payload

	Mass in kg to be calculated	Calculation
Technically permissible maximum laden mass according to vehicle documents	3300	
Actual vehicle mass including basic equipment according to the vehicle documents	- 2720	
This results in a permissible payload of	**580**	
Conventional load e.g.: 3 persons each weighing 75 kg	- 225	
Special equipment	- 40	
For the personal equipment this results in	**= 315**	

The calculation of the payload from the difference between the technically permissible maximum laden mass and the actual vehicle mass specified by the manufacturer is however only a theoretical value.

Only if the vehicle is weighed on a public scale with filled tanks (fuel and water), filled gas bottles and complete special equipment (and accessories) can the actual payload be determined.

To do this, proceed as follows:

- First only drive the vehicle on to the weighbridge with the front wheels and have it weighed.
- Then drive the vehicle on to the weighbridge with the back wheels and have it weighed.

The individual values give the current axle loads. These are important for the correct loading of the vehicle (see section 4.2.3). The sum of these values is the current weight of the vehicle.

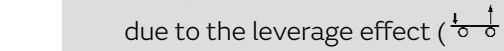
The actual payload is the difference between the technically permissible maximum laden mass and the weighed vehicle weight.

This can be used to determine the weight that remains for the personal equipment:

- Determine the weight of the passengers and subtract it from the value for the actual payload.

The result is the weight that is permitted for the actual load of the personal equipment.

4.2.3 Load securing and load distribution

- For safety reasons, never exceed the technically permissible maximum laden mass.
- Distribute the load evenly on the left and right sides of the vehicle.
- Distribute the load evenly on both axles. Observe the technically permissible maximum mass on the axle specified in the vehicle documents. Observe the permissible load-carrying capacity of the tyres (see chapter 14).
- Heavy loads behind the rear axle can reduce the load on the front axle due to the leverage effect (). This applies especially to long rear extensions, if a motorbike is transported on the rear carrier or if there is a heavy load in the rear storage space. The release of the front axle negatively affects the driving quality, especially for front-driven vehicles.
- Store all objects in such a way that they cannot slip.
- Store heavy objects (awning, tin cans, etc.) close to the axles. Low-lying storage spaces whose doors do not open in the direction of travel are particularly suited for storing heavy objects.
- Stack light objects (laundry) in the roof storage cabinets.

▷ Only load the drawers with a maximum of 10 kg.

Large storage compartments also offer room for heavy objects. The axle load of the front or rear axle may be exceeded as a result.

However, the individual axles may not be overloaded under any circumstances. That is why it is important, at which distance to the axles the load is stored.

When loading the vehicle, please observe the following instructions to ensure safe mobile operation:

- The luggage and other items carried in the vehicle must be evenly distributed between the left and right sides of the vehicle.
- Heavy or bulky objects should be stored as close to the ground as possible in storage compartments provided for this purpose and near the axle, as well as secured against slipping.
- Light and other items can be stored in cabinets and storage compartments.
- Always ensure that the doors and flaps on the cabinets and storage areas are properly secured.
- Use only suitable clamping systems to secure against slipping. Please check all lashings again before commencing the journey.

▶ Uneven loading has a negative influence on the driving behaviour. In particular, a rear-heavy load leads to a relief of the front axle due to the lever effects and thus e.g. to a loss of traction, a worsened steering response (changed driving behaviour), an overload of the tyres and thus to an increased risk of tyre bursts. This creates the risk of the vehicle getting out of control and you endangering yourself and other road users. An evenly distributed load over the entire vehicle leads to optimal handling during the journey.

▷ The technically permissible maximum laden mass and the technically permissible maximum mass on the axle must not be exceeded. Especially when storing or attaching heavy accessories or accessories that are heavily loaded at the rear (such as motorcycle rack or bike rack), the axle loads must be checked and complied with. If you are not sure whether the laden vehicle complies with the technically permissible maximum laden mass and the technically permissible maximum laden mass on the axle, there is the possibility of weighing/checking the vehicle on public scales or at individual dealers.

▷ For individual models, a maximum load is specified by the body builder for cabinets, drawers, storage compartments or other storage spaces. This is recognisable by means of stickers attached on the spots and must always be observed. The technically permissible maximum laden mass and the technically permissible maximum mass on the axle must not, however, be exceeded under any circumstances. Therefore, please note that the specified maximum load may not be used in full if this would cause the technically permissible maximum laden mass or technically permissible maximum laden mass on the axle to be exceeded.

▷ You can find more information on correct loading in the sections "Technically permissible maximum laden mass" (page 20), "Technically permissible maximum mass on the axle (axle load)" (page 27) as well as "Rear garage / rear storage space" (page 29).

To distribute the load correctly, you will need a scale, a tape measure, a calculator and some time.

Two simple formulas are needed to calculate the effect of the weight of the load on the axles:

Formulas

A x G : R = weight on the rear axle

Weight on the rear axle – G = weight on the front axle

Explanation

A = distance between storage space and front axle in cm

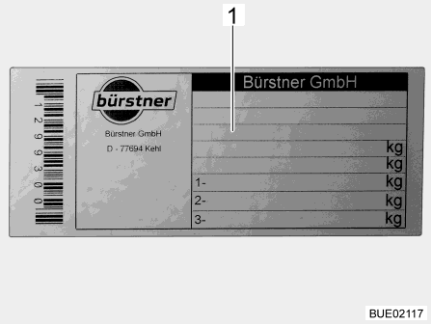
G = weight of the load in the storage space in kg

R = wheelbase of the vehicle (distance between axles) in cm

▷ Measure the external distances horizontally from the centre of the front wheel to the centre of the storage space or to the centre of the back wheel.

Technically permissible maximum mass on the axle (axle load)

The technically permissible maximum mass on the axle or group of axles (hereinafter referred to as axle load) describes the vehicle- and axle-specific load that may be transferred from the wheels of an axle or group of axles to the road surface. The axle load is a value set by the manufacturer which the vehicle must never exceed for safety reasons, even in laden condition. You will find information on the axle loads of your vehicle in the registration papers and on the factory plate of the body manufacturer attached to the vehicle.



1 Chassis number

Fig. 2 Factory plate

▶ If the technically permissible maximum mass on the axle is exceeded, the vehicle may be damaged (e.g. due to a broken axle or burst tyre) and driving may be considerably impaired. This creates the risk of the vehicle getting out of control and you endangering yourself and other road users. We therefore recommend weighing the finally laden vehicle including all passengers before the start of the journey so that compliance with the axle load and the technically permissible maximum mass is always guaranteed. For this purpose, there is the possibility of weighing/checking the vehicle on public scales or at individual dealers.

▷ Please note that the axle loads on the respective axles or axle groups may differ and therefore read the information provided in the registration papers carefully.

▷ If the vehicle exceeds the technically permissible maximum mass on the axle specified by the manufacturer in the actual mobile operation, there is a risk of legal consequences such as a fine or the loss of insurance.

▷ It is possible that the chassis manufacturer of your vehicle specifies a minimum load for the front axle in order to obtain optimum handling. Therefore, please also always take into account the information on this from the instruction manual of the chassis manufacturer.

▷ You can find more information on correct loading in the sections "Load securing and load distribution" (page 25) as well as "Rear garage / rear storage space" (page 29).

Calculating axle loads:

- Multiply the distance between storage space and front axle (A) with the weight of the load in the storage space (G) and divide the result by the wheelbase (R). The result is the weight of the load in the storage space on the rear axle. Make a note of this weight and of the storage space.
- In a second step, subtract the weight in the storage space (G) from the weight calculated beforehand. If the result is a **positive** value (example 1), this means that the load on the front axle is **reduced** by this value. If the result is a **negative** value (example 2), this means that the load on the front axle is **increased**. Make a note of this value, too.
- Calculate all storage spaces of the vehicle in the same way.
- In a last step, add all weights calculated for the rear axle to the rear axle load and add (or subtract) all weights calculated for the front axle to (from) the front axle load.
  How to determine rear axle load and front axle load is described in section 4.2.2.

If the calculated value exceeds the permissible axle load, the load must be distributed in a different way.

If the load on the front axle is too low, the grip of the tyres on the road is reduced (traction). This applies in particular to vehicles with front-wheel drive. In this case, the load must be redistributed, too.

Example calculation

		Example 1	Example 2
Distance to the front axle	A	(A1) 450 (cm)	(A2) 250 (cm)
Weight in the storage space	G	x 100 (kg)	x 50 (kg)
Wheelbase of the vehicle	R	÷ 325 (cm)	÷ 325 (cm)
Load on the rear axle (add to the axle load)		**138.5 (kg)**	**38.5 (kg)**
Weight in the storage space		- 100 (kg)	- 50 (kg)
Load relief to the front axle (subtract from the axle load)		**38.5 (kg)**	
Load on the front axle (add to the axle load)			**-11.5 (kg)**

Increasing and reducing the design GVW

In the case of an increase of the GVW, the technically permissible maximum laden mass of the vehicle, the technically permissible maximum mass on the axle and, as a result, the remaining payload capacity for luggage, camping equipment, etc. is usually increased due to a change in the chassis.

In contrast to an increase of the design GVW, a reduction of the design GVW reduces the technically permissible maximum laden mass of the vehicle, the technically permissible maximum mass on the axle and, as a result, the remaining payload capacity for luggage, camping equipment, etc. There usually is no technical modification of the chassis.

- ▷ Increases or reduction of the design GVW may have an influence on the approved number of seats, the chassis and the axle loads due to the change in the technically permissible maximum laden mass. If you have any questions, please contact the competent technical inspection authority.
- ▷ Increases or reduction of the design GVW may result in changes to the legal requirements resulting from the new technically permissible maximum laden mass of the vehicle. This applies in particular to the legal requirements from the Road Traffic Act, the Road Traffic Licensing Act and the tax and insurance regulations. An increase of the design GVW to more than 3500 kg may, for example, affect the driving licence class or lead to other speed limits or prohibitions on passing and overtaking. Toll payment requirements may also change due to the new technically permissible maximum laden mass. Therefore, inform yourself about the current legal situation with regard to the new technically permissible maximum laden mass of the vehicle and seek advice on this at the relevant offices. Please note that national regulations in the country of your destination and countries visited for transit may differ from those of your home country.
- ▷ You can find more information on the remaining load capacity in the section "Remaining payload capacity" (page 21).

4.2.4 Rear garage / rear storage space

- ▶ Observe the technically permissible maximum mass on the axle and the technically permissible maximum laden mass when loading the rear garage / rear storage space.
- ▶ The maximum permitted load of the rear garage/the rear storage space is 150 kg. If the vehicle is fitted with a caravan coupling, the permitted load is 250 kg. Do not exceed the technically permissible maximum mass on the rear axle.
- ▶ Observe: If the rear garage or (depending on the model) the rear storage space is **loaded** to its maximum capacity, this will **reduce the load** on the front axle due to the levering action. The driving quality is impaired.

- ▷ Distribute the load evenly. Excessive spot loads can lead to damages of the floor covering.

When loading rear garages and rear storage spaces, please observe the following instructions to ensure safe mobile operation:

- In rear garages and rear storage spaces, luggage and objects carried must also be evenly distributed in accordance with the section "Load securing and load distribution" (page 25).
- All objects stored in rear garages and rear storage spaces must be appropriately fixed and secured with suitable clamping systems to the existing fixing points provided by the factory.
- Before setting off, make sure that the rear garage or rear storage space has been properly locked.

▷ Please always observe the maximum permissible load of the rear garage or rear storage space. The specified maximum permissible load of the rear garage or rear storage space can be influenced by the selection of further special equipments such as caravan couplings or frame extensions. The technically permissible maximum laden mass and the technically permissible maximum mass on the axle must not, however, be exceeded under any circumstances. Especially when storing or attaching heavy accessories or accessories that are heavily loaded at the rear (such as motorcycle rack or bike rack), the axle loads must be checked and complied with. Therefore, please note that the maximum load may not be used in full if this would cause the technically permissible maximum laden mass or technically permissible maximum mass on the axle to be exceeded.

▷ You can find more information on correct loading in the sections "Technically permissible maximum laden mass" (page 20), "Technically permissible maximum mass on the axle (axle load)" (page 27) as well as "Load securing and load distribution" (page 25).

4.3 Towing

▶ Care is to be taken when connecting and detaching a trailer. Risk of accident and injury!

▶ No persons are to be between the towing vehicle and the trailer during positioning for connecting and detaching.

▶ Observe the permissible nose weight and rear axle load of the motorhome. Refer to the vehicle documents for the rear axle load.

▷ Trailer with an overrun brake: Do not connect or detach trailer with the overrun brake on.

▷ Caravan coupling with detachable ball neck: If the ball neck is mounted incorrectly, there is the danger of the trailer breaking away. Observe the operating manual for the caravan coupling.

4.4 Snow chains

▷ Only mount snow chains if there is a clearance of at least 50 mm between the tyres and the vehicle body.

▷ When using snow chains, the tyres, wheel suspension and steering are subjected to an additional load. When using snow chains, drive slowly (maximum speed 50 km/h) and only on streets which are completely covered with snow. Otherwise the vehicle could be damaged.

▷ Observe the fitting instructions issued by the manufacturer of the snow chains.

▷ Do not fit snow chains on alloy wheel rims.

The use of snow chains is subject to the legal regulations of the individual countries.

- Always mount snow chains to the drive wheels.
- After a few metres, check the tension of the snow chains.

4.5 Road safety

- Check tyre pressure before a journey or every 2 weeks. Wrong tyre pressure causes excessive wear and can lead to damage or even to tyre burst. You can lose control of the vehicle (see section 14.6).
- Add-on parts can be exposed to adverse conditions (storms, ice, vibrations, etc.) and require close monitoring despite careful design and manufacturing. Therefore, check the tight fit of the add-on parts at certain intervals and before long journeys.

Before commencing the journey, work through the checklist:

	No.	Checks	Checked
Base vehicle	1	All vehicle documents are on board	
	2	Tyres in proper condition and tyre pressure correct	
	3	Vehicle lighting, brake lights and reversing lights function	
	4	Oil levels for engine, gearbox and power steering controlled	
	5	Coolant and fluid for windscreen washers filled up	
	6	Brakes function	
	7	Brakes react evenly	
	8	When braking, the vehicle remains in the lane	
Housing body, outside	9	Roof free of snow and ice (in winter)	
	10	External connections and lines disconnected and stored away	
	11	Wheel chocks removed and stored away	
	12	Sliding door and rear door closed	
	13	Overall height of the vehicle including roof rack when loaded measured and noted. Keep the height information close at hand in the driver's cabin	
Housing body, inside	14	Windows and elevating roof closed and locked	
	15	Suspension table removed and stored	
	16	Individual seats or double bench in the 2nd and 3rd row fixed	
	17	Loose parts stored away or fixed in position	
	18	Open storage spaces empty	
	19	Sink cover closed	
	20	All drawers and flaps closed	
	21	Living area doors and sliding doors secured	
	22	Children's seats mounted to seats with three-point safety belts  ▶ Only forward-facing child restraint systems are permitted.	
	23	Swivel seat locking device for driver's seat and front passenger's seat locked	
	24	Shades in the driver's cabin opened and secured	

Gas system

No.	Checks	Checked
25	Gas bottles firmly fixed in the gas bottle compartment so that they are unable to turn	
26	If the gas bottles are not connected to the gas tube, always place the protective cap on top	
27	Regulator tap on the gas bottle and gas isolator taps are closed	

Electrical system

28	Check the battery voltage/battery capacity (in %) of the starter and living area battery (see chapter 9). If the panel indicates that the battery voltage/battery capacity is too low, the respective battery will need to be recharged. Observe the notes and instructions in chapter 9 ▷ Commence journey with fully charged starter and living area batteries.	

Chapter overview

This chapter contains instructions on how to drive the motorhome.

5.1 Driving the motorhome

- A seat belt is fitted for each seat which is permitted for travel. Please keep your seat belt fastened during the journey.
- Never open your seat belts when travelling.
- Passengers must remain in the seats provided.
- The doors must remain locked.
- Avoid braking with a jerk.
- If a navigation system is used, only change the destination when the vehicle is stationary. Drive to a car park or stop in a safe area when changing the destination.
- Do not play DVDs using the monitor of the navigation system during the journey.

▷ Drive slowly on poor roads.

▷ If an accident occurs as a result of these instructions not being observed, the manufacturer will not be responsible for damages caused.

▷ The safety measures stipulated in chapter 3 have to be observed.

5.2 Driving speed

- The vehicle is equipped with a powerful engine. This means there are sufficient reserves in difficult traffic situations. This high power enables a high maximum speed and requires above-average driving ability.
- The vehicle provides a large contact surface for wind. A sudden cross-wind can be especially dangerous.
- Uneven or one-sided loading affects road performance.
- Driving on unknown streets, you may encounter hazardous road conditions and unexpected driving situations. Therefore, in the interest of safety, make sure your driving speed is appropriate to any given driving situation and environment.
- Adhere to the national legal speed limits.

5.3 Brakes

- ▶ Have defects on the braking system immediately remedied by an authorised specialist workshop.

Before each journey

Before each journey, check by means of a braking test:

- Do the brakes function?
- Do the brakes react evenly?
- Does the vehicle remain in the lane when braking?

5.4 Seat belts

5.4.1 General

The vehicle is equipped with seat belts in the living area on the seats for which seat belts are compulsory by law. National regulations apply to fastening of seat belts.

- ▶ Fasten your seat belts before the beginning of the journey and keep them fastened during the journey.
- ▶ Do not damage or trap belts. Have damaged seat belts changed by an authorised specialist workshop.
- ▶ Do not alter the belt fixing devices, automatic seat belt winders and the seatbelt locks.
- ▶ Only use one seat belt for **one** adult person.
- ▶ Do not belt in objects together with persons.
- ▶ Seat belts are not sufficient for persons who are less than 150 cm tall. In these cases use additional restraining devices. Observe test certificate.
- ▶ Only attach the child restraint system to seats that are specified for this purpose. Only forward-facing child restraint systems are permitted.
- ▶ After an accident, replace the seat belts (have it replaced).
- ▶ During the journey, do not tilt the backrest too far backwards. Otherwise the functionality of the seat belt is no longer guaranteed.

5.4.2 Fastening the seat belts correctly

- ▶ Do not twist the belt. The belt must be positioned smoothly against the body.
- ▶ When fastening the seat belt, adopt the correct sitting position.

The seat belt is correctly fastened when the lap belt passes below your stomach and across the hip bone. The shoulder belt must pass across the chest and shoulder (not across your neck). The belt must always be taut against your body. Any bulky or padded clothing should therefore be removed before you start your journey.

5.5 ISOFIX child safety seat mounting system

- ▶ Only fit child restraint systems that are suitable and classified for the Isofix car seat fitting system with top tether to the Isofix car seat fitting system.
- ▶ Do not use any child restraint systems whose support leg points forwards.
- ▶ Do not attach any other child restraint systems, belts, or other objects to the Isofix retaining clips.
- ▶ Observe the safety instructions and fitting instructions of the child restraint system manufacturer.

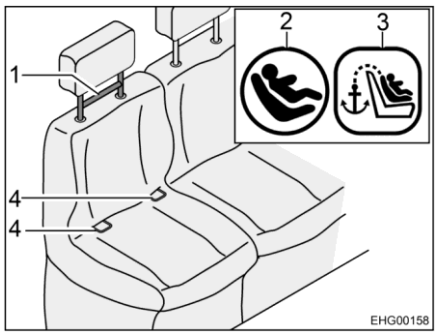


Fig. 3 Seat with Isofix

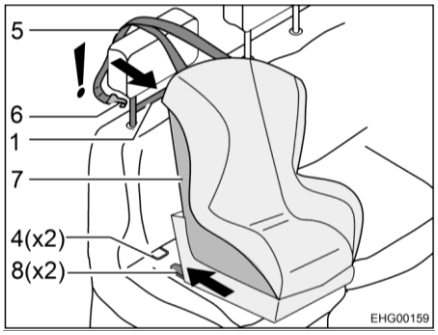


Fig. 4 Fixing with Isofix

Isofix-suitable car seats are provided with the Isofix symbol (Fig. 3,2). The position of the top tether is marked with a symbol (Fig. 3,3), too.

- ■ Connect the connectors (Fig. 4,8) to retaining brackets (Fig. 3,4) such that they are firmly engaged. While doing this, a distinctive click must be heard.
- ■ With a strong jerk, check if the child seat (Fig. 4,7) is firmly connected.
- ■ Route top tether strap (Fig. 4,5) over the headrest of the vehicle seat.
- ■ Hook fixing hook (Fig. 4,6) in at the top tether (Fig. 3,1).

The removal is carried out analogously in inverted order.

▷ Also observe the instruction manual of the child restraint system manufacturer.

5.6 Child safety lock on the sliding door (Playa)

- The sliding door on the Playa models is equipped with a child safety lock (Fig. 5,2). **Do not** activate this child safety lock. Otherwise the escape route will be blocked in case of danger. Observe the sticker (Fig. 5,1) on the front of the sliding door.

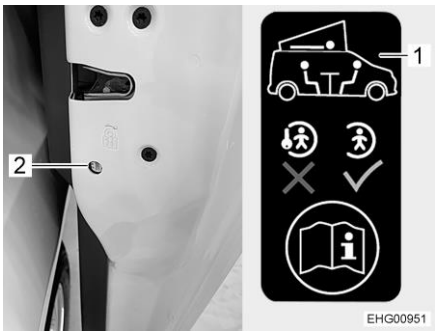


Fig. 5 Child safety lock on the sliding door

5.7 Driver's seat and front passenger's seat

- Before commencing the journey, rotate all swivel seats in the direction of travel and lock in position.
- The seats must remain fixed in position during the journey and are not to be rotated.

The driver's seat and the front passenger's seat are part of the base vehicle. The adjustment of the seats is described in the operating manual of the base vehicle.

5.8 Individual seat / double bench in 2nd and 3rd row of seats

- Unsecured individual seats or an unsecured double bench can become detached during the journey. Persons can be seriously injured.
- Before commencing the journey, lock the individual seats or the double bench.

Depending on the special equipment, different constellations of individual seats and a double bench can be installed in the vehicle (in the 2nd and 3rd row). The individual seats or the double bench are fixed to a rail system on the vehicle floor.

Individual seats can be installed both **in** the direction of travel and **against** the direction of travel. However, the double bench may only be installed **in** the direction of travel.

Two double benches cannot be installed at the same time.

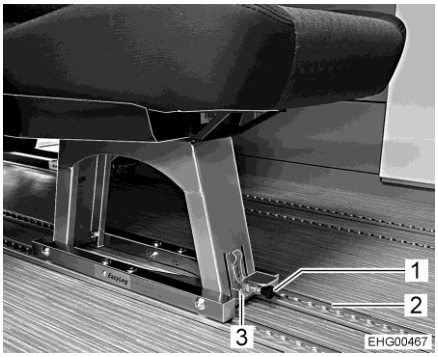


Fig. 6 Individual seat (locked)

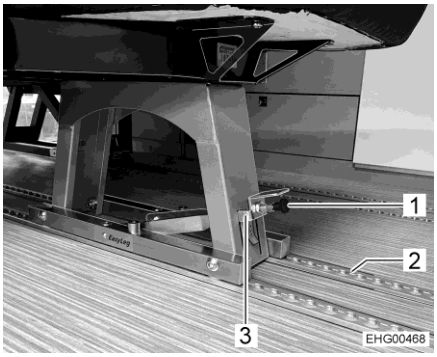


Fig. 7 Individual seat (locking device open)

Releasing the locking device of the individual seat / double bench:

- Pull the black handle (Fig. 6,1) forwards.
- Pull the metal clip (Fig. 6,3) upwards.

The individual seat / double bench can now be shifted in the rail (Fig. 6,2) or lifted out of the rail.

Locking the individual seat / double bench:

- When the individual seat / double bench has been inserted in the rail (Fig. 7,2) or shifted to the desired position: pull the black handle (Fig. 7,1) forwards.
- **Push the metal clip (Fig. 7,3) downwards.**
- Move the individual seat / double bench slightly until the individual seat or the double bench engages audibly in the rail.

5.9 Headrests

Before commencing the journey, adjust the headrests so that the back of the head is supported at approximately ear height.

5.10 Seating arrangement

- ▶ During the journey, persons are only to sit on the permitted seats. The authorised number of seats is stipulated in the vehicle documents.
- ▶ Seat belts must be worn by all passengers.

Seats which may be used during travel are equipped with a seat belt.

5.11 Filling up with diesel

- ▶ All gas/diesel-operated devices (heater, cooker) must be switched off for refuelling, on ferries or in the garage. Danger of explosion!

The fuel filler neck is situated on the exterior of the vehicle, at the front left.

5.12 Topping up AdBlue®

▶ Store AdBlue® out of the reach of children. Do not store any AdBlue® containers in the vehicle.

▷ Refer to the instruction manual of the base vehicle for any information and instructions regarding topping up AdBlue®.

▷ Do not dispose of the AdBlue® containers in the domestic waste. Dispose of the empty containers in accordance with the national directives or return them to the point of sale.

Chapter overview

This chapter contains instructions on how to pitch the vehicle at the campsite.

- ▷ Pitch the vehicle so that it is as horizontal as possible. Use ramps where necessary. Otherwise, the water from the shower tray will not be able to drain properly.
- ▷ Secure the vehicle to prevent it from rolling.
- ▷ Animals (especially mice) can cause great damage to the interior of the vehicle. To prevent this from happening, regularly check the vehicle for damages or animal traces after pitching.

6.1 Handbrake

Firmly apply the handbrake when parking the vehicle.

- ▶ If the handbrake has to be released to turn the driver's seat/front passenger's seat: secure the vehicle against rolling away beforehand by suitable means (e.g. wheel chock).

6.2 Ramps

- ▷ Ramps are not included in the scope of delivery. Different models are available at the accessories shop.

To enable the vehicle to be parked on the level, ramps can be used for height compensation when the vehicle is parked on a hill or on uneven ground.

6.3 230 V connection

The vehicle can be connected to a 230 V power supply (see chapter 9).

6.4 Awning (special equipment)

- ▷ Retract the awning in strong wind, rain or snow.
- ▷ In the case of light rain, shorten one of the support legs so that water can run off.
- ▷ Only retract the awning when the fabric is dry. When the awning must be retracted while the fabric is still wet: Extend the awning as soon as possible, in order to dry out the fabric.
- ▷ Before retracting, remove leaves and coarse dirt from the awning.

- ▷ Only use the awning for protection against the sun.
- ▷ Also read the manufacturer's instruction manual.

Advantages of the awning

The advantages of an awning are:

- The awning provides shade.
- The awning creates a covered vestibule and thus expands the space.
- The vehicle thus becomes more homelike.

Putting up the awning:

- Use the manual crank to open up the awning.
- Set up the brackets when the awning is open.

6.5 Keder rail for shade sail (special equipment)

▶ Before commencing the journey, make sure that nor a shade sail, nor a bag awning, nor any other awning is inserted in the Keder rail.

The vehicle is equipped with a Keder rail (Fig. 8,1) on the front passenger side for a shade sail or a bag awning.

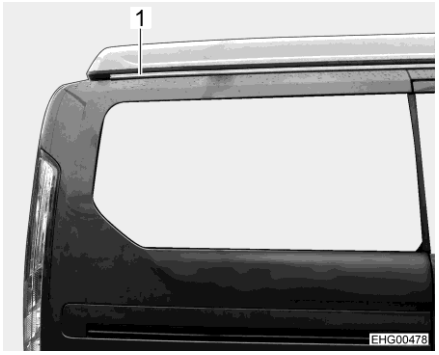


Fig. 8 Keder rail for shade sail or bag awning

Fig. 9 Keder rail (detailed view)

Chapter overview

This chapter contains instructions about living in the vehicle.

7.1 Doors

▶ Only drive with locked doors.

- ▷ Locking the doors can prevent them from opening of their own accord, e.g. during an accident.
- ▷ Locked doors also prevent forced entry, e.g. when waiting at traffic lights. However, in an emergency, locked doors make it more difficult for helpers to enter the vehicle.
- ▷ When leaving the vehicle, always lock the doors.
- ▷ The locks on the vehicle doors are a part of the base vehicle. The opening and closing of the vehicle doors is described in the instruction manual of the base vehicle.

7.2 Insect screen on sliding door and rear flap (special equipment)

- ▷ Open the insect screen completely before closing the sliding door.

- ▷ The insect screen is held to the vehicle by textile-covered magnets.

Fig. 10 Insect screen, sliding door

Fig. 11 Insect screen, rear

Attaching the insect screen:

- ■ Open the Velcro fasteners and unfold the insect screen (Fig. 10) or unroll it (Fig. 11).
- ■ Close the zip.

Opening the insect screen:

- ■ Open the zip.
- ■ Fold or roll up the insect screen and lock it in place with Velcro fasteners.

7.3 Ventilation

▶ The oxygen in the vehicle interior is used up by breathing and the use of gas operated appliances. That is why the used air must be replaced permanently. For this purpose, forced ventilation options (e.g. sky-lights with forced ventilation) are fitted to the vehicle. Never cover or block forced ventilations from the inside or outside with objects such as e.g. a winter mat. Keep forced ventilations clear of snow and leaves. There is a danger of suffocation due to increased CO_2 levels.

▷ Although sufficient ventilation is provided, in certain weather conditions, condensation can form on metal objects (e.g. screwed connections in the floor).

▷ Additional cold spots can occur at thermal "bridges" (e.g. skylight edges, filler necks, flaps, etc.).

Condensation

Ensure that there is a continuous exchange of air by providing frequent and efficient ventilation. This is the only method for ensuring that condensation is not formed during cool weather. During the colder season, a pleasant living climate is created if heating output, air distribution and ventilation are synchronised. To avoid draft close the air outlet nozzles on the dashboard and set the air distribution of the base vehicle to air circulation. If the vehicle is laid up for a longer period, occasionally ventilate it well, especially in summer as heat accumulation can occur.

7.4 Cabin black-out shade (special equipment)

▷ Open cabin black-out shade before commencing the journey.

The cabin black-out shade is attached with suction cups on the front side and with magnets on the driver/passenger side.

7.5 Table

▶ Securely fasten the table to the rear flap before commencing the journey.

The vehicle is equipped with a table. The table must be fixed to the rear flap (C 500) or in a storage compartment next to the refrigerator (C 530) during the journey. When the vehicle is parked, the table can be attached to a rail in the kitchen area or set up independently.

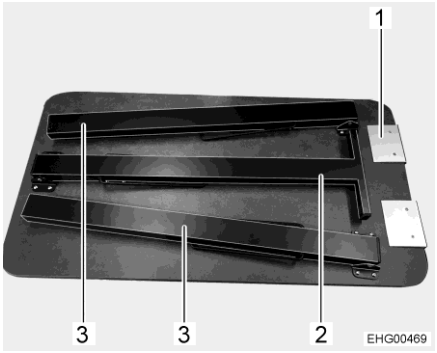


Fig. 12 Table (table legs folded)

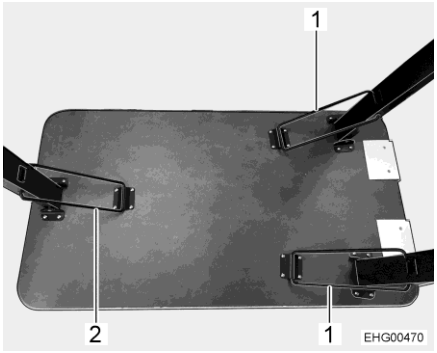


Fig. 13 Table (table legs unfolded)

Attaching the table to the rail in the kitchen area:

- Attach the table's short side (Fig. 12,1) to the rail in the kitchen area.
- Unfold out the middle table leg (Fig. 12,2).
- Lock the table leg with the bracket (Fig. 13,2).

Setting up the table independently:

- Fold out all 3 table legs (Fig. 12,2 and Fig. 12,3).
- Lock all 3 table legs with brackets (Fig. 13,1 and Fig. 13,2).

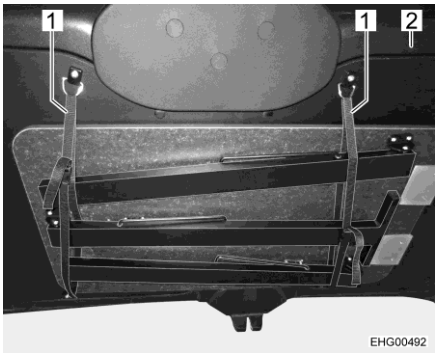


Fig. 14 Table (fastened to the rear flap) (C 500)

Fastening the table to the rear flap (C 500):

- If the table is attached: detach the table.
- Release the locking device on the folded-out table leg (or on the folded-out table legs). In order to do this, fold in the bracket.
- Fold in the table leg(s).
- Securely fasten the table to the rear flap (Fig. 14,2) with 2 straps (Fig. 14,1).

Fig. 15 Table (secured in storage compartment) (C 530)

The storage compartment is located behind a cabinet flap (Fig. 15,1) next to the refrigerator (Fig. 15,3).

Securing table in storage compartment (C 530):

- Open the cabinet flap (Fig. 15,1).
- Slide the folded table (Fig. 15,2) into the storage compartment.
- Close the cabinet flap.

7.6 LED light strips

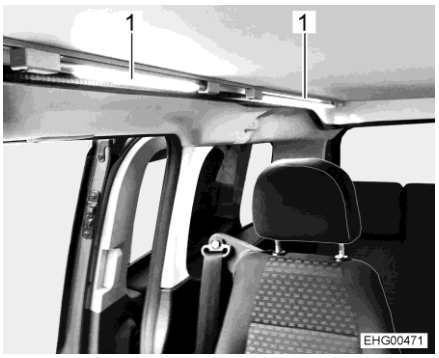


Fig. 16 LED light strips

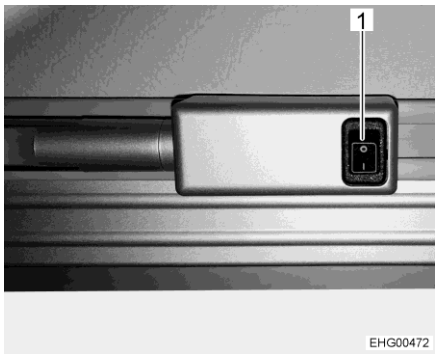


Fig. 17 Switch for LED light strips

The LED light strips (Fig. 16,1) are located on the side of the elevating roof.

The switch (Fig. 17,1) is attached to one of the LED light strips.

7.7 Mobile lamp (special equipment)

▶ Before commencing the journey, remove the mobile lamps and place them on magnetic plates in the kitchen base cabinet.

The mobile lamp can be used as a table lamp or as a torch. The mobile lamp is equipped with a rechargeable battery, which can be charged via a USB port.

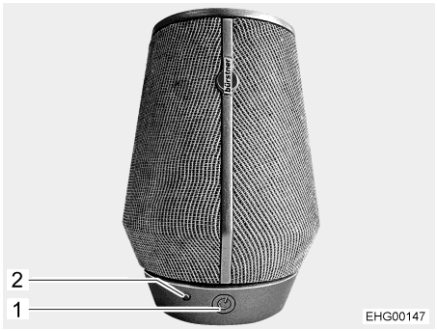


Fig. 18 Mobile lamp (pushed together)

Fig. 19 Mobile lamp (pulled out)

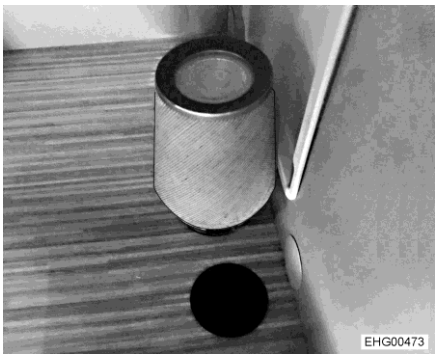


Fig. 20 Mobile lamp with magnetic plates

Use as table lamp The mobile lamp is pulled out (Fig. 19) and placed on the table or any other place.

Use as torch The mobile lamp is pulled out (Fig. 19) and used as a torch.

Switching on/off:
- Press the On/Off switch (Fig. 18,1).

Dimming:
- Press and hold On/Off switch (Fig. 18,1).

▷ The lighting intensity adjusted most recently is saved.

Charging:
- Push the lamp together (Fig. 18) and charge it via a USB port.

  The LED (Fig. 18,2) next to the On/Off switch shows the charging condition.

  A red LED means that the rechargeable battery is being charged.

  A green LED means that the rechargeable battery has been charged.

7.8 Converting the double bench for sleeping (special equipment)

- ▶ During the journey, no persons are allowed to stay on the lying surface that has been converted for sleeping.
- ▶ If the double bench has been converted for sleeping: max. load of 225 kg on the middle cushion. Load the two outer cushions with a maximum of 120 kg each.
- ▶ Observe the warning stickers that warn of the risk of crushing.
- ▶ Observe the safety instructions and information in the instruction manual of the manufacturer.

▷ In the case of the Playa 530 model, the driver's and front passenger's seats must be placed in the foremost position and pumped all the way up before the double bench is converted for sleeping.

The double bench in the 2nd. or 3rd row of seats can be converted into a sleeping place.

Fig. 21 Double bench

Fig. 22 Seating section (folded down)

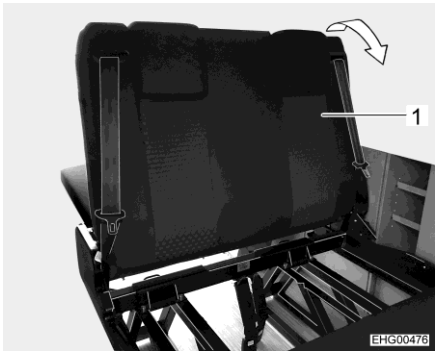


Fig. 23 Backrest

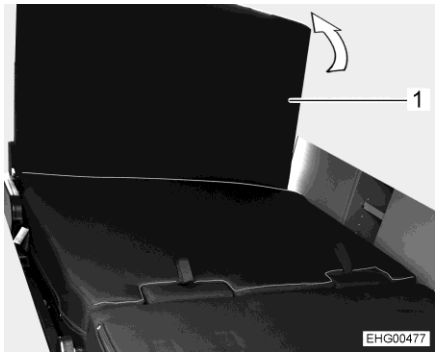


Fig. 24 Backrest (folded down) and additional cushion

Conversion for sleeping:

- ■ Lower both headrests (Fig. 21,1). In order to do this, press the catch on the left headrest sleeve and push the headrest down.
- ■ First lift the front part of the seating section (Fig. 21,2) and then pull it out forwards.
- ■ Fold the seating section up and fold down (see Fig. 22).
- ■ Pull the release handle (Fig. 22,1) of the seat frame upwards.
- ■ Fold the backrest (Fig. 23,1) completely forwards.
- ■ Fold the additional cushion (Fig. 24,1) backwards.

To convert the double bench back to a bench, proceed analogously in reverse order.

Make sure that no belts or belt locks are jammed.

Test the functionality of the belt systems.

▷ Take further information (e.g. on adjusting tilt positions) from the manufacturer's instruction manual.

7.9 Elevating roof (optional equipment)

- ▶ Risk of fatal injury from lightning!

  In the event of a storm, do not sit or stand beneath the elevating roof. A lightning strike could fatally injure someone standing or sitting under the elevating roof.
- ▶ Before commencing the journey, close and lock the elevating roof.
- ▶ Only close the elevating roof when the canvas is dry. What to do if the elevating roof must be closed when the canvas is wet: Open the elevating roof again as quickly as possible and allow the canvas to dry completely.
- ▶ The maximum permitted load on the bed in the elevating roof is 200 kg.
- ▶ Only use the bed, if the safety net is set up.
- ▶ Never leave small children in the elevating roof bed without supervision.
- ▶ But in particular with regard to small children less than 6 years of age, users should ensure that they cannot fall out of the bed.
- ▶ Use separate children's beds or travel cots suitable for children.

▷ Before every journey, make sure that the elevating roof is closed properly, that it cannot open by itself and that it is locked.

If the elevating roof is elevated or not secured when the vehicle is in motion, the roof could catch against trees, signs, masts, car park entrances or other objects, ripping off and causing severe damage to the vehicle and third party property.

▷ Before closing the elevating roof, always close the zip fasteners on the ventilation openings.

▷ Open a window or the entrance door before closing the elevating roof. This prevents a build-up of trapped air from forming. If a build-up of trapped air forms, the mechanical components could damage the canvas.

▷ Never pull down the bed in the elevating roof together with the elevating roof.

▷ Ensure that the canvas is not trapped between the elevating roof and the vehicle roof.

▷ If the vehicle is not to be used for a prolonged period:
- Air the interior thoroughly every 3 weeks. The elevating roof must be open for this.
- Set up the de-humidifier (granulate). Follow the manufacturer's instructions.

If the humidity in the interior is higher for an extended period, mildew and mould can form.

▷ The zips of the ventilation openings in the canvas of the elevating roof can be opened for additional ventilation.

The elevating roof is lifted on one side.

When the elevating roof is closed, it is secured by a quick-action turnbuckle with additional snap lock on the left and right side.

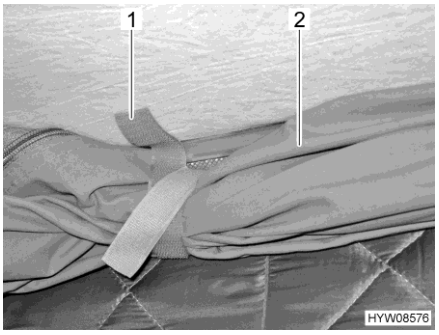


Fig. 25 Retaining clips

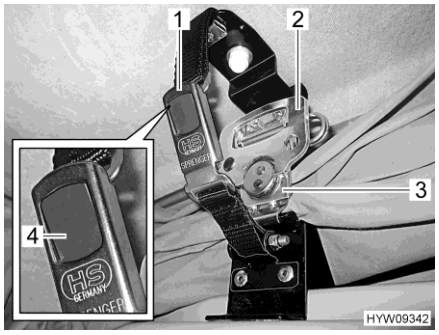


Fig. 26 Locking, elevating roof at the front (C 500)

Opening elevating roof, roof opening at the front (C 500):

- Undo the retaining clips (Fig. 25,1) on the rolled-up canvas (Fig. 25,2).
- Open the snap lock (Fig. 26,1) on both sides. In order to do this, press the grey push button (Fig. 26,4).
- On each side, fold out the handle (Fig. 26,2) of the quick-action turnbuckle (Fig. 26,3) and turn half a turn in an anticlockwise direction. Thus, the lock is released.
- Press slightly against the elevating roof. The elevating roof swivels upwards autonomously.

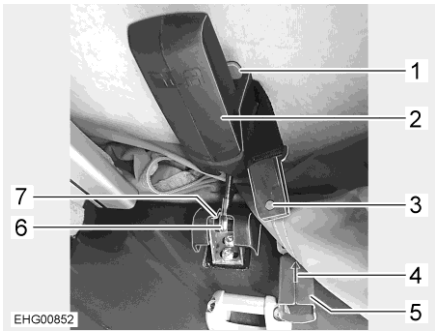


Fig. 27 Locking, elevating roof at the rear (C 530)

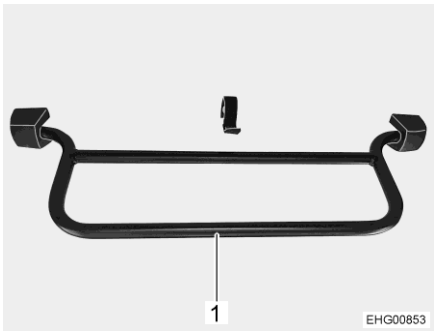


Fig. 28 Bar, elevating roof at the rear (C 530)

Fig. 29 Belt

Fig. 30 Belt (opposite side)

Opening elevating roof, roof opening at the rear (C 530):

- Undo the retaining clips (Fig. 25,1) on the rolled-up canvas (Fig. 25,2).
- Loosen the belt (Fig. 29,1 and Fig. 30,1) on both sides in the front area of the elevating roof.
- Open the snap lock (Fig. 27,5) on both sides. To do this, press the grey push button (Fig. 27,3) and pull the two parts of the snap lock apart.
- Press the red lever (Fig. 27,1) upwards. This unlocks the black handle (labelled SCA) (Fig. 27,2).
- Pull the black handle (labelled SCA) (Fig. 27,2) downwards.
- Release the pin (Fig. 27,6) from the holder (Fig. 27,7).
- Pull the bar (Fig. 28,1) upwards. The elevating roof swivels upwards autonomously.

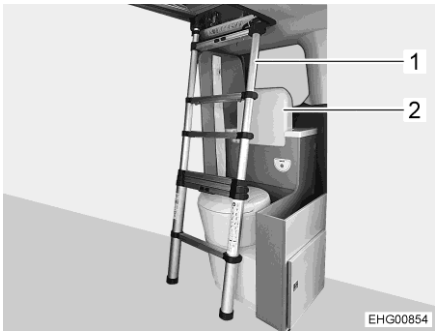


Fig. 31 Ladder

Fig. 32 Retaining clip

Setting up the ladder (special equipment) (C 530):

- Make sure that the wash basin (Fig. 31,2) has been folded upwards.
- Attach the ladder (Fig. 31,1) to the retaining clips (Fig. 32,1) and set it down securely on the floor.

Safety net

Do not install the safety net before the persons are not already in the bed.

Ventilation

When the elevating roof is open, a fabric flap can be opened for ventilation.

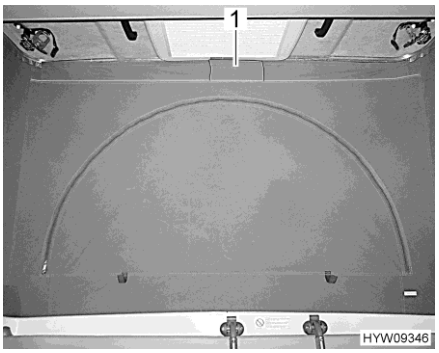


Fig. 33 Ventilation (closed)

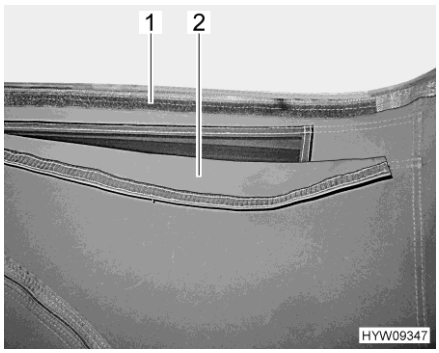


Fig. 34 Ventilation (opened)

Opening the ventilation:

- Release the Velcro of the fabric flap (Fig. 33,1) underneath the elevating roof. A mesh is installed behind the fabric flap as protection from insects.

Closing the ventilation:

- Pull the fabric flap (Fig. 34,2) upwards and press down the Velcro strap (Fig. 34,1).

Fig. 35 Retraction device

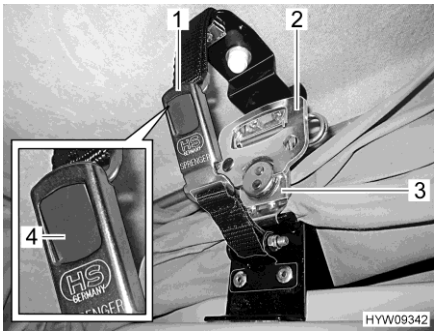


Fig. 36 Locking

Closing elevating roof, roof opening at the front (C 500):

- Slowly pull down the elevating roof by the handles until the elevating roof remains in this position by itself. When doing this, make sure that the side retraction devices bend inwards.
- If the retraction devices are not bent inwards: Open the elevating roof again and close it more slowly.
- Pull in the canvas by the red tabs (Fig. 35,1) of the retraction device.
- Pull down the elevating roof evenly by both handles until the elevating roof is lying on the vehicle roof. When doing this, make sure that the canvas does not get caught.
- On both sides, pull down the quick-action turnbuckle (Fig. 36,3) and hang it into the holding plate.
- On each side, fold out the handle (Fig. 36,2) of the quick-action turnbuckle and turn half a turn in a clockwise direction.
- Plug both parts of the snap lock (Fig. 36,1) together, respectively. The grey push button (Fig. 36,4) engages.
- Roll up the canvas (Fig. 25,2) and secure with the retaining clips (Fig. 25,1).

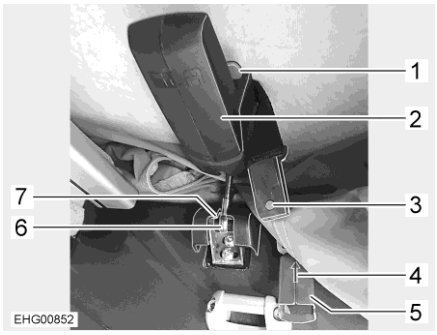


Fig. 37 Locking, elevating roof at the rear (C 530)

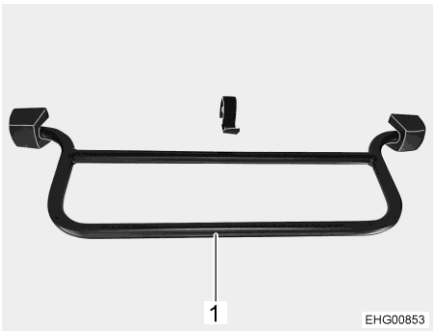


Fig. 38 Bar, elevating roof at the rear (C 530)

Fig. 39 Belt

Fig. 40 Belt (opposite side)

Closing elevating roof, roof opening at the rear (C 530):

- Pull the elevating roof downwards by the bar (Fig. 38,1).
- Insert the pin (Fig. 37,6) in the holder (Fig. 37,7).
- Pull the black handle (labelled SCA) (Fig. 37,2) upwards.
- Press the red lever (Fig. 37,1) downwards. This locks the black handle (labelled SCA) (Fig. 37,2).
- Close the snap lock (Fig. 37,5) on both sides. To do this, plug the two parts of the snap lock together and push them over each other in the direction of the arrow (Fig. 37,4).
- Reattach and lash the belts (Fig. 39,1 and Fig. 40,1).
- Roll up the canvas (Fig. 25,2) and secure with the retaining clips (Fig. 25,1).

Chapter overview

This chapter contains instructions regarding the gas system of the vehicle.

The operation of the gas operation appliances of the vehicle is described in chapter 10.

8.1 General instructions

- The operator of the gas system is responsible for the performance of recurring inspections and for complying with the maintenance intervals.
- Before commencing the journey, when leaving the vehicle or when the gas devices are not in use, close all gas isolator taps and the main regulator tap on the gas bottle.
- All gas-operated devices (heater, cooker) must be switched off for refuelling, on ferries or in the garage. Danger of explosion!
- Do not use gas-operated devices in closed spaces (e.g. garages). Danger of poisoning and suffocation!
- Only have the gas system maintained, repaired or altered by an authorised specialist workshop.
- Have the gas system checked by an authorised specialist workshop according to the national regulations before commissioning. This also applies for not registered vehicles. For modifications to the gas system have the gas system immediately checked by an authorised specialist workshop.
- The gas pressure regulator, the gas tubes, and the exhaust gas pipes must also be inspected. The gas pressure regulator and the gas tubes must be replaced observing the nationally defined deadlines (the latest after 10 years). The vehicle owner is responsible for seeing that this is carried out.
- In case of a defect of the gas system (gas odour, high gas consumption) there is danger of explosion! Close regulator tap on the gas bottle immediately. Open doors and windows and ventilate well.
- If the gas system is defective: Do not smoke; do not ignite any open flames, and do not operate electric switches (light switches etc.). Check the tightness of gas-conducting parts and lines with leakage search spray. Do not check with an open flame.
- Only the stipulated devices may be connected to internal connections. Do not operate any device outside the vehicle if it is connected to an internal connector.
- Cooking is prohibited during the journey.
- Before using the cooker make sure that there is sufficient ventilation. Open a window.
- Do not use the gas cooker for heating purposes.
- If there are several gas devices, each gas device must have its own gas isolator tap. If individual gas devices are not in use, close the respective gas isolator tap.

- Ignition safety valves must close within 1 minute after the gas flame has extinguished. A clicking sound is audible. Check function from time to time.
- The built-in gas devices are exclusively meant for use with propane or butane gas or a mixture of both. The gas pressure regulator as well as all built-in gas devices are designed for a gas pressure of 30 mbar.
- Propane gas is capable of gasification up to -42 °C, whereas butane gas gasifies at 0 °C. Below these temperatures no gas pressure is available. Butane gas is unsuitable for use in winter.
- Due to its function and construction, the gas bottle compartment is a space which is open to the exterior. Never cover or block up the standard forced ventilations. Otherwise gas that is emitted can not be diverted to the outside.
- The gas bottle compartment must not be used as storage space.
- Secure the gas bottle compartment against unauthorised access. To do this, lock the compartment.
- The regulator tap on the gas bottle must be accessible.
- Only connect gas-operated devices (e.g. gas grill) which have been designed for a gas pressure of 30 mbar.
- Exhaust fumes must be able to escape into the atmosphere unhindered and fresh air must be able to enter unhindered. For this reason, keep the exhaust pipe and intake openings clean and unobstructed (e.g. free from snow and ice). For this reason, no snow walls or aprons may lie against the vehicle.

8.2 Gas bottles

- Handle full or emptied gas bottles outside the vehicle only with closed regulator tap and attached protective cap.
- Gas bottle must be transported within the designated gas bottle compartment.
- Place the gas bottle in vertical position in the gas bottle compartment.
- Fasten the gas bottle so that it is unable to turn or tilt.
- Connect the gas tube to the gas bottle without tension.
- If the gas bottles are not connected to the gas tube, always place the protective cap on top.
- Close the regulator tap on the gas bottle before the gas pressure regulator or gas tube are removed from the gas bottle.
- Depending on the connection, unscrew the gas tube from the gas bottle and screw it on the gas bottle again by hand or using an suitable special spanner. The screw connection on the gas bottle generally has a left-hand thread. **Do not** tighten too firmly.
- Only use special gas pressure regulators with a safety valve designed for vehicle use. Other gas pressure regulators are not permitted and cannot meet the demanding requirements.

- ▶ Use the gas pressure regulator defroster if the temperature falls below 5 °C.
- ▶ Use only 3 kg gas bottles. Only use camping gas bottles with a built-in check valve (blue bottles with a maximum of 3 kg content) in conjunction with the supplied safety valve (regulator tap).
- ▶ Use the shortest possible tube lengths (150 cm max.) for external gas bottles.
- ▶ Never block the floor ventilation openings below the gas bottle.

- ▷ The screw connections on the gas bottles generally have a left-hand thread.
- ▷ For gas-operated units the gas pressure must be reduced to 30 mbar.
- ▷ Connect gas pressure regulator complete with safety valve directly to bottle valve.
- ▷ For filling and connecting the gas bottles in Europe the accessories shops have corresponding Euro filling sets and Euro bottle sets.
- ▷ Information available at the dealers or service centre.

The gas pressure regulator reduces the gas pressure in the gas bottle down to the operating pressure of the gas devices.

The gas pressure regulator is permanently installed in the gas bottle compartment. The gas bottle is connected to the gas pressure regulator via a high-pressure gas hose.

The high-pressure gas hoses and their connections are different in the various countries. The accessories shop offers the respective country-specific models and adapters.

8.3 Changing gas bottles

- When changing gas bottles, do not smoke or create any open fire.
- When you have changed the gas bottle, check whether gas escapes at the connection points and unions. Use a leakage search spray to spray the relevant connection point or union. These agents are available at the accessories shop.

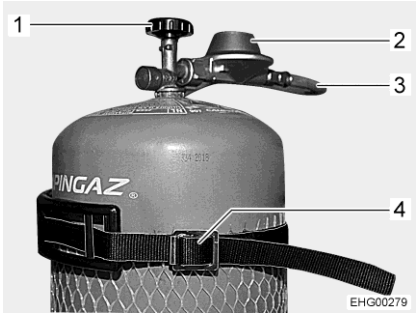


Fig. 41 Gas bottle connection

- Open flap for the gas bottle compartment.
- Close the regulator tap (Fig. 41,1) on the gas bottle. Pay attention to the direction of the arrow.
- Hold the gas pressure regulator (Fig. 41,2) and open the knurled nut (normally a left-hand thread).
- Remove the gas pressure regulator and the gas tube (Fig. 41,3) from the gas bottle.
- Release the fixing belts (Fig. 41,4) and take out the gas bottle.
- Place a filled gas bottle in the gas bottle compartment.
- Fix the gas bottle with the fixing belts (Fig. 41,4).
- Position the gas pressure regulator (Fig. 41,2) with gas tube (Fig. 41,3) on the gas bottle and tighten the knurled nut (normally a left-hand thread). **Do not** tighten too firmly.
- Close flap for the gas bottle compartment.

8.4 Gas isolator tap

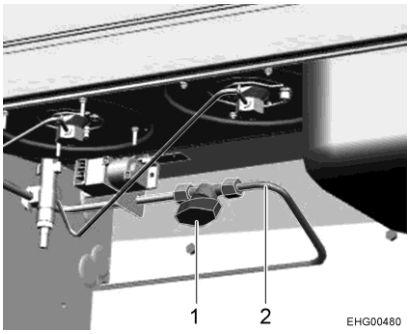


Fig. 42 Gas isolator tap

A gas isolator tap (Fig. 42,1) is fitted to the gas cooker in the vehicle. The gas isolator tap is located underneath the gas cooker.

Opening:
- Turn the gas isolator tap parallel to the gas pipe (Fig. 42,2).

Closing:
- Set gas isolator tap perpendicular to the gas pipe.

8.5 Gas bottle compartment

▶ The opening of the gas bottle compartment is equipped with a wide seal. To ensure that the gas bottle compartment door is correctly closed: always close the gas bottle compartment door with slight pressure. Always close both locks on the gas bottle compartment door.

Fig. 43 Gas bottle compartment

Chapter overview

This chapter contains instructions regarding the electrical system of the vehicle.

The operation of the electrical appliances of the housing body is described in chapter 10.

9.1 General safety instructions

- ▶ Only allow qualified personnel to work on the electrical system.
- ▶ All electronic devices (e.g. mobile telephones, radios, televisions or DVD players) which have been retrofitted to the vehicle and are operated during the journey must have certain features: These are the CE certification, the EMC inspection (electromagnetic compatibility) and the "e"-inspection.

  Only in this way can the functional reliability of the vehicle be ensured. Otherwise the airbag may be triggered or interference to the on-board electronics may result.

▷ During a storm, to protect the electrical devices disconnect the 230 V connection and retract the antennae.

9.2 Terms

Off-load voltage

The off-load voltage is the voltage of the battery in idle condition, i. e. no current is consumed and the battery is not being charged.

▷ The battery must remain idle for a while before measuring. After charging the last time, or after the last current has been drained by appliances, wait approximately 2 hours before measuring the off-load voltage.

Closed circuit current

Some electrical appliances, such as the clock and the indicator lamps, require continuous electric current, for this reason they are referred to as inactive appliances. This closed circuit current flows even if the device has been switched off.

Total discharge

Total discharge of the battery is imminent, if a battery is completely discharged by an active appliance and by closed circuit current and the off-load voltage falls below 12 V.

▷ Total discharge damages the battery.

Capacity

Capacity refers to the amount of electricity which can be stored in a battery.

The capacity of a battery is given in ampere hours (Ah). The so-called K20 value is normally used.

The K20 value indicates how much current a battery is able to dispense over a time period of 20 hours without causing damage, or how much current is required to charge a flat battery within 20 hours.

For example, if a battery can dispense 4 amps for 20 hours, then it has a capacity of 4 A x 20 h = 80 Ah.

If more current flows, the discharging time of the battery will decrease proportionately.

External influences, such as temperature and age may alter the storage capacity of the battery. Capacity details refer to new batteries operating at room temperature.

▷ Depending on battery technology, capacity details have a conversion factor of 1.3 to 1.7, which lowers the real capacity by this value.

9.3 12 V power supply

The living area battery supplies the living area with 12 V DC. The living area battery has a limited power supply only. To avoid discharge by 12 V appliances, various points must be observed:

▷ Check the charging condition of the living area battery on the panel. If necessary, charge the living area battery either via 230 V power supply (see section 9.3.2) or via the vehicle engine (see section 9.3.3).

▷ Switch off 12 V appliances (e.g. lighting) that are not required.

▷ The icebox and independent diesel parking heater are operated exclusively with 12 volts. Also switch off these devices when they are not needed.

Switching off the lighting / water pump on the panel:

■ Switch off the 12 V main switch (Fig. 45,1).

Switching off 12 V appliances on the transformer/rectifier:

■ Switch off the battery cut-off switch (Fig. 44,12) on the transformer/rectifier.

Switching off the icebox:

■ The icebox does not have a direct on/off switch. To switch off, proceed as described in section 10.5.

Switching off the diesel parking heater:

■ To switch off the diesel parking heater press the start button (Fig. 52,3) on the operating panel, see section 10.2.

9.3.1 Living area battery

- ▷ Disconnecting and connecting the terminals, as well as changing the living area battery shall only be carried out by qualified personnel. In the event of an incorrect connection, there is the risk of short circuit and fire due to rubbing cables. To reach the living area battery, the seat as well as its turning device must be removed. These components are security related and shall be fitted professionally with screw lock and complying with defined tightening torques.
- ▷ Prior to commencing a journey ensure the living area battery is fully charged. For this reason charge the living area battery for at least 20 hours before commencing the journey.
- ▷ During the trip, use every opportunity to charge the living area battery.
- ▷ After the trip, charge the living area battery fully.
- ▷ Charge the battery for at least 20 hours before laying up.
- ▷ Use the charger module provided on the transformer/rectifier to charge the living area battery. When charging externally, use a regulated charger that is suitable for the battery type and the capacity of the living area battery.
- ▷ For long periods of inactivity (4 weeks or more), either disconnect the living area battery from the 12 V power supply or recharge it regularly.
- ▷ When changing the living area battery, only use batteries of the same type with the same specification as the originally installed battery. Only use a different battery after authorisation by the manufacturer of the vehicle.
- ▷ Before disconnecting or connecting the terminals of the battery, switch off the vehicle engine as well as the 230 V and 12 V power supplies and all appliances. Danger of short circuit!
- ▷ Do not actuate the ignition if the terminals of the battery are disconnected. Danger of short circuit!
- ▷ Take note of the battery manufacturer's users and maintenance instructions.

- ▷ The battery is maintenance-free. Maintenance-free means:

  It is not necessary to check the acid level.

  It is not necessary to lubricate the battery poles.

  Even a maintenance-free battery must be recharged.

  Recommendation: Perform a full charging cycle every 6 to 8 weeks. Depending on the battery capacity and the charger, the charging cycle will last 24 to 48 hours.

Position The living area battery is installed in the driver's area below the right-hand seat.

Discharging The living area battery is discharged by the closed circuit current which some electrical appliances continuously require.

- ▷ Total discharge damages the battery. The consequence may be deformation, heat development, and damage due to scorching.
- ▷ Recharge battery in good time.

Note that even a fully charged living area battery can be fully discharged by closed circuit currents (inactive appliances).

Low temperatures outside reduce the capacity available.

The self-discharge rate of the battery is also dependant on temperature. At 20 to 25 °C the self-discharge rate is approx. 3 % of the capacity per month. The self-discharge rate will increase with rising temperatures: At 35 °C the self-discharge rate is approx. 20 % of the capacity per month.

An older battery no longer has the complete capacity available.

The higher the number of active electrical appliances, the faster the energy of the living area battery is consumed.

▷ Appliances such as the refrigerator, charger, solar charge regulator, panel, or similar, take power from the battery, even when the 12 V main switch is turned off. Therefore disconnect the living area battery from the 12 V power supply, if the vehicle will not be used for a long period of time.

9.3.2 Charging batteries via a 230 V power supply

If the vehicle is connected to the 230 V power supply, the living area battery and the starter battery are automatically charged by the charger module on the transformer/rectifier. The starter battery is only charged with a float charge. The charging current is adapted to suit the charging condition of the battery. This ensures that it is not possible to overload the battery.

To make use of the maximum output from the charger module on the transformer/rectifier, switch off all electrical appliances during charging.

9.3.3 Charging batteries via the vehicle engine

When the vehicle engine is running, the vehicle alternator recharges the living area battery and the starter battery. When the vehicle engine is switched off, the batteries are automatically disconnected from one another by a relay in the transformer/rectifier. This prevents the starter battery from being run down by electrical appliances in the living area. The starting capability of the vehicle is thus preserved.

9.3.4 Charging the starter battery

- The acid in the battery is poisonous and corrosive. Any contact with the skin or the eyes is to be avoided. In the event of contact, rinse immediately with plenty of water (skin, eyes, clothes, objects) and seek medical attention if necessary.
- In the case of charging with an external charger there is danger of explosion. Sparks can be caused by attaching the battery terminals. Only charge the battery in a well ventilated area and away from naked flames or possible sources of sparks. Batteries can develop and release gases when they are charged.
- Always remove the starter battery from the vehicle when charging it using an external charger.

- ▷ Do not connect the battery cables to the wrong poles (red cable -> positive pole, black cable-> negative pole).
- ▷ Do not actuate the ignition if the terminals of the battery are disconnected. Danger of short circuit!
- ▷ Before disconnecting or connecting the terminals of the battery, switch off the vehicle engine as well as the 230 V and 12 V power supplies and all appliances. Danger of short circuit!
- ▷ Before charging the battery, check whether the external charger is approved for the battery type.
- ▷ Observe the instruction manuals for the base vehicle and the charger.
- ▷ Irreparable damage to the battery will result if it is overcharged.

Charging with an external charger

When charging the starter battery with an external charger, proceed as follows:

- Turn off the vehicle engine.
- Switch off all electrical appliances.
- Switch off 12 V main switch on the panel. The indicator lamp will go off.
- Switch off battery cut-off switch on the transformer/rectifier.
- Disconnect the mains plug from the transformer/rectifier.
- Switch off all gas appliances, all gas isolator taps and close the regulator tap on the gas bottle.
- There is a danger of short circuit when disconnecting the battery poles. For this reason, first disconnect the negative terminal on the starter battery and then the positive.
- Remove starter battery from the vehicle.
- Check that the external charger is turned off.
- Connect the external charger to the starter battery. Pay attention to the polarity: First connect the positive terminal "+" to the positive pole of the battery, then connect the negative terminal "–" to the negative pole of the battery.
- Switch on the external charger.

- See the instructions for use of the connected charger for information concerning charge period required for the battery.
- See the specifications on the battery for information concerning its strength.
- Disconnect the external charger in reverse order.

9.4 Transformer/rectifier (EBL 119)

▷ Do not cover the ventilation slots. Danger of overheating!

▷ Depending on the model, not all slots for the fuses are occupied.

▷ Deviating from the default assignment, the following fuse values are inserted:

"Basic light / step": 20 A

"Spare 3": 10 A (fuse for USB socket)

▷ Further information can be obtained in the manufacturer's instruction manual.

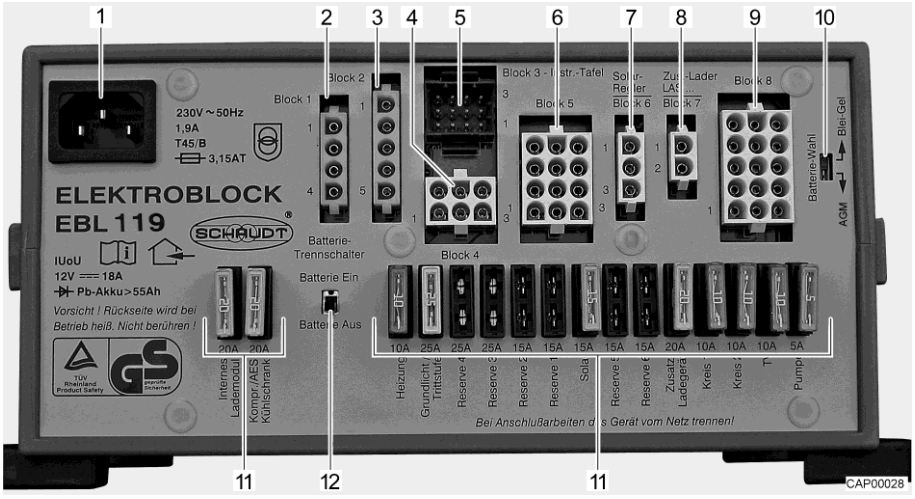


Fig. 44 Transformer/rectifier (EBL 119)

1 Main supply socket 230 V~
2 Output: Block 1 – refrigerator
3 Input: Block 2 – control lines
4 Output: Block 4 – heater, safety/drainage valve, basic light (lighting in the entrance area), entrance step
5 Output: Block 3 – panel
6 Output: Block 5 – solar cell (if fitted), spare 2, spare 3, spare 4
7 Output: Block 6 – solar charge regulator (if fitted)
8 Output: Block 7 – auxiliary charging unit
9 Output: Block 8 – consumer circuit 1, consumer circuit 2, 12 V socket, water pump, spare 1, spare 5, spare 6
10 Battery selector switch (lead-gel/AGM)
11 Fuses
12 Battery cut-off switch ("Batterie Ein/Aus" (battery On/Off))

Functions

The transformer/rectifier has the following functions:

- The transformer/rectifier charges the living area battery. The transformer/rectifier charges the starter battery with a float charge only.
- The transformer/rectifier monitors the voltage in the living area battery.
- The transformer/rectifier distributes the current to the 12 V circuits and secures them. Devices with a maximum of 10 A can be connected to the sockets.
- The transformer/rectifier provides connections for a solar charge regulator, an auxiliary charging unit, as well as other control and monitoring functions.
- When the vehicle engine is turned off, the transformer/rectifier separates the starter battery electrically from the living area battery. This prevents the 12 V living area appliances from discharging the starter battery.
- The battery cut-off switch in the transformer/rectifier separates all the appliances from the living area battery.

The transformer/rectifier only works in conjunction with a panel.

When the transformer/rectifier is subject to a heavy load, the fitted charger module reduces the charging current. This protects the charger from overheating. The transformer/rectifier is subject to a heavy load when e.g. an empty living area battery is being charged, additional electrical appliances are turned on and the ambient temperatures are high.

Position

The transformer/rectifier is installed in the driver's area below the left-hand seat.

9.4.1 Battery cut-off switch

▷ After switching the battery cut-off switch back on again: Put the basic light (lighting in the entrance area), entrance step, heater and spare 4 back into service (depending on the model). To do so, switch on the 12 V main switch briefly. This also applies if the living area battery was disconnected and then reconnected.

The battery cut-off switch disconnects all the living area 12 V appliances. This prevents the living area battery from slowly discharging if the vehicle is not used for a longer period of time (e.g. temporary lay-up).

The batteries can still be charged by the transformer/rectifier when the battery cut-off switch is turned off.

Switching on/off:

- Push the battery cut-off switch upwards: Battery On ("Batterie Ein").
- Push the battery cut-off switch downwards: Battery Off ("Batterie Aus").

9.4.2 Battery selector switch

▶ If the battery selector switch is set incorrectly, there is a risk of generating oxyhydrogen gas. Danger of explosion!

▷ Incorrect setting of the battery selector switch damages the living area battery.

▷ The factory settings of the battery selector switch must not be changed.

Position The battery selector switch is located on the transformer/rectifier.

9.4.3 Battery monitor

▷ You must fully recharge a discharged living area battery as soon as possible.

The battery monitor in the transformer/rectifier monitors the voltage in the living area battery.

If the voltage of the batteries falls below 10.5 V, the battery monitor in the transformer/rectifier switches off all the 12 V appliances.

Measures:

- Switch off all electrical appliances that are not absolutely essential at the corresponding switch.
- If necessary, use the 12 V main switch to switch the 12 V power supply back on for a short while. This is only possible, however, when the battery voltage is above 11 V. If the voltage is below this level, the 12 V power supply cannot be switched on again until the living area battery has been recharged.

9.4.4 Charging the battery

When the vehicle engine is running, a relay in the transformer/rectifier alternator switches on the living area battery and the starter battery together and recharges them with the vehicle generator. When the vehicle engine is switched off, the batteries are automatically disconnected from one another again by the transformer/rectifier. This prevents the starter battery from being run down by electrical appliances in the living area. The starting capability of the vehicle is thus preserved. The terminal voltage of the living area battery or the starter battery can be read on the panel.

If the vehicle is connected to the 230 V power supply via the CEE socket outlet, the living area battery and the starter battery are charged by the charger module on the transformer/rectifier. The starter battery is only charged with a float charge. The charging current is adapted to suit the charging condition of the battery. This ensures that it is not possible to overload the battery.

To make use of the maximum output from the charger module on the transformer/rectifier, switch off all electrical appliances during charging.

9.5 Panel (LT 100)

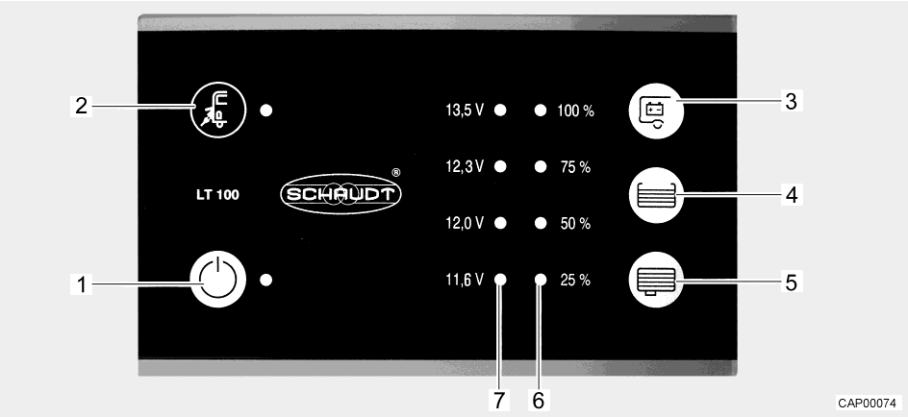


Fig. 45 Panel (LT 100)

1 12 V main switch and green LED
2 Mains connection symbol and yellow LED
3 Button to query the voltage of the living area battery
4 Button to query the fill level in the fresh water tank
5 Button to query the fill level in the waste water tank
6 LED array to display the tank fill level
7 LED array to display the battery voltage

The switches and push buttons of the panel are sensor touchpads. The switching function is triggered by touching.

Mains connection

The yellow LED at the mains connection symbol "⏚" (Fig. 45,2) is lit when the vehicle is connected to an external mains supply. In this case, the LED will also be lit when the panel is switched off.

Position

The panel (LT 100) is installed on the front side of the kitchen unit.

9.5.1 12 V main switch

The 12 V main switch (Fig. 45,1) switches the panel and the 12 V power supply of the living area on and off.

Exception: Depending on the model, basic light (lighting in the entrance area), and entrance step remain ready to operate.

Switching on:

- Press switch "⏻" (Fig. 45,1): The 12 V living area power supply is switched on. The LED lights up green.

Switching off:

- Press switch "⏻" (Fig. 45,1) again: The 12 V living area power supply is switched off. The LED goes out.

▷ When leaving the vehicle, switch off the main 12 V power supply at the panel. This prevents any unnecessary discharge of the living area battery.

▷ Appliances, such as control units (e.g. solar charge regulator, defroster or panel) or fitted appliances (e.g. entrance step) continue to take power from the battery capacity, even if the 12 V power supply on the panel is switched off. Therefore disconnect the living area battery from the 12 V power supply via the switch on the transformer/rectifier if the vehicle will not be used for a long period of time.

9.5.2 LED array for battery voltage

The LED array (Fig. 45,7) displays the battery voltage of the living area battery as follows:

- All LEDs light up: Battery is sufficiently charged.
- Yellow and red LED are lit: Battery is partly discharged.
- Only red LED is lit: Battery is discharged.
- Red LED flashes: Battery is fully discharged.

Displaying the battery voltage:

■ Press the button "" (Fig. 45,3): The battery voltage of the living area battery is displayed.

The following tables will help you correctly interpret the battery voltage of the living area battery displayed on the panel.

Battery voltage (values during operation)	**Mobile operation (vehicle moving, no mains connection)**	**Battery operation (vehicle stationary, no mains connection)**	**Power operation (vehicle stationary, mains connection)**
Below 11.6 V (red LED is flashing)	Battery is totally discharged, no charging via the alternator	Battery is fully discharged	Battery is totally discharged, no charging via the power supply
12.0 V or less Danger of total discharge (battery alarm) (red LED is lit)	12 V power supply overload	If appliances are switched off: Battery flat	12 V power supply overload
	The battery is not charged by the alternator	If appliances are switched on: Battery overload	The battery is not charged by the transformer/rectifier, the transformer/rectifier is defective
12.3 V to 13.5 V (red, yellow, and green LED are lit)	12 V power supply overload [1]	Normal range	12 V power supply overload [1]
	The battery is not charged by the alternator [1]		The battery is not charged by the transformer/rectifier, the transformer/rectifier is defective [1]
13.5 V (all LEDs are lit)	Battery being charged	Occurs only briefly after charging	Battery being charged

[1] If the voltage does not exceed this range for several hours.

Off-load voltage

Measuring the off-load voltage is a simple method to check the condition of the battery. The off-load voltage is the voltage of the battery in idle condition, when current is neither supplied nor consumed.

The following table helps to correctly interpret the displayed battery off-load voltage. The specified values are guide values for dryfill batteries.

LT 100 indicator	Off-load voltage values	Battery charge
Red LED flashes	11.6 V or less	Battery is fully discharged
Red and yellow LED are lit	11.6 V to 12.0 V	Battery is discharged to totally discharged
Red and yellow LED are lit	12.0 V to 12.3 V	Battery is empty or charged up to approx. 50 %
Red, yellow, and lower green LED are lit	12.3 V to 13.5 V	Battery is charged from approx. 50 % to fully charged
All LEDs light up	Above 13.5 V	(Only appears while charging)

▷ Total discharge causes irreparable damage to the battery.

Measures:

- When the battery alarm comes on, switch off the appliances and charge the living area battery, either by mobile operation or by connection to a 230 V power supply.

9.5.3 LED array for tank fill level

The LED array (Fig. 45,6) displays the fill level of the fresh water tank or of the waste water tank.

Display fill level:

Press the button "  " (Fig. 45,4): The fill level of the fresh water tank is displayed by lit LEDs.

Press the button "  " (Fig. 45,5): The fill level of the waste water tank is displayed by lit LEDs.

Level indicator

LED indicator	Tank fill level
All LEDs light up	Full tank
3 LEDs light up	Tank approx. 3/4 full
2 LEDs light up	Tank approx. 1/2 full
1 LED lights up	Tank approx. 1/4 full
Bottom LED flashes	Tank empty

▷ Further information can be obtained in the manufacturer's instruction manual.

9.6 230 V power supply

- ▶ Only allow qualified personnel to work on the electrical system.
- ▶ Have the vehicle's electrical system checked by a qualified electrician at least once every 3 years. If the vehicle is used frequently, an annual check is recommended.

The 230 V power supply provides electricity for:

- sockets with earth contact for appliances with maximum 10 A
- transformer/rectifier

The electrical appliances connected to the 12 V power supply of the living area are supplied with voltage by the living area battery.

Connect the vehicle to an external 230 V power supply system as often as possible. The charger module in the transformer/rectifier automatically charges the living area battery. In addition to this, the starter battery is charged with a float charge.

9.6.1 230 V connection (CEE socket outlet)

- ▷ Overvoltage can damage connected devices. Overvoltage can be caused by lightning, irregular voltage sources (e.g. petrol-operated generators) or power connections on ferries for example.

Requirements concerning the 230 V connection

- The connecting cable, the plug connectors at the point of supply and the plug connector to the vehicle must comply with IEC 60309. The standard designation for the plug connectors is "CEE blue".
- Use H07RN-F rubber sheathed cable with a minimum cable cross-section of 2.5 mm² and a maximum length of 25 m.
- Earth contact connectors (safety) are not permitted. The interconnection of CEE/safety adapters is also prohibited.

9.6.2 Connecting the 230 V power supply

- ▶ The external 230 V power supply must be protected by fuse with a fault current protection switch (FI-switch, 30 mA).
- ▶ To prevent overheating, the cable must be fully uncoiled from the cable reel.
- ▶ In case of doubt or if the 230 V supply is not available or is faulty, contact the operator of the power supply device.

- ▷ The 230 V connection in the vehicle is equipped with a fault current protection switch (FI-switch).
- ▷ For the connection points on camp sites (camping distributors) fault current protection switches (FI-switches, 30 mA) are obligatory.

The vehicle can be connected to an external 230 V power supply. As a principle, only use the 230 V connection on the vehicle (CEE socket outlet) for connecting.

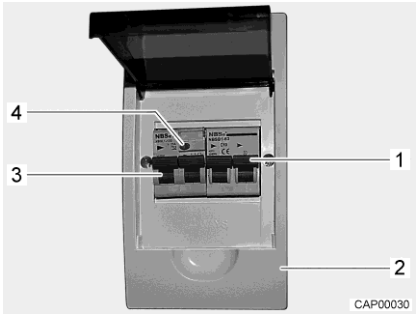


Fig. 46 Safety cut-out and FI-switch (230 V fuse box)

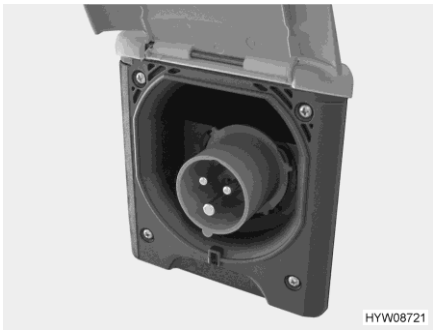


Fig. 47 230 V connection on the vehicle (CEE socket outlet)

Connecting the vehicle:

- Check whether the power supply device is suitable regarding connection, voltage, frequency and current.
- Check whether the cables and connections are suitable.
- Check the plug connectors and cables for visible damage.
- Switch off the safety cut-out (Fig. 46,1) in the fuse box (Fig. 46,2).
- Open the cover of the 230 V connection on the vehicle (Fig. 47) and insert the plug connector. Ensure that the detent of the spring-mounted pivoting cover is engaged in position.
- Plug the connector of the connecting cable into the socket of the camping distributor. Ensure that the detent of the spring-mounted flap is also engaged here.
- Switch on the safety cut-out in the fuse box.

Checking the fault current protection switch:

- When the vehicle is connected to the 230 V supply, press the test button (Fig. 46,4) of the fault current protection switch (FI-switch) (Fig. 46,3) in the fuse box (Fig. 46,2). The fault current protection switch must trip.
- Switch the fault current protection switch (Fig. 46,3) back on again.

Unplugging the connection:

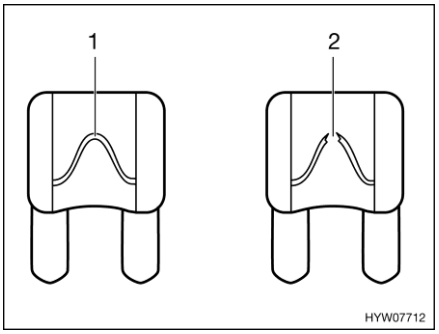
- Switch off the safety cut-out (Fig. 46,1) in the fuse box (Fig. 46,2).
- Loosen the detent on the camping distributor and unplug the connecting cable from the socket.
- Loosen the detent on the vehicle unplug the plug connector and close the cover of the 230 V connection.

9.7 Fuses

- Only replace defective fuses when the cause of the defect is known and has been remedied.
- Replace defective fuses only after the power supply has been turned off.
- Do not replace screwed fuses yourself. Contact an authorised specialist workshop to have these replaced.
- Never bridge or repair fuses.
- Only replace faulty fuses with a new fuse with the same rating.

9.7.1 12 V fuses

The appliances connected to the 12 V power supply in the living area are fused individually. The fuses are accessible at different positions in the vehicle.



1 Unbroken fuse element
2 Broken fuse element

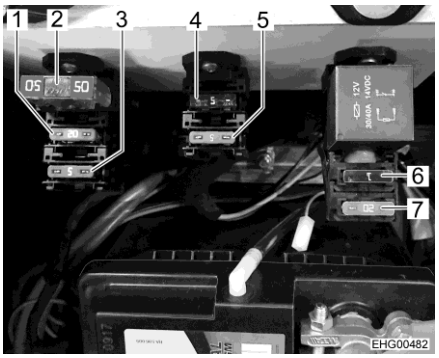
Fig. 48 12 V fuse

An intact 12 V fuse can be detected by the unbroken fuse element (Fig. 48,1). If the fuse element is broken (Fig. 48,2), change the fuse.

Before changing fuses, take the function, value and colour of the relevant fuses from the following specifications. When changing fuses, only use flat fuses with the values shown below.

Fuses for living area battery and other devices

The fuses are installed underneath the front passenger's seat next to the living area battery.

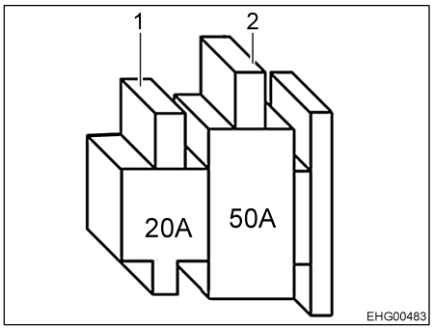


1 Flat fuse 20 A (icebox)
2 Jumbo flat fuse 50 A (living area battery)
3 Flat fuse 2 A (sensor for living area battery)
4 Flat fuse 5 A (coupling relay D+)
5 Flat fuse 2 A (Signal D+)
6 Flat fuse 1 A (operating panel Webasto heater)
7 Flat fuse 20 A (pump and burner, Webasto heater)

Fig. 49 Fuses for living area battery and other devices

Fuses for starter battery and charge booster

The fuses for the starter battery and the charge booster are installed in the kitchen base cabinet behind a cover.



1 Flat fuse 20 A (charge booster)
2 Jumbo flat fuse 50 A (starter battery)

Fig. 50 Fuses for starter battery and charge booster

Fuses on the transformer/rectifier

There are three fuses on the transformer/rectifier (in the cabinet under the icebox):

- Circuit 1, fuse 10 A (light contact rail)
- Circuit 2, fuse 10 A (cooker ignition)
- Flat fuse 5 A (pump, water supply)

9.7.2 230 V fuse

▷ Check the fault current protection switch for each connection to the 230 V power supply, at least once every 6 months.

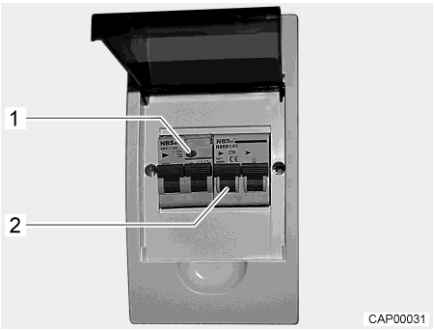


Fig. 51 230 V fuse box with safety cut-out and FI-switch

A fault current protection switch (FI-switch) in the fuse box protects the complete vehicle from fault current (0.03 A). A downstream safety cut-out (10 A) (Fig. 51,2) secures the 230 V power supply.

Checking the fault current protection switch:

■ When the vehicle is connected to the 230 V power supply, press the test button (Fig. 51,1). The fault current protection switch must trip.

Position

The fuse box is installed behind the flap underneath the icebox.

Chapter overview

This chapter contains instructions regarding the appliances of the vehicle.

The instructions refer exclusively to the operation of the appliances.

Further information about the appliances can be found in the instruction manuals for the appliances, included separately with the vehicle.

10.1 General

▷ For safety reasons, spare parts for pieces of heating appliances must correspond with manufacturer's instructions and be permitted by the manufacturer as a spare part. These spare parts may only be fitted by the manufacturer or an authorised specialist workshop.

▷ Further information can be obtained in the instruction manual for the respective appliance.

10.2 Diesel parking heater (Webasto) (special equipment)

▶ Do not operate the heater in closed spaces. Danger of suffocation!

▶ Do not operate the heater at petrol stations. Danger of explosion!

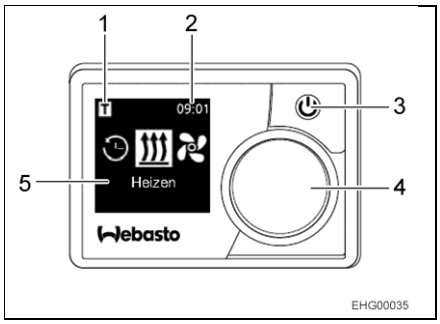
▶ Observe further safety instructions in the separate instruction manual of the manufacturer.

▷ The diesel parking heater is supplied with voltage directly from the living area battery. When the vehicle is stationary, the living area battery can discharge.

The diesel parking heater has the following functions:

- Heating
- Ventilating (only air circulation, no fresh air)

The diesel parking heater is controlled via a operating panel. The operating panel is installed on the left side in the kitchen area.



1 Symbol "pre-set time activated"
2 Time
3 Start button with status indicator
4 Control button
5 Menu display

Fig. 52 Operating panel

Switching on the diesel parking heater:

- Press the start button (Fig. 52,3).
- Set the desired function by turning and pressing the control button (Fig. 52,4).

Switching off the diesel parking heater:

- Press the start button (Fig. 52,3).

▷ Further information can be obtained in the manufacturer's instruction manual.

10.3 Gas fired boiler (Whale)

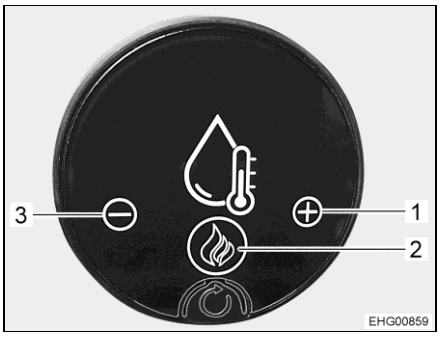
- ▶ Make sure that the operating pressure of the gas supply for the boiler is between 28 and 30 mbar.
- ▶ Never operate the boiler without water.
- ▶ Observe the safety instructions and the instructions in the separate device manufacturer's instruction manual.
- ▶ Follow the maintenance instructions in the section 13.8.

▷ Empty the boiler if there is risk of frost or when the boiler is not used for more than 3 days. Frost damage is not covered by the guarantee.

The boiler tank has a capacity of 8 litres.

Position of boiler tank The boiler tank is installed below in the kitchen cupboard.

Position of operating control The operating control is built into the front of the kitchen unit (next to the panel LT 100).



1 Button to increase the temperature
2 Gas heater button
3 Button to reduce the temperature

Fig. 53 Boiler operating panel

Switching on the boiler:

- Open the regulator tap on the gas bottle and the gas isolator tap "Heater/boiler".
- Make sure that the drain cock has been closed.
- Set all the water taps to "Hot" and open them. The water pump is turned on. The water pipes are filled with water.
- Keep the water taps open until the water flowing out of the water taps has no bubbles in it. This is the only way to ensure that the boiler is full of water.
- Close all water taps.
- Press the gas heater button (Fig. 53,2).
- Press the button to increase the temperature (Fig. 53,1) until the desired temperature is set (visible on the bar graph).

Switching the boiler off:

- Press the gas heater button (Fig. 53,2) again.
- Close the gas isolator tap "Heater/boiler" and the regulator tap on the gas bottle.

Switching on frost protection:

- Press the button to reduce the temperature (Fig. 53,3) until the snow crystal symbol appears.

▷ Do not use the frost protection function for more than 3 days.

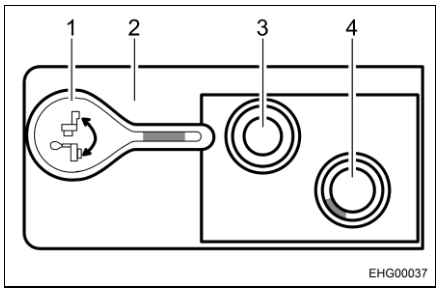


Fig. 54 Drain cock, closed

1 Drain cock lever, closed
2 Boiler top
3 Cold water connection
4 Hot water connection

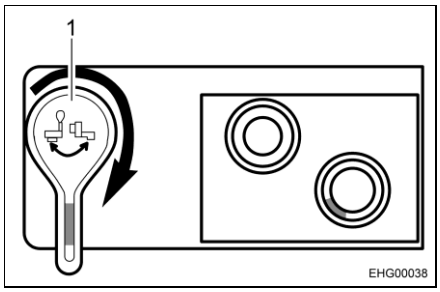


Fig. 55 Drain cock, open

1 Drain cock lever, open

Emptying the boiler:

- Switch off the boiler.
- Open the drain cock. In order to do this, turn the lever of the drain cock through 90° in a clockwise direction (see Fig. 55,1).

▷ While heating, water drips from the drain pipe of the pressure relief valve. In order to protect the pressure relief valve from calcifications: actuate the pressure relief valve at least twice a year. In order to do this, turn the lever of the drain cock through 90° in an anticlockwise direction.

10.4 Gas cooker

- During operation of the gas cooker, do not leave the gas cooker unattended. Even if the gas cooker cannot be overseen for only a short time (e.g. Visit to the toilet), switch the gas cooker off.
- Never let gas escape unburned due to danger of explosion.
- Before using the cooker make sure that there is sufficient ventilation. Open a window or the skylight.
- Do not use the gas cooker for heating purposes.
- Do not attach any curtains, drapes, nor dish towels in the immediate proximity of the cooker. Fire hazard!
- Always protect your hands with cooking gloves or potholders when handling hot pots, pans and similar items. There is a risk of injury!
- During activation and operation of the gas cooker, no flammable objects or highly inflammable objects such as dishcloths, napkins etc. must be near the gas cooker. Fire hazard!
- The process of ignition must be visible from above and must not be covered by cooking pans placed on the cooker.
- The gas cooker cover is held closed by a spring. When closing there is danger of getting injured!

- ▷ Do not use the glass gas cooker cover as a hob.
- ▷ Do not close the gas cooker cover while the gas cooker is in operation.
- ▷ Do not apply pressure on the gas cooker cover when it is closed.
- ▷ Do not place hot cooking pans either on the gas cooker or on the sink cover.
- ▷ Keep the gas cooker cover open after cooking until the burners are cool. Otherwise the glass plate could shatter.

- ▷ Only use pots and pans whose diameter is appropriate for the gas cooker burners.
- ▷ When the flame goes out, the thermocouple automatically cuts the gas supply.
- ▷ Further information can be obtained in the device manufacturer's instruction manual.

The vehicle kitchen unit is fitted with a two-burner gas cooker.

The operating controls for the gas cooker are located directly at the gas cooker.

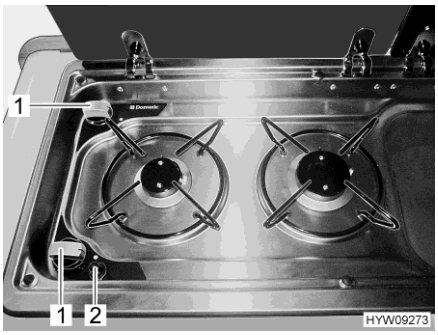


Fig. 56 Gas cooker

Switching on:

- ■ Open the regulator tap on the gas bottle and the gas isolator tap "Cooker".
- ■ Open the gas cooker cover.
- ■ Turn the control knob (Fig. 56,1) on the burner you wish to use to the ignition position (large flame).
- ■ Press the control knob down and hold it.
- ■ Press the push button (Fig. 56,2). An ignition spark is created at the burner. If necessary, press the push button several times.
- ■ Once the flame is burning, keep the control knob pressed for another 10 to 15 seconds, until the thermocouple automatically keeps the gas supply open.
- ■ Release the control knob and turn to the desired setting.
- ■ If ignition is unsuccessful, repeat the entire procedure.

Switching off:

- ■ Turn the control knob to the "0" position. The flame fades.
- ■ Close the gas isolator tap "Cooker" and the regulator tap on the gas bottle.

10.5 Icebox (special equipment)

▷ The icebox is supplied with voltage directly from the living area battery. When the vehicle is stationary, the living area battery can discharge.

Fig. 57 Icebox temperature controller

The vehicle is equipped with an icebox. The icebox is installed in a kitchen cupboard.

The icebox is supplied with a 12 V voltage directly from the living area battery.

The icebox can be used either as a refrigerator compartment or a freezer compartment. The refrigerating temperature is set via the temperature controller (Fig. 57,1).

Positions of fuse

The flat fuse 20 A (Fig. 49,1) is installed next to the living area battery underneath the front passenger's seat (also see section 9.7.1).

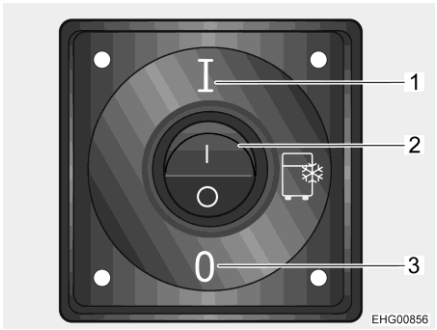


Fig. 58 On/Off switch for icebox

The icebox can only be switched on if the flat fuse 20 A (Fig. 49,1) is plugged in.

Switching on the icebox:

- Set the temperature controller (Fig. 57,1) to the desired refrigerating temperature.
- Set the rocker switch (Fig. 58,2) to the position I (Fig. 58,1).

Measures to avoid discharging the living area battery:

- Set the rocker switch (Fig. 58,2) to the position 0 (Fig. 58,3).

10.6 Compressor refrigerator Dometic CRX50

- ▶ Always keep the ventilation openings unobstructed.
- ▶ Due to technical reasons, the temperature in the refrigerator and in the freezer compartment cannot always be maintained at a constant level. Under adverse conditions, the food in the freezer compartment may thaw.

- ▷ Do not use any objects or hot air devices to accelerate defrosting.
- ▷ When the vehicle is exposed to intense sunlight: ventilate vehicle adequately.
- ▷ Before setting off, secure the products in the refrigerator against sliding.
- ▷ The refrigerator continues to function even if the 12 V main switch on the panel is switched off. If the refrigerator runs for an extended period without an external 230 V power supply being connected, the living area battery may be discharged.
- ▷ The living area battery has a limited power supply only. Make sure that the living area battery is always properly charged. The living area battery is charged during the journey by the alternator. While the vehicle is parked, the living area battery can be charged by shore power, a charger, or via a solar installation.

- ▷ The refrigerator temperature depends on the ambient temperature (room temperature), the frequency the door is opened with, and the filling of the refrigerator. If required, readjust the cooling level.
- ▷ Check the collection tray for condensation before setting off and periodically during operation of the refrigerator.
- ▷ Further information can be obtained in the manufacturer's instruction manual.

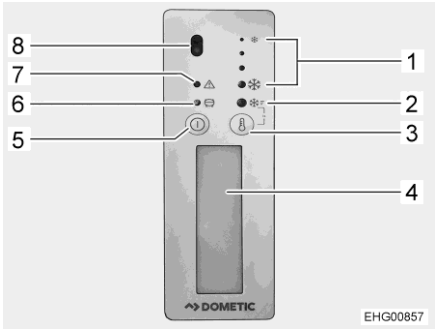


Fig. 59 Operating controls (refrigerator)

1 Cooling level indicator (LEDs)
2 Quick-cooling function ON indicator (LED)
3 Cooling level button
4 Interior lighting
5 On/Off button
6 Compressor operating indicator (blue LED = on, orange LED = off)
7 Service indicator (LED)
8 IR sensor (interior lighting)

Description

The operating panel of the refrigerator is installed on the inside left of the refrigerator.

The operating panel is used to set the temperature of the refrigerator. There is a choice of four temperature ranges from +3 °C to +12 °C as well as a quick-cooling function.

The refrigerator is additionally equipped with a removable freezer compartment. If the refrigerator is operated without a freezer compartment, frozen goods can be stored for a short time with the help of the quick-cooling function.

Switching on:

- Press the On/Off button (Fig. 59,5). After switching on, a short time span elapses until the compressor starts up.
- To set the refrigerating temperature: press the cooling level button (Fig. 59,3) repeatedly. The more LEDs of the cooling level indicator (Fig. 59,1) are lit, the stronger the refrigerator is cooling.
  - 1 LED = lowest cooling power
  - 4 LEDs = highest cooling power

When you have selected the highest cooling power and press the cooling level button again, the indicator jumps directly to the lowest cooling power.

The interior lighting (Fig. 59,4) is lit when the refrigerator door is open.

If the ambient temperature is between 16 °C and 20 °C, set the refrigerator at least to cooling level 2.

If the red service indicator LED (Fig. 59,7) is flashing, a fault is present (see section 15.8).

Switching off:

- Press the On/Off button (Fig. 59,5) until the refrigerator switches off.

To achieve deep freeze temperatures, the refrigerator can be operated with a quick-cooling function. Before using the quick-cooling function, take the freezer compartment out. Otherwise, condensation may freeze on the outside of the refrigerator due to too excessive cold in the freezer compartment.

Switching on the quick-cooling function:

- Press the cooling level button (Fig. 593) for more than 3 seconds. The quick-cooling function LED (Fig. 59,2) indicates that the quick-cooling function is switched on.

Switching off the quick-cooling function:

- Press the cooling level button again for more than 3 seconds.

Refrigerator door

The refrigerator door can be locked in the closed position (transport position) and in the slightly open position (ventilation position).

▶ If the refrigerator is out of use for an extended period and the door is closed, there is a risk of mould growth. To prevent mould growth, lock the door in the ventilation position when the refrigerator is not in use.

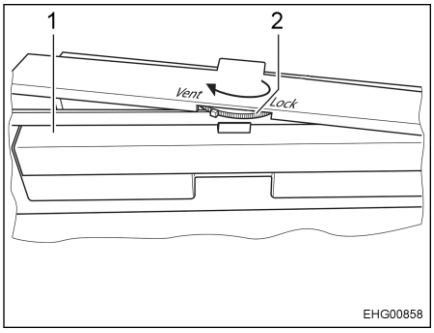


Fig. 60 Locking wheel on the refrigerator door

Locking the door in the ventilation position:

- Turn the locking wheel (Fig. 60,2) as far as it will go, to the position "Vent".
- Carefully close the door (Fig. 60,1) until it latches. The door is locked in the slightly open position.

Securing and locking the door in the transport position:

- Turn the locking wheel as far as it will go, to the position "Lock". The door is secured and locked when closed.

Releasing and opening the door from the transport position:

- Pull the door handle upwards and open the door.

▷ Further information can be obtained in the manufacturer's instruction manual.

Chapter overview

This chapter contains instructions regarding the sanitary fittings of the vehicle.

11.1 Water supply, general

- ▶ Fill water tank from supply systems that have been verified to provide drinking water quality.
- ▶ Only use such hoses or containers when filling that have been approved for use with drinking water.
- ▶ Thoroughly rinse filling hose or container with drinking water before use (2 to 3 times capacity).
- ▶ Empty filling hose or container completely after use and close openings of the filling hose or container.
- ▶ Water left standing in the water tank or in the water pipes becomes undrinkable after a short period. Therefore, before each use of the vehicle, thoroughly clean the water pipes and the water tank. After each use of the vehicle completely empty the water tank and the water pipes.
- ▶ In the case of lay-ups lasting more than a week disinfect the water system before using the vehicle (see chapter 12).

- ▷ If the vehicle is not used for several days or if it is not heated when there is a risk of frost, empty the entire water system. Make certain that the water pump is switched off. Otherwise, the water pump will overheat and may get damaged. Leave the water taps on in central position. Leave all drain cocks open. Frost damage to appliances, frost damage to the vehicle and deposits in water-carrying components can be avoided in this way.
- ▷ The water pump will overheat without water and can get damaged after one minute at the latest. Never operate water pump when the water tank is empty.

The vehicle is equipped with a fitted water tank. An electric water pump pumps the water to the individual water taps. Opening a water tap automatically switches on the water pump and pumps water to the tap.

The waste water tank collects the waste water. The water level in the water and waste water tanks can be checked on the panel.

- ▷ Before using the water fittings, the 12 V power supply on the panel must be switched on. Otherwise the water pump will not work.

Position of the water pump

The submerged pump is located in the water tank.

11.2 Water tank

The water tank holds approx. 50 l.

Position The water tank is installed on the left side in the rear area and accessible via a flap.

Fig. 61 Water tank

11.2.1 Drinking water filler neck with cap

Fig. 62 Cap for the drinking water filler neck

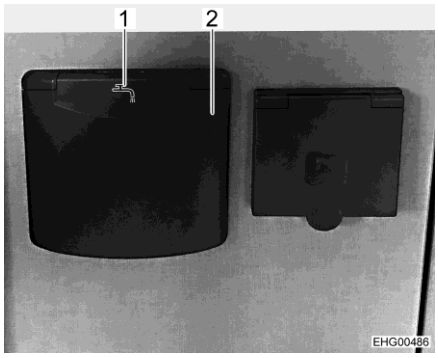


Fig. 63 Access flap to drinking water filler neck

The drinking water filler neck (Fig. 62) is installed inside the vehicle in the left rear area behind a flap (Fig. 63,2).

The flap for the drinking water filler neck is marked by the symbol "" (Fig. 63,1).

11.2.2 Draining water

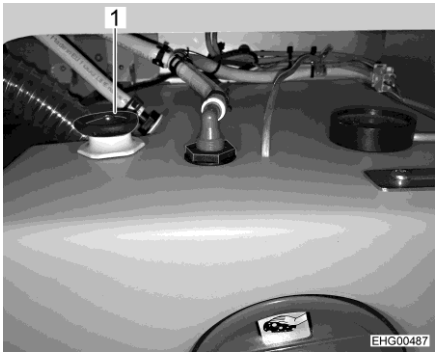


Fig. 64 Water tank with rotary handle

- Turn the rotary handle (Fig. 64,1) on the water tank in an anticlockwise direction as far as possible beyond the resistance to fully open the drainage opening.

11.3 Waste water tank

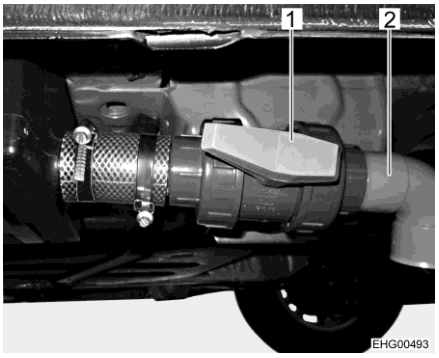
- ▷ If there is a risk of frost, empty the waste water tank and leave the drain cock open.
- ▷ Never pour boiling water directly into the sink outlet. Boiling water could cause deformation and leaks in the waste water pipe system.

- ▷ Only empty the waste water tank at disposal stations, camping sites or caravan sites especially provided for this purpose.

Waste water from the kitchen flows through plastic pipes into the waste water tank.

The waste water tank is located underneath the floor of the vehicle.

Volume The waste water tank holds 35 l.



1 Drain cock operating handle
2 Drain pipe

Fig. 65 Drain cock for waste water tank

Emptying:

- Open the drain cock. In order to do this, set the blue operating handle (Fig. 65,1) of the drain cock to horizontal position (turn it one quarter turn in a clockwise direction). The waste water will run out.
- Wait until the waste water tank is completely empty.
- Close the drain cock. In order to do this, set the blue operating handle to vertical position (turn it one quarter turn in an anticlockwise direction).

11.4 Wash basin, folding (C530)

The toilet compartment is fitted with a fold-up wash basin.

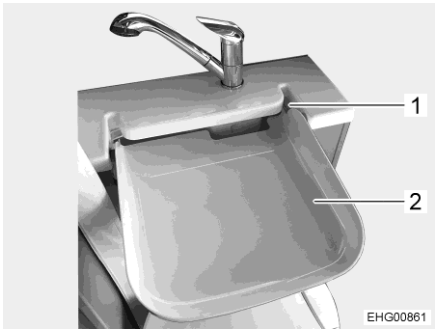


Fig. 66 Wash basin

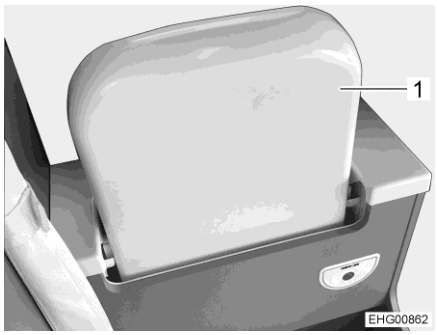


Fig. 67 Wash basin, folded upwards

Folding upwards:

- Grasp the wash basin (Fig. 66,2) at the front edge, fold it upwards as far as it will go and let it engage in the recess (Fig. 66,1).

Folding down:

- Lift the wash basin (Fig. 67,1) slightly and fold it down.

11.5 Toilet (C530)

- ▷ Do not load the toilet with more than a maximum of 120 kg.
- ▷ If there is any risk of frost and the vehicle is not heated, empty the sewage tank.
- ▷ Do not sit on the lid of the toilet. The lid is not designed to bear the weight of a person and could break.
- ▷ Use a suitable chemical for this toilet. The ventilation will merely remove the odour but not germs and gases. Germs and gases will have a detrimental effect on the sealing rubbers.

- ▷ Further information can be obtained in the manufacturer's instruction manual.

- ▷ Only empty the sewage tank at disposal stations, at camping sites or caravan sites, that are especially provided for this purpose.

11.5.1 Swivel toilet

The flushing of the toilet is fed directly from the water system of the vehicle.

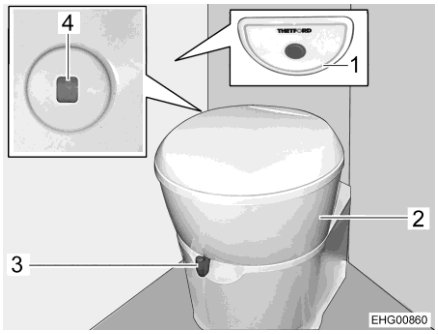


Fig. 68 Toilet

The toilet bowl can be rotated into the required position. In order to do this, grab the toilet's upper part (Fig. 68,2) with both hands and rotate it.

The operating unit with the flush button (Fig. 68,1) is installed near to the toilet bowl.

The colour of the level indicator (Fig. 68,4) changes from green to red whenever the sewage tank has to be emptied.

Flushing:

- ■ Before flushing open the sliding trap of the toilet. To do this, push the slide lever (Fig. 68,3) in an anticlockwise direction.
- ■ For flushing, press the blue flush button (Fig. 68,1).
- ■ After flushing close the sliding trap. To do this, push the slide lever in a clockwise direction.

11.5.2 Emptying the sewage tank

▷ The sewage tank can only be taken out if the sliding trap is closed.

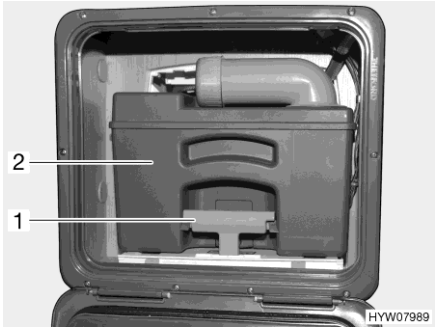


Fig. 69 Sewage tank (example)

- Slide the slide lever on the toilet bowl in a clockwise direction. The sliding trap is closed.
- Open the flap for the sewage tank on the outside of the vehicle.
- Pull up the retaining clip (Fig. 69,1) and lift the sewage tank (Fig. 69,2) straight up as far as it will go.
- Completely empty the sewage tank at disposal stations that are especially provided for this purpose.

▷ Actuate the aeration knob on the sewage tank with your thumb to empty it completely.

▷ Observe the manufacturer's instruction manual.

11.5.3 Winter operation

▷ Do not use anti-freeze. Anti-freeze can damage the toilet.

If the toilet, the water tank and the sewage tank (cassette) are in a frost-protected part of the vehicle, the toilet can also be used in the winter.

If the toilet, the water tank and the sewage tank (cassette) are not in a frost-protected part of the vehicle, empty the water tank, the sewage tank and the water pipes if there is a risk of frost. This prevents frost damage.

11.5.4 Temporary lay-up

▷ If the toilet is not to be used for an extended period, empty the water tank, the sewage tank and the water pipes.

Laying up the toilet:

- Empty the water tank.
- Flush the toilet until no more water runs into the toilet. Note that the pump can get damaged after one minute at the latest if it runs dry.
- Empty the sewage tank.
- Rinse the sewage tank thoroughly.
- Leave the drainage neck on the sewage tank open.
- Let the sewage tank dry for as long as possible.

Chapter overview

This chapter contains instructions regarding the care of the vehicle.

At the end of the chapter there is a checklist of measures you must carry out if you are not going to use the vehicle for an extended period of time.

12.1 External care

12.1.1 General

Standard external care consists of regular washing. The use and the environmental conditions will determine how often the vehicle needs to be washed. Wash the vehicle more frequently in areas which are exposed to heavy air pollution or heavy traffic or roads treated with de-icing salts. If the vehicle is exposed to salty and humid air (coastal areas, humid climates), wash the vehicle more frequently.

Do not park under trees if at all possible. The resin-like discharge which many trees secrete, give the paintwork a matt look and can promote the onset of corrosion.

Wash off bird droppings straight away and thoroughly, as the acid it contains is extremely corrosive.

12.1.2 Washing with a high-pressure cleaner

- ▷ Do not clean the tyres with a high-pressure cleaner. The tyres might be damaged.
- ▷ Do not spray external applications (deco-films) directly with the high-pressure cleaner. The external applications could come off.

Before cleaning the vehicle with a high-pressure cleaner, observe the operating manual of the high-pressure cleaner.

When cleaning with the nozzle for circular jet between the vehicle and the cleaning nozzle, maintain a minimum distance of approx. 700 mm.

Take into consideration that the jet of water comes out of the cleaning nozzle with pressure. The vehicle may be damaged by incorrect handling of the high-pressure cleaner. The temperature of the water should not be above 60 °C. Keep the jet of water in constant movement during the washing process. Do not direct the water jet at clearances, built-in electrical parts, plugs, seals, the ventilation grill or the skylights. The vehicle may be damaged or water may enter the interior.

12.1.3 Washing the vehicle

▷ Never clean the vehicle in the car wash. The brush rollers can damage the external applications. Water can enter the waste gas vents or the forced ventilations. The vehicle could be damaged.

- Wash the vehicle only on a washing site intended for this purpose.
- Avoid full sunshine. Observe environmental measures.
- Only clean external applications and synthetic parts with plenty of warm water, dish washing liquid and soft cloth.
- Wash down the vehicle with plenty of water, a clean sponge or a soft brush. In the case of stubborn dirt add dish washing liquid to the water.
- Painted exterior walls may also be cleaned with a caravan cleaner.
- Add-on parts made of glass-fibre reinforced plastic (GRP) require a regular follow-up treatment with a polisher. This way these parts will not turn yellow and the sealing of the surface remains intact.
- Treat rubber seals on doors and storage flaps with a conventional rubber care product.
- Treat locking cylinder of doors and storage flaps with graphite dust.

12.2 Water system

12.2.1 Cleaning the water tank

- Empty the water tank and close the drainage opening.
- Remove the cap of the water tank.
- Fill water tank with water and some washing-up liquid (do not use any scourers).
- Using a trade standard brush for washing dishes, scrub the water tank until there is no longer any visible deposit.
- Scrub also the pump housing.
- If possible, clean fresh water sensors through the cleaning openings by hand.
- Rinse water tank with copious amounts of drinking water.

▷ If, due to the design of the water tank, it is not possible to clean the water tank mechanically: Use a suitable chemical cleaning agent.

The authorised dealers would be happy to assist you in choosing a suitable cleaning agent.

Follow the cleaning agent manufacturer's instructions.

12.2.2 Cleaning the water pipes

▷ Only use suitable cleaning agents as sold by the specialist trade.

▷ The cleaning agent must meet national regulations and be approved (if required).

▷ Collect any emerging mixture of water and cleaning agent for correct disposal.

- Empty the water system.
- Close the drain cock.
- Fill mixture of water and cleaning agent into the water tank. Observe the manufacturer's instructions regarding the mixing ratio.
- Open the drain cock.
- Leave the drain cock open until the mixture of water and cleaning agent has reached the drain.
- Close the drain cock again.
- Open the water tap.
- Leave the water tap open until the mixture of water and cleaning agent has reached the drain.
- Close the water tap.
- Allow the cleaning agent to act in accordance with the manufacturer's instructions.
- Empty the water system. Collect the mixture of water and cleaning agent for correct disposal.
- For rinsing fill the entire water system with drinking water and empty again several times over.

12.2.3 Disinfecting the water system

▷ Only use suitable disinfectants as sold by the specialist trade. Observe the tolerance of humans and animals.

▷ The disinfectant must meet national regulations and be approved (if required).

▷ Collect any emerging mixture of water and disinfectant for correct disposal.

When disinfecting the water system, proceed the same way as when cleaning the water pipes (see section 12.2.2). Simply use disinfectant instead of cleaning agent.

12.2.4 Cleaning the waste water tank

Clean the waste water tank after every use.

- Empty the waste water tank.
- Open the cleaning opening on the waste water tank and the drain cock.
- Thoroughly rinse out the waste water tank with fresh water.
- If possible, clean waste water sensors through the cleaning opening by hand.

12.3 Elevating roof

Lock

- Check the lock of the elevating roof and readjust if necessary.
- Check roof shell / roof shell mechanism and readjust if necessary.

Care of the GRP roof shell

- Carry out the care of the roof shell in accordance with the paint care instructions of the respective vehicle manufacturer. Use a commercially available paint care products.
- In addition to the usual vehicle washing, it is recommended to treat the roof at least twice a year with the following care products from Certiman:
  - Paint cleaning
  - Paint treatment
  - Paint sealing

These products are available from specialist camping, boat and caravan dealers.

Care of the foam suede inner lining

- Remove dirt from the suede with a clean and damp cloth or a clean brush.

Care of the elevating roof

- The canvas of the elevating roof is breathable cotton. Swelling due to moisture seals the canvas. If water nevertheless enters at the seams, we recommend sealing the seams with a waterproofing agent designed for this purpose.
- Treat the fabric bellows with a commercially available impregnation before the start of the season. To avoid a musty smell, air the fabric bellows several times a year.
- Do not close the elevating roof with damp or wet fabric bellows. If this is ever necessary, allow the fabric bellows to dry completely as soon as possible.
- When closing the elevating roof, it is mandatory to proceed as described in the instruction manual, see section 7.9.
- To prevent the seal from freezing to the bodywork in cold weather, rub the rubber seal on the roof shell with a commercially available rubber care product before the winter months.
- In the case of a roof version with belt locking, check the belts and the tongues for function or damage.

12.4 Winter care

De-icing salt damages the underbody and the parts open to water spray. We recommend that you wash the vehicle more frequently during wintertime. Mechanical and surface treated parts and the underside are under particular strain, and should therefore be cleaned thoroughly.

12.4.1 Preparations

- Check the vehicle for paint and rust damage. Repair damage as necessary.
- Use a wax-based rust inhibitor to protect the metal parts of the underbody.
- Use appropriate protection for external painted surfaces.

12.4.2 Winter operation

During winter operation, condensation develops when the vehicle is occupied under low-temperature conditions. To ensure good interior air quality and avoid vehicle damage from condensation, sufficient ventilation is essential.

- When heating the vehicle, the heater should be at the highest setting and roof storage cabinets, curtains and blinds should be opened. This ensures optimal ventilation.
- In the morning, lift up all cushions, air out storage boxes and dry any damp areas.

▷ If condensation has still developed, just wipe it off.

12.4.3 At the end of the winter season

- Thoroughly clean the underbody of the vehicle and the engine. When this is done, corrosion-inducing anti-freeze agents (salts, alkaline residues) are removed.
- Clean the exterior and use regular car wax to protect metal surfaces.

Chapter overview

This chapter contains instructions about official inspections and inspection and maintenance work in the vehicle.

At the end of the chapter you will find important instructions on how to obtain spare parts.

13.1 Official inspections

Depending on the national legislative provisions, the following official inspections must be carried out periodically:

- Main inspection
- Emissions test
- Inspection of the gas system

The inspection intervals in accordance with the national legislative provisions must be adhered to. The inspection stickers attached to the vehicle indicate when the next inspection is required.

For Germany, for example, the following regulation applies:

From April 1st 2022, the inspection obligation for the gas system as part of the main inspection (HU) will no longer apply. Instead, an independent gas inspection (according to DVGW (German Technical and Scientific Association for Gas and Water) worksheet G 607) must be carried out for recreational vehicles (motorhomes and caravans). The gas inspection is evidenced by the correctly completed yellow inspection book and a valid inspection sticker on the vehicle.

For more information on the gas inspection and the intervals at which it must be carried out, see the following websites:

- German Federal Ministry of Digital Affairs and Transport (BMDV): www.bmvi.de
- German Technical and Scientific Association for Gas and Water (DVGW): www.dvgw.de
- German Association for Liquefied Gas (DVFG): www.dvfg.de

As long as the intervals at which the gas inspection must be carried out are not regulated by law, the DVGW recommends an inspection every two years.

Many camping site operators demand proof of a valid gas inspection when allocating a parking place.

▷ Any changes on the gas system must be carried out by a certified expert for gas systems.

▷ Even in the case of vehicles that are not registered, an inspection of the gas system is required.

13.2 Inspection work

Like any technical appliance, the vehicle must be inspected at regular intervals.

This inspection work must be carried out by qualified personnel.

Special technical knowledge, which cannot be taught within the framework of this instruction manual, is required for these tasks. Personnel possessing this technical knowledge are available for assistance at all service centres. Their experience and regular technical instruction by the factory as well as equipment and tools guarantee expert and up-to-date inspection of the vehicle.

The service centre in charge will confirm the work performed.

Have chassis inspections confirmed in the chassis manufacturer's customer service booklet.

- ▷ Observe the inspections indicated by the manufacturer and have them carried out at the specified intervals. The value of the vehicle is thus preserved.
- ▷ The confirmation of the inspection work carried out serves as valid proof in the event of damage and guarantee claims.

13.3 Maintenance work

As with every machine, this vehicle requires maintenance. The extent and frequency of the maintenance work required depend on conditions of operation and use. More difficult operating conditions make it necessary to service the vehicle more often.

Have the base vehicle and the appliances serviced at the intervals specified in the corresponding instruction manuals.

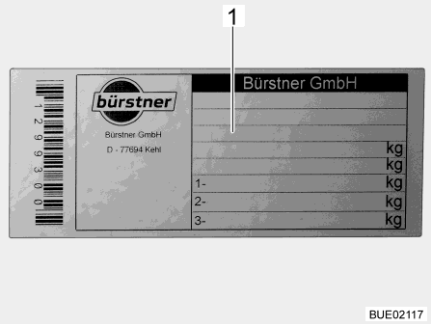
13.4 Spare parts

- ▶ Every alteration of the original condition of the vehicle can alter road behaviour and jeopardize road safety.
- ▶ The special equipment and original spare parts recommended by us have been specially developed and supplied for your vehicle. These products are available at your dealer. The dealer is informed about admissible technical details and carries out the required work correctly.
- ▶ The use of accessories, parts and fittings not supplied by us may cause damage to the vehicle and jeopardize road safety. Even if an expert's report, a general type approval or a design certification exists, there is no guarantee for the proper quality of the product.
- ▶ No liability can be assumed for damage caused by products which have not been released by us. This also applies to impermissible alterations to the vehicle.

For safety reasons, spare parts for pieces of equipment must correspond with manufacturer's instructions and be permitted by the manufacturer as a spare part. These spare parts may only be fitted by the manufacturer or an authorised specialist workshop. The authorised dealers and service centres are available for any spare parts requirement.

When ordering spare parts, please indicate the serial number and the vehicle type to the dealer.

13.5 Vehicle identification plate



1 Chassis number

Fig. 70 Vehicle identification plate

The vehicle identification plate with the chassis number is affixed to the B column on the passenger side.

Do not remove the vehicle identification plate (Fig. 70). The vehicle identification plate:

- Identifies the vehicle
- Helps with the procurement of spare parts
- Together with the vehicle documents identifies the vehicle owner

▷ Always include the **chassis number** with all inquiries for the customer service office.

▷ The chassis number of the base vehicle is located under a cover in the entrance at the passenger side for vehicle with passenger's door, for vehicles without passenger's door under a cover on the right hand side next to the front passenger's seat.

13.6 Warning and information stickers

There are warning and information stickers on and inside the vehicle. Warning and information stickers are for the sake of safety and must not be removed.

▷ Replacement stickers can be obtained from an authorised dealer or a service centre.

13.7 Dealers

Contact your authorised dealer or service centre whenever spare parts are needed for the vehicle.

You can find the addresses and telephone numbers of the authorised dealers and service centres on the web at the homepage of the manufacturer.

13.8 Gas fired boiler (Whale)

▶ Have gas tightness and burner function checked by an approved specialist.

▷ The device contains components sensitive to ESD. Have device opened only by an authorized service centre.

- Have boiler checked by an authorized service centre in accordance with the applicable local provisions at least once a year.
- Fully sterilize the boiler at least once a year.
- Use a sterilization liquid the complies with the manufacturer's specifications for cleaning and sterilizing.
- If the water system has not been used for a period longer than 7 days, empty the water system completely and flush it thoroughly before filling it again.
- In order to protect the pressure relief valve from calcifications: actuate the pressure relief valve at least twice a year. In order do this, turn lever of the drain cock through 90° in an anticlockwise direction.

Chapter overview

This chapter contains instructions regarding the tyres of the vehicle.

At the end of the chapter there is a table you can use to find the correct tyre pressure for your vehicle.

14.1 General

▶ Check tyre pressure before a journey or every 2 weeks. Wrong tyre pressure causes excessive wear and can lead to damage or even to tyre burst. You can lose control of the vehicle (see section 14.6).

- ▷ Check the tyre pressure on cold tyres. Do not reduce the higher tyre pressure when the tyres are warm.
- ▷ Tubeless tyres have been installed on the vehicle. Never install tubes in these tyres.
- ▷ Read the instruction manual for the base vehicle.

- ▷ Depending on the model, the vehicle may only be equipped with a tyre repair kit as standard.
- ▷ In the case of a puncture, pull the vehicle over to the side of the road. Make vehicle safe with a hazard warning triangle. Switch on the warning lights.
- ▷ Tyres must not be older than 6 years as the material will become brittle over time. The four-digit DOT number on the tyre flank indicates the date of manufacture. The first two digits designate the week, the last two digits the year of manufacture.

  Example: (0721) Week 07, year of manufacture 2021.
- ▷ The on-board tool set is stowed in the bedding box on the left.

Observe:

- ■ Check the tyres regularly (every 2 weeks) for equal tread wear, tread depth and external damage.
- ■ Replace tyres at the latest, when the minimum depth of tread stipulated by law is reached.
- ■ Always use tyres of the same model on one axle.
- ■ Observe the instructions in the vehicle documents.
- ■ Only use tyres approved for the wheel rim type fitted. The permitted rim and tyre sizes are quoted in the vehicle documents and the authorised dealer or service centre will always be glad to give you advice.
- ■ Run-in new tyres for approx. 100 km (60 miles) at low speed since only then do they reach full strength.

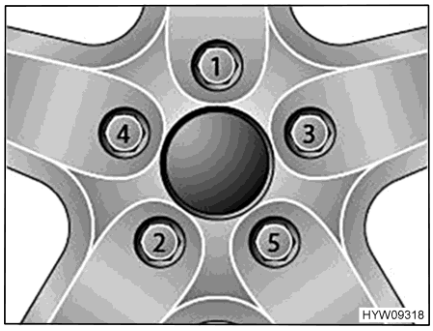


Fig. 71 Tightening the wheel nuts or wheel bolts cross-wise

- Tighten the wheel nuts or wheel bolts in the order shown in Fig. 71. In order to do this, use a torque wrench and comply with the specified tightening torque (see section 14.5).
- Check regularly that the wheel nuts or wheel bolts are firmly seated. Re-tighten the wheel nuts or wheel bolts of a changed wheel after 50 km (30 miles). While doing so, proceed in the order shown in Fig. 71.
- When using new or newly painted rims, re-tighten the wheel nuts or wheel bolts once again after approx. 1,000 to 5000 km (600 miles to 3,000 miles). While doing so, proceed in the order shown in Fig. 71.
- For lay-ups or long periods of inactivity, keep the tyres and tyre bearings free from pressure points:
  Jack up the vehicle so that the wheels do not bear any load, or move the vehicle every 4 weeks in such a way that the position of the wheels is changed.

14.2 Tyre selection

▶ A wrong tyre can damage the tyres during the journey and even cause it to burst.

▷ If tyres that are not approved for the vehicle are used, then the type approval for the vehicle and subsequently the insurance coverage can lapse. The authorised dealer or service centre will be happy to advise you.

The tyre sizes approved for the vehicle are given in the vehicle documents or can be obtained from the authorised dealers or service centres. Each tyre must fit the vehicle on which it will be driven. This applies to the external dimensions (diameter, width), which are indicated with the standardised size designations. In addition, the tyres must meet the requirements of the vehicle with regard to weight and speed.

The weight is based on the technically permissible maximum mass on the axle, which is distributed between two tyres. The maximum load-carrying capacity of a tyre is indicated by its load index (= LI, load index code).

The maximum permissible speed for a tyre (with full load-carrying capacity) is indicated by the speed index (= SI). Together, load index and speed index form the operating code of a tyre. This is an official component of the complete, standardised dimensions description which appears on every tyre. The information on the tyres must correspond to the specifications which appear in the vehicle papers.

14.3 Tyre specifications

215/70 R 15C 109/107 Q (example)

Description	Explanation
215	Tyre width in mm
70	Height-to-width proportion in percent
R	Tyre design (R = radial)
15	Rim diameter in inches
C	Commercial (transporter)
109	Load index code for single tyres
107	Load index code for twin tyres
Q	Speed index (Q = 160 km/h)

14.4 Handling of tyres

- Drive over kerbs at an obtuse angle. Otherwise the flanks of the tyres may get pinched. Driving over a kerb at a sharp angle can damage the tyre and result in it getting ruptured.
- Drive over high manhole covers at a slow speed. Otherwise the tyres may get pinched. Driving over a high manhole cover at high speed can damage the tyre and result in it getting ruptured.
- Check the shock absorbers regularly. Driving with poor shock absorbers significantly increases wear.
- In the event of an uneven thread wear, contact customer service.
- Do not clean the tyres with a high-pressure cleaner. The tyres can suffer serious damage within just a few seconds and rupture as a result.
- Drive the tyres with care. Avoid braking sharply, revving up too strongly and journeys on poor roads.

14.5 Tightening torque

	Screw size	Tightening torque
Ford base vehicle	M14 x 1.5	204 Nm
Renault base vehicle	M14 x 1.5	175 Nm

14.6 Tyre pressure

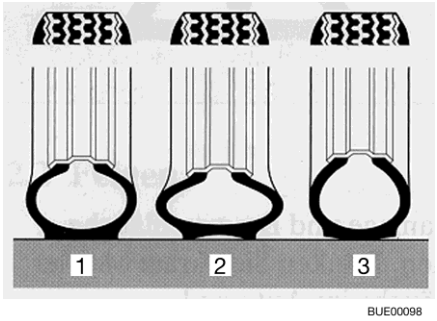
- Tyres overheat if the tyre pressure is too low. This can cause serious tyre damage.
- Check tyre pressure before a journey or every 2 weeks. Wrong tyre pressure causes excessive wear and can lead to damage or even to tyre burst. You can lose control of the vehicle.
- Use only valves that are approved for the specified tyre pressure.

▷ Check the tyre pressure on cold tyres. Do not reduce the higher tyre pressure when the tyres are warm.

The payload and the durability of tyres is directly dependent on the tyre pressure. Air is a volatile medium. It is unavoidable that it will escape from tyres.

As a rule of thumb it can be assumed that a filled tyre loses pressure at a rate of 0.1 bar every two months. To prevent the tyres becoming damaged or burst, check the tyre pressure regularly.

The contact surface of the tyre changes, depending on the tyre pressure.



1 Correct tyre pressure
2 Tyre pressure too low
3 Tyre pressure too high

Fig. 72 Contact surface of the tyre

▷ The information on pressure levels is valid for cold tyres and loaded vehicles.

▷ Pressure in hot tyres is higher than in cold tyres. Therefore, check the pressure when the tyres are cold.

▷ Tyre pressures in bar.

The vehicles are constantly brought up to the newest technical standards. It is possible that new tyre sizes are not yet included in this table. If this is the case, any dealer will be happy to provide the newest values.

	Tyre size	Tyre pressure in bar	
		Front	Rear
Ford base vehicle	215/65 R 16 C	3.6	3.1
	215/60 R 17 C	3.6	3.1
Renault base vehicle	215/65 R 16 C	3.5	3.9
	215/60 R 17 C	3.5	3.9

14.7 Tire repair kit (from Ford V7)

Fig. 73 Tire repair kit

Fig. 74 Tire repair kit bag

Fig. 75 Storage location

The tire repair kit (Fig. 73,1) is in a black bag with the Bürstner logo (Fig. 74) and is stored in a kitchen bottom cupboard on the bottom right (Fig. 75,1).

Chapter overview

This chapter contains instructions about possible faults in your vehicle.

The faults are listed with their possible causes and corresponding remedies.

The specified faults can be remedied with relative ease and without a great deal of specialised knowledge. In the event that the remedies detailed in this instruction manual should not be successful, an authorised specialist workshop must find and eliminate the cause of the fault.

15.1 Braking system

▶ Have defects on the braking system immediately remedied by an authorised specialist workshop.

15.2 Electrical system

▷ When the living area battery is changed, only use batteries of the same type and the same capacity.

▷ See chapter 9 for changing the fuses.

Fault	Cause	Remedy
Interior lighting does not work	Illuminant, plug connector or cable faulty	Contact customer service
No 230 V power supply in spite of connection	230 V automatic circuit breaker has triggered	Switch on 230 V automatic circuit breaker
Starter or living area battery is not charged when operated in 230 V mode	Jumbo flat fuse on the starter or living area battery is defective	Replace jumbo flat fuse on the starter or living area battery
	No mains voltage	Switch on automatic circuit breaker in the vehicle
	Transformer/rectifier is overheated	Ambient temperature too high or transformer/rectifier ventilation hindered
	Too many appliances are switched on	Switch off appliances that are not required
	Charger module in the transformer/rectifier is defective	Contact customer service
Living area battery is not charged during vehicle operation	Fuse on terminal D+ of the alternator is defective	Replace fuse
	Disconnector relay in the transformer/rectifier is defective	Contact customer service

Fault	Cause	Remedy
12 V indicator lamp is not lit	12 V power supply is switched off	Switch 12 V power supply on
	Battery cut-off switch on the transformer/rectifier is switched off	Set battery cut-off switch to on
	Starter or living area battery is not charged	Charge the starter or living area battery
	Disconnector relay in the transformer/rectifier is defective	Contact customer service
	Flat fuse on the living area battery is defective	Replace flat fuse on the living area battery
12 V power supply does not work	12 V power supply is switched off	Switch 12 V power supply on
	Battery cut-off switch on the transformer/rectifier is switched off	Set battery cut-off switch to on
	Living area battery is discharged	Charge the living area battery
	Jumbo flat fuse on the living area battery is defective	Replace jumbo flat fuse on the living area battery
	Disconnector relay in the transformer/rectifier is defective	Contact customer service
12 V power supply does not work in 230 V operation	12 V power supply is switched off	Switch 12 V power supply on
	Battery cut-off switch on the transformer/rectifier is switched off	Set battery cut-off switch to on
	230 V automatic circuit breaker has triggered	Contact customer service
	Charger module in the transformer/rectifier is defective	Contact customer service
	Jumbo flat fuse on the living area battery is defective	Replace jumbo flat fuse on the living area battery
230 V indicator lamp does not light up even though 230 V mains supply is connected	The mains connection is de-energised	Check external mains connection
	230 V automatic circuit breaker upstream of transformer/rectifier has tripped or is switched off	Reset 230 V automatic circuit breaker

Fault	Cause	Remedy
No voltage at a connected appliance	Self-resetting Polyswitch fuse has tripped	Check plug connectors and cables. Switch off 12 V power supply for approx. 2 minutes, then switch it back on
	Self-resetting Polyswitch fuse has tripped several times (3 times), system has deactivated corresponding output permanently	Remedy cause of Polyswitch tripping Cancel permanent switch-off (switch on 12 V power supply for living area, press rotary knob and keep it pressed for minimum 3 seconds)
Starter battery is discharged in 12 V operation	Disconnector relay in the transformer/rectifier is defective	Contact customer service
	Battery cut-off switch on the transformer/rectifier is switched off	Set battery cut-off switch to on
No voltage is supplied by the living area battery	Living area battery is discharged	Charge living area battery immediately ▷ Total discharge damages the battery. If the vehicle is to be laid up for a long period, fully charge the living area battery beforehand Discharging is caused by inactive appliances (see chapter 9)
Battery charge through solar module not working	Electrical connection to solar module interrupted	Check plug connectors and cables
	Fuse is defective	Replace fuse on the transformer/rectifier
	Solar charge regulator defective	Contact customer service
Living area battery overloaded ("hot")	Battery selection switch set wrongly	Move position of battery selection switch
	Defective load sensor or relay	Pull out the jumbo flat fuse on the living area battery, then contact customer service

15.3 Gas system

- In case of a defect of the gas system (gas odour, high gas consumption) there is danger of explosion! Close regulator tap on the gas bottle immediately. Open doors and windows and ventilate well.
- If the gas system is defective: Do not smoke; do not ignite any open flames, and do not operate electric switches (light switches etc.). Check the tightness of gas-conducting parts and lines with leakage search spray. Do not check with an open flame.
- Have the defective gas system repaired by an authorised specialist workshop.

Fault	Cause	Remedy
No gas	Gas bottle is empty	Change gas bottle
	Gas isolator tap closed	Open the gas isolator tap
	Regulator tap on the gas bottle is closed	Open regulator tap on the gas bottle
	External temperature is too low (-42 °C for propane gas, 0 °C for butane gas)	Wait for higher external temperatures
	Built-in appliance is defective	Contact customer service

15.4 Cooker

Fault	Cause	Remedy
Ignition fuse does not operate (flame does not burn after the control knobs are released)	Heat-up time is too short	Keep control knob pressed for approx. 15 to 20 seconds after ignition
	Ignition fuse is defective	Contact customer service
Flame extinguishes when being reduced to its minimum setting	Thermocouple sensor is incorrectly set	Correctly reset thermocouple sensor (do not bend). The sensor tip should protrude by 5 mm beyond the burner. The sensor neck should not be more than 3 mm away from the burner ring; if necessary, contact customer service

15.5 Heater/boiler

In the event of a defect contact the nearest customer service workshop of the relevant appliance manufacturer. The list of addresses is enclosed with the accompanying appliance documentation. Only authorised qualified personnel may repair the appliance.

15.6 Water supply

Fault	Cause	Remedy
Leakage water inside the vehicle	A leak has occurred	Identify leak, re-connect water pipes
No water	Water tank is empty	Replenish drinking water
	Drain cock not closed	Close drain cock
	12 V power supply is switched off	Switch 12 V power supply on
	Switch for water pump is off	Switch water pump on
	Fuse of the water pump is defective	Replace fuse on the transformer/rectifier
	Water pump defective	Exchange water pump (have it exchanged)
	Water pipe snapped off	Straighten water pipe or replace
	Transformer/rectifier defective	Contact customer service
Display for water and waste water indicates a wrong value	Measuring probe in the waste water or water tank is soiled	Clean water/waste water tank
	Measuring probe is defective	Replace measuring probe
Waste water tank cannot be emptied	Drain cock is clogged	Open the cleaning cap on the waste water tank and drain the waste water. Rinse the waste water tank well
Drain on the single lever mixer tap is clogged	Perlator calcified	Unclip the perlator, decalcify in vinegar water (only for products made from metal)
Milkiness of the water	Tank filled with dirty water	Clean water tank mechanically and chemically; then disinfect and rinse copiously with drinking water
	Residues in the water tank or water system	Clean water system mechanically and chemically; then disinfect and rinse copiously with drinking water

Fault	Cause	Remedy
Any change in the taste or odour of the water	Tank filled with dirty water	Clean water system mechanically and chemically; then disinfect and rinse copiously with drinking water
	Fuel filled into the water tank by mistake	Clean water system mechanically and chemically; then disinfect and rinse copiously with drinking water. If not successful: Contact a specialist workshop
	Microbiological deposits in the water system	Clean water system mechanically and chemically; then disinfect and rinse copiously with drinking water
Deposits in the water tank and/or water-carrying components	Water excessively long in the water tank and in water-carrying components	Clean water system mechanically and chemically; then disinfect and rinse copiously with drinking water

15.7 Body

Fault	Cause	Remedy
Flap hinges/door hinges are difficult to operate	Flap/door hinges are not (sufficiently) lubricated	Lubricate flap hinges/door hinges with acid-free and resin-free grease

▷ The authorised dealers and service centres are available for any spare parts requirement.

15.8 Compressor refrigerator Dometic CRX50

Fault	Cause	Remedy
Red LED flashes	Fault in the refrigerator	Contact customer service
Refrigerator is cooling very intensely	Quick-cooling function is switched on	Switch off the quick-cooling function
Compressor does not run	No supply voltage	Charge the battery
		Contact customer service if necessary
	Battery voltage too low	Charge the battery
	Battery capacity too low	Change the battery
	Ambient temperature is too high	If possible, ensure a lower ambient temperature (e.g. park the vehicle in the shade)
	Ventilation insufficient	Keep the ventilation slots clear
		Contact customer service if necessary
Cooling power decreases, internal temperature increases	Ambient temperatures are too high	If possible, ensure a lower ambient temperature (e.g. park the vehicle in the shade)
	Ventilation insufficient	Keep the ventilation slots clear
		Contact customer service if necessary
	Battery capacity low	Charge the battery
Unusual noises	Fan noise	Have the fan replaced
	Foreign body trapped between refrigerator and wall	Remove foreign body
	The pipes of the refrigeration circuit are in contact with the wall and cannot swing freely	Increase the distance to the wall

16.1 Weight details for special equipment

- ▶ The use of accessories, parts and fittings not supplied by us may cause damage to the vehicle and jeopardize road safety. Even if an expert's report, a general type approval or a design certification exists, there is no guarantee for the proper quality of the product.
- ▶ Every alteration of the original condition of the vehicle can alter road behaviour and jeopardize road safety.
- ▶ No liability can be assumed for damage caused by products which have not been released by us. This also applies to impermissible alterations to the vehicle.

Depending on the model series, different special equipments are offered. You can find out which special equipments are available for your vehicle in the separate document "Price List & Technical Data". There you will also find information on the weights of the individual special equipments.

- ▷ The factory installation of special equipment increases the actual weight of the vehicle and reduces the pay-mass. The additional weight indicated for packages and special equipment shows the surplus weight compared to the standard equipment of the respective model or ground plan.
- ▷ The total weight of the selected special equipment must not exceed the manufacturer's specified mass for special equipment in the model overviews. This is a calculated value for each type and ground plan, with which Bürstner determines the maximum weight available for factory-fitted special equipment.
- ▷ For detailed notes and explanations on the weight issue, see chapter 19.
- ▷ For further information about the payload issue, see section 4.2 in this instruction manual.

Model	Seats	Sleeping places	Outer dimensions L / W / H (in cm)
Copa / Playa (C 500)	max. 6*	2 / 4**	497 / 199 / 209
Copa / Playa (C 530)	max. 5*	4	535 / 199 / 209

* 3rd/4th and 5th/6th seat optional via Holiday version, BUS version or as single option
** 3rd and 4th sleeping place optional via Holiday version

Refer to the vehicle documents or the instruction manual of the base vehicle for further information on technical data.

Chapter overview

This chapter contains helpful tips for the journey.

At the end of the chapter there is a checklist containing the most important equipment for the journey.

18.1 Traffic rules in foreign countries

- ▷ The vehicle driver is required to inform himself as to the traffic rules of the countries in which he plans to travel before beginning the trip. Contact your automobile club or embassy for further information.
- ▷ In some European countries, warning vests must be worn when exiting the vehicle outside of towns in the case of vehicle failures or accidents.
- ▷ Depending on the country, different rules and regulations apply (e.g. different warning signs for rear carriers, obligation to carry breathalyzer kits, spare bulbs, high-visibility vests, size of reserve canister). The driver of the vehicle must familiarise him or herself with these rules before every journey.
- ▷ Up-to-date information can generally be found on the web pages of the national automobile associations.

Information about traffic regulations is especially important as state law applies in case of damage. For your own safety, always observe the following rules when travelling abroad:

- Carry your insurance certificate with you.
- Always register accidents with the police.
- Never sign documents that you have not read and understood completely.

18.2 Help on Europe's roads

- ▷ Before commencing the trip, gather information on national phone numbers for rescue and police. In many countries the central emergency phone number 112 (without area code) applies.
- ▷ As far as possible, draw up a list with the important phone numbers in the travelled countries and keep the table in the vehicle.

Motoring clubs at home or in the travelled country are happy to help.

18.3 Gas supply in European countries

▷ In Europe, there are several different connection systems for gas bottles. It is not always possible to fill or exchange your gas bottles in a foreign country. Get information about the connection system in the country you are travelling to before embarking on your journey, e.g. at a motoring club or in the trade press.

General tips

Always observe the following instructions:

- Only go on vacation with completely filled gas bottles.
- Use all of the gas bottles' capacity.
- Take along adapter sets (available in camping supply stores) for filling gas bottles in foreign countries and for connecting the gas pressure regulator to foreign gas bottles.
- During the cold time of the year observe filling with propane gas component (butane does not gas below 0 °C).
- Use blue bottles from the firm Campingaz (distributed world-wide). Only use gas bottles with safety valves.
- When bottles from other countries are used, check the gas bottle compartments to see if the gas bottles fit into them. Gas bottles from other countries do not always display the same size as your own gas bottles.
- The web site www.mylpg.eu provides an overview of gas suppliers in Europe.

18.4 Toll regulations in European countries

Many European countries have introduced a mandatory toll system. The toll regulations and how they are collected vary greatly from country to country. Nevertheless, ignorance is no excuse. Penalties can be quite severe.

As is the case with traffic regulations, the vehicle driver is required to be familiar with the toll formalities before starting out on a trip. For example, in Austria the vignette does not meet the toll requirements for vehicles that weigh more than 3.5 t. There, a so-called "Go-Box" must be obtained and charged.

Contact your automobile club or the Internet for further information.

▷ Windscreens with solar filters can affect the functioning of automatic toll collection systems (e.g. Go-Box). This must be taken into account when acquiring the appropriate device (e.g. Split-Go-Box).

18.5 Tips on staying overnight safely during travel

Prudent behaviour is the most important protective measure for insuring a safe night in the vehicle.

The risk of thievery is reduced to a minimum when the following basic rules are observed:

- During high season do not spend the night at highway rest stops or parking areas located along typical vacation routes.
- Several vehicles on one site at the same time do not necessarily decrease the chances of thievery occurring. Consult your own feelings about the parking site.
- Even if it is just for one night, go to a camping site.
- When parking on open space keep emergency routes clear. The way to the driver's seat should be clear. The ignition key should always be within reach.
- Only take with you those valuables which are absolutely necessary for the journey. If possible, store valuables in a small safe and not in the immediate vicinity of windows or doors.
- Always lock up the vehicle.

18.6 Tips for winter campers

The following tips will help make your winter camping experience as agreeable as possible.

- Reserve your parking place in good time. Good winter camping sites are often booked up early.
- Do not start your trip without winter tyres.
- Bring snow chains.
- Choose your parking place with care. Observe the ground beneath you. Snow and ice may melt.
- When the vehicle has been positioned, release the handbrake to prevent freezing.
- No snow walls should be allowed to cover the built-in forced ventilation.
- Keep the built-in forced ventilation free from snow and ice.
- Make sure the air circulation is good. Good air circulation prevents moisture from collecting and makes it easier to heat the living area.
- Cover the single-paned driver's cabin window with insulation mats to avoid thermal bridges.
- Follow the instructions in the section "Gas supply in European countries".
- Use a two-bottle system with automatic controller for the gas system, so that the supply does not run out during the night.
- Only operate the gas system using propane gas.
- Do not use the space behind the heater as a storage space.
- Never operate catalytic ovens or infra-red gas radiators in the interior of the vehicle, since they consume oxygen for burning.
- Lay the 230 V power cable in such a way that the cable cannot be frozen or be damaged (e.g. during snow removal).
- When it is snowing heavily, clear the roof of the vehicle of snow regularly. A few centimetres of powdery snow serves as insulation, but wet snow quickly becomes a heavy burden.
- Before embarking on the return journey, remove all the snow from the roof to avoid impeding vehicles behind you with a "snow flag".

18.7 Travel checklists

The following checklists will help that nothing important is left at home although not everything on the checklists might be necessary.

▷ Do not leave checking of documents (e.g. vehicle papers and information) as well as checking the condition of the vehicle until just before commencing the trip. Planning and checking documents well in advance will save unnecessary trouble.

Kitchen area

✓	Object	✓	Object	✓	Object
	Wiping cloth		Cleansing agent (detergent)		Salad servers
	Silverware		Dishcloths		Chopping board
	Turnspit		Glasses		Brush to wash the dishes
	Can opener		Set of knifes and forks for grilling		Cloth to wash the dishes
	Ice cube tray		Corkscrew		Matches
	Lighter		Kitchen paper		Thermos jug
	Bottle opener		Garbage bags		Pots
	Air-tight storage boxes		Frying pans		
	Crockery		Stirring spoons		

Bathroom/sanitary items

	Towels		Sanitary items		Toilet paper
	Hygiene products		Toilet brush		Toothbrush glass

Living area

	Dustbin		Deck of cards		Rucksack
	Road atlas		Broom		Sleeping bags
	Bath towels		Dust pan		Pencils and paper
	Bath shoes		Candles		Shoes
	Batteries		Coat-hangers		Shoe polish
	Bed linen		Clothes brush		Sports equipment
	Laundry bag		Pillow		Vacuum cleaner
	Books		Map		Flash light
	Camping guide/parking space directory		Medicine		Pocket knife
	Binoculars		Mobile phone		Table cloth
	Fire extinguisher		Sewing kit		Drinking bottle
	Gas bottle		Rain clothes		Clothes pins
	Insect lamp		First aid kit		Clothesline
	Insect repellent		Travel guide		

Vehicle/tools

✓	Object	✓	Object	✓	Object
	Waste water container		Gas tube		Snow chains (winter)
	Adapter socket		Fabric tape		Screwdriver
	CEE adapter		Watering can for drinking water		Current-measuring instrument
	Wire		Cable reel		Wheel chocks
	Spare wheel		Glue		First-aid kit
	Spare lamps		Universal pliers		Vehicle jack
	Spare fuses		Compressor		Hazard warning triangle
	Hammer		Loops		Warning sign
	Flat wrench		Tube adapter		Warning vest(s)
	Gas filling adapter		Hose clips		Flashing hazard warning light

Outside

	Stay rope		Camping table		Lock
	Bellows		Luggage racks		String
	Camping chairs		Grill		Tent pegs/tightening ropes

Documents

	List of addresses		Registration book		Passport
	Registration confirmation(s)		Driving licence		Writ of protection
	Allergy certificate		Vaccination certificate		Insurance documents
	Instruction manuals		Credit card		Vignette/toll card
	Instruction leaflets for medicines		Identity card		Visa

The weight specifications and tests for motorhomes are uniformly regulated throughout the EU in EU Implementing Regulation No. 2021/535 (until June 2022: EU Implementing Regulation No. 1230/2012). We have summarised and explained the key terms and legal requirements from this regulation for you below. Our dealers and the Bürstner configurator on our website offer you additional assistance in configuring your vehicle.

1. Technically permissible maximum laden mass

   The technically permissible maximum laden mass of the vehicle (e. g. 3,500 kg) is a mass specification set by the manufacturer which the vehicle must not exceed. Information on the technically permissible maximum laden mass of the model you have chosen can be found in the technical data. If the vehicle exceeds the technically permissible maximum laden mass in everyday driving, this constitutes an administrative offence which may result in a fine.

2. Mass in running order

   In simple terms, the mass in running order is the basic vehicle with standard equipment plus a legally fixed standard weight of 75 kg for the driver. This essentially includes the following items:

   - the unladen weight of the vehicle together with the bodywork, including operating fluids such as greases, oils and coolants;
   - the standard equipment, i.e. all equipment items that are included as standard in the factory-fitted scope of delivery;
   - the fresh water tank filled to 100 % in driving mode (driving fill according to manufacturer's specifications; 20 litres) and an aluminium gas cylinder filled to 100 % with a weight of 16 kg;
   - the fuel tank, which is 90 % full, including fuel;
   - the driver, whose weight – regardless of the actual weight – is generally specified as 75 kg in accordance with EU law.

   Information on the mass in running order can be found for each model in our sales documents. It is important to note that the value for mass in running order given in the sales documents is a default value determined in the type-approval procedure and verified by the authorities. It is legally permissible and possible for the mass in running order of the vehicle delivered to you to deviate from the nominal value stated in the sales documents. The legally permissible tolerance is ± 5 %. In this way, the EU legislator accounts for the fact that certain fluctuations in the mass in running order occur due to variations in the weight of supplied parts as well as due to processes and weather conditions.

   These weight deviations can be illustrated by means of an example calculation:

   - Mass in running order acc. to sales documents: 2,850 kg
   - Legally permissible tolerance of ± 5 %: 142.50 kg
   - Legally permissible range of mass in running order: 2,707.50 kg to 2,992.50 kg

The specific range of permissible weight deviations can be found for each model in the technical data. Bürstner makes great efforts to reduce weight variations to the minimum that is unavoidable for production reasons. Deviations at the upper and lower end of the range are therefore very rare; however, they cannot be completely ruled out technically, even with all optimisations. The real weight of the vehicle and compliance with the permissible tolerance is therefore checked by Bürstner by weighing each vehicle at the end of the line.

3. Mass of the passengers

   The mass of the passengers is set a standard value of 75 kg for each seat provided by the manufacturer, regardless of the actual weight of the passengers. The mass of the driver is already included in the mass in running order (see no. 2 above) and is therefore not included again. In the case of a motorhome with four permitted seats, the mass of the passengers is therefore 3 x 75 kg = 225 kg.

4. Optional equipment and actual mass of the vehicle

   Optional equipment (also: additional equipment) includes, according to the legal definition, all optional equipment parts not included in the standard equipment which are fitted to the vehicle under the responsibility of the manufacturer – i.e. ex works – and can be ordered by the customer (e. g. awning, bicycle or motorbike carrier, satellite system, solar system, oven, etc.). Information on the individual or package weights of the optional equipment that can be ordered can be found in our sales documents. Optional equipment in this sense does not include other accessories that are retrofitted by the dealer or you personally after the vehicle has been delivered ex works.

   The mass of the vehicle in running order (see no. 2 above) and the mass of the optional equipment fitted to a specific vehicle at the factory are together referred to as the actual mass. You will find the corresponding information for your vehicle after handover under item 13.2 of the Certificate of Conformity (CoC). Please note that this specification also represents a standardised value. Since the mass in running order – as an element of the actual mass – is subject to a legally permissible tolerance of ± 5 % (see no. 2), the actual mass may also deviate accordingly from the stated nominal value.

5. Pay-mass and minimum pay-mass

The installation of optional equipment is also subject to technical and legal limits: Only so much optional equipment can be ordered and fitted at the factory that sufficient free weight remains for baggage and other accessories ("pay-mass") without exceeding the technically permissible maximum laden mass. The pay-mass is calculated by subtracting the mass in running order (nominal value according to sales documents, see no. 2 above), mass of the optional equipment and the mass of the passengers (see no. 3 above) from the technically permissible maximum laden mass (see no. 1 above). The EU regulations stipulate a fixed minimum pay-mass for motorhomes, which must remain as a minimum for baggage or other non-factory-fitted accessories. This minimum pay-mass is calculated as follows:

Minimum pay-mass in kg ≥ 10 x (n + L)

Where: "n" is the maximum number of passengers plus the driver and "L" is the overall length of the vehicle in metres.

For a motorhome with a length of 6 m and 4 approved seats, the minimum pay-mass is therefore e. g. 10 kg x (4 + 6) = 100 kg.

To ensure that the minimum pay-mass is maintained, there is a maximum combination of optional equipment that can be ordered for each vehicle model. In the above example with a minimum pay-mass of 100 kg, the total mass of optional equipment for a vehicle with four permitted seats and a mass in running order of 2,850 kg should not exceed 325 kg:

3,500 kg technically permissible maximum laden mass
- 2,850 kg mass in running order
- 3 x 75 kg mass of the passengers
- 100 kg minimum pay-mass
= 325 kg maximum permissible mass of optional equipment

It is important to note that this calculation is based on the default value for mass in running order as defined in the type-approval procedure, without taking into account the permissible weight deviations for mass in running order (see no. 2 above). If the maximum permissible value for the optional equipment of (in the example) 325 kg is almost or completely exhausted, an upward weight deviation can therefore result in the minimum pay-mass of 100 kg being met mathematically using the default value for the mass in running order, although in fact there is no corresponding load capacity. Here, too, an example calculation for a vehicle with four seats, whose real weighed mass in running order is 2 % above the nominal value:

3,500 kg technically permissible maximum laden mass
- 2,907 kg real weighed mass in running order (+ 2 % compared to the stated value of 2,850 kg)
- 3 x 75 kg mass of the passengers
- 325 kg optional equipment (maximum permissible value)
= 43 kg actual load capacity (< minimum pay-mass of 100 kg)

In order to avoid such a situation, Bürstner further reduces the maximum permissible weight of the total optional equipment that can be ordered on a model-specific basis. The limitation of optional equipment is intended to ensure that the minimum pay-mass, i.e. the legally prescribed free mass for baggage and retrofitted accessories, is actually available for the vehicle load capacity of the vehicles delivered by Bürstner.

Since the weight of a specific vehicle can only be determined when it is weighed at the end of the line, in very rare cases a situation may arise in which the minimum pay-mass at the end of the line is not guaranteed, despite this limitation of optional equipment. In order to guarantee the minimum pay-mass even in these cases, Bürstner will check together with your trade partner and you before delivery of the vehicle whether, for example, the vehicle is loaded up, seats are reduced or optional equipment is removed.

6. Effects of tolerances of the mass in running order on the pay-mass

Regardless of the minimum pay-mass, you should note that unavoidable production-related fluctuations in the mass in running order – both upwards and downwards – have a mirror-image effect on the remaining load capacity: If you order our example vehicle (see no. 3. above), for example, with optional equipment with a total weight of 150 kg, the calculated pay-mass based on the default value for the mass in running order is 275 kg. The load capacity actually available may deviate from this value due to tolerances and may be higher or lower. If the mass in running order of your vehicle is, for example, permissibly 2 % higher than stated in the sales documents, the load capacity is reduced from 275 kg to 218 kg:

3,500 kg technically permissible maximum laden mass
- 2,907 kg real weighed mass in running order (+ 2 % compared to the stated value of 2,850 kg)
- 3 x 75 kg mass of the passengers
- 150 kg optional equipment ordered for the specific vehicle
= 218 kg actual load capacity

As a precaution to ensure that the calculated pay-mass is actually given, you should therefore take the possible and permissible tolerances for the mass in running order into account when configuring your vehicle.

We also recommend that you weigh the laden motorhome on a non-automatic scale before each journey and, taking the individual weight of the passengers into account, determine whether the technically permissible maximum laden mass and the technically permissible maximum mass on the axle are observed.

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