



Elddis Campervan Handbook MY27

Congratulations

Congratulations on your new Elddis. And on behalf of all our colleagues, we would like to thank you for your choice.

With Elddis you now have a compact and versatile vehicle that will give you great flexibility every day and in your leisure time. It opens up a wide range of uses for you: Whether as a comfortable shuttle for about town, as a transporter for shopping and moving home, or as a fully-equipped camper for nature and leisure experiences - your Elddis will meet all your needs.

This instruction manual mainly contains information about your Elddis's living configuration. It contains all the important information and tips that will enable you to take full advantage of all the technical advantages of your Elddis. You will also find important information about care, to help you maintain the value of your Elddis.

You will receive all documents for the basic vehicle and the various input devices separately.

If you still need support or would like to have maintenance work carried out, simply contact your nearest Elddis trading partner directly. He will make your Elddis ready again for the next adventure.

Now we'd like to wish you many unforgettable times with your Elddis.

Vehicle data	Customer address
Model:	Surname, Christian name:
Car manufacturer/type of engine:	Street, no.:
Initial registration:	Postal code, town:
Chassis number:	
Serial number:	
Purchased from company:	
Start of the guarantee period:	
Expiry of the guarantee period	
Dealer's stamp and signature	

We reserve the right to alter the construction, equipment and the scope of delivery.

Special equipment is also listed that is not included in the standard scope of delivery. The descriptions and illustrations in this brochure do not relate to a particular version. For all details, only the respective equipment list is valid.

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1 Welcome & introduction

Thank you for selecting your new campervan. Before you drive off, please familiarise yourself with the campervan and read this owner's handbook. This will help you to obtain the maximum pleasure from your vehicle and avoid endangering yourself and others, refer to the base vehicle user handbook supplied with your campervan.

Additional information and detailed appliance instruction manuals are also contained in your owner's Information Pack.

Your new campervan has been designed as a recreational vehicle and is intended for recreational use only. It is not intended for business use or for permanent habitation. Erwin Hymer Group UK accepts no liability if the motorhome is used for any purpose other than recreational/holiday use. Any use other than recreational/holiday use will invalidate your warranty.

Please note: All Erwin Hymer Group UK campervans are classified as Grade 1 and therefore meet with the thermal insulation and heat levels for specific climatic conditions as specified within the British and European Standard BS EN 1646 part 1.

By following the instructions provided in this handbook and maintaining your campervan in a first-class roadworthy condition, you are sure to have many years of carefree use. To ensure the very best quality and reliability all campervan designs and new developments are rigorously tested. Therefore, Erwin Hymer Group UK will accept no liability or uphold the warranty if the campervan is altered or modified in any way.

IMPORTANT

The VIN number of your campervan must be quoted in all correspondence, it can be found on a plate fixed next to the chassis plate within the engine compartment.

The vehicle VIN number should be quoted in any communications with the base vehicle manufacturer.

Changing market and supply situations may prevent us from maintaining the exact specification details in this guide and we therefore reserve the right to alter specifications as materials and conditions demand and if necessary, supply an alternative.

Enjoy your new campervan.

www.elddis.co.uk

Please note – telephone numbers quoted in the following sections may incur charges.

End Of Life Vehicle Directive

Your new campervan fully conforms with the European Directive on the End-of-Life Vehicles. In order to obtain information on how to dispose of your campervan at the end of its life please visit the base vehicle manufacturer website. The base vehicle manufacturer website contains full details on all base vehicle manufacturer products together with details of their environmental and recycling policies.

Erwin Hymer Group UK Technical Approvals

All Erwin Hymer Group UK Motorhomes hold Full GB and EU Whole Vehicle Type approval. In order to ensure your new motorhome is safe to use Erwin Hymer Group UK are members of and have been inspected by the following bodies.

NCC who operate a certification scheme to ensure compliance with European and UK safety standards for motorhomes.

Please note: All motorhomes manufactured for Erwin Hymer Group UK are designated by their model year. For example, 2022 Model year runs from 1st September 2021 to 31st August 2022.

2 Warranty

2.1 Campervan habitation warranty cover

Introduction

At Erwin Hymer Group UK we are confident that our new campervans are engineered using the latest manufacturing techniques and advanced materials technology ensuring that, when buying one of our products, you are buying the very best. We extend this philosophy to our customers by offering long term peace of mind and reassurance through our extensive warranty cover.

Your warranty cover commences on the day your new campervan is purchased and comprises of three key elements:

1. The base vehicle warranty cover is provided by the original manufacturer. Please contact your local base vehicle retailer direct for any base vehicle warranty issues.
2. Two year Erwin Hymer Group UK manufacturer's warranty.
3. Ten year Erwin Hymer Group UK body integrity warranty.

Scope

This applies to all new products and is a guide intended to give a brief overview of warranty terms applicable to your vehicle.

Conditions of use

Your new campervan has been designed as a leisure vehicle only.

The warranty will not be given if the vehicle is used under the following circumstances.

- Used as a permanent residence
- Used for racing or time trials
- Damage resulting from freezing, accident or fire damage

Exclusions

- No liability will be accepted for fair wear and tear, including mould or discolouration of adhesive. Damage including rodent damage, wilful damage or negligence from abnormal working conditions will not be covered.
- Condensation is not covered under the warranty agreement.

Two year manufacturer's warranty

The warranty begins on the day the customer receives the vehicle, but no later than 18 months after the factory delivers the vehicle to the dealer. The warranty is valid for a maximum of two years. If the first registration date is before the date the customer receives the vehicle, the vehicle's first registration date will apply as the start of the warranty (effective date of the warranty).

The guarantee card has to be fully completed in the warranty online system by the supplying dealer within 10 days after vehicle registration. Warranty claims will only be accepted if this condition is fulfilled.

The Manufacturer's guarantee does not cover any faults pertaining to the base vehicle (chassis).

The customer has the right to the base vehicle (chassis) manufacturer's guarantee or to any dealer warranties in place at the time. Replacement of parts which have reached the end of their effective working lives because of age and/or wear and tear (e.g. tyres, batteries, break lining, cushions) are not covered under the terms of this guarantee.

We would recommend that customers have their vehicle serviced on or before the due date to ensure that all warrantable parts are identified before the expiry of the component.

Ten year body integrity warranty

The leakage warranty also starts on the day of the takeover of the vehicle by the customer, but at the latest 18 months after factory delivery to the dealer. If the initial registration takes place before the takeover, the date of the initial registration of the vehicle is deemed to be the start of the warranty (warranty date). Covering any water ingress as a result of a warrantable defect through a permanently sealed seam or joint.

Reporting a fault

In the unlikely event that you experience a problem with your campervan please contact your retailer.

It is with the retailer that your contract of sale exists and consequently they have the responsibility to ensure any complaints and warranty issues are addressed.

Any Erwin Hymer Group UK approved Retailer/ Service Centre are able to undertake any warrantable work at their convenience or discretion, but are not obliged to do so, if the vehicle was not purchased from them.

All Erwin Hymer Group UK products are classed as portable and therefore all work under warranty requires the campervan to be delivered and collected from the approved chosen Erwin Hymer Group UK agent.

The cost of transporting the campervan by any means to and from the place of repair is the responsibility of the owner.

In order to comply with the terms of the above cover the following conditions must be met.

Conditions attached to the warranty cover

- You must retain the original sales invoice for the campervan.
- All new campervans must be registered with Erwin Hymer Group UK within 6 weeks of purchase. Your retailer can do this in our warranty system.
- The campervan must have an annual damp check carried out by an Erwin Hymer Group UK approved Retailer / Service Centre.
- Original invoices and damp reports must be retained as proof that the annual services have been carried out in accordance with our warranty terms.
- In order to maintain this warranty, the annual leak inspections, for which a charge is made, are mandatory. These must be carried out by a Dethleffs dealer within a period of $\pm$ 6 months from the date of the first registration or the date of takeover (see also warranty date on page 12). The entries

in the service booklet with affixed mark as well as in GA-Online are valid as proof of the inspections carried out. Prerequisite for the warranty is in any case the punctual performance of the inspections prescribed for the vehicle. The leakage guarantee expires if the inspections are not performed on time. For separate conditions, please refer to the manual booklet in the vehicle.

- The leakage guarantee only covers professional repairs. Conversion and reduction claims as well as travel costs or other indirect costs are excluded from this warranty.
- Change of ownership will not invalidate the manufacturers guarantee. Warranty work carried out will not extend the guarantee period.

Failure will invalidate your warranty.

Erwin Hymer Group UK reserves the right to inspect the vehicle before work commences. Failure to do this may invalidate your claim. All defects must be assessed by an Erwin Hymer Group UK Approved Service Centre to determine the root cause of the issue. They must submit a warranty claim for our consideration, to determine if the defect is covered by the manufacturer's warranty agreement. The repair method will be agreed and any rework will be carried out at no charge to the customer. We will not be responsible for costs incurred without prior approval via the warranty authorisation process. Warranty work may only be undertaken by an Erwin Hymer Group UK Approved Retailer/ Service Centre.

- Erwin Hymer Group UK will pay the costs of remedial work to the repairer, only after approved work has been carried out. The cost of transporting, towing or moving the campervan by any means to or from the place of repair is the responsibility of the owner.
- The Policy is not retrospective and is applicable to 2027 model year conversions onwards.
- No liability will be accepted for any consequential loss, damage, costs, expenses or other claims for compensation arising which were not reasonably foreseeable by both parties when the campervan was originally purchased.
- No alteration may be made to the original construction.

Mains electrics

It is recommended that you have your mains electrics system inspected by an NICEIC approved contractor every 3 years.

Transfer of ownership

If you purchase this vehicle as a used vehicle it may be possible to transfer the unexpired term of the warranty cover (up to a maximum of ten years commencing at the original date of purchase from new). The warranty cover for a used vehicle commences from the original date of purchase from new and is as follows:

- Two Year Manufacturer's Warranty
- A maximum of Ten Years' Water Ingress and Body Integrity Warranty

The warranty is subject to the usual terms and conditions' set out in the handbook and is only transferable on payment of an administration fee. Full documentary evidence that the campervan has been serviced annually should be provided at the time of transfer, in accordance with the terms and conditions of the warranty stated in the handbook.

This warranty does not affect the purchaser's statutory rights. The warranty shall be governed and construed in accordance with the laws of England and the parties irrevocably submit to the exclusive jurisdiction of the courts of England.

Minimum service requirements

The service must be undertaken by suitably qualified personnel.

A full damp test check should be undertaken and damp readings recorded.

A service check must be performed to the minimum standards set out below.

2.2 Service documents

Campervan annual service and damp record

In order to ensure your warranty remains valid an annual service must be carried out in accordance with the requirements of this handbook. You are responsible for any charges incurred for the service of your vehicle. The annual service is performed by an authorised Erwin Hymer Group UK Approved Retailer then Erwin Hymer Group UK Limited deems that the service has been performed correctly.

If the Annual Service has not been performed in accordance with the requirements in this handbook your warranty will be invalidated, however this will not affect your legal or statutory rights as a customer.

Erwin Hymer Group UK will not pay any unapproved Service Centre for the undertaking of any warranty work.

Annual Habitation Service check list

Underbody

Item	Condition
Under slung tanks and pipes - check condition and security	

Electrical systems

Item	Condition
Check the leisure battery is being charged from both the engine when running, or with a multi-tester and the mains charger	
Leisure Battery (if fitted) - check condition of the battery & its compartment	
Check the leisure battery is being charged from both the engine when running, or with a multi-tester and the mains charger	
Leisure Battery (if fitted) - check condition of the battery & its compartment	
Interior lighting & equipment - check operation and fuse rating	
Awning light - check operation	
Wiring earths - check for defects on all E/L circuits (Visual)	
LV inlet plug & extension lead – check condition & resistance across pins	
Earth Bonding - visual inspection	

Item	Condition
RCD unit - check operation of RCD test button and operations of MCBs	
230V appliances - check operation	

Gas systems

Item	Condition
Regulator and gas hose - check age performance and security	
Perform a gas pressure check	
LPG Tank (if fitted) - check security	
Flame failure devices - check operation	
Gas dispersal holes - check they are clear from obstructions	

Appliances (check gas and electric operation)

Item	Condition
Hob - check operation	
Oven - check operation	
Grill and fan - check operation	
Fridge - check operation	
Water boiler – Check operation	
Heater - check operation	

Water system

Item	Condition
Water pump & pressure switch - check operation	
Taps, pipes - check operation	
Water system - check for leaks	
Water Tanks (if fitted) - check security of all water tanks including underslung tanks.	
Toilet - check security, operation of flush pump and free from obstructions.	
Drain down the system when checks are complete.	

Ventilation

Item	Condition
Rooflights - check all are free from obstructions, cracks and have a free air flow	
Floor vents - remove protective cover and check they are clear from obstruction then refit covers	

Fire & safety

Item	Condition
Smoke and carbon dioxide detectors - check for operation via the test buttons fitted, check battery condition	
Fire Extinguisher (if fitted) - check it is still within date	
Fire Blanket (if fitted) - check it is still within date	
Habitation doors operation	

Item	Condition
Toilet - check security, operation of flush pump and free from obstructions	
Drain down the system when checks are complete	

Bodywork

Item	Condition
Doors and windows - check all catches are present and operating correctly	
Blinds and flyscreens - check condition and operation	
Roof - check condition of roof	
Cab seats - check condition of the seats and seats belts	
Floor - check condition of floor	
Furniture - check condition of the furniture	
Damp Test - undertake a damp test and record all readings taken	
Lubricate all locks	

3 Service documents

Annual habitation service records

ANNUAL SERVICE RECORD

CAMPERVAN MODEL

VEHICLE IDENTIFICATION NUMBER..... YEAR

1st SERVICE

DATE:

RETAILERS STAMP:

I/We certify that an annual service has been carried out in accordance with the manufacturers' and NCC recommendations.

3rd SERVICE

DATE:

RETAILERS STAMP:

I/We certify that an annual service has been carried out in accordance with the manufacturers' and NCC recommendations.

2nd SERVICE

DATE:

RETAILERS STAMP:

I/We certify that an annual service has been carried out in accordance with the manufacturers' and NCC recommendations.

4th SERVICE

DATE:

RETAILERS STAMP:

I/We certify that an annual service has been carried out in accordance with the manufacturers' and NCC recommendations.

5th SERVICE

DATE:

RETAILERS STAMP:

I/We certify that an annual service has been carried out in accordance with the manufacturers' and NCC recommendations.

8th SERVICE

DATE:

RETAILERS STAMP:

I/We certify that an annual service has been carried out in accordance with the manufacturers' and NCC recommendations.

6th SERVICE

DATE:

RETAILERS STAMP:

I/We certify that an annual service has been carried out in accordance with the manufacturers' and NCC recommendations.

9th SERVICE

DATE:

RETAILERS STAMP:

I/We certify that an annual service has been carried out in accordance with the manufacturers' and NCC recommendations.

7th SERVICE

DATE:

RETAILERS STAMP:

I/We certify that an annual service has been carried out in accordance with the manufacturers' and NCC recommendations.

10th SERVICE

DATE:

RETAILERS STAMP:

I/We certify that an annual service has been carried out in accordance with the manufacturers' and NCC recommendations.

4 Change of address

In order that we can provide you with the very best level of service we ask that you keep us informed of any changes to your contact details.

Should your details change please complete the attached form and post to us:

Erwin Hymer Group UK Limited Customer Care
Delves Lane
Consett
County Durham
DH8 7PE
www.elddis.co.uk

Email documents to customer.care@erwinhymergroup.co.uk

Notification of change to name and address

Previous details:

Name:

.....

Address:

.....

.....

..... Post code:

Email:

.....

New details:

Name:

.....

Address:

.....

.....

..... Post code:

Daytime telephone number:

Date of purchase:

Email:

.....

5 Introduction

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.

With your Elddis, you will receive a file with the following vehicle manuals and documents:

Elddis documents

- Instruction manual and service book (housing body)
- List of Elddis dealers

Additional documents

- Operating and installation instructions of various appliances
- Complete set of documents from the chassis manufacturer
- Manufacturer's declaration for the initial inspection of LNG systems in accordance with German regulations

This instruction manual contains sections which describe model-specific equipment or special equipment. These sections are not 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 warranty 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.

The reprinting, translation and copying, including extracts is not permitted without prior written authorisation from the manufacturer.

5.1 General

- Make reference to the base vehicle handbook for matters relevant to the motor caravan as a road vehicle.
- 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.
- Depending on the configuration, the first-aid kit and hazard warning triangle are not included as standard.
- ▶ Equip the vehicle with a first-aid kit and hazard warning triangle before using it for the first time.
- ▶ 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.

5.2 Environmental tips

- Do not impair the tranquillity and spruceness of nature.
- Remember that: All kinds of waste water and household waste are not to be disposed of in drains or in the open countryside.
- Collect waste water on board only in the waste water tank or, if need be, in other vessels suitable to this purpose.
- Only empty the waste water tank and toilet cassette or sewage tank at disposal stations at the camping or caravan sites, which 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.
- Never allow the toilet cassette or sewage tank to become too full. Empty the toilet cassette or sewage tank frequently, at the latest as soon as the level indicator lights up.
- 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 cans or containers that are 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.
- Use an environmentally-friendly WC chemical agent for the WC which can also be biologically degraded and only use small doses.
- When staying in towns and communities for longer periods, search for parking areas which are especially designated for camper vans. Enquire at the town or community authority about parking spaces.
- Always leave the parking places in a clean condition.

6 Safety

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

The instructions address the following topics:

- fire prevention and what to do in case of fire
- general care of the vehicle
- road safety of the vehicle
- towing
- gas system of the vehicle
- electrical system of the vehicle
- water system of the vehicle

6.1 Fire prevention

6.1.1 Avoidance of fire risks



- Never leave children in the vehicle unattended.
- Keep flammable materials clear of heating and cooking appliances.
- Lights can get very hot. When the light is switched on, a safety distance of 30 cm to combustible material has to be maintained. Fire hazard!
- Never use portable heating or cooking appliances.
- Only authorised qualified personnel may modify the electrical system, the gas system or the appliances.

6.1.2 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.
- Always keep a fire blanket at hand near the cooker.
- Sound the alarm and call the fire brigade.
- Fight the fire if this is possible without risk.

6.1.3 Gas odour



- Evacuate all passengers.
- Cut off the electrical power supply and disconnect from the mains.
- Make sure the area is sufficiently ventilated.
- Close regulator tap on the gas bottle.
- Sound the alarm and call the fire brigade.
- Close the gas valve. Inspection by specialised personnel.



- ▶ Acquaint yourself with the position and operation of the emergency exits (see Chapter 6.2).
- ▶ Keep escape routes clear.
- ▶ Observe the fire extinguisher instructions for use.

6.2 Emergency exits

All the windows and doors that fulfil the following criteria rate as emergency exits:

- Opening outwards or moving in the horizontal direction
- Opening angle at least 70°
- Diameter of the clear opening at least 450 mm
- Maximum distance to vehicle floor 950 mm

6.3 Ventilation

All motorhomes manufactured by Erwin Hymer Group UK are ventilated at both high and low level in accordance with BS EN 721 Safety Ventilation. The fixed ventilation points fitted in your motorhome must not be blocked under any circumstances as your safety may depend upon them. It is advisable that the fixed ventilation points are checked and cleaned (where necessary) on a regular basis.

6.3.1 High-Level Ventilation

This is mainly provided by fixed ventilation within the fitted roof skylight. These roof skylights should be cleaned annually by use of a small brush to remove any dust that may have accumulated around the mesh fitted. On some roof skylights the mesh can be easily removed to aid cleaning. On fan-assisted roof skylights it is essential that the fan is switched off prior to cleaning. High level ventilation may also be provided by additional fitted mushroom vents.

6.3.2 Low-Level Ventilation

All Erwin Hymer Group UK Motorhomes have fixed low level ventilation provided. These ventilators are covered with plastic covers designed to prevent them from being obstructed by items placed within the bed box. These covers can be removed by undoing the two screws in order to facilitate cleaning the ventilators, however these covers must be replaced once cleaning is completed.

It is essential for your safety that these ventilators are not blocked at any time.

6.4 General



The oxygen in the vehicle interior is used up by breathing and the use of gas operated appliances. That is why the oxygen needs to be replaced on a constant basis. For this purpose, forced ventilation options (e.g. skylights with forced ventilation, mushroom-shaped vents or floor vents) are fitted to the vehicle.

- ▶ Never cover or block forced ventilations from inside or outside with objects as e.g. a winter mat.
- ▶ Keep forced ventilations clear of snow and leaves. There is a danger of suffocation due to increased CO2 levels.
- ▶ Observe the headroom of the doors.

Do not obstruct ventilation openings.

- ▶ All ventilation openings, particularly those at low level, shall be kept clear of any obstructions such as luggage, bedding, etc.
- ▶ Under no circumstances should the safety ventilation openings be blocked or covered up.
- ▶ Adequate ventilation shall be provided for heating, cooking and by occupants to ensure a safe supply of fresh air and to avoid the build-up of harmful gases.



- The respective instruction manuals and operating manuals are authoritative for the appliances (heater, cooker, icebox etc.) as well as for the basic vehicle (engine, brakes etc.). 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 parts must be entered in the vehicle papers.
- 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 or operate the electric parking brake.
- When the maximum permissible gross weight exceeds 4 t, the wheel chocks must be used when parking on gradients. These are included as standard at vehicles having a gross weight exceeding 4 t.
- When leaving the vehicle, it is imperative that all doors, external flaps and windows are closed.
- Hazard warning triangle and first-aid kit conforming to DIN13164 are prescribed by law and must be carried on the vehicle.



- If the maximum permissible gross weight exceeds 3.5 t, a flashing hazard warning light has to be carried on the vehicle.
- Only move the vehicle on the road if the driver has a driver's license valid for the vehicle class.
- When selling the vehicle, hand over all instruction manuals for the vehicle and the fitted appliances.



- Before commencing the journey, place and secure the flat screen and screen support in the initial position.
- Before starting the journey, take the loose covers of the sink and drain basin off and store securely in the kitchen unit or wardrobe.
- During the journey, persons must only sit on the permitted seats (see chapter 8). The authorised number of seats is stipulated in the vehicle documents.
- Wearing of seat belts is compulsory at all seats.
- Before starting the journey fasten your seat belt and keep it fastened during the journey.
- Staying in the alcove while traveling is forbidden.
- Always secure children with the child-protection equipment that is mandatory for the respective child's size and weight.
- Factory-set three-point safety belts must be used when attaching child restraint systems.
- The base vehicle is a commercial vehicle (small truck). Adapt your manner of driving correspondingly.
- Observe the overall height of the vehicle (including roof loads) at underpasses, tunnels, etc.
- In winter, the roof must be free of snow and ice before commencing the journey.



- Check the tyre pressure before a journey and at 2-week intervals. Wrong tyre pressure causes excessive wear and can lead to damage or even to tyre burst. You can lose control of the vehicle.
- Do not operate the independent vehicle heater at petrol stations. Danger of explosion!
- Do not operate the independent vehicle heater in closed spaces. Danger of suffocation!

6.5 Road safety



- Before commencing the journey, carry out a functional check of indicating and lighting equipment, the steering and the brakes.
- After the vehicle has been standing for a longer period (approx. 10 months) have the braking and gas systems checked by an authorised specialist workshop.
- Before starting the journey and also after short breaks check whether the entrance step has been retracted completely.
- Before commencing the journey, open, lock into place and secure the shades on the windscreen and on the driver's and front passenger's windows.
- Before starting the journey, rotate the seat in the direction of travel and lock in position. The rotating seats must remain locked in the direction of travel during the journey.



- Before commencing the journey, distribute the vehicle payload evenly (see Chapter 7).
- When loading the vehicle and when taking a rest from driving, in order to load luggage or food, for example, observe the maximum permissible gross weight and axle loads (refer to vehicle documents).
- Before commencing the journey, ensure that all cupboard doors, the toilet door and all drawers and flaps are secure. Engage the refrigerator door securing device.
- Before commencing the journey, remove the table from the wall bracket and stow it safely.
- Before commencing the journey, close all external flaps and lock them.



- Before commencing the journey, remove the external steady legs and retract the steady legs that are fitted to the vehicle.
- Before commencing the journey, put the antenna in park position.
- During the initial journey and each time after changing a wheel, re-tighten the wheel bolts/wheel nuts after 50 km. Subsequently inspect them at regular intervals in order to ensure that they are firmly seated.
- Tyres must not be older than 6 years as the material becomes brittle over time (see Chapter 15).
- Tyres, wheel suspension and steering are subjected to additional stress when snow chains are mounted. When snow chains are mounted, drive slowly (maximum 50 km/h) and only on roads that are covered with snow. The vehicle could otherwise be damaged.

6.6 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.

6.7 Gas system

6.7.1 General information



- Before starting the journey, when leaving the vehicle or when gas equipment is not in use, close all gas isolator taps and the main isolator tap on the gas bottle.
- No appliance (e.g. heating or refrigerator) that is operated with an open flame may be operational while fuel is being filled up, on ferries or in the garage. Danger of explosion!
- If an appliance is operated with an open flame, do not start the appliance up in closed areas (e.g. garages). Danger of poisoning and suffocation!
- Have the gas system serviced, repaired or altered by an authorised workshop only.
- Have the gas system checked by an authorised specialist workshop before starting up and according to the national regulations. 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 and the exhaust gas pipes also have to be checked. The gas pressure regulator has to be replaced at least every 10 years. The vehicle owner is responsible for seeing that this is carried out.
- The vehicle owner is responsible for carrying out periodic inspections and for adhering to maintenance intervals.
- In case of a defect of the gas system (gas odour, high gas consumption) there is danger of explosion! Close the regulator tap on the gas bottle immediately. Open doors and windows and ventilate well.
- In case of a defect in the gas system: Do not smoke; do not ignite any open flames, and do not operate electric switches (light switches etc.).
- Before using the cooker make sure that there is sufficient ventilation. Open windows or the skylight.
- Do not use the gas cooker or gas oven 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 installed gas appliances are designed for use solely with propane or butane gas or a mixture of both. The gas pressure regulator as well as all installed gas devices are set 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.
- Regularly inspect the gas tube fitted to the gas bottle connection for tightness. The gas tube must not have any tears and must not be porous.
- Have the gas tube replaced in an authorised workshop no later than ten years after the manufacturing date. The operator of the gas system must see to it that the parts are replaced.
- Due to its function and construction, the gas bottle compartment is a space which is open to the exterior. Never cover or block the standard forced ventilation. Otherwise leaking gas cannot be dispersed to the outside.



- Do not use the gas bottle compartment as storage space. Fire hazard!
- Secure the gas bottle compartment in order to prevent unauthorised persons opening it. To do so lock the access.
- 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.
- The exhaust gas pipe must be fitted tightly to the heating system and to the vent and must be sealed. The exhaust gas pipe must not show any evidence of damage.
- Exhaust fumes must be able to escape into the atmosphere unhindered and fresh air must be able to enter unhindered. Therefore keep the waste gas vents and intake openings clean and free (e.g. of snow and ice). No snow walls or aprons may be allowed to lie against the vehicle.

6.7.2 Gas bottles



- Gas bottles are only to be transported within the designated gas bottle compartment.
- Place gas bottles vertically in the gas bottle compartment.
- Tie down gas bottles so that they are unable to turn or tilt.
- 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.
- Use your hands only to connect the gas pressure regulator or the gas tube to the gas bottles. Do not use any tools.



- 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 defroster (Eis-Ex) for the gas pressure regulator at temperatures below 5 °C.
- Use only 11 kg or 5 kg gas bottles. Camping gas bottles with a built-in reflux valve (blue bottle with max. 2.5 or 3 kg content) are permitted in exceptional cases with a safety valve.
- Use the shortest possible tube lengths (150 cm max.) for external gas bottles.
- Never block the ventilation openings in the floor under the gas bottles.

6.8 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.

6.9 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 case of lay-ups lasting more than a week, disinfect the water system before using the vehicle.



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. Leave the water taps on in central position. Leave the safety/drainage valve (if available) and 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.

7 Before the journey

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

The instructions address the following topics:

- keys
- registration
- calculating the payload
- correct loading of the vehicle
- towing
- retracting and extending the entrance step
- PVC-floor covering
- headrest
- storing the television
- sink cover
- Roman shades
- using snow chains

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

7.1 Keys

Your vehicle comes complete with all the keys required for the vehicle.

These are e.g.:

Two keys each for

- ignition lock
- driver's and passenger's doors (if available)
- fuel tank
- drinking water filler neck (only with external filler neck)
- external flaps

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.

7.2 Registration

Your Elddis is a vehicle which must be registered. The following documents are required for the registration:

- the registration document
- a confirmation of insurance (in Germany: German electronic insurance (EVB) number)
- your identity card
- if appropriate, a letter of authorisation to carry out the registration
- a registration application form

Please remember that certain countries require a separate national code sticker in addition to the EU plate.

7.3 Payload



- Excessive payload and the wrong tyre pressure can cause the tyre to burst. You can lose control of the vehicle.



- Only the maximum permissible gross weight and the mass in a ready-to-drive condition, not the actual weight of the vehicle, is stated in the vehicle documents. For your own safety, we recommend that you have your loaded vehicle (with all the items transported in the vehicle on the journey and all the passengers) weighed on a public weighbridge before you set out on your journey.
- Adapt your speed to the payload. The stopping distance is longer when the payload is higher.



- The maximum permissible gross weight stated in the vehicle documents is not to be exceeded by the payload.
- **Built-in accessories and special equipment reduce the payload.**
- Adhere to the axle load stated in the vehicle documents.



If the vehicle exceeds the technically permissible gross weight specified by the manufacturer during normal driving, legal consequences such as a fine or loss of insurance may result.

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.

Maximum permitted payloads

Description	Load (kg)
Load on roof rack	75
Roof, can be walked on	100 ¹⁾
Bike rack ²⁾ 3er	45
4er	60
Rear garage and rear storage space	150
Rear garage fastening rail (25 kg per fastening point)	125
Fastening rail window area side wall (per fastening point 50 kg)	100
Fastening rail living area (per fastening point 50 kg)	150
Overcab bed	200
Pull-down bed	200
Rear bed	200
Bunk beds	100
Single beds	100
Drawers	10

¹⁾ max. 100 kg distributed load

²⁾ Observe the specifications on the rack.

7.3.1 Terms



- In technical and scientific texts the term "mass" has replaced the term "weight". However the term "weight" is still the more common term in general usage. To contribute toward understanding the term "mass" is therefore only used in established phrases in the following passages.
- All specifications according to EU norm DIN EN 1646-2.

Maximum permissible gross weight

The maximum permissible gross weight is a value set by the manufacturer which the vehicle must never exceed, even when loaded, for safety reasons (e.g. 3,500 kg). Information on the technically permissible gross weight can be found in the registration documents (field F.1) and on the body manufacturer's nameplate attached to the vehicle.

The maximum permissible overall weight in laden condition consists of the **mass in ready-to-drive condition** and of the **payload**.

Real weighed mass of the vehicle

Upon completion of your vehicle, Elddis will determine the real weight of the vehicle by weighing it at the end of the production belt. This includes the mass in ready-to-drive condition plus the weight of all ordered and factory-fitted special equipment.

The remaining payload capacity for luggage or other accessories can be calculated on the basis of this real weighed mass.

Example:

Technically permissible gross weight	Real weighed mass	Passenger weight	Remaining payload option
3,500 kg	3,000 kg	225 kg (3 × 75 kg)	275 kg



- The factory calculation of the remaining payload capacity for the mass of the driver (included in the real weighed mass) and the passenger weight is a flat rate of 75 kg per seat. Due to differing body weights, the real remaining load capacity of your vehicle may be affected.
- The actual mass of the vehicle weighed at the factory can subsequently vary slightly due to weather conditions and, for example, the associated absorption or release of moisture. Any further subsequent changes to the vehicle, for example through the additional installation of accessories by the retail partner or other attachments and/or conversions, will also affect the reported actual weight of the vehicle and consequently also the remaining payload capacity. After the handover by the dealer, it is the responsibility of the owner to ensure that the technically permissible gross weight is not exceeded. If you are unsure whether the loaded vehicle complies with the maximum possible gross weight, you can have the vehicle weighed/checked at public weighbridges or at individual trading partners.
- The mass of the vehicle actually weighed by Elddis at the factory and the remaining payload capacity will be communicated to the trade partner with the invoice. The latter is required to pass on the notification to the owner. If this has not been done, the trading partner can be contacted and the information requested.
- Elddis 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.

Permitted mass

The permitted mass is the weight specified by the manufacturer when applying for granting of the national type-approval. The permitted mass may not ever exceed the maximum permissible gross weight in a laden condition.

Mass in ready-to-drive condition

The mass in ready-to-drive condition is the weight of the ready-to-drive standard vehicle.

The mass in ready-to-drive condition is made up as follows:

- Unladen weight (mass of the empty vehicle) with factory-installed standard equipment
- Driver's weight
- Basic equipment weight

Unladen weight includes lubricants such as oils and coolants which have been filled, the on-board tool set, the spare wheel and a fuel tank that is 90% full.

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:

- Water system filled up to 90% (water tank and pipes)
- Aluminium gas bottles filled up to 100%
- A full heating system
- The power cables for the 230 V power supply (cable reel)
- 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 with 120 l	120 kg
Gas cylinders ($2 \times 11 \text{ kg}_{\text{gas}} + 2 \times 14 \text{ kg}_{\text{cylinder}}$)	+ 50 kg
Boiler with 12 l	+ 12 kg
230 V power cable	+ 4 kg
Installation kit for auxiliary battery	+ 20 kg
Total	206 kg

The actual mass in ready-to-drive conditions including basic equipment in specified in the CoC (Certificate of Conformity).

Payload

The payload is made up as follows:

- Conventional load
- Additional equipment
- Personal equipment



The payload of the vehicle can be increased by reducing the vehicle mass complete in a ready-to-drive condition. To this purpose it is permissible, for example, to empty the liquid tanks or to remove the gas bottles.

Explanations of the individual components of the payload are contained 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 as part of the mass in ready-to-drive condition and must not be calculated as part of the conventional load. The manufacturer specifies the number of seats in Field S.1 of the vehicle documents.

Additional equipment

Additional equipment includes accessories and special equipment. Examples of additional equipment include:

- Tow coupling
- Awning
- Bike or motorcycle rack
- Satellite unit

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

Personal equipment

Personal equipment includes all items in the vehicle that are not included in the conventional load and the additional 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) = $10 \times N + 10 \times L$

Explanation

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

L=Total length of the vehicle in meters

7.3.2 Calculating the payload



- Payload calculation at the manufacturer is partly based on all-inclusive weights. For safety reasons, the maximum permissible gross weight in a laden condition must not be exceeded.
- Only the maximum permissible gross weight and the mass in a ready-to-drive condition, not the actual weight of the vehicle, is stated in the vehicle documents. For your own safety, we recommend that you have your loaded vehicle (with all the items transported in the vehicle on the journey and all the passengers) weighed on a public weighbridge before you set out on your journey.

The payload (see chapter 7.3.1) is the weight difference between

- Maximum permissible gross weight in a laden condition and
- Vehicle mass complete in a ready-to-drive condition.

Example for calculating the payload

	mass in kg to be calculated	Calculation
Maximum permissible gross weight according to vehicle documents, Field F.1	3500	
Actual mass in a ready-to-drive condition, including basic equipment according to CoC	- 3070	
This results in a permissible payload of	430	
Conventional load, e.g. 3 at 75 each	- 225	
Additional equipment	- 40	
For the personal equipment this results in	= 315	

The calculation of the payload from the difference between the maximum permissible gross weight in laden condition and the mass specified by the manufacturer in ready-to-drive condition is however only a theoretical value.

Only if the vehicle is weighed with full tanks (fuel and water), full gas bottles and complete additional equipment on a public weighbridge, 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 chapter 7.3.3). The sum of these values is the current weight of the vehicle.

The actual payload is the difference between the maximum permissible gross weight in laden condition 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.

7.3.3 Loading the vehicle correctly



- To ensure safety never exceed the maximum permissible gross weight in a laden condition.
- Distribute the load evenly between the left-hand and right-hand sides of the vehicle.
- Distribute the load evenly between both axles. Observe the axle loads specified in the vehicle documents. Additionally observe the permissible load-carrying capacity of the tyres (see chapter 18.3).
- Heavy loads behind the rear axle can relieve the load on the front axle through the leverage effect (). This applies in particular in the case of a long rear projection, when a motorbike is transported on a rear rack or when the rear storage space is loaded heavily. The unloading of the front axle has a negative effect on the driving characteristics of front-wheel-drive vehicles in particular and leads, for example, to a loss of traction, a worsened steering response (changed driving behaviour), overloading of the tyres and, as a result, to an increased risk of tyre blowouts. As a result, there is a risk that the vehicle will get out of control and endanger the occupants and other road users.



- A load distributed evenly over the entire vehicle leads to optimum handling during the journey.
- Securely store all the objects so that they cannot slide or slip.
- Only use suitable clamping systems to secure against slipping. Check all fastenings again before you start your journey.
- Store heavy objects (awning, canned food, etc.) close to the axles. Low-lying storage compartments whose doors do not open in the direction of travel are particularly suited for storing heavy objects.
- Store lighter objects (laundry) in the roof storage compartments.
- Properly secure the doors and flaps on the cabinets and storage areas.
- The bike rack is only to be loaded with bicycles (max. 4 pieces).



- For individual models, the body manufacturer specifies a maximum load for cupboards, drawers, storage compartments or other storage spaces. This can be seen from the stickers attached on site and must always be observed. However, the maximum permissible gross weight and the maximum permissible gross weight on the axle must not be exceeded under any circumstances.
- The maximum load shown may not be used to the full extent if this means that the maximum permissible gross weight or the maximum permissible gross weight on the axle is exceeded.
- For further information on correct loading, see "Maximum permissible gross weight" on page 29, "Maximum permissible gross weight on the axle (axle load)" on page 34.

Maximum permissible gross weight on the axle (axle load)

The maximum permissible gross weight 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 specified by the manufacturer which, for safety reasons, the vehicle must never exceed, even when loaded.

Information on the vehicle's axle loads can be found in the registration papers and on the body manufacturer's nameplate attached to the vehicle.



- If the maximum permissible gross weight on the axle is exceeded, the vehicle can be damaged (e.g. due to a broken axle or a burst tire) and the driving experience can be significantly impaired. This creates the risk that the vehicle will spin out of control and endanger the occupants and other road users.
- We therefore recommend that you weigh the finally loaded vehicle, including all passengers, before you start your journey, so that the axle load and the maximum permissible gross weight are always guaranteed.
- To do this you have the possibility to weigh/check the vehicle on public scales or at individual trade partners.



- The axle loads on the respective axles or axle groups may differ. Therefore, carefully read the information provided in the registration documents.



- The maximum permissible gross weight and the maximum permissible gross weight on the axle must not be exceeded. Especially when stowing or attaching heavy accessories or accessories that are heavily loaded at the rear (such as motorbike carriers or bicycle carriers), the axle loads must be checked and complied with. If there is any uncertainty as to whether the loaded vehicle complies with the maximum permissible gross weight and the maximum permissible gross weight on the axle, you have the possibility of weighing/testing the vehicle on public scales or at individual trade partners.
- If the vehicle exceeds the maximum permissible gross weight on the axle specified by the manufacturer during practical driving, there are legal consequences such as a fine or loss of insurance.
- It is possible that the vehicle's chassis manufacturer specifies a minimum load for the front axle in order to obtain optimum handling. Therefore, always observe the information on this from the operating instructions of the chassis manufacturer.

Large storage areas such as the rear garage are also suitable for heavy objects (e.g. motor scooters). This may result in the axle load of the rear axle being exceeded.

The individual axles may not be overloaded under any circumstances. The distance to the axles in which the load is stored is therefore important.



- The payload of the vehicle can be increased by reducing the vehicle mass complete in a ready-to-drive condition. To this purpose it is permissible, for example, to empty the liquid tanks or to remove the gas bottles.

Scales, a measuring tape, a pocket calculator and a bit of time are needed to distribute the load correctly.

Two simple equations are used to calculate the effect of the load weight on the axles:

Equations

$A \times G : R = \text{Weight on the rear axle}$

$\text{Weight on the rear axle} - G = \text{Weight on the front axle}$

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 the axles) in cm



Measure the distances outside the vehicle horizontally from the middle of the front wheel to the middle of the storage space or to the middle of the rear wheel.

Calculating the axle loads

- ▶ Multiply the distance between the storage space and the front axle (A) by the weight of the load in the storage space (G) and divide the result by the wheelbase (R). This produces the weight which the load in the storage space places on the rear axis. Write down this weight and the storage space.

- ▶ In a second step subtract the weight in the storage area (G) from the weight just calculated.

If the result is a **positive** value (Example 1), the front axle is relieved by this amount.

If the result is a **negative** value (Example 2), the front axle is **burdened** by this amount. Also write down this value.

- ▶ Calculate all the storage areas of the vehicle in the same way.

- ▶ In a last step add all the weights calculated for the rear axle to the rear axle load and add/or deduct all the weights calculated for the front axle to/from the front axle load.

Section 4.3.2 describes how the rear axle load and front axle load are determined.

If the calculated value exceeds the permissible axle load, the load has to be stored differently.

If the front axle is relieved too much, the adhesion of the tyres on the road

surface (traction) deteriorates, particularly in the case of vehicles with a front-wheel drive. In this case also store the load differently.

Example calculation

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

7.3.4 Loading and unloading

With an increase in load, the maximum permissible gross weight of the vehicle, the maximum permissible gross weight on the axle and, as a result, the remaining payload capacity for luggage, camping equipment and so on is usually increased due to a change in the chassis.

In the case of a reduction in load, in contrast to an increase in load, the maximum permissible gross weight of the vehicle, the maximum permissible gross weight on the axle and, as a result, the remaining load capacity for luggage, camping equipment and so on is reduced. There is usually no technical change to the chassis.



Due to the changed technically permissible gross weight, increases or decreases in load can have an impact on the permitted seats, the chassis and the axle loads. If you have any questions, please contact the responsible technical test centre for advice.



- An increase or decrease in load can result in changed legal requirements resulting from the new maximum permissible gross weight of the vehicle. This applies in particular to the legal requirements from the road traffic regulations, the road traffic licensing regulations, as well as the tax and insurance regulations. An increase in the technically permissible gross weight to over 3,500 kg can, for example, affect the driving license class or lead to other speed limits or bans on driving through and overtaking. The requirements for paying tolls may also change due to the new technically permissible total weight. You should therefore find out about the applicable legal situation with regard to the new maximum permissible gross weight of the vehicle and seek advice on this from the relevant authorities. Please note that the national regulations in the country of your destination and the countries visited for transit may differ from the regulations in your home country.
- For more information on the remaining payload option, see "Real weighed mass of the vehicle" on page 29.

7.4 Towing



- Care is to be taken when connecting and detaching a trailer. Risk of accident and injury!
- No persons are to be between the towing vehicle and the trailer during positioning for connecting and detaching.
- Observe the permissible nose weight and rear axle load of the towing vehicle. Nose weight and rear axle load must not be exceeded. The values of the nose weight and rear axle load are included in the documents of the vehicle and the tow coupling.



Trailer with an overrun brake:

- ▶ Do not connect or detach the trailer with the overrun brake on.

Tow coupling with removable ball head:

- ▶ If the ball neck is installed incorrectly, the trailer can break away. Observe the instruction manual issued by the tow coupling manufacturer.
- ▶ Check the rip cord and electrical connection.
- ▶ Check the lighting.

7.4.1 Tow coupling

The tow coupling can be mounted and removed after use. Attaching a trailer is described in the manufacturer instructions.

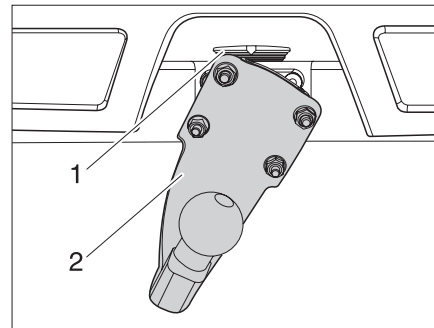


Fig. 1 Tow coupling

Mounting:

- ▶ Set the tow coupling (Fig. 1,2) at an angle of 90° to the latch (Fig. 11).
- ▶ Swivel the tow coupling (Fig. 1,2) downwards until the latch (Fig. 1,1) latches in.

Removing:

- ▶ Press the locking mechanism (Fig. 11) upwards.
- ▶ Swivel the tow coupling (Fig. 1,2) 90° to the left.
- ▶ Release the latch (Fig. 1,1).
- ▶ Remove the tow coupling (Fig. 1,2)

7.5 Entrance step



- Before starting the journey and also after short breaks check whether the entrance step has been retracted completely.
- Do not stand in the direct range of movement of the entrance step while the entrance step is being extended or retracted.
- Do not step on the entrance step until it has extended completely. Injuries and material damage possible!
- Never raise or lower persons or loads with the entrance step.



- Take the different step heights into account and ensure that the ground is firm and level when getting out.
- Do not grease or oil the pivot bearings and joints of the entrance step (see Chapter 12.1.6).

7.6 Electrically operated entrance step



- Before the journey, switch on the battery cut-off switch (Fig. 88,11).

Operating switch

The switch to operate the entrance step is located on the inside of the vehicle in the area of the conversion door.

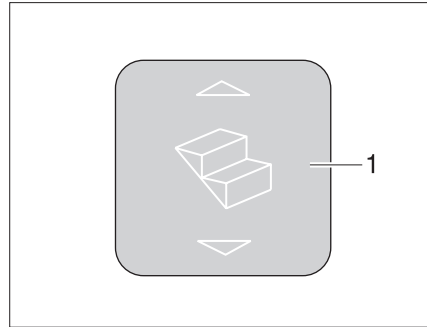


Fig. 2 Operating switch entrance step

Extending

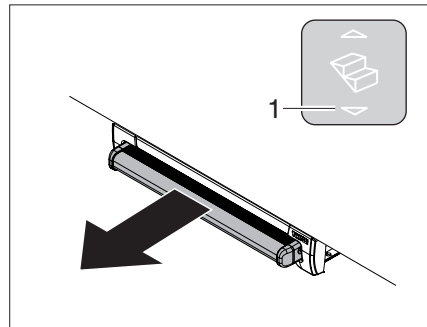


Fig. 3 Extending the entrance step

- Press the rocker switch (Fig. 3,1) down until the entrance step has extended completely.

Retracting

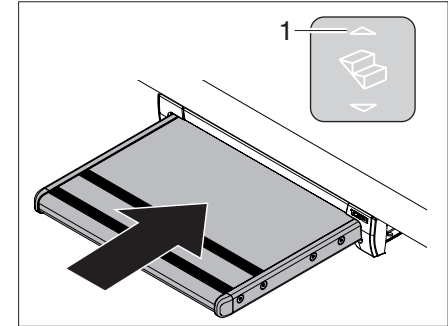


Fig. 4 Retracting the entrance step

- Press the rocker switch (Fig. 4,1) up until the entrance step has retracted completely.

7.7 PVC floor covering



- ▶ Shoes with pointed heels can leave permanent impressions in the PVC-floor covering. Never wear shoes with pointed heels in the vehicle.
- ▶ Rubber mats or long exposure to ketchup, carrot juice, ink, blood or lipstick can discolour the PVC-floor covering. If possible, remove stains from the floor immediately.

7.8 Headrests



- ▶ Before the journey, check that the headrests are in the drive position (locked position) and not in the park position (below the locked position).



For further information on positioning the headrests, see chapter 8.6.

7.9 Television



- ▶ Before starting your journey, remove the television from the support and store it securely.
- ▶ Before commencing the journey, place and secure the flat screen and screen support in the initial position.

If the screen holder is installed in a TV cabinet:

- ▶ Close TV cabinet.
- ▶ Before commencing the journey, ensure that the antenna is in park position. Danger of accidents! Park position means: The antenna points towards the back, is fully lowered and is locked in this position.



For further information about positioning the flat screen see Chapter 10.7.

Holder in the TV cabinet

The flat screen is attached to a console in the TV cabinet.

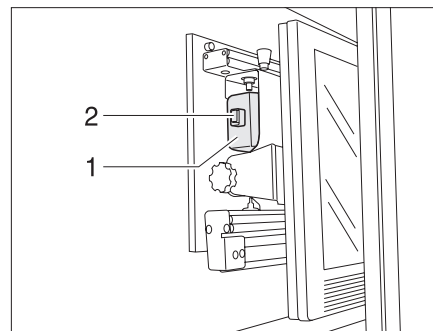


Fig. 5 Holder in the TV cabinet

- ▶ Rotate the television to its initial position (Fig. 5) and lock it into place.
- ▶ Use handle (Fig. 5,1) to push the holder for the flat screen backwards. The latch (Fig. 5,2) will engage.
- ▶ Close TV cabinet.

Holder with jointed arm

The flat screen is fastened to a jointed arm.

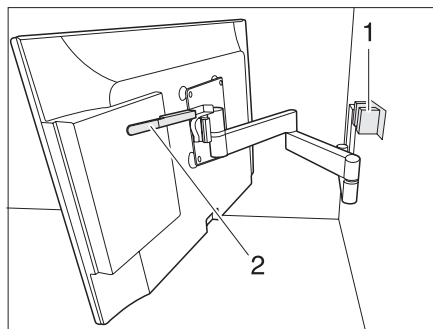


Fig. 6 Holder with jointed arm

- ▶ Tilt the flat screen towards the locking mechanism (Fig. 6,1).
- ▶ Pull down the lever (Fig. 6,2).
- ▶ Release the lever (Fig. 6,2). The lever clicks into place.

7.10 Wooden shower mat



In case of an accident or emergency braking the wooden shower mat can injure the vehicle passengers.

- ▶ Before driving, remove the shower mat from the shower and stow it securely in a suitable place.

7.11 Sink cover



In case of an accident or emergency braking the sink cover (Fig. 7,1) can injure the vehicle passengers.

- ▶ Before the journey, take the sink cover off the sink and store it securely in the kitchen block or wardrobe.

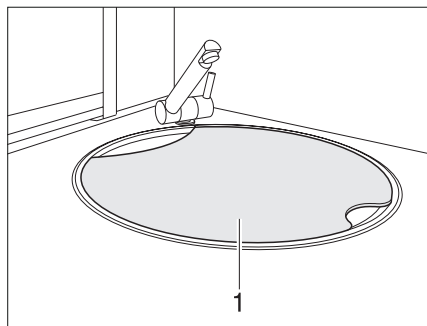


Fig. 7 Sink cover

7.12 Driver's cabin Roman shade



- ▶ During the journey the Roman shades for the windscreen, the driver's window and the front passenger's window must be opened, locked and secured.

7.12.1 Roman shade for driver's window and front passenger's window

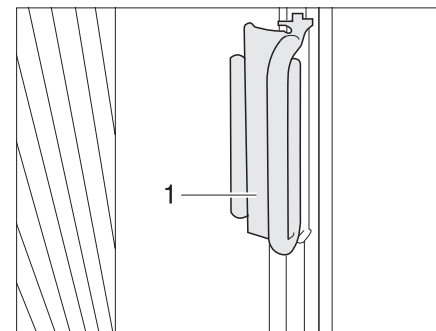


Fig. 8 Handle for folding blackout driver/passenger window

Securing:

- On the Roman shades for the driver's and passenger's window, push the handle (Fig. 8,1) onto the cap.

The Roman shade is secured.

7.12.2 Roman shade for windscreen

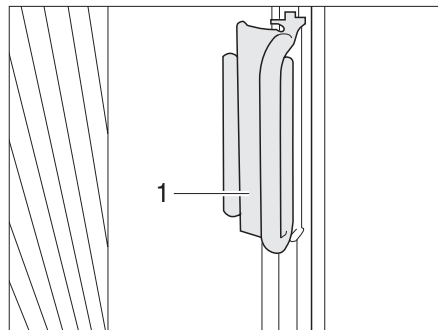


Fig. 9 Handle for folding blackout driver/passenger window

Securing:

- Use the handles (Fig. 9,1) to slide the Roman shades for the windscreen under covers at the A column and fasten the handle on the cover.

The Roman shades are secured.

7.13 Snow chains



- Mount the snow chains only when the clearance between the tyres and the vehicle body amounts to at least 50 mm.

Tyres, wheel suspension and steering are subjected to additional stress when snow chains are mounted.

- When snow chains are mounted, drive slowly (maximum 50 km/h) and only on roads that are covered with snow. The vehicle could otherwise be damaged.
- Observe the mounting instructions of the snow chain manufacturer.
- Only use snow chains approved by the manufacturer.
- Do not mount snow chains onto 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 meters, check the tension of the snow chains.

7.14 Road safety



- Check the tyre pressure before a journey and at 2-week intervals. Wrong tyre pressure causes excessive wear and can lead to damage or even to tyre burst. You can lose control of the vehicle.
- Take into account that the vehicle height changes compared to the vehicle documents in the case of pneumatic springs.
- Superstructures such as air conditioning unit, satellite antenna, etc. can influence the vehicle height.

Before commencing the journey, work through the checklist:

Base vehicle

No.	Checks	checked
1	All vehicle documents are on board	
2	Tyres in proper condition. If spare wheel or tyre repair kit exists, check.	
3	Vehicle lighting, brake and reversing lights function	
4	Oil level at engine, gear unit and power steering checked	
5	Coolant and liquid for windshield washer system topped up	
6	Breaks function	
7	Brakes react evenly	
8	When braking, the vehicle remains on track	

Housing body, outside

No.	Checks	checked
9	Awning completely retracted	
10	Roof free of snow and ice (in winter)	
11	External connections and lines disconnected and stored away	
12	External supports removed	
13	Wheel chocks removed and stored away	
14	Entrance step retracted	
15	External flaps closed and locked	
16	Sliding door locked	
17	Awning light switched off	
18	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

No.	Checks	checked
19	Windows and skylights closed and locked	
20	Television secured or removed from the support and stored securely	
21	Loose parts stored away or fixed in position	
22	Open storage spaces empty	
23	No gas cartridges or other easily flammable materials stored in the roof cupboard of the awning light	
24	Refrigerator door secured	
25	Refrigerator set to 12 V operation	
26	All drawers and flaps closed	
27	Living area doors and sliding doors secured	
28	Children's seats mounted to seats with three-point safety belts	
29	Swivel seat locking mechanism for driver's seat and passenger seat locked in direction of travel	
30	Shades removed in driver's cabin	

Gas system

No.	Checks	checked
31	Gas bottles firmly fixed in the gas bottle compartment so that they are unable to turn	
32	Protective cap set on top of the gas bottle	
33	Regulator tap on the gas bottle and gas isolator tap are closed (except in the case of gas systems with crash sensor)  The regulator tap must always be closed at petrol stations, also in the case of gas systems with crash sensor.	

Electrical system

No.	Checks	checked
34	► Check the battery voltage of the starter battery and the living area battery (see Chapter 12). If the panel indicates that the battery voltage is too low, the respective battery has to be recharged. Observe the instructions in Chapter 12. ► Commence the journey with a fully charged starter battery and living area battery.	

8 During the journey

This chapter contains instructions on how to drive the camper van.

The instructions address the following topics:

- driving speed
- brakes
- seat belts
- seats and headrests
- seating arrangement
- the ISOFIX system
- Roman shades in the driver's cabin
- writing and reading rest
- bonnet

8.1 Driving with the Elddis



The base vehicle is a commercial vehicle (small truck). Adapt your manner of driving correspondingly.

- ▶ Before starting the journey and also after short breaks check whether the entrance step has been retracted completely.
- ▶ Always wear a seat belt during the journey at those seats where a seat belt is mounted.
- ▶ Never open the seat belt during the journey.



- Passengers must remain in the seats provided.
- The door lock may not be opened.
- Avoid braking suddenly.
- ▶ Only change the destination on the navigation system when the vehicle is at a standstill. Drive to a car park or stop in a safe area when changing the destination.
- ▶ Do not play a DVD on the monitor of the navigation system during the journey.



- ▶ Drive slowly on bad roads.
- ▶ Drive particularly carefully while driving onto ferries, while driving over bumps and while reversing. Larger vehicles may swing out due to the relatively long overhang and, under unfavourable conditions, "bottom out". This can damage the underbody or parts attached there.
- ▶ Check whether the awning light is switched off.



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 specified in Chapter 6 have to be observed. If a reversing camera is installed in the vehicle, the camera is activated automatically when the reverse gear is engaged.

8.2 Driving speed



- ▶ The vehicle is equipped with a powerful engine. Meaning that you have sufficient power reserves in difficult traffic situations. This high power allows a high end speed and requires above-average driving skills.
- ▶ The vehicle provides a huge surface exposed to wind. Particular danger arises when a side wind suddenly occurs.
- ▶ Uneven or one-sided loading changes the road behavior.



- ▶ On unknown roads the road surface conditions may be difficult and unexpected traffic situations may arise. Therefore adapt your driving speed to the respective traffic situation and the ambient situation for your safety.
- ▶ Observe the statutory speed limits that apply in the respective country.

8.3 Brakes



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



- ▶ Avoid block brakings. When braking with a lock, the tires develop more or less severe “brake plates”. This reduces driving comfort. The tyres can even become unusable.

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 on track when braking?

8.4 Seat belts

The vehicle is equipped with automatic three-point safety belts at those seats in the living area for which a seat belt is stipulated by law. The corresponding national regulations apply for using a seat belt.



- ▶ Before starting the journey fasten your seat belt and keep it fastened during the journey.
- ▶ Do not damage or clamp in the belts. Have damaged seat belts replaced by an authorised specialist workshop.
- ▶ Do not change the belt attachment points, the automatic retractor and the belt locks.
- ▶ Check the screwed connections of the seat belts at intervals in order to ensure that they are firmly seated.
- ▶ Use each seat belt for **one** adult person only.
- ▶ Do not belt up objects together with persons.
- ▶ Seat belts are not sufficient for persons who are less than 150cm tall. In this case use additional retention devices. Observe the test certificates.
- ▶ Factory-set three-point safety belts must be used when attaching child restraint systems.
- ▶ Children should be seated on bolster cushion on in correctly fitted child seats when the vehicle is in motion.



- ▶ Replace (have replaced) the seat belts that were in use during an accident.
- ▶ Do not tilt the backrest of the seat too far back during the journey. Otherwise the effectiveness of the seat belt is no longer ensured.

8.4.1 Using the seat belt correctly



- ▶ Do not twist the belt. The belt must be positioned smoothly against the body.
- ▶ Before applying the seat belt, adopt the correct sitting position.
- ▶ People may only buckle up on the seat with the seat belt pulled out.

The safety belt is applied correctly when a fist still fits between your body and a safety belt at the shoulder.

8.5 Driver's seat and front passenger's seat



- Before starting the journey, rotate the seat in the direction of travel and lock in position.
- Lock the seats in the direction of travel and do not turn them during the journey.



- The driver's and front passenger's seat are a part of the base vehicle, depending on model and vehicle equipment. In this case the adjustment of the seats is described in the operating instructions of the base vehicle.

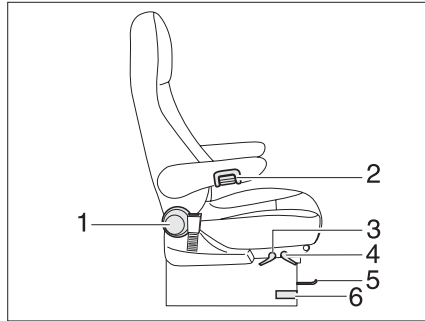


Fig. 10 Driver's seat and front passenger's seat

- 1 Wheel for unlocking and adjusting the backrest
- 2 Armrest adjustment
- 3 Lever for adjusting the seat height
- 4 Lever for adjusting the seat inclination
- 5 Bar for lengthways adjustment
- 6 Release for turning mechanism

Rotating seats into driving position

- The seats can be rotated in any direction. The seats can only be locked in position in the direction of travel.
- Push both armrests upward.
- Push the driver's seat/front passenger's seat backwards or into the central position.
- Turn the seat in the direction of travel and lock it with the locking lever (Fig. 10,6).



Rotating the seats in the stationary vehicle is described in Chapter 10.5.

- Move the seats all the way down before turning. Otherwise, the seats cannot be turned.

Adjusting the armrest

The height of the armrests is infinitely adjustable.

- Turn the knurled wheel (Fig. 10,2) in an anticlockwise direction (when viewed from the front). The latch of the armrest is released by this.
- Move the armrest to the desired position.
- Turn the knurled wheel as far as possible in a clockwise direction.

Adjusting an appropriate seating position

The position of the driver's and front passenger's seats can be adjusted. The necessary handles are located at the front and on the left or right of the seat.

- Pull the bar (Fig. 10,5). The seat can be moved forward or backward.
- Turn the knurled knob (Fig. 10,1). The backrest will be unlocked and can be adjusted.
- Pull the lever (Fig. 10,4) upwards. The inclination of the seat and backrest can be set.

Adjusting the seat height

Depending on the model, the height of the seat is infinitely adjustable.

- Pull the lever (Fig. 10,3) upwards.
- Take pressure off or apply pressure to seat. The seat moves up or down.
- Release lever when the desired position is reached. The seat is locked.

8.6 Headrests



The headrests are not adjustable for all models.

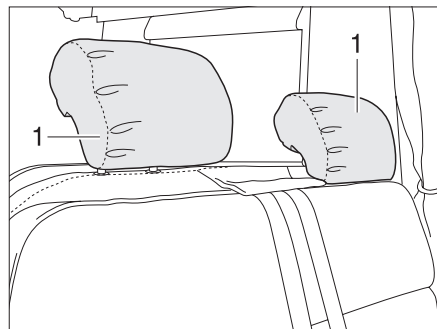


Fig. 11 Headrest for bench seat (Variant 1)

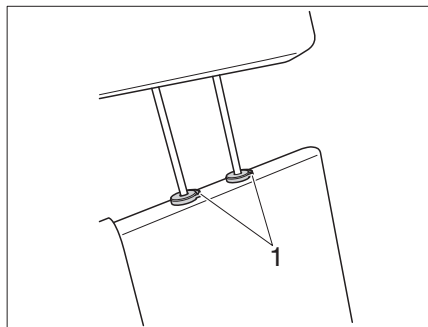


Fig. 12 Headrest for bench seat (Variant 2)

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

Variant 1:

- Push the headrests (Fig. 11,1) upwards or downwards by hand.

Variant 2:

- Press both safety catches (Fig. 12,1) to adjust or remove the headrests.

8.7 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.
- Sitting on the divans is forbidden during the journey.
- Wearing of seat belts is compulsory at all seats.



Fig. 13 "Seat" symbol

Seats which may be used during travel are equipped with a sticker (Fig. 13).

8.8 ISOFIX system



- Ensure that the instructions of the children's seat manufacturer are observed when fitting and removing the children's seat with the ISOFIX system.
- Never fasten other children's seats, belts or objects to the holding lugs provided for fitting the children's seat with the ISOFIX system.
- When fastening with the TOP TETHER system always fasten only one fixing belt of the children's seat to a holding lug.

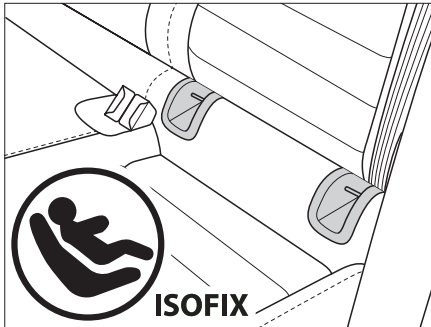


Fig. 14 ISOFIX

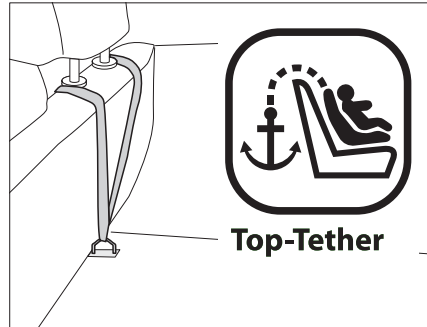


Fig. 15 ISOFIX with Top Tether system

The seats can be equipped with an ISOFIX system, on request. They are identified with labels.

There are two holding lugs for fastening a children's seat with the ISOFIX system between the seat backrest and seat surface of the back seat or of the passenger seat (Fig. 14). The holding lugs for fastening the fixing belt of a children's seat to the top tether system are located on the rear seat between the headrests (Fig. 15).

8.9 Roman shades for windscreen, driver's window and front passenger's window



During the journey the Roman shades for the windscreen, the driver's window and the front passenger's window must be opened, locked and secured.



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

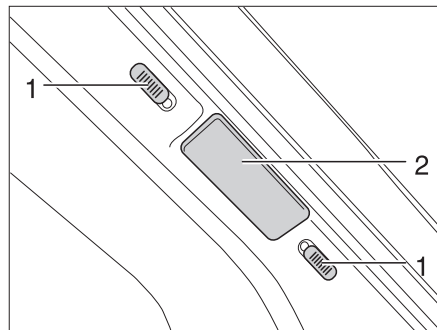


Fig. 16 Lock for the Roman shade of the windscreen

Securing the Roman shade for the windscreen:

- Use the handle (Fig. 16,2) to pull the two halves of the Roman shade for the windscreen outwards as far as they will go.
- Push the locking knobs (Fig. 16,1) upward or downward.

If the red dot is visible, the lock is open.

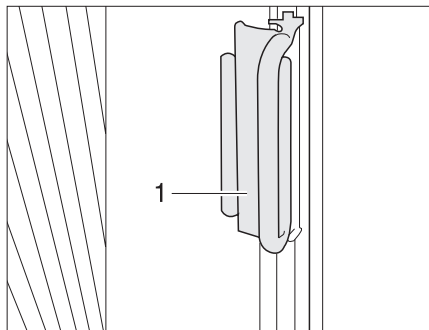


Fig. 17 Locking mechanism for Roman shades on driver's/front passenger's windows

Secure folding blackout driver/passenger window:

- On the Roman shades for the driver's and passenger's window, push the handle (Fig. 17,1) onto the cap. The Roman shade is secured.

8.10 Writing and reading rest



During the journey the writing and reading rest must be closed.



- If there is a passenger airbag, the writing and reading rest is locked so it cannot be opened.

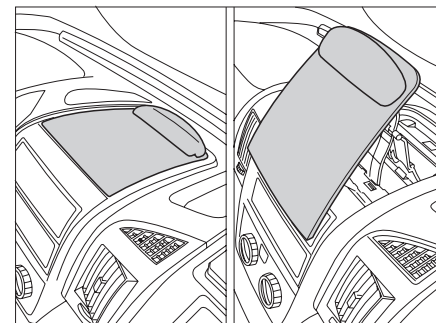


Fig. 18 Writing and reading rest

Depending on the model, the Elddis is equipped with a writing and reading rest (Fig. 18).

8.11 Bonnet



When the bonnet is open, there is a risk of injury in the engine compartment.

Even when the engine has been switched off for a longer period, it can still be hot. Risk of burns!

- Do not carry out work in the engine compartment while the engine is running.
- The bonnet must be closed firmly and locked during the journey. After closing the bonnet, check whether it has locked. In order to carry this out, pull on the bonnet.

9 Elddis setting up

This chapter contains instructions on how to pitch the vehicle.

The instructions address the following topics:

- handbrake
- entrance step
- wheel chocks
- operation of the supports
- 230 V connection
- Refrigerator
- awning



- ▶ Pitch the vehicle so that it is as horizontal as possible. 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.

9.1 Handbrake

Firmly apply the handbrake when parking the vehicle.



- ▶ If there is any risk of frost, release the handbrake every now and then and apply it again. This will prevent it from freezing or rusting. Prior to releasing the handbrake, secure the vehicle so that it cannot roll away.
- ▶ An applied handbrake can prevent the driver's seat from turning. If necessary release the handbrake briefly.

9.2 Entrance step



- When entering the vehicle through the body door, the entry step must be used.
- In order to exit the vehicle, first fully extend the entrance step.

9.3 Wheel chocks

When parking the vehicle on slopes or inclines the wheel chocks in the vehicle must be used.

9.4 Supports

9.4.1 General information



- **Do not use the fitted steady legs as a vehicle jack. The steady legs are only for stabilising the parked vehicle to prevent the rear axle from bottoming out.**
- ▶ When pitching the vehicle ensure that load is placed evenly on the steady legs.
- The support legs must not be used if the vehicle is tilted, as this will cause the vehicle to warp unintentionally. In the long term, this can lead to damage to the vehicle.
- ▶ Before driving away, turn in the steady legs completely until they stop, retract completely and secure.



When the ground is soft, place a pad or block under corner steadies in order to prevent the vehicle from sinking into the ground.

9.5 230 V connection

The vehicle can be connected to a 230 V power supply (see Chapter 12).

9.6 Refrigerator

The refrigerator only functions in 12 V operation.

9.7 Awning



- ▶ In case of arising wind, strong rain or snowfall retract the awning.
- ▶ Material damage through overturning at wind possible!
- ▶ If the vehicle is left unattended for a longer period, retract the awning completely.
- ▶ In case of light rain reduce one of the support legs so that the water can run off.
- ▶ Only retract the awning if the cloth is dry. If the awning has to be retracted while the cloth is wet: Extend the awning again as soon as possible so that the cloth can dry.
- ▶ Before retracting the awning, remove leaves and coarse soiling from it.



- Use the awning only as protection against the sun.
- Additionally observe the manufacturer's instruction manual.
- The crank rod of the awning is located in the rear area.

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.

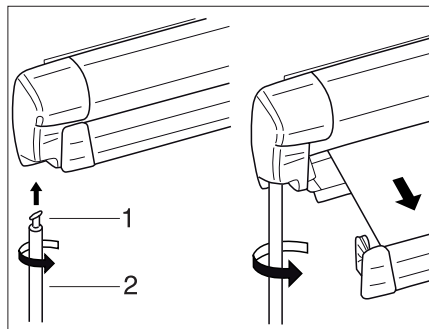


Fig. 19 Awning

Putting up the awning

- ▶ Insert the hook (Fig. 19,1) of the crank rod (Fig. 19,2) into the lug and turn by 90°.
- ▶ Hold the crank rod with one hand at the upper end and with the other hand at the lower turning handle.
- ▶ Turn the crank rod counter-clockwise and extend the awning by a maximum of 1 m.

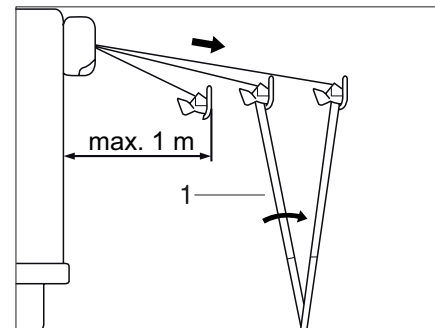


Fig. 20 Putting up the awning

- ▶ Fold out the support legs (Fig. 20,1) and set them on the ground.
- ▶ Extend the awning further.
- ▶ Tension the awning using the support legs.
- ▶ Secure the support legs to the ground using tent pegs.
- ▶ Turn the crank rod by 90° and remove it.

Retracting the awning

- ▶ Insert the hook (Fig. 19,1) of the crank rod (Fig. 19,2) into the lug and turn by 90°.
- ▶ Remove the tent pegs of the support legs (Fig. 20,1).
- ▶ Hold the crank rod with one hand at the upper end and with the other hand at the lower turning handle.
- ▶ Turn the crank rod clockwise and retract the awning up to 1 m.
- ▶ Fold in the support legs.
- ▶ Retract the awning completely.
- ▶ Turn the crank rod by 90° and remove it.

10 Living

This chapter contains instructions about living in the vehicle.

The instructions address the following topics:

- opening and closing the doors and external flaps
- ventilation of the vehicle
- opening and closing the windows and blinds
- opening and closing the skylights
- rotating the seats
- modifying the table surfaces
- converting tables
- adjusting the bracket for the television
- radio in driver's cabin
- making phone calls using the hands-free system
- setting all the lights
- light switches
- extending the seating groups
- using the beds
- converting the seating areas into beds
- the bath area
- the sleeping area partition

10.1 Doors



Only drive with the doors locked.



- 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 a set of 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.
- ▶ Depending on the model, the locks of the driver's and the front passenger's doors are part of the base vehicle. In this case, the opening and closing of the driver's door and the front passenger's door is described in the operating manual of the base vehicle

10.1.1 Insect screen at the sliding door



- ▶ Open the insect screen completely before the conversion door is closed.

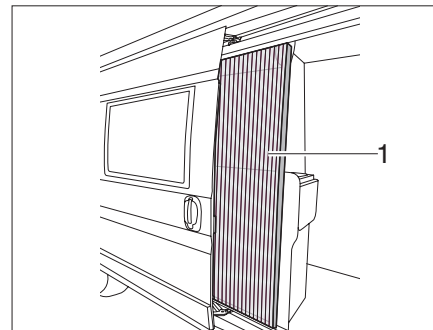


Fig. 21 Insect screen

Closing

- ▶ Pull out the insect screen completely at the strip (Fig. 21,1).

Opening

- ▶ Push the insect screen back into the starting position at the strip (Fig. 21,1).

10.2 Ventilation



The oxygen in the vehicle interior is used up by breathing and the use of gas operated appliances. That is why the oxygen needs to be replaced on a constant basis. For this purpose, forced ventilation options (e.g. skylights with forced ventilation) are fitted to the vehicle. Never cover or block forced ventilations from inside or outside with objects as e.g. a winter mat.

- Keep forced ventilations clear of snow and leaves. There is a danger of suffocation due to increased CO₂ levels.



- Although sufficient ventilation is provided, in certain weather conditions, condensation can form on metal objects.
- Additional cold spots can occur at thermal "bridges" (e.g. skylight edges, sockets, 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.

Air the parking place as well if the vehicle is parked in a closed space (e.g. garage). The occurrence of condensation could lead to the formation of mould.

10.3 Windows



The windows are fitted with a blind or Roman shade and with an roller insect screen or folding insect screen. After the latch has been released, the blind and roller insect screen automatically spring back to the initial position by tensile force.

- In order not to damage the tension mechanics, hold onto the blind or roller insect screen and allow it to slowly return to the initial position. The Roman shade and folding insect screen are made of thin woven fabric.
- In order not to damage the Roman shade or the insect screen, grasp the respective handle and carefully return it to the initial position.
- **Do not keep blinds closed over a longer period of time as that can cause increased material wear.**



- ▶ If the blind or the Roman shade is completely closed, exposure to direct sunlight can cause heat to accumulate between the blind/ the Roman shade and the glass window. The window could be damaged. For that reason, close the blind/Roman shade only 2/3 of the way in direct sunlight.
- ▶ Before commencing the journey, close the windows.
- ▶ Depending on the weather, close the windows far enough to prevent moisture from entering.
- ▶ To open and close the hinged windows, open or close all catch levers which are fitted to the hinged window.



- ▶ When leaving the vehicle, always close the windows.
- In case of strong temperature differences or in extreme weather conditions, light condensation can form on the double-glazed acrylic glass. The glass is designed in such a way that condensation can evaporate when the external temperature increases. There is no danger of the double-glazed acrylic glass being damaged by condensation.

10.3.1 Sliding window with lock (variant 1)

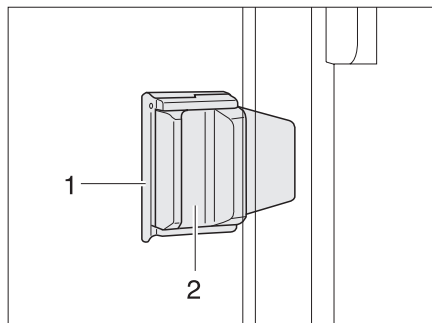


Fig. 22 Sliding window with slide lock

Opening:

- ▶ Pull out the lock (Fig. 22,1).
- ▶ Press handle (Fig. 22,2) and push it forward or backward at the same time.
- ▶ Open window half up to the required position.

Closing:

- ▶ Close the window as far as it can go.
- ▶ Push in the lock.

10.3.2 Sliding window with lock (variant 2)

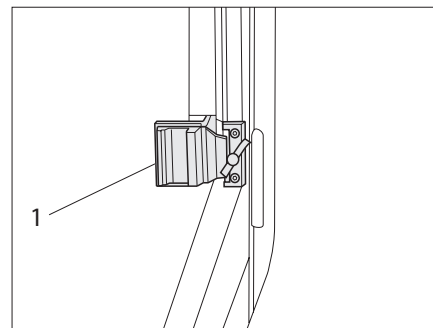


Fig. 23 Sliding window with slide lock

Opening:

- ▶ Turn the locking knob (Fig. 23,1) into the vertical position.
- ▶ Press handle (Fig. 23,2) and push it forward or backward at the same time.
- ▶ Open window half up to the required position.

Closing:

- ▶ Close the window as far as it can go.
- ▶ Turn the locking knob into the horizontal position.

10.3.3 Sliding window with lock (variant 3)

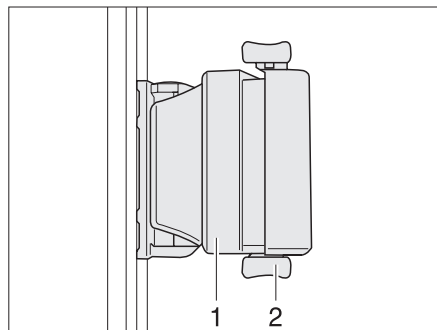


Fig. 24 Sliding window with pressure lock

Opening:

- ▶ Press the lock (Fig. 24,2) upwards.
- ▶ Press handle (Fig. 24,1) and push it forward or backward at the same time.
- ▶ Open window half up to the required position.

Closing:

- ▶ Close the window as far as it can go.
- ▶ Push the lock downwards.

10.3.4 Sliding window without lock (variant 1)

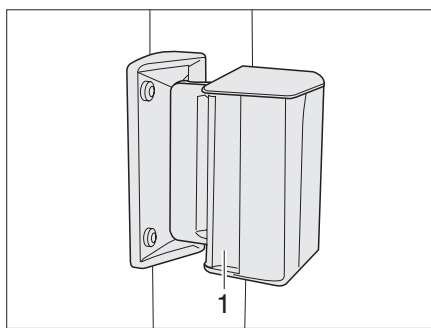


Fig. 25 Sliding window

Opening:

- ▶ Press the handle (Fig. 25,1) and push or pull it forwards or backwards at the same time.
- ▶ Open window half up to the required position.

Closing:

- ▶ Close the window as far as possible and let the handle lock in place.

10.3.5 Sliding window without lock (variant 2)

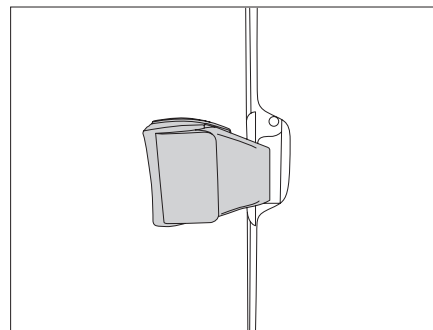


Fig. 26 Sliding window without lock (variant 2)

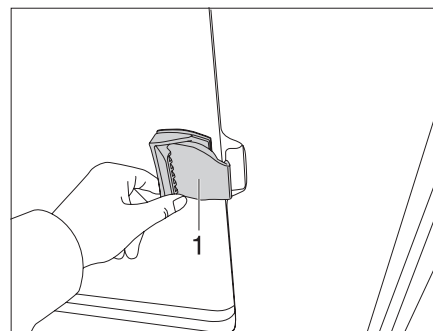


Fig. 27 Sliding window without lock

Opening:

- ▶ Pull the handle flap (Fig. 27,1) and push or pull the handle forwards at the same time.
- ▶ Open window half up to the required position.

Closing:

- ▶ Close the window as far as possible and let the handle lock in place.

10.3.6 Hinged window with rotary hinges



- ▶ When opening the hinged windows, ensure that there are no torsional forces. Open and close the hinged windows evenly.

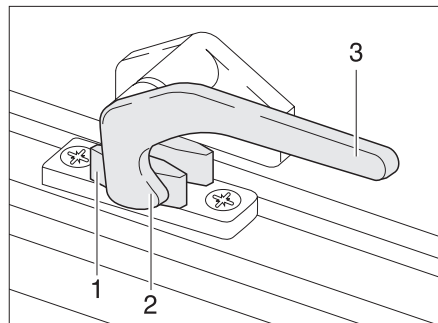


Fig. 28 Catch lever in "closed" position

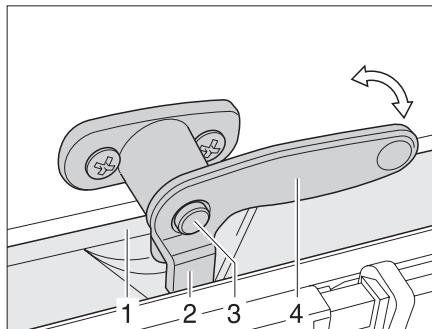


Fig. 29 Catch lever with safety knob in "closed" position

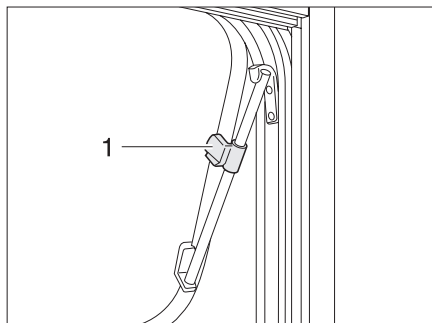


Fig. 30 Hinged window with rotary hinges, open

Opening:

- ▶ If it exists, press the safety knob (Fig. 29,3) down and hold it.
 - ▶ Turn the catch lever (Fig. 28,3 or Fig. 29,4) a quarter turn towards the centre of the window.
 - ▶ Open the hinged window until the required position has been reached and secure in position using the knurled knob (Fig. 30,1).
- The hinged window remains locked in the required position.

Closing:

- ▶ Turn the knurled knob (Fig. 30,1) until the latch is released.
- ▶ Close the hinged window.
- ▶ If it exists, press the safety knob (Fig. 29,3) down and hold it.
- ▶ Turn the catch lever (Fig. 28,3 or Fig. 29,4) a quarter turn towards the centre of the window frame. The locking catch (Fig. 28,2 or Fig. 29,2) is located on the inside of the window catch (Fig. 28,1 or Fig. 29,1).

Continuous ventilation

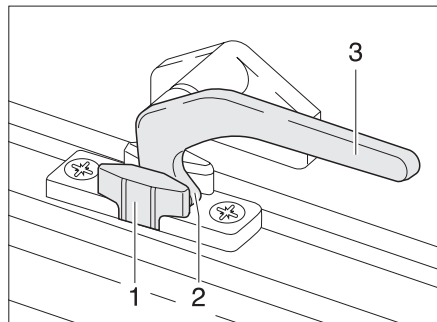


Fig. 31 Catch lever in the "continuous ventilation" position

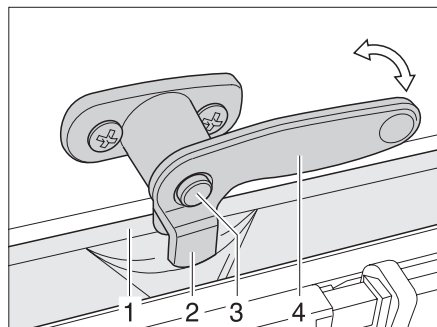


Fig. 32 Catch lever with safety knob in "continuous ventilation" position

With the catch lever, the hinged window can be placed in two positions:

- "Continuous ventilation" (Fig. 31)
- "Firmly closed" (Fig. 28)

To place the hinged window into the "continuous ventilation" position:

- ▶ If it exists, press the safety knob (Fig. 32,3) down and hold it.
- ▶ Turn the catch lever (Fig. 31,3 or Fig. 32,4) a quarter turn towards the centre of the window.
- ▶ Lightly open the hinged window outwards.
- ▶ If it exists, press the safety knob (Fig. 32,3) down and hold it.
- ▶ Return the catch lever to its initial position. In the process the locking catch (Fig. 31,2 or Fig. 32,2) is retracted into the recess of the window catch (Fig. 31,1 or Fig. 32,1).
- ▶ If necessary, ensure that the safety knob is not pushed in but rather that it secures the catch lever.

During the journey, the hinged window may not be in the "continuous ventilation" position. If it rains, the "continuous ventilation" hinged window position could lead to splashing water penetrating the living area. Therefore, close the hinged windows completely.

10.3.7 Hinged window with automatic hinges



- ▶ Open the window completely in order to unblock the locking device. If the locking device is not unblocked and the window is closed nevertheless, there is the danger of the window being torn due to the massive counter-pressure.
- ▶ When opening the hinged windows, ensure that there are no torsional forces. Open and close the hinged windows evenly.
- ▶ If the locking lever is equipped with a safety knob, press the safety knob whenever you use the locking lever.

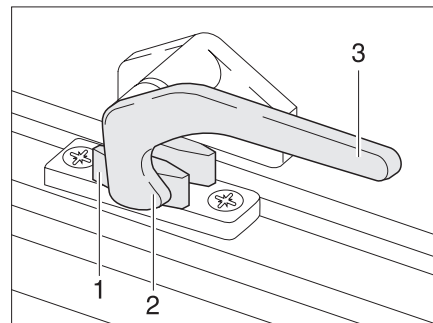


Fig. 33 Catch lever in "closed" position

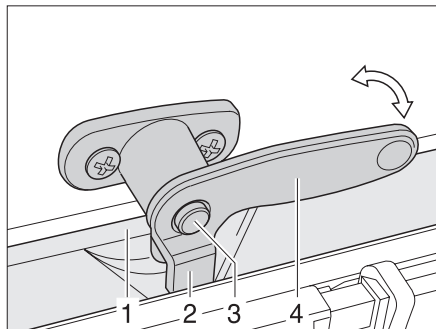


Fig. 34 Catch lever with safety knob in "closed" position

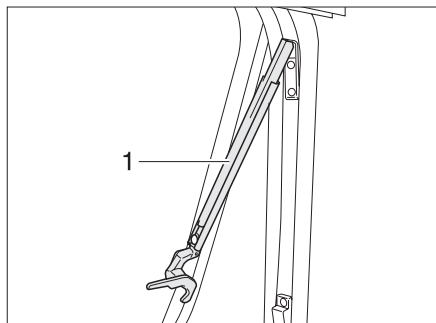


Fig. 35 Hinged window with automatic hinges, open

Opening:

- ▶ If it exists, press the safety knob (Fig. 34,3) down and hold it.
- ▶ Turn the catch lever (Fig. 33,3) a quarter turn towards the centre of the window.
- ▶ Open the hinged window to the desired latched position. The automatic hinge (Fig. 35,1) locks in place automatically.

The hinged window remains locked in the required position.

Closing:

- ▶ Open the hinged window as wide as necessary until the latch releases.
- ▶ Close the hinged window.
- ▶ If it exists, press the safety knob (Fig. 34,3) down and hold it.
- ▶ Turn the catch lever (Fig. 33,3) a quarter turn towards the window frame. The locking catch (Fig. 33,2) is located on the inside of the window catch (Fig. 33,1).

Continuous ventilation

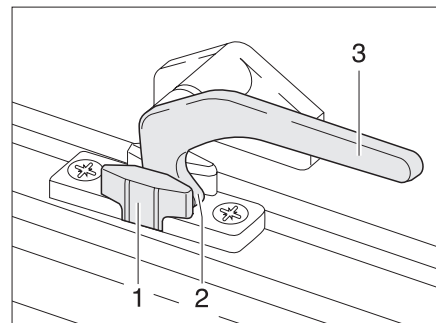


Fig. 36 Catch lever in the "continuous ventilation" position

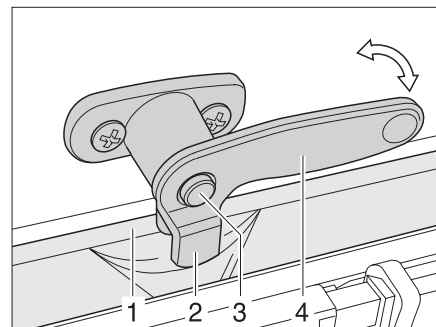


Fig. 37 Catch lever with safety knob in "Continuous ventilation" position

With the catch lever, the hinged window can be placed in two positions:

- "Continuous ventilation" (Fig. 36)
- "Firmly closed" (Fig. 33)

To place the hinged window into the "continuous ventilation" position:

- ▶ If it exists, press the safety knob (Fig. 37,3) down and hold it.
- ▶ Turn the catch lever (Fig. 36,3) a quarter turn towards the centre of the window.
- ▶ Lightly open the hinged window outwards.
- ▶ If it exists, press the safety knob (Fig. 37,3) down and hold it.
- ▶ Turn the catch lever a quarter turn towards the window frame. The locking catch (Fig. 36,2) has to be moved into the recess of window catch (Fig. 36,1).
- ▶ If necessary, ensure that the safety knob is not pushed in but rather that it secures the catch lever.

During the journey, the hinged window may not be in the "continuous ventilation" position. If it rains, the "continuous ventilation" hinged window position could lead to splashing water penetrating the living area. Therefore, close the hinged windows completely.

10.3.8 Blinds and roller insect screen



- ▶ Open the blinds and roller screens before starting the journey. If the blinds and roller screens are closed, the spring loads may be damaged through the vibrations and shocks.

The windows are fitted with a blind and a roller insect screen.
The blind and roller insect screen can be adjusted separately.

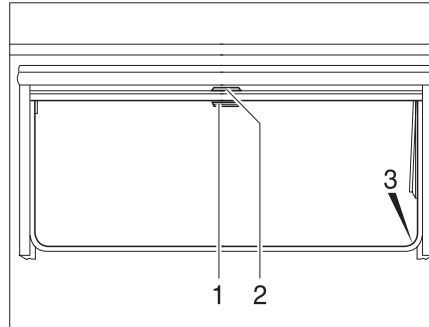


Fig. 38 Hinged window

Blind

The blind is located in the upper blind box.

Closing:

- ▶ Pull blind at the handle (Fig. 38,2) downwards. If the blind is to be completely closed, it is suspended into the locking devices (Fig. 38,3) situated on both sides of the window frame.

Opening:

If the blind is completely closed:

- ▶ Press the handle (Fig. 38,2) downwards and, at the same time, tilt it slightly inward. The blind can be taken out of the locking devices situated on both sides of the window frame.

If the blind is in an intermediate position:

- ▶ Pull the handle (Fig. 38,2) slightly downwards until the locking device releases.
- ▶ Use handle to return blind slowly to its initial position.

Roller insect screen

The roller insect screen is located in the upper blind box.

Closing:

- Pull the roller insect screen at the handle (Fig. 38,1) downwards and hang it into the locking devices (Fig. 38,3) situated on both sides of the window frame.

Opening:

- Press the handle (Fig. 38,1) downwards and, at the same time, tilt it slightly inward. The roller insect screen can be taken out of the locking devices situated on both sides of the window frame.
- Use handle to return the roller insect screen slowly to its initial position.

10.3.9 Blind pleated with insect screen

The blackout blind and the insect screen can be opened or closed by moving the two strips.

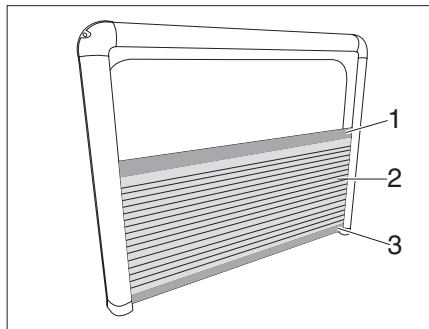


Fig. 39 Blind, pleated

Closing:

- Pull up the blackout blind (Fig. 39,2) on the top strip (Fig. 39,1) and pull down the bottom strip (Fig. 39,3).

Opening:

- Push down the top strip (Fig. 39,1). The opened window is protected by the insect screen.

Opening without the insect screen:

- Push up the bottom strip (Fig. 39,3). The opened window is not protected by the insect screen.

10.3.10 Roman shade for the windscreen

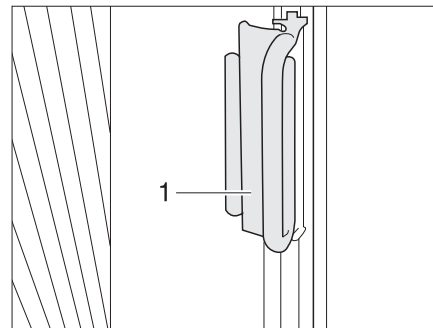


Fig. 40 Handle of the Roman shade for the windscreen

Closing:

- Grip the Roman shades at both sides of the windscreen at the handle (Fig. 40,1) and pull carefully towards the middle of the windscreen until the magnetic catch keeps the Roman shade closed.

Opening:

- Push the Roman shades carefully at the handle under the cover at the A-columns.
- Push the handle (Fig. 40,1) onto the attachment. The Roman shade is secured.

10.3.11 Roman shade for driver's window and front passenger's window

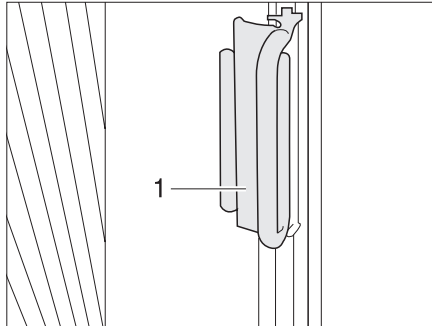


Fig. 41 Handle Roman shade for driver's and front passenger's windows

Closing:

- Grasp the handle (Fig. 41,1) of the Roman shades and draw carefully forwards until the magnetic catch keeps the Roman shades closed.

Opening:

- Using the handle, carefully push the Roman shades back under the cover.
- Push the handle (Fig. 41,1) onto the attachment. The Roman shade is secured.

10.3.12 Fall protection bar in the window

The fall protection bar is attached to the window and serves as a fall protection for small children. The fall protection bar can be removed to operate the window or the roller blind.

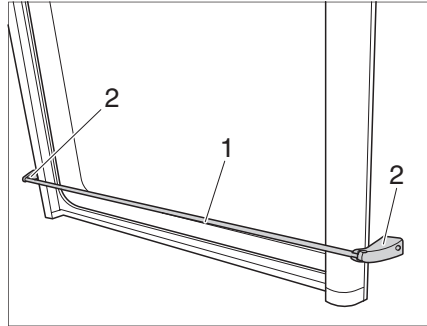


Fig. 42 Fall protection bar

Remove fall protection bar:

- Grip the fall protection bar (Fig. 42,1) near the two brackets (Fig. 42,2) and pull forwards.

Insert fall protection bar:

- Clip the fall protection bar (Fig. 42,1) into the two brackets (Fig. 42,2).

10.4 Skylights

Depending on the model, skylights with or without forced ventilation are fitted to the vehicle. If a skylight is fitted without forced ventilation, the forced ventilation is performed using mushroom-shaped vents.



- Raise the skylights vents when the vehicle is being used for living purposes.
- The apertures for forced ventilation must always be kept open. Never cover or block forced ventilations with objects such as e.g. a winter mat.
- Keep forced ventilations clear of snow and leaves.



The skylights are fitted with a blind or Roman shade and with a roller insect screen or folding insect screen. After the latch has been released, the blind and roller insect screen automatically spring back to the initial position by tensile force.

In order not to damage the tension mechanics, hold onto the blind or roller insect screen and allow it to slowly return to the initial position.

The Roman shade and folding insect screen are made of thin woven fabric. In order not to damage the Roman shade or the insect screen, grasp the respective handle and carefully return it to the initial position.



- ▶ Do not keep blinds closed over a longer period of time as that can cause increased material wear.
- ▶ If the blind or the Roman shade is completely closed, exposure to direct sunlight can cause heat to accumulate between the blind/the Roman shade and the skylight. The skylight could be damaged. For that reason, close the blind/Roman shade only 2/3 of the way in direct sunlight. Open the skylight slightly or move it to ventilation position.
- ▶ Depending on the weather, close the skylights far enough to prevent moisture from entering.
- ▶ Never step on the skylights.
- ▶ Before commencing the journey, close the skylights.
- ▶ Before commencing the journey, check that the skylights are closed and locked.
- ▶ Before commencing the journey, open the blinds or Roman shades.
- ▶ **Apply talc to the rubber seals of the skylights at least twice a year.**



- ▶ When leaving the vehicle, close the skylights.

10.4.1 Skylight with snap latch

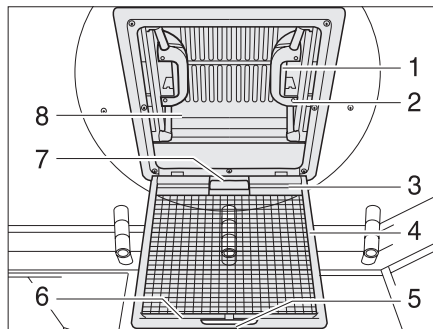


Fig. 43 Skylight with snap latch

The skylight can be pushed upwards either from one side or from both sides. Depending on the version, the skylight is fitted with a blind.

Opening:

- ▶ Pull the handle (Fig. 43,5).
- ▶ Fold the insect screen (Fig. 43,4) downwards.
- ▶ Push the spring-loaded latch (Fig. 43,1) towards the inside of the skylight (Fig. 43,8).
- ▶ At the same time use the handle (Fig. 43,2) to press the skylight upwards.
- ▶ Swing the insect screen upwards (Fig. 43,4) until it latches in place.

Closing:

- ▶ Pull the handle (Fig. 43,5).
- ▶ Fold the insect screen (Fig. 43,4) downwards.
- ▶ Using both handles (Fig. 43,2), pull down the skylight (Fig. 43,8) with force until the two

snap latches (Fig. 43,1) lock into place.

- ▶ Swing the insect screen upwards (Fig. 43,4) until it latches in place.

Blind

To close and open the blind:

Closing:

- ▶ Pull the handle (Fig. 43,7) of the blind and hook the hook rail (Fig. 43,3) into the retainer (Fig. 43,6) on the insect screen.

Opening:

- ▶ Release the hook rail (Fig. 43,3) from the retainer (Fig. 43,6) and feed the blind back slowly.

10.4.2 Heki skylight (mini and midi)

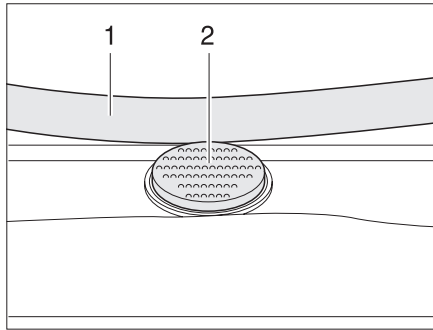


Fig. 44 Safety knob on the Heki skylight

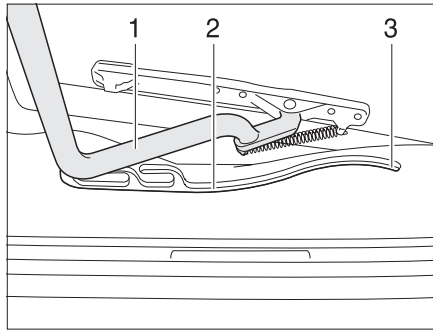


Fig. 45 Heki skylight, guide

The Heki skylight is opened on one side only.

Opening:

- ▶ Press the safety knob (Fig. 44,2) and pull the bar (Fig. 44,1) down with both hands.
- ▶ Pull the bar (Fig. 45,1) in the guides (Fig. 45,2) to the rearmost position (Fig. 45,3).

Closing:

- ▶ Use both hands to push the bar (Fig. 45,1) slightly upwards.
- ▶ Push the bar back in the guides.
- ▶ Push the bar upwards with both hands until it is above the safety knob (Fig. 44,2).

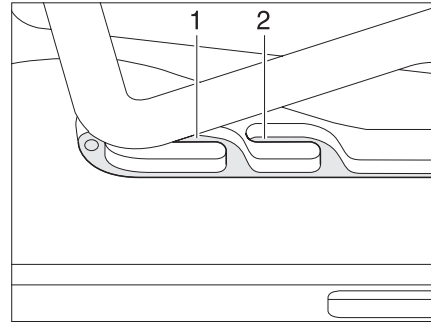


Fig. 46 Heki skylight in ventilation position

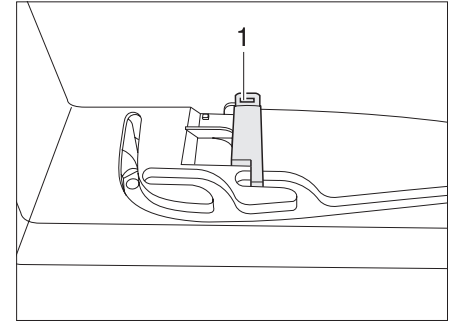


Fig. 47 Ventilation position locking mechanism

Ventilation position

The Heki skylight can be put in two ventilation positions: Bad weather position (Fig. 46,1) and central position (Fig. 46,2). Depending on the model, the skylight can be locked in the central position with the latch (Fig. 47,1).

- ▶ Press the safety knob (Fig. 44,2) and pull the bar (Fig. 44,1) down with both hands.
- ▶ Pull the bar in the guides (Fig. 45,2) to the desired position.
- ▶ Push the bar slightly upwards and into the selected guide (Fig. 46,1 or 2) and lock if necessary.

Roman shade

Closing:

- Pull out Roman shade at the handle and release in the required position.
The Roman shade will stay in that position.

Opening:

- Slowly push the Roman shade at the handle to its initial position.

Insect screen

Closing:

- Pull the insect screen by the handle to the opposite handle of the Roman shade.

Opening:

- Press the rear part of the handle of the insect screen. The latch is released.
- Use handle to return the insect screen slowly to its initial position.

10.4.3 Mini Skylight

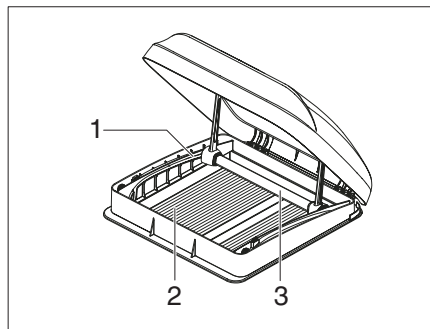


Fig. 48 Mini Skylight

- 1 Guide
- 2 Insect screen
- 3 Push rod

Opening:

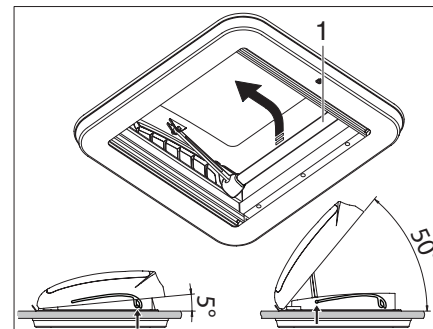


Fig. 49 Open the dome



- Hold the middle position of the push rod when opening the roof window. This position is more conducive to unlocking.
- Push the push rod (Fig. 49,1) up to unlock to release the locking mechanism.
- Continue to slide the push rod toward the front of the car.
 - Position 5°: semi ventilated
 - Position 50°: fully ventilated

Closing:

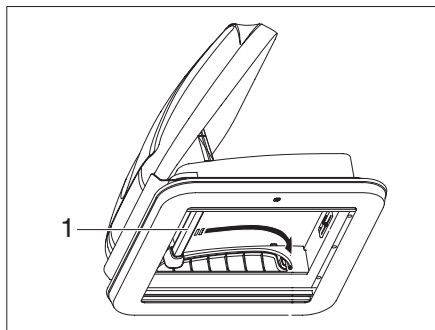


Fig. 50 Close the dome

- Slide the push rod (Fig. 50,1) along the track to the end. When a clicking sound is heard, the push rod is locked.



- Make sure that both ends of the push rod are locked before driving.

10.4.4 Wind-up skylight

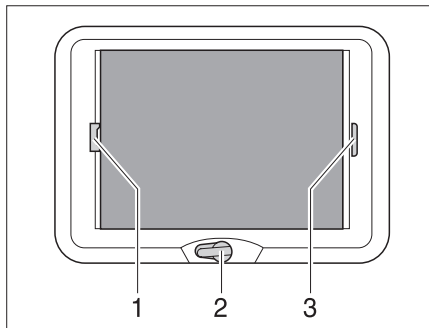


Fig. 51 Wind-up skylight

The wind-up skylight can be opened using the manual crank.

Opening:

- Rotate the hand crank (Fig. 51,2) until a resistance can be felt (max. opening angle 70°).

Closing:

- Rotate the hand crank until the wind-up skylight is closed. The wind-up skylight can be locked after rotating two or three more times.
- Check the locking mechanism. To do so, press your hand against the acrylic glass.

Roman shade

The Roman shade can be closed in any position, as desired. If the Roman shade is locked with the insect screen, the insect screen is also moved along on closing the Roman shade.

Closing:

- Pull the handle of the Roman shade (Fig. 51,3) and release in the desired position. The Roman shade will stay in that position.

Opening:

- Slowly push the Roman shade at the handle to its initial position.

Insect screen

If the insect screen is locked with the Roman shade, the Roman shade is also moved along on closing the insect screen.

Closing:

- Pull insect screen at the handle (Fig. 51,1) to the opposite handle of the Roman shade (Fig. 51,3) and allow to engage.

Opening:

- Press the handle of the insect screen (Fig. 51,1) at the back upwards and detach the insect screen from the Roman shade (Fig. 51,3).
- Slowly push insect screen at the handle to its initial position.

10.5 Seats, rotating



- ▶ Before starting the journey, rotate the seat in the direction of travel and lock in position. The rotating seats must remain locked in the direction of travel during the journey.



- ▶ Chapter 8.5 describes the adjustment of the seat position and of the armrests.
- ▶ Move the seats all the way down before turning. Otherwise, the seats cannot be turned.

The lever for rotating the seat is located at the front or at the side of the seat, depending on model.

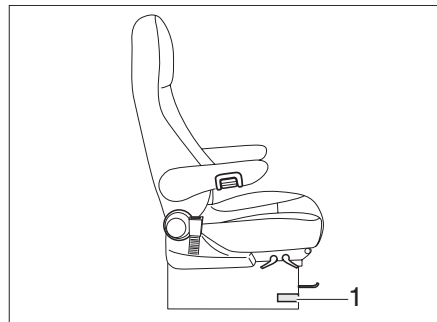


Fig. 52 Driver's seat and front passenger's seat

Turning:

- ▶ Push both armrests at the driver's/front passenger's seat upward.
- ▶ Push the driver's seat/front passenger's seat backwards or into the central position.
- ▶ Push or pull the level to turn the seat (Fig. 52,1). The seat is released from the locking device.

The seats can be rotated in any direction. The seats can only be locked in position in the direction of travel.

- ▶ Grip lever (Fig. 52,1) under seat and pull it forward.
- ▶ Move the seat bench.
- ▶ Release lever (Fig. 52,1) again.

10.6 Tables

10.6.1 Suspension table with fold-out leg



Depending on the model, different table-top extensions and fold-out legs are used. Therefore the table can deviate from the type shown here. The principle of the conversion is the same for all tables.

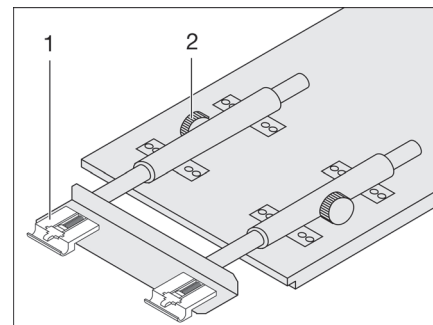


Fig. 53 Extend suspension table

The suspension table size can be enlarged by inserting a table-top extension.

Extending:

- ▶ Undo the knurled screws (Fig. 53,2).
- ▶ Lift the table-top slightly and pull it out as far as possible. The table extension (Fig. 53,1) is fully extended.
- ▶ Set down the table.

- ▶ Insert the table-top extension in the table extension.
- ▶ Lift the table-top slightly and push it back as far as possible.
- ▶ Tighten the knurled screws.

Reducing size:

- ▶ Undo the knurled screws (Fig. 53,2).
- ▶ Slightly lift the front of the table-top and pull out.
- ▶ Remove the table-top extension and store it securely.
- ▶ Lift the table-top slightly and push it back as far as possible. The table extension (Fig. 53,1) is fully retracted.
- ▶ Set down the table.
- ▶ Tighten the knurled screws.

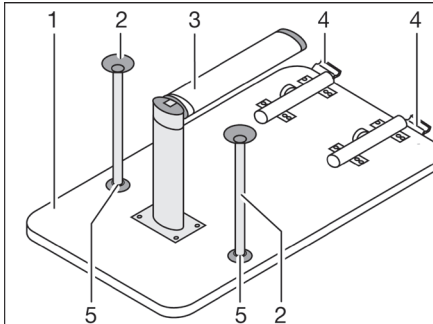


Fig. 54 Bed foundation

The table's fold-out leg enables it to be used as a bed foundation.

Conversion to bed foundation:

- ▶ Lift the front of the table-top (Fig. 54,1) by approx. 45°.
- ▶ Fold the lower part of the fold-out leg (Fig. 54,3) by 90°. Depending on the model, pull the lower part of the fold-out leg down or push the release knob.
- ▶ Press the release button on the lock (Fig. 54,4).
- ▶ Swivel the table-top approx. 45° upward and remove the table from the retainer.
- ▶ Depending on the model, insert both additional support legs (Fig. 54,2) into the holders (Fig. 54,5) on the bottom side of the table.
- ▶ Insert the table into the lower retainer and lock it.

10.6.2 Fixed table (tabletop adjustable)

The top of the fixed table can be moved both lengthways and crossways.

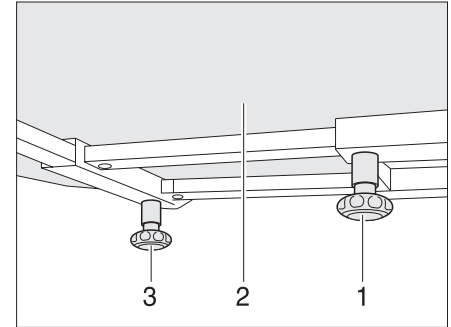


Fig. 55 Fixed table

Moving in a lengthways direction:

- ▶ Loosen the knurled screw (Fig. 55,1).
- ▶ Move the table-top (Fig. 55,2) to the desired position.
- ▶ Tighten the knurled screw again.

Moving in a crossways direction:

- ▶ Loosen the knurled screw (Fig. 55,3).
- ▶ Move the table-top (Fig. 55,2) to the desired position.
- ▶ Tighten the knurled screw again.

The fixed table cannot be used as a bed foundation.

10.6.3 Single-column table (movable table-top)

The top of the single-column table can be moved crossways and lengthwise.

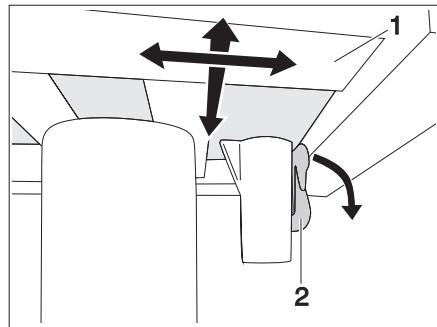


Fig. 56 Lock single-column table (locked)

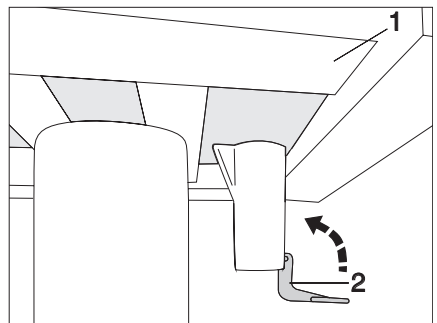


Fig. 57 Lock single-column table (unlocked)

Shift the table-top:

- ▶ Push the locking lever (Fig. 56,2) down.
- ▶ Move the table-top (Fig. 56,1) to the desired position.
- ▶ Press the locking lever (Fig. 57,2) back upwards.

10.6.4 2-legged folding table, lowerable

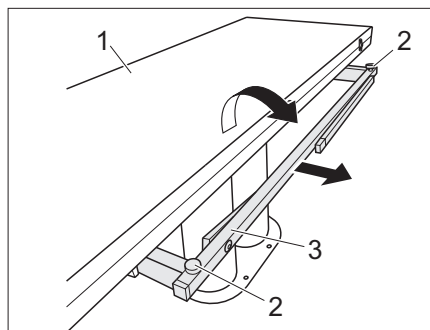


Fig. 58 Increasing the table size

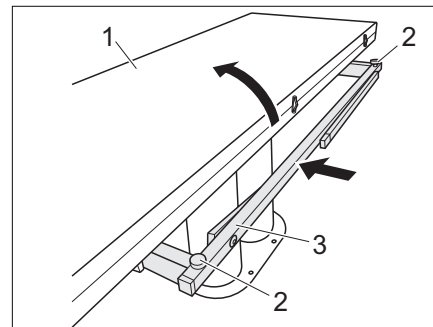


Fig. 59 Reducing the table

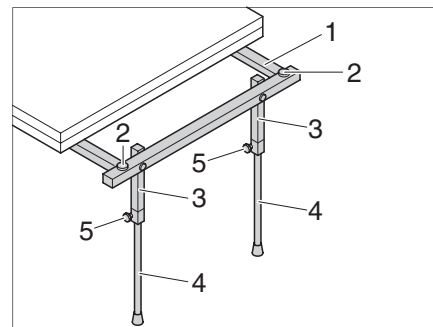


Fig. 60 Move legs into vertical position

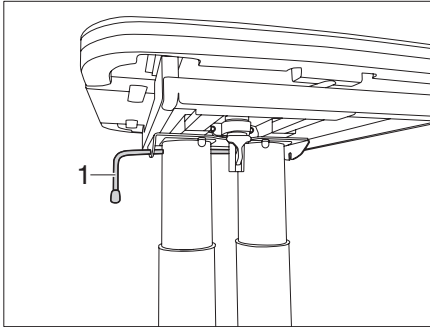


Fig. 61 Lock the table

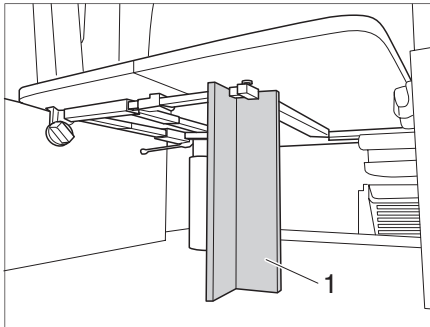


Fig. 62 Wooden support

Enlargement in the living area:

- ▶ Pull out the table base (Fig. 58,3).
- ▶ Fold out the table half (Fig. 58,1).
- ▶ Use the two adjusting screws (Fig. 58,2) to adjust the table-top to the desired height.
- ▶ Swivel the catch lever (Fig. 61,1) to the right. The lift-off table is locked.
- ▶ If necessary, extend the telescopic supports (Fig. 60,3 and 4) to stabilise the tabletop.

Reducing the size when driving:

- ▶ Release the locking lever (Fig. 61,1).
- ▶ Fold in the table half (Fig. 59,1).
- ▶ Screw the two adjusting screws (Fig. 59,2) in.
- ▶ Push in the table base (Fig. 59,3).

Lowering for bed construction:

- ▶ Reducing the table (see above).
- ▶ Swivel the catch lever (Fig. 61,1) to the left. The lock is open.
- ▶ Enlarging table (see above).
- ▶ Slide the table top onto the support edge and place the wooden support (Fig. 62,1) under the table.

10.6.5 2-legged folding table, can be lowered for the middle pull-out bed

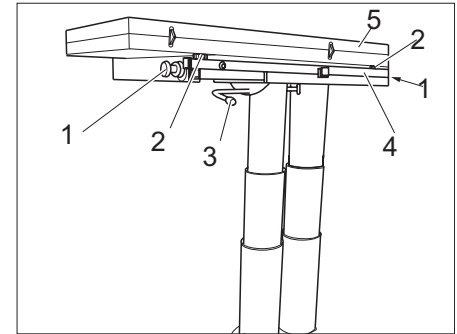


Fig. 63 Increasing the table size

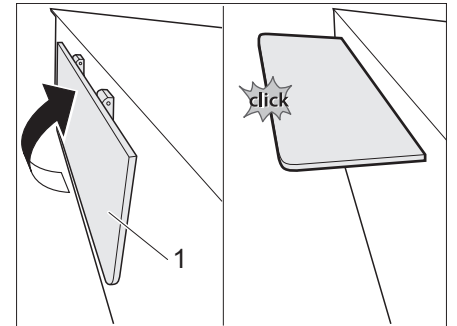


Fig. 64 Position the support edge

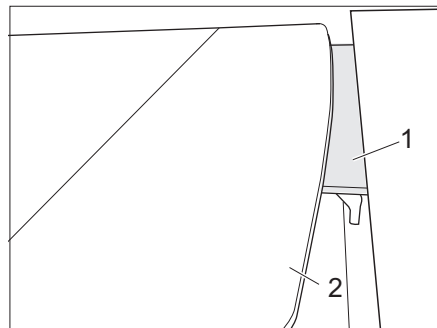


Fig. 65 Lowering the table onto the support edge

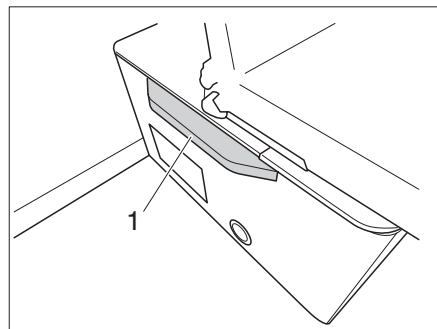


Fig. 66 Lowering the table onto the extender

Enlargement in the living area:

- ▶ Loosen knurled screws (Fig. 63,1) on both sides.
- ▶ Swivel the catch lever (Fig. 63,3) to the left. The lift-off table is unlocked.

- ▶ Pull out the table base (Fig. 63,4).
- ▶ Fold out the table half (Fig. 63,5).
- ▶ Use the two adjusting screws (Fig. 63,2) to adjust the table-top to the desired height.
- ▶ Swivel the catch lever (Fig. 63,3) to the right. The lift-off table is locked.

Reducing the size when driving:

- ▶ Release the locking lever (Fig. 63,3).
- ▶ Fold in the table half (Fig. 63,5).
- ▶ Screw the two adjusting screws (Fig. 63,2) in.
- ▶ Push in the table base (Fig. 63,4).
- ▶ Swivel the catch lever (Fig. 63,3) to the right. The lift-off table is locked.
- ▶ Tighten knurled screws (Fig. 63,1) on both sides.

Lower to convert the bed:

- ▶ Reducing the table (see above).
- ▶ Swivel the catch lever (Fig. 63,3) to the left. The lock is open.
- ▶ Press the table-top downwards in the middle.
- ▶ Pull out the table base (Fig. 63,4).
- ▶ Screw the two adjusting screws (Fig. 63,2) in, if necessary.
- ▶ Swivel the catch lever (Fig. 63,3) to the right. The lift-off table is locked.
- ▶ Unlock the support edge (Fig. 64,1) and swivel it upwards until it locks into place.
- ▶ Swivel the table-top (Fig. 65,2) down onto the support edge (Fig. 65,1) or set down on the extender (Fig. 66,1) intended for this purpose.

10.7 Television



- ▶ Before starting your journey, remove the television from the support and store it securely.
- ▶ Before commencing the journey, place and secure the flat screen and screen support in the initial position.

If the screen holder is installed in a TV cabinet:

- ▶ Close TV cabinet.
- ▶ Before commencing the journey, ensure that the antenna is in park position. Danger of accidents!

Flat screen in the TV cabinet

The flat screen is attached to a console in the TV cabinet.

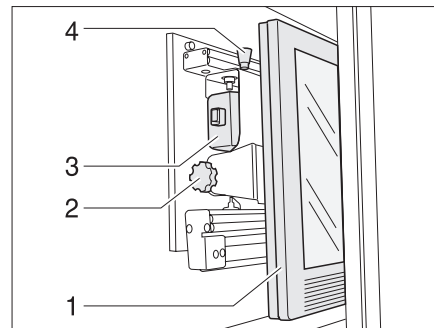


Fig. 67 TV cabinet

Pulling the television console forward:

- Press the release knob (Fig. 67,4) and pull the holder for the flat screen forward as far as possible by the handle (Fig. 67,3).

Swivelling the television console:

- Pull the release button (Fig. 67,4) and swivel the flat screen (Fig. 67,1) into the desired position.
- Loosen the knurled screw (Fig. 67,2).
- Set the desired angle for the flat screen and re-tighten the knurled screw.

Flat screen with jointed arm

The flat screen is fastened to a jointed arm. Depending on the model, there are different versions of the jointed arm.

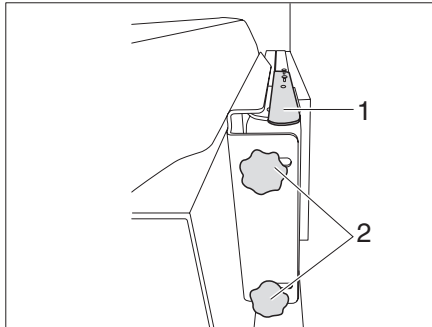


Fig. 68 Bracket with jointed arm (Variant 1)

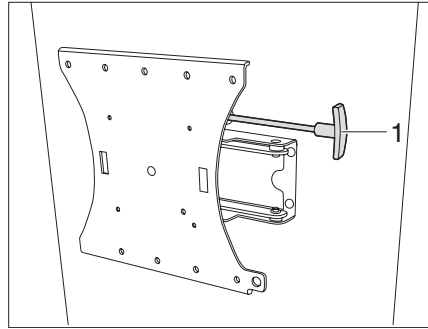


Fig. 69 Bracket with jointed arm (Variant 2)

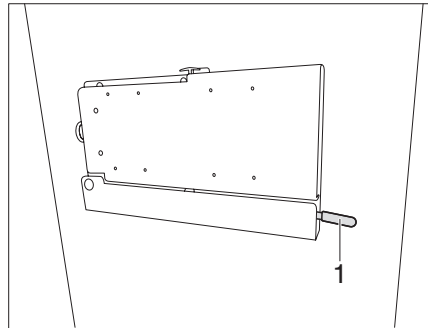


Fig. 70 Bracket with jointed arm (Variant 3)

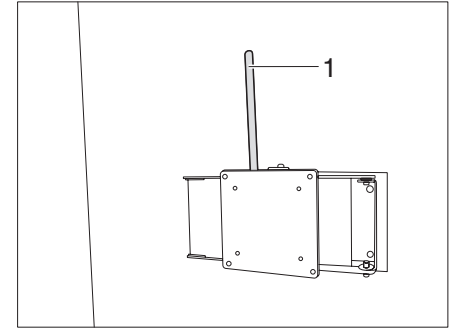


Fig. 71 Bracket with jointed arm (Variant 4)

Variant 1:

- Press the lever (Fig. 68,1) down to release the flat screen from the lock. Release the lever.
- Undo the 2 knurled screws (Fig. 68,2) and swivel the flat screen into the desired position. Retighten the knurled screws (Fig. 68,2).

Variant 2:

- Pull the lever (Fig. 69,1) to release the flat screen from the latch.
- Take hold of the flat screen at the top and bottom edge with both hands and set the desired angle of inclination.
- Push the lever (Fig. 69,1) back in to lock.

Variant 3:

- Pull down the lever (Fig. 70,1).
- Grip the flat screen with both hands on the top and bottom edge and set the desired position.
- Push the lever (Fig. 70,1) back up to lock.

Variant 4:

- Pull the lever (Fig. 71,1).
- Grip the flat screen with both hands on the top and bottom edge and set the desired position.
- Push the lever (Fig. 71,1) back up into the initial position to lock.

10.8 Radio in driver's cabin

The radio is switched on together with the engine ignition if the switch is set to Position 1 (Fig. 72,1). Current is supplied to it by the starter battery.

If you wish to run the radio while the engine is switched off, you have to set the switch to Position 3 (Fig. 72,3) continuous current.

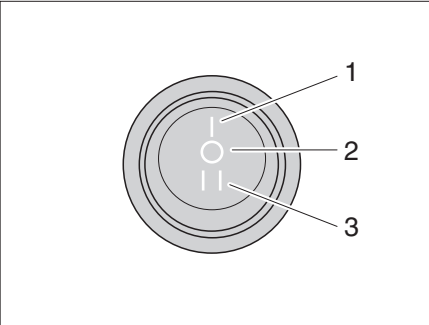


Fig. 72 Power supply switch

- 1 Position 1 - Power supply by starter battery
- 2 Position 0 - Off
- 3 Position 3 - Power supply by body battery

10.9 Making phone calls using the hands-free system



In Fiat-based vehicles, the front buttons on the steering wheel are not assigned to telephone functions.

The rear steering wheel buttons are configured for telephone functions (voice control/answering and hanging up calls).

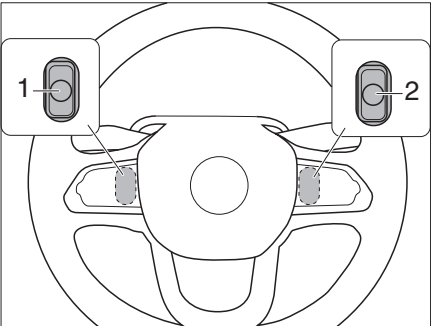


Fig. 73 Assignment of the rear steering wheel buttons (Fiat model)

Pos.	Buttons on the rear steering wheel	Function
1	left	Voice control
2	right	Answer and hang up calls

10.10 Lamps



Bulbs and light fittings can be extremely hot.

► Let the bulbs and light fittings cool down before touching them.

When the light is switched on or is still hot, a safety distance of at least 30 cm to combustible material such as net curtains or curtains has to be maintained. Fire hazard!

Depending on the model the lights are equipped with halogen, fluorescents or LED lamps. For information about replacing the lamps and, if appropriate, the batteries see Chapter 13.

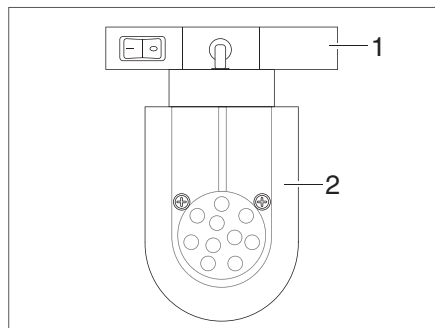


Fig. 74 LED spot light (example)

Moving the LED spotlight:

- Grasp the holder (Fig. 74,1) and turn it by 90°.
- Remove the LED spotlight (Fig. 74,2) from the rail system.
- Insert the LED spotlight (Fig. 74,2) into the rail system at the desired position and turn 90°.

10.11 Light switch



The light switches have different layouts according to the model. The light switches are located either directly on the corresponding lamp or next to the lamp, e.g. in the vicinity of the seating group.

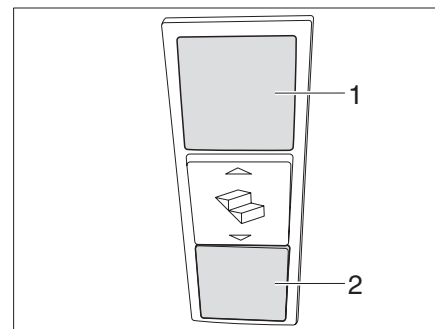


Fig. 75 Light switch

Depending on the model, the light switch for the entrance lighting (Fig. 75,1) and the exterior lighting (Fig. 75,2) is located in the entrance area.

10.12 Beds



- The maximum permitted pull-down bed load amounts to 200 kg.
- The pull-down bed is not to be used for the storage of luggage. When the bed is not being used, only place the bed linen which is required for two persons in it.
- Only use the pull-down bed if it is moved all the way down and the safety net is in position.
- After the pull-down bed has reached its position, be sure to remove the key from the operating panel.
- Ensure that no-one is on or under the pull-down bed when the pull-down bed is being moved.
- Ensure that the pull-down bed is only handled by adults or responsible persons.
- Use the pull-down bed only when the vehicle is at a standstill.
- Proceed with extreme caution when using the pull-down bed.
- Ensure that no children are within the operating range of the pull-down bed.
- Never allow small children to remain in the pull-down bed without supervision.



- Take particular care at small children of less than six years of age that they cannot fall out of the pull-down bed.
- Use separate children's beds or travel cots suitable for children.
- Make sure that the fall protection bar is mounted in front of the window (see chapter 7.5.14).
- Switch off the reading lamps on the underside of the pull-down bed when the bed is lowered. Fire hazard!
- Switch off the reading lamps in the pull-down bed before the bed is pushed up. Fire hazard!

10.13 Sleeping area partition

The sleeping area in the rear can be partitioned off with a sliding door.



Sliding doors may slam shut uncontrollably while driving. Material damage can occur.

- Before commencing the journey open the sleeping area partition and secure it with the securing strap.

11 Gas system

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

The instructions address the following topics:

- safety
- gas consumption
- changing the gas bottles
- gas isolator taps
- automatic switching facility
- hose break guard

The operation of the gas operation appliances of the vehicle is described in Chapter 13.

11.1 General



- ▶ Before starting the journey, when leaving the vehicle or when gas equipment is not in use, close all gas isolator taps and the main isolator tap on the gas bottle.
- ▶ No appliance (e.g. heating or refrigerator) that is operated with an open flame may be operational while fuel is being filled up, on ferries or in the garage. Danger of explosion!
- ▶ If an appliance is operated with an open flame, do not start the appliance up in closed areas (e.g. garages). Danger of poisoning and suffocation!
- ▶ Have the gas system serviced, repaired or altered by an authorised workshop only.



- ▶ Have the gas system checked by an authorised specialist workshop before starting up and according to the national regulations. 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 and the exhaust gas pipes also have to be checked. The gas pressure regulator has to be replaced at least every 10 years. The vehicle owner is responsible for seeing that this is carried out.
- The vehicle owner is responsible for carrying out periodic inspections and for adhering to maintenance intervals.
- ▶ In case of a defect of the gas system (gas odour, high gas consumption) there is danger of explosion! Close the regulator tap on the gas bottle immediately.
- ▶ Open doors and windows and ventilate well.
- ▶ In case of a defect in the gas system: Do not smoke; do not ignite any open flames, and do not operate electric switches (light switches etc.).



- ▶ Before using the cooker make sure that there is sufficient ventilation. Open windows or the skylight.
- ▶ Do not use the gas cooker or gas oven 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 installed gas appliances are designed for use solely with propane or butane gas or a mixture of both. The gas pressure regulator as well as all installed gas devices are set for a gas pressure of 30 mbar.
- Use only pressure regulators with a maximum operating pressure of 30 mbar and a maximum flow rate of 1.5 kg/h. Regulators with different specifications must not be used.
- 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.



- ▶ Regularly inspect the gas tube fitted to the gas bottle connection for tightness. The gas tube must not have any tears and must not be porous.
- Have the gas tube replaced in an authorised workshop no later than ten years after the manufacturing date. The operator of the gas system must see to it that the parts are replaced.
- Due to its function and construction, the gas bottle compartment is a space which is open to the exterior. Never cover or block the standard forced ventilation. Otherwise leaking gas cannot be dispersed to the outside.
- ▶ Do not use the gas bottle compartment as storage space. Fire hazard!
- ▶ Secure the gas bottle compartment in order to prevent unauthorised persons opening it. To do so lock the access.
- 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.
- The exhaust gas pipe must be fitted tightly to the heating system and to the vent and must be sealed. The exhaust gas pipe must not show any evidence of damage.



- Exhaust fumes must be able to escape into the atmosphere unhindered and fresh air must be able to enter unhindered. Therefore keep the waste gas vents and intake openings clean and free (e.g. of snow and ice). No snow walls or aprons may be allowed to lie against the vehicle.
- Avoid stress at the hose assembly when it is connected to the cylinder.

11.2 Gas bottles



- Gas bottles are only to be transported within the designated gas bottle compartment.
- Place gas bottles vertically in the gas bottle compartment.
- Tie down gas bottles so that they are unable to turn or tilt.
- 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.
- ▶ Use your hands only to connect the gas pressure regulator or the gas tube to the gas bottles. Do not use any tools.



- ▶ 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 defroster (Eis-Ex) for the gas pressure regulator at temperatures below 5 °C.
- ▶ Use only 11 kg or 5 kg gas bottles. Camping gas bottles with a built-in reflux valve (blue bottle with max. 2.5 or 3 kg content) are permitted in exceptional cases with a safety valve.
- ▶ Use the shortest possible tube lengths (150 cm max.) for external gas bottles.
- ▶ Never block the ventilation openings in the floor under the gas bottles.



- ▶ On some models, the opening of the gas box is in the direction of the storage compartment. Do not adjust the door opening with luggage on these models.



- Connections on the gas pressure regulator have left-handed threads.
- 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.

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

- For connecting the gas bottles in Europe the accessories shops have corresponding Euro bottle sets.
- Information is available at the dealers and service centres.

11.3 Gas consumption



The data about gas consumption of the individual gas devices is only standard average values.

Appliance	Gas consumption in grams/hour
Heater	Approx. 170 - 490 g/h
Cooker, per cooker	Approx. 140 - 165 g/h

Example

A full 11 kg gas bottle is sufficient to:

- Cook for 3 days using one flame,
- Heat for 22 hours on full output or
- Cool for 25 days.

11.4 Changing gas bottles



- ▶ When changing gas bottle, do not smoke or light any open flames.
- ▶ 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.

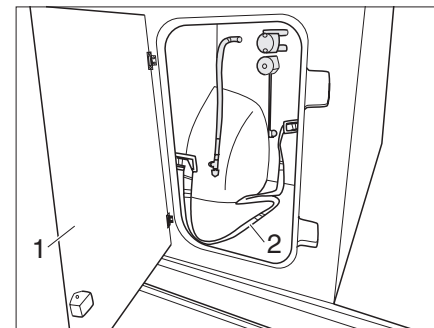


Fig. 76 Access flap for the gas bottle

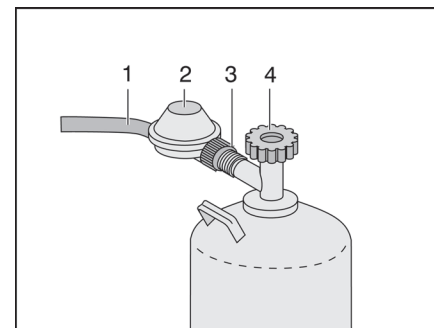


Fig. 77 Gas bottle connection

- ▶ Open the access flap (Fig. 76,1) to the gas bottle compartment.
- ▶ Close the regulator tap (Fig. 77,4) on the gas bottle. Pay attention to the direction of the arrow.

- ▶ Hold the gas pressure regulator (Fig. 77,2) and open the knurled nut (Fig. 77,3) (left-handed thread).
- ▶ Remove the gas pressure regulator and the gas tube (Fig. 77,1) from the gas bottle.
- ▶ Release the fixing belts and remove the gas bottle.
- ▶ Place a filled gas bottle in the gas bottle compartment.
- ▶ Fix gas bottle in place with the fixing belts (Fig. 76,2).
- ▶ Position the gas pressure regulator (Fig. 77,2) and the gas tube (Fig. 77,1) on the gas bottle and tighten the knurled nut (Fig. 77,3) by hand (left-handed thread).
- ▶ Close (Fig. 76,1) access flap.

11.5 Gas isolator taps

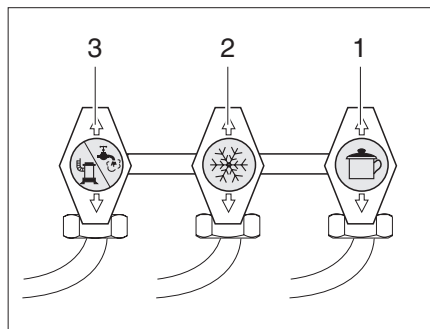


Fig. 78 Symbols for the gas isolator taps

- 1 Cooker
- 2 Refrigerator (non-functional)
- 3 Heater/boiler

A gas isolator tap (Fig. 78) for every gas device is built into the vehicle.

The gas isolator taps are located in the vehicle at different positions, and can also be fitted separately.

11.6 Caramatic DriveTwo switching facility



- ▶ Do not use the switching facility in closed spaces.
- ▶ During the journey the gas system must only be operated with a crash sensor and suitable high-pressure hoses with hose break guard. Danger of explosion.

The Caramatic DriveTwo is an automatic switching facility with remote display (control unit) for a two-cylinder gas system. The switching facility automatically switches the gas supply from the operating cylinder to the reserve cylinder when the operating cylinder is empty or no longer operational. The gas appliances may still continue operation. The Caramatic DriveTwo switching facility is suitable for all commercially available gas cylinders from 3 kg to 33 kg.

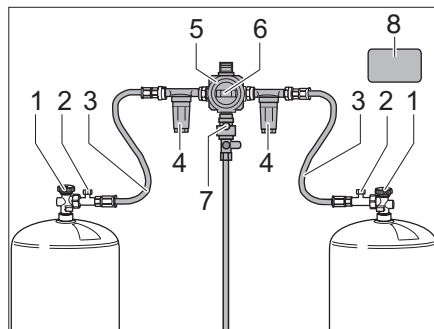


Fig. 79 Caramatic DriveTwo switching facility

- 1 Regulator tap
- 2 Hose rupture protection button
- 3 High-pressure hose
- 4 Gas filter
- 5 Changeover valve
- 6 Rotary knob changeover valve
- 7 Release button Crash sensor
- 8 Safety stickers

Construction of the unit

The Caramatic DriveTwo switching facility consists of a switching valve (Fig. 79,5) and the control unit (Fig. 80). The switching valve is mounted between the high-pressure tubes (Fig. 79,3). The rotary knob (Fig. 79,6) on the changeover valve can be used to determine which gas cylinder is used as the operating cylinder and which gas cylinder is used as the reserve cylinder.

The changeover valve (Fig. 79,5) is equipped with the IceEx regulator defrosting system. This prevents damage to the gas system during the winter months.

A gas filter (Fig. 79,4) (optional) can be mounted on each side in front of the changeover valve (Fig. 79,5) to protect the gas system from oil contamination and soiling.

The regulator taps (Fig. 79,1) on the gas bottles must be opened manually.

The release button (Fig. 79,7) of the crash sensor is located under the switching valve.

Operating unit

The control unit (Fig. 80) of the Caramatic DriveTwo switching system is located inside the vehicle.

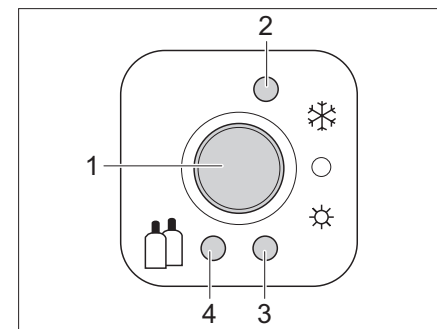
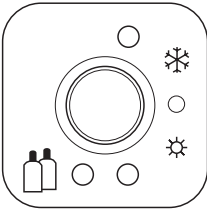
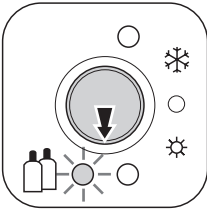
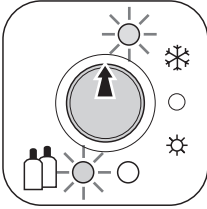
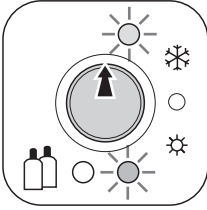


Fig. 80 Operating unit

- 1 Rocker switch for winter/summer operation
- 2 LED display Ice-Ex
- 3 LED indicator for withdrawal from reserve bottle (red)
- 4 LED indicator for withdrawal from operating bottle (green)

Display of operating states on the control unit:

Operating unit	LED indication/ Switch position	Meaning
	- LED Ice-Ex (Fig. 80,2) off - LEDs (Fig. 80,3 and 4) off - Rocker switch (Fig. 80,1) in centre position	Remote display off
	- LED Ice-Ex (Fig. 80,2) off - LED (Fig. 80,4) on (green) - Rocker switch (Fig. 80,1) down	- Summer operation - Removal from the operating bottle
	- LED Ice-Ex (Fig. 80,2) off - LED (Fig. 80,3) on (red) - Rocker switch (Fig. 80,1) below	- Summer operation - Removing from the reserve bottle

Operating unit	LED indication/ Switch position	Meaning
	- LED Ice-Ex (Fig. 80,2) on - LED (Fig. 80,4) on (green) - Rocker switch (Fig. 80,1) above	- Winter operation, control heating Ice-Ex on - Removal from the operating bottle
	- LED Ice-Ex (Fig. 80,2) on - LED (Fig. 80,3) on (red) - Rocker switch (Fig. 80,1) above	- Winter operation, control heating Ice-Ex on - Removing from the reserve bottle

Operating modes

The Caramatic DriveTwo switching system has two operating modes:

- Winter mode - rocker switch (Fig. 80,1) up
- Summer mode - rocker switch (Fig. 80,1) down



- When routing the high-pressure tubes ensure that the tubes rise continuously (Fig. 81).

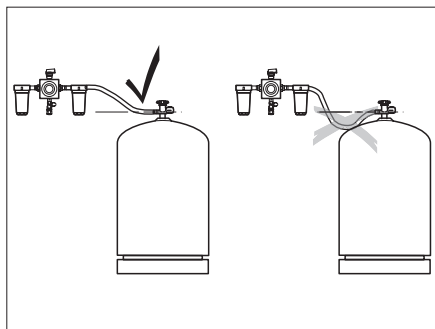


Fig. 81 Routing the high-pressure hoses

Putting into operation:

- Open the regulator taps (Fig. 79,1) on the gas bottles.
- Use the rotary knob (Fig. 79,6) on the switching valve (Fig. 79,5) to select the gas cylinder from which gas is to be taken primarily (operating cylinder).

Always turn the knob as far as it will go.

Switching off:

- Move the rocker switch (Fig. 80,1) to the middle position.
- Close the regulator taps (Fig. 79,1) on the gas bottles.

Changing gas bottles

If the green indicator lamp (Fig. 80,4) goes out during operation and the red indicator lamp (Fig. 80,3) lights up, the gas bottle selected as the primary bottle is empty and has to be changed. The reserve bottle continues supplying the gas appliances with gas.



- When changing gas bottles, do not smoke or create any open fire.



Use country-specific connection for gas bottles.

Changing gas bottles:



- Use the enclosed screwing aid (Fig. 82,1) to screw on and unscrew the high-pressure hoses. It ensures the necessary tightening torque and prevents damage to the screw connection caused by the wrong tool.

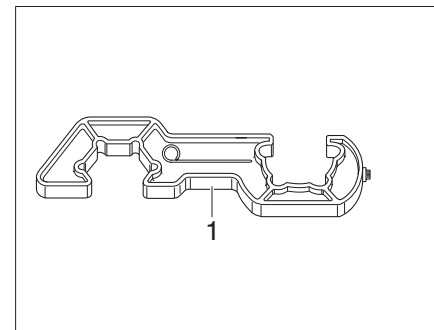


Fig. 82 Screw aid

- Close the regulator tap (Fig. 79,1) on the empty gas bottle.
- Unscrew the high-pressure hose (Fig. 79,3) from the gas cylinder using the screwing aid (Fig. 82,1).
- Connect the full gas bottle to the high-pressure hose (Fig. 79,3).
- Open the regulator tap (Fig. 79,1) on the gas bottle.

- Set the knob (Fig. 79,6) on the switching valve (Fig. 79,5) with half a turn, so that the newly replaced gas bottle will serve as a reserve bottle.
- Press the button (Fig. 79,2) for the hose break guard at the high-pressure hose to activate it.
- If necessary, press the reset button (Fig. 79,7) on the crash sensor.



- For Caramatic DriveTwo systems, ensure gas is drawn in the direction of travel (see safety sticker (Fig. 79,8) in the gas compartment).

Crash sensor

The crash sensor protects against unwanted gas discharge. In the event of an accident or a too high angle of the vehicle the gas supply will automatically be interrupted.



Only use the living area heater during the journey if the vehicle is equipped with a crash sensor and suitable high-pressure hoses with hose break guard.

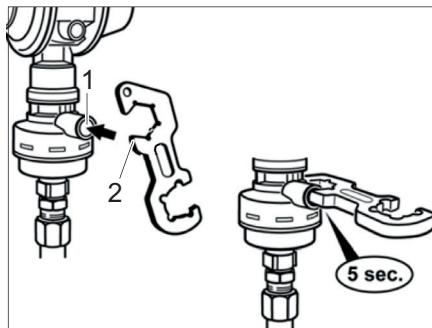


Fig. 83 Crash sensor

If the crash sensor was triggered, it must be released manually.

Releasing:

- Using the screwing aid (Fig. 83,2) or a similar suitable object, press the release button (Fig. 83,1) and hold it for 5 seconds.

Gas filter

The gas filters (Fig. 84,1) (optional) filter out evaporation residues such as olefins, paraffins and other hydrocarbon compounds from the gas system. The filter cartridges have to be checked at regular intervals and be replaced at the latest every 2 years.



Pay attention to the operating and installation instructions of the gas filter.

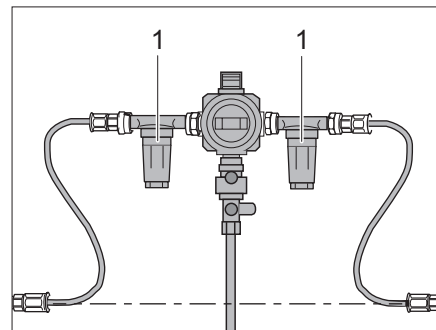


Fig. 84 Gas filter

Hose break guard



Inspect the flexible gas hose regularly for deterioration and renew as necessary, with approved type, as and in any case no later than the expiry date stated on the hose.

The hose break guard protects against gas escaping in case of a defect or the high-pressure hose tearing off.



- Use a suitable high-pressure hose with hose break guard and country-specific connection for gas bottles.

Activating:

- After changing the gas bottle, press the green button (Fig. 79,2) on the high-pressure hose (Fig. 79,3) firmly.

The hose break guard is activated.

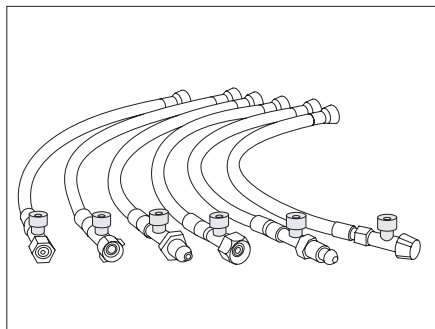


Fig. 85 High-pressure hoses with hose break guard (country-specific variants)

12 Electrical system

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

The instructions address the following topics:

- safety
- explanations of terms relating to the battery
- 12 V power supply
- living area battery
- loading the batteries
- Transformer/rectifier
- panel
- 230 V power supply
- connection to the 230 V power supply
- fuse rating
- the Campernet

The operation of the electrical appliances of the housing body is described in Chapter 13.

12.1 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 specific features:
These are the CE certification, the EMC test (electromagnetic compatibility) and the "E1" 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.

The vehicle is a safe place during a storm (Faraday cage).

- However, to protect the electrical devices, disconnect the 230 V connection and retract the antennae as a precaution.

12.2 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.

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 12 V power supply 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.



Total discharge damages the battery, recharge the battery immediately.

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). If a battery possesses a capacity of 80 Ah, then the battery can dispense a current of 1 A for 80 hours or a current of 2 A for 40 hours.

External influences such as temperature and current drain may alter the storage capacity of the battery. The specified rated capacity is not the same as the battery capacity actually available. The capacity that can actually be used is lower than the rated capacity.

12.3 12 V power supply



- To disconnect all electrical 12 V appliances from the power supply, disconnect the living area battery from the 12 V power supply. Depending on the model, either press the switch on the transformer/rectifier or activate the battery separation on the panel to do so.
- The radio in the driver's cabin and the independent vehicle heater are by default connected to the living area battery via a separate fuse. These appliances will stay operational if the living area battery is disconnected from the power supply via the battery cut-off switch of the transformer/rectifier or the battery separation on the panel.

When the vehicle is not connected to the 230 V power supply or the 230 V power supply is switched off, the living area battery supplies the living area with 12 VDC. The living area battery has a limited power supply only. For this reason, electrical appliances such as the radio and the lights should not be operated for a long time without using the 230 V power supply.

During heater operation, the circulation fan is switched on and off by a thermostat control. As a result the living area battery is loaded if no 230 V power supply is connected.

When the vehicle engine is running, the vehicle alternator recharges the living area battery and the starter battery.

The 12 V power supply can be cut off with the 12 V main switch on the panel. Depending on the model, the heater, basic light and entrance step or only the electrical entrance step remain on standby.

The refrigerator is operated via the living area battery with 12 V and must be switched off separately.

12.3.1 Living area battery



- When changing the living area battery, use only batteries which meet the minimum capacity of the charger. Observe the separate instruction manual for the charger. Lower-capacity batteries will generate a great deal of heat when they are charged. Danger of explosion!
- Devices with a maximum of 10 A can be connected to the sockets of the 12 V power supply. Fire hazard!



- When replacing the living area battery, use only batteries of the same type and specification as the originally installed battery.
- Use a different type of battery only if approved by the vehicle manufacturer.
- 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.
- Prior to commencing a journey ensure the living area battery is fully charged. For this reason charge the battery for at least 24 hours before commencing the journey.
- During the trip, use every opportunity to charge the living area battery.
- Charge the living area battery for at least 24 hours after the journey.
- Before a temporary lay-up charge the battery for at least 24 hours, for longer standstills 48 hours.
- Interrupt the power circuit at times if the vehicle is not used for longer than 24 hours.
- In winter store the charged battery in a place which is cool and protected from frost and recharge every 12 weeks.



- ▶ For long periods of inactivity (2 weeks or more), disconnect the living area battery from the 12 V power supply and recharge it regularly (charge for 24 hours at least every 12 weeks).
- ▶ When the living area battery is changed, only use batteries of the same type.
- ▶ Before disconnecting or connecting the terminals of the battery, switch off the vehicle engine, the 230 V and 12 V power supplies as well as all the appliances. Danger of short circuit!
- ▶ Do not use the ignition when the starter battery or the living area battery is 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.
- It is not necessary to refill the distilled water.

Even a maintenance-free battery has to be charged occasionally using a special charger.

Location

depending on the model, the living area battery is installed either under the driver's seat, under the front passenger's seat, in the bench, in the double floor or in the garage.

Discharging

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



- ▶ Total discharge damages the battery.
- ▶ Recharge the battery in good time.

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

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 charger, solar charge regulator and panel consume approx. 20 mA to 65 mA of electricity from the battery capacity, 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.
- Consumers such as the car radio or the navigation system should not run in standby mode over longer periods. To do so, switch the car radio switch to "0". The navigation system can be switched off via switch directly at the device. Also observe the model-specific information in the instruction manual of the devices.

Second living area battery

Depending on the model a second living area battery can be installed to extend the available battery capacity.



- Alterations to the battery system may only be carried out by an authorised dealer.
- When a second living area battery is installed, both the batteries used must be of the same manufacturer, type and age.
- The installation of a second battery or battery models with a higher capacity extends the charging time correspondingly (e.g. double the charging time at the installation of a second battery).

12.4 Battery installation



- ▶ Battery tray must be fitted at all times.
- ▶ For instructions on auxiliary battery installation see user Handbook.
- ▶ Switch off all appliances and lamps before connecting or disconnecting the auxiliary battery.



- ▶ When installing the leisure battery ensure that it is placed on the battery tray supplied with your campervan.

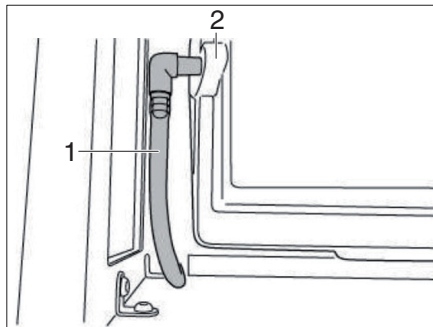


Fig. 86 Vent Pipe Attachment Location

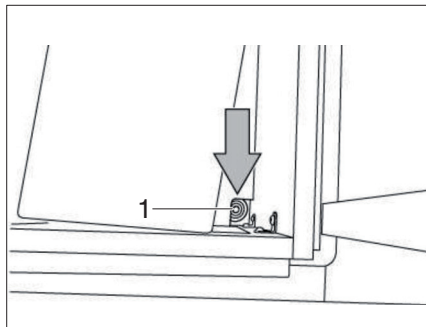


Fig. 87 Pipe Vent Floor Hole

- ▶ Place the tray in the battery locker fitted.
- ▶ Connect the battery to the clamp fittings connected to the connection leads within the battery box.
- ▶ Firmly attach the vent pipe (Fig. 86,1) to the battery (Fig. 86,2) and ensure that the pipe exits the vehicle in the hole (Fig. 87,1) provided in the bottom of the battery compartment.



We recommend that you refer to the NCC approved battery scheme, which can be found at www.thencc.org.uk.

12.5 Battery maintenance

12.5.1 Storage



- ▶ Do not place the battery onto cold surfaces such as concrete as this will affect the battery's ability to charge.
- Prolonged discharge causes harmful sulfation and may damage a battery.
- For peak performance never let a battery sit discharged for long periods of time.
- Over discharged batteries are permanently damaged and need to be replaced.

Ensure that the leisure battery is fully charged before placing the vehicle into storage. Check the battery state every month, if the terminal voltage drops below 12.07 V then recharging is necessary. Charging should be carried out in a cool, dry well-ventilated area.



- Do not over discharge the battery. One of the most common causes of battery failure is when the battery is discharged below the recommended level of approximately 12.2 V ref table.
- Discharging a battery below this figure will cause permanent damage.
- Overheating and gassing will occur when reconnected to the mains supply.

	12 Volt Battery	State of Charge
Good	12.7 V	100 %
	12.5 V	90 %
OK	12.42 V	80 %
	12.32 V	70 %
	12.20 V	60 %
	12.06 V	50 %
Warning	11.9 V	40 %
	11.75 V	30 %
	11.58 V	20 %
Damaged	11.31 V	10 %
	10.5 V	0 %

Good: the battery is in good condition and not in need of charging

OK: nothing to worry about but put the battery on charge as soon as you can

Warning: get the battery on charge as soon as you can. Leave it and the battery will be damaged, possibly beyond repair.

Damaged: Replace battery

12.6 Charging the living area battery and 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 case of charging with an external charger there is danger of explosion. Only charge the battery in a well ventilated area and away from naked flames or possible sources of sparks.
- ▶ Always remove the living area battery or the starter battery from the vehicle when charging them using an external charger.



- ▶ Do not connect the battery cables to the wrong poles.
- ▶ Do not use the ignition when the starter battery or the living area battery is disconnected. Danger of short circuit!
- ▶ Before disconnecting or connecting the terminals of the battery, switch off the vehicle engine, the 230 V and 12 V power supplies as well as all the 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 living area battery will result if it is over-charged.

The starter battery can only be fully charged with an external charger.

If a 230 V power supply is used, the transformer/rectifier charges the starter battery with a float charge only. Even in mobile operation, the vehicle engine alternator is not capable of completely charging the starter battery.

12.6.1 Charging using 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.

12.6.2 Charging using the vehicle engine

When the vehicle engine is running, the vehicle alternator recharges the living area battery and the starter battery. The charging of the living area battery is supported by a charge booster. 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.

The charging condition of the living area battery can be read off on the panel.

12.6.3 Charging with an external charger

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

- ▶ Switch off the vehicle engine.
- ▶ Switch off the 12 V main switch on the panel. The indicator lamp goes out.
- ▶ Disconnect the living area battery from the 12 V power supply.
- ▶ 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 living area battery or the starter battery and then the positive.
- ▶ Remove the living area battery or starter battery from the vehicle.
- ▶ Check that the external charger is turned off.
- ▶ Connect the external charger to the living area battery or 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.

12.7 Electrical block EBL 31-2



Do not cover the ventilation slots.
Danger of overheating!



- ▶ Depending on the model, not all fuse slots are fitted with fuses.
- ▶ Further information can be obtained in the manufacturer's instruction manual.

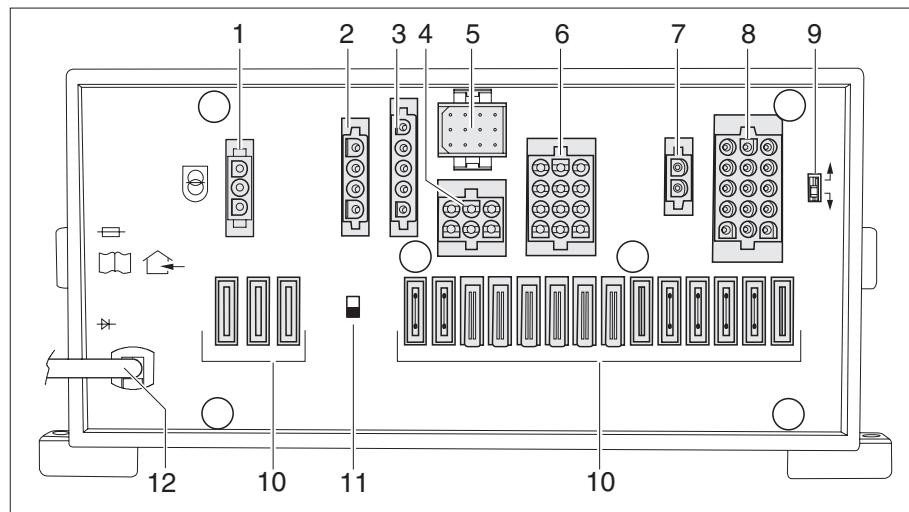


Fig. 88 Electrical block (EBL 31-2)

- | | | | |
|---|---|----|---|
| 1 | Connection block 6: Solar regulator | 7 | Connection block 7: Additional charger |
| 2 | Connection block 1: Refrigerator | 8 | Connection block 8: Sockets 1, Pump, Circuits 1, 2 and 3, Multimedia, Reserve 1 |
| 3 | Connection block 2: Refrigerator supply D+, battery sensor/control lines | 9 | Lead gel/AGM battery changeover switch |
| 4 | Connection block 4: Frost protection valve, heating and basic light/step | 10 | Flat fuses |
| 5 | Connection block 3: Connection of the IT .../LT ... control panel | 11 | Battery cut-off switch |
| 6 | Connection block 5: Basic light 4B/Radio, D-heater, tank heater, USB socket | 12 | Mains connection cable with WAGO connector |

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 protects the electrical system against overvoltage.
- 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 contains connections for a solar charge regulator and an auxiliary charging unit as well as other control and monitoring functions.
- When the 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.

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

Location

The EBL 31-2 (Fig. 88) electrical block is located under the driver's seat or under the seat bench, depending on the model.

12.7.1 Battery cut-off switch



- The battery cut-off switch (Fig. 88,11) disconnects all the appliances that are connected to the transformer/rectifier from the 12 V network.
- After the battery cut-off switch has been switched back on:
- Take basic light (lighting in the entrance area), entrance step, heater back into operation (depending on model). To do so, switch the 12 V main switch briefly back on. This also applies if the living area battery was disconnected and then reconnected.

The battery cut-off switch (Fig. 88,11) switches off all the living area 12 V appliances, including even the safety/drainage valve. 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 even when the battery cut-off switch is switched off.

Switching the battery on/off

- Push the battery cut-off switch (Fig. 88,11) upwards: Battery on.
- Push the battery cut-off switch (Fig. 88,11) downwards: Battery off.

12.7.2 Battery monitoring



Completely recharge a discharged living area battery as soon as possible.

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

If the battery voltage falls below 10.5 V, the battery monitoring in the transformer/rectifier switches off all 12 V consumers.

Measures

- Switch off all the electrical appliances that are not essential at the corresponding switch.
- If necessary, use the 12 V main switch to switch the 12 V power supply back on briefly. 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.

12.7.3 Charging the battery

When the vehicle engine is running, the vehicle alternator recharges the living area battery and the starter battery. The charging of the living area battery is supported by a charge booster. 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. The charging condition of the living area battery can be read off on the panel. 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.

12.8 Panel Truma CP plus

The control panel Truma CP plus serves to control and monitor the temperature (room/water temperature) and to set the air-conditioning system.



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

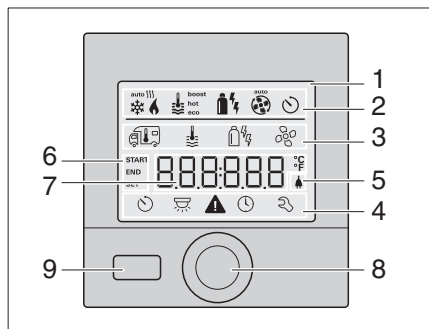


Fig. 89 Panel Truma CP plus

- 1 Display
- 2 Status bar
- 3 Menu bar (top)
- 4 Menu bar (bottom)
- 5 Display supply voltage 230 V (external power)
- 6 Display timer
- 7 Settings/values
- 8 Rotary/push button
- 9 "Back" button

Button	Function
	Rotary/push button
	Rotate clockwise
	▫ Menu is passed through from left to right.
	▫ Increase in values (+).
	Rotate counter-clockwise
	▫ Menu is passed through from right to left.
	▫ Decrease in values (-).
	Tap
	▫ Apply (save) a selected value.
	▫ Selection of a menu item, change to the setting level.
	Long pressing
	▫ Main switch function ON/OFF.
	"Back" button
	▫ Jump back from the menu.
	▫ Rejection of settings (the previous values are retained)

Menu	Description
	Change the room temperature.
	Adjustable temperature range:
	▫ Heater = 5 - 30 °C (in 1 °C steps).
	▫ Air conditioning = 16 - 31 °C (in 1 °C steps).
	▫ Automatic air conditioning = 18 - 25 °C (in 1 °C steps).
	Change the hot water level.
	Select the type of energy.
	Select the fan levels.
	Set the timer.

Menu	Description
	▫ Switch lighting on and off.
	▫ Brightness can be selected in 5 levels.
	Set the time.
	Call up the service menu.

12.8.1 Switching on and off

Switching on:

► Tap the rotary/push button (Fig. 89,8).

Previously set values/operating parameters become again after switching on.

Switching off:

► Press the rotary/push button (Fig. 89,8) for longer than 4 seconds.
The message "OFF" is displayed.

12.8.2 Setting the room temperature

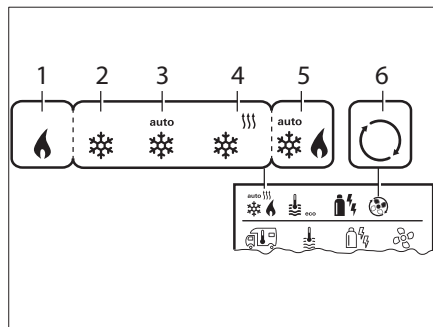


Fig. 90 Setting possibilities room temperature

- 1 Heater* - Heater ON
 - 2 COOL - Air conditioning system ON
 - 3 AUTO - Air conditioning system set to automatic
 - 4 HOT - Air conditioning system in heating mode
 - 5 AUTO - Automatic air conditioning* ON
 - 6 VENT - Air conditioning system in ventilation mode
- * Symbol flashes until the desired room temperature has been reached.
- ** only if automatic air conditioning was activated.

Changing the room temperature:

- Use the rotary/push button (Fig. 89,8) to select the room temperature symbol and tap to change to the setting level.
- Use the rotary/push button to select between heater, air conditioning system or automatic

air conditioning (depending on which appliances are connected, not all the selection options are available).

- Confirm the selection by pushing the rotary/push button (Fig. 89,8).
- Use the rotary/push button (Fig. 89,8) to select the desired room temperature.
- Tap the rotary/push button (Fig. 89,8) to confirm the value.

12.8.3 Changing the hot water level

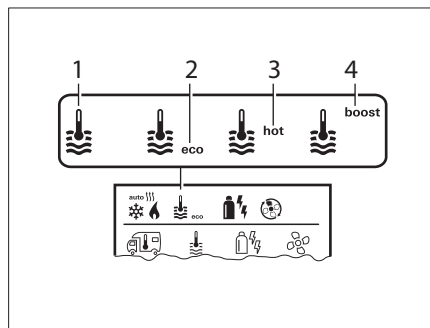


Fig. 91 Setting possibilities hot water

- 1 Boiler* - Hot water processing ON
 - 2 eco** - Hot water temperature 40 °C
 - 3 hot - Hot water temperature 60 °C
 - 4 boost* - Rapid heating of boiler contents
- * Symbol flashes until the desired water temperature has been reached.
- ** At combined room and water heating the hot water temperature can only be kept for a limited period to 40 °C.

Changing the hot water level:

- Use the rotary/push button (Fig. 89,8) to select the hot water level symbol and tap to change to the setting level.
- Use the rotary/push button (Fig. 89,8) to select the desired level.
- Tap the rotary/push button (Fig. 89,8) to confirm the value.

12.8.4 Selecting the type of energy

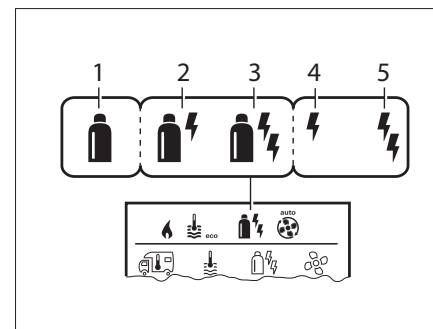


Fig. 92 Setting possibilities type of energy

- 1 Gas/Diesel**
 - 2 MIX 1* - Electrical (900 W + Gas/Diesel)
 - 3 MIX 2* - Electrical (1800 W + Gas/Diesel)
 - 4 EL 1* - Electrical (900 W)
 - 5 EL 2* - Electrical (1800 W)
- * Mixed and electrical operation only possible at heaters with electrical heater elements.
- ** Output for gas/diesel specified in the heater instruction manual.

Selecting the type of energy:

- Use the rotary/push button (Fig. 89,8) to select the energy symbol and tap to change to the setting level.
- Use the rotary/push button (Fig. 89,8) to select the desired type of energy.
- Tap the rotary/push button (Fig. 89,8) to confirm the value.

Particular points for mixed operation

Interruption of the 230 V supply voltage:

If the 230 V supply voltage is interrupted, the heater switches automatically to gas or diesel operation respectively. As soon as the 230 V supply voltage is restored, the heater switches automatically back to mixed operation.

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

Observe the instruction manual of the manufacturer.

Particular points for electrical operation

If the 230 V voltage supply is interrupted and the 12 V supply is activated, an error code is shown on the display.

As soon as the 230 V supply voltage is restored, the heater is started automatically with the previous settings. The error code disappears.

12.8.5 Selecting the fan level

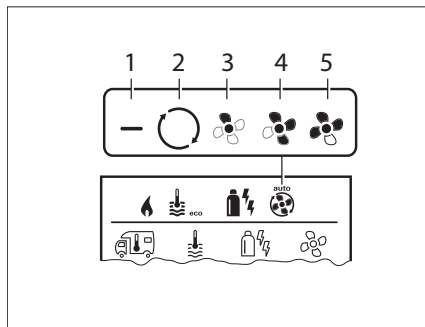


Fig. 93 Setting possibilities fan heater

- 1 OFF - Fan OFF (no appliance being operated)
 - 2 VENT - Circulating air (no appliance being operated and hot water processing OFF)
 - 3 ECO - Low fan level
 - 4 HIGH* - High fan level
 - 5 BOOST - Rapid room heating (if difference between selected and actual room temperature >10 °C)
- * Involves higher current consumption, higher noise level and increased engine wear.

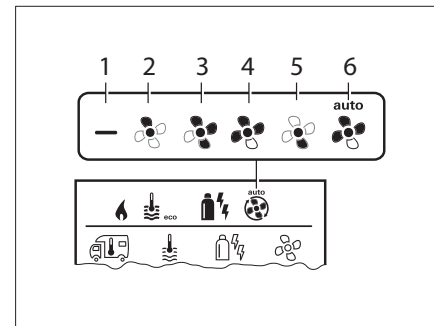


Fig. 94 Setting possibilities fan air conditioning system

- 1 OFF - Fan OFF (no appliance being operated)
 - 2 LOW - Low fan level
 - 3 MID - Middle fan level
 - 4 HIGH* - Highest fan level
 - 5 NIGHT - Quieter fan operation
 - 6 AUTO* - Automatic selection of the fan level
- * At automatic air conditioning manual selection of the fan level is not possible.

Selecting the fan level:

- Use the rotary/push button (Fig. 89,8) to select the fan level symbol and tap to change to the setting level.
- Use the rotary/push button (Fig. 89,8) to select the desired fan level.
- Tap the rotary/push button (Fig. 89,8) to confirm the value.

12.8.6 Setting the timer



- ▶ Danger of poisoning through exhaust gases in closed rooms (e.g. garage, workshop)!
- If the motorhome is parked in closed rooms:
 - ▶ Shut off the fuel supply (gas or diesel) to the heater.
 - ▶ Deactivate the timer of the control unit (OFF).
 - ▶ Switch off the heater at the control unit.

Setting the timer:

- ▶ Use the rotary/push button (Fig. 89,8) to select the timer symbol and tap to change to the setting level.
- ▶ Use the rotary/push button (Fig. 89,8) to set the starting time.
- ▶ Use the rotary/push button (Fig. 89,8) to set the end time.
- ▶ Set the room temperature. See Chapter 12.8.2.
- ▶ Set the hot water level. See Chapter 12.8.3.
- ▶ Select the type of energy (only at heater with electrical heating rods). See Chapter 12.8.4.
- ▶ Select the fan level (not at automatic air conditioning AUTO). See Chapter 12.8.5.

Activating the timer:

- ▶ Use the rotary/push button (Fig. 89,8) to activate the timer (ON).

- ▶ Tap the rotary/push button (Fig. 89,8) to confirm the value. The timer remains active until it is deactivated (OFF). When the timer is active, the timer symbol flashes.

Deactivating the timer:

- ▶ Use the rotary/push button (Fig. 89,8) to deactivate the timer (OFF).
- ▶ Tap the rotary/push button (Fig. 89,8) to confirm the value.

12.8.7 Switching the lighting on and off

Switching the lighting on:

- ▶ Use the rotary/push button (Fig. 89,8)
- ▶ to select the lighting symbol and tap to change to the setting level.
- ▶ Use the rotary/push button (Fig. 89,8) to switch the lighting on and to select between the brightness levels 1-5.
- ▶ Tap the rotary/push button (Fig. 89,8) to confirm the value.

Switching the lighting off:

- ▶ Use the rotary/push button (Fig. 89,8) to select the lighting symbol and tap to change to the setting level.
- ▶ Use the rotary/push button (Fig. 89,8) to select the OFF function.
- ▶ Tap the rotary/push button (Fig. 89,8) to confirm the value.

12.8.8 Setting the time

Setting the time:

- ▶ Use the rotary/push button (Fig. 89,8) to select the time symbol.
- ▶ The hours display flashes.
- ▶ Use the rotary/push button (Fig. 89,8) to set the hours.
- ▶ Tap the rotary/push button (Fig. 89,8) to confirm the value. The minutes display flashes.
- ▶ Use the rotary/push button (Fig. 89,8) to set the minutes.
- ▶ Tap the rotary/push button (Fig. 89,8) to confirm the value.

12.8.9 Service menu

Available functions:

- OFFSET = Calibrate room temperature sensors of the heater.
- AC SET = Set offset between cooling and heating.
- ACC = Activate or block automatic air conditioning.
- TEMP = Select temperature display in °C or °F.
- LIGHT = Change background lighting in 10 levels.
- 12-24 h = Change mode of the time display.
- SPR = Set language.
- INDEX = Display version number.
- RESET = Reset the control unit to the default settings.



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

12.9 230 V power supply



- Only allow qualified personnel to work on the electrical system.
- Have the electrical system of the vehicle checked by a qualified electrician at least once a year.

The 230 V power supply provides electricity for:

- Sockets with earth contact for appliances with maximum 16 A
- Refrigerator
- Transformer/rectifier
- air conditioning unit
- electrical heater

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.

12.9.1 230 V connection



The external 230 V supply is protected by a residual current circuit breaker (30 mA).

- Check the residual current circuit breaker every time it is connected to the 230 V supply, but at least every 6 months.



For the connection points on camp sites (camping distributors) highly sensitive fault current protection switches (FI-switches, 30 mA) are obligatory.

The vehicle can be connected to an external 230 V power supply. The cable may have a length of maximum 25 m.

Check residual current circuit breaker

- If the vehicle is connected to the 230 V supply, press the test button of the residual current circuit breaker in the fuse box.

The residual current circuit breaker should trip.

- Switch the residual current circuit breaker back on.
 ► Insert plug.

12.9.2 Power cable for external 230 V connection



Completely unwind the cable on cable drums to prevent overheating. Fire hazard!

Power cable

- Three-core ($3 \times 2.5 \text{ mm}^2$) flexible rubber sheathed cable
- Maximum 25 m in length
- 1 plug with earth contact
- 1 socket with earth contact (connectors to EN60309)

Connection possibilities

We recommend a CEE connection cable with CEE plug and CEE socket as the supply line. If these connection possibilities are not available, we recommend the following combination with an isolated earth plug:

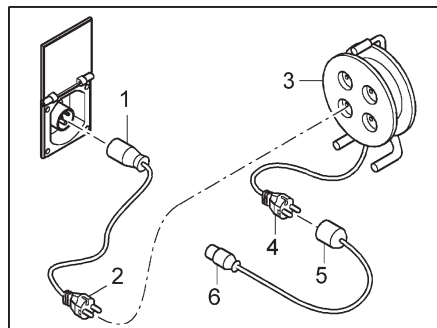


Fig. 95 Connection options for 230 V power connection

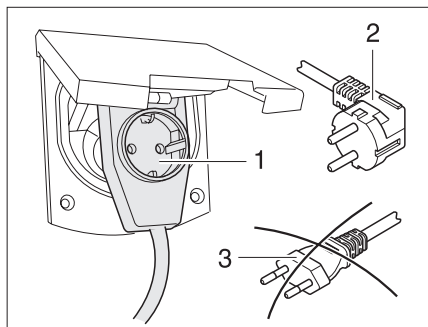


Fig. 96 Connecting an angled connector with socket

- Adapter cable:
CEE17 socket with earth contact (Fig. 95,1) – Plug with earth contact (Fig. 95,2)
- Cable reel:
Socket with earth contact (Fig. 95,3) – Plug with earth contact (Fig. 95,4)
- Adapter cable:
Socket with earth contact (Fig. 95,5) – CEE 17 plug with earth contact (Fig. 95,6)



If a CEE 17 angled connector with socket mounted on rear (Fig. 96,1) is used, use only a rubberised and sealed IP44 plug with earth contact (Fig. 96,2). Do not use a plug without earth contact (Fig. 96,3). Danger of electrocution!

Depending on the model, the flap for the 230 V connection is identified with the symbol "H".

Connecting the power cable:

- ▶ Open the external flap.
- ▶ Depending on the model, fold up the cover.
- ▶ Insert plug.



- ▶ Depending on the model, unlock the plug before pulling it out.

12.10 Fuses



- Only replace defective fuses when the cause of the defect is known and has been remedied.
- Only replace defective fuses when the power supply is switched off. Danger of electrocution!
- Never bridge or repair fuses.

12.10.112 V fuses



Before changing the fuses, check the rating and colour of the fuses in question. When changing fuses, use only fuses with the same ratings as the fuses fitted at the factory.

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.

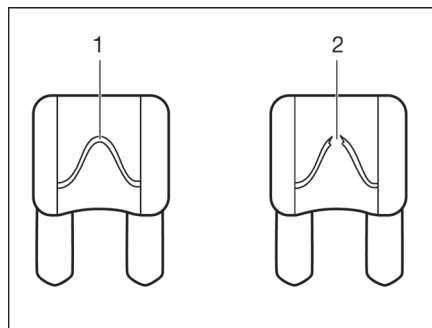


Fig. 97 12 V fuse

- 1 Unbroken fuse element
- 2 Broken fuse element

An intact 12 V fuse can be detected by the unbroken fuse element (Fig. 97,1). If the fuse element is broken (Fig. 97,2), change the fuse.



Replace fuses only when the power supply is!

Fuses for the starter battery

The fuses are located near the starter battery or near the transformer/rectifier.

Fuses on the living area battery

The fuses are fitted close to the living area battery, under the passenger seat, in the rear garage or in the raise floor.

Fuses on the living area battery (optional)

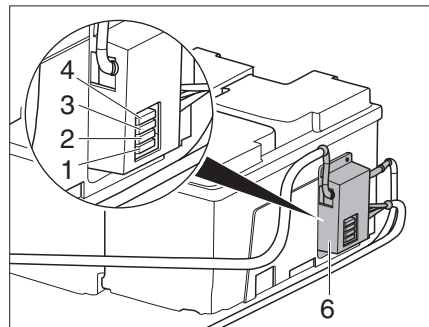


Fig. 98 Fuses for living area battery (optional)

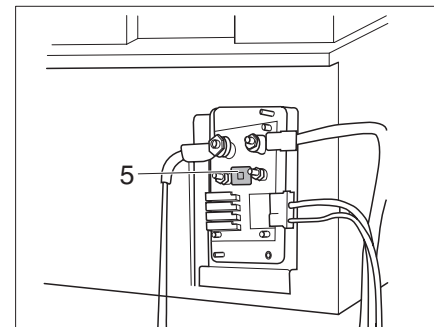


Fig. 99 Fuse charging booster (cover removed)



To access the fuse F5 (Fig. 99,5) for the EBL supply line, the cover (Fig. 98,6) must be removed.

No. in Fig. 98/ Fig. 99	Fuse	Value (A)	Function
1	F1	2	Living area battery voltage sensor
2	F2	–	–
3	F3	15	Naviceiver/Radio
4	F4	20	Refrigerator
5	F5	50	EBL supply line

Fuse for the Thetford toilet (swivel toilet)

The fuse is located in the locker wall of the Thetford cassette.

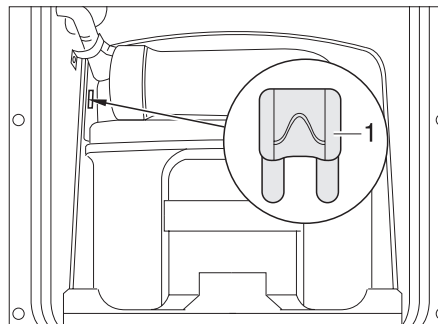


Fig. 100 Fuse for the Thetford toilet

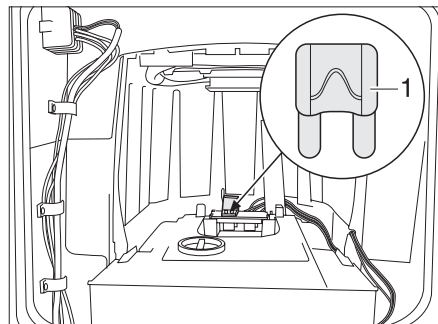


Fig. 101 Fuse for the Thetford toilet (alternative)

1 Flat fuse 3 A/purple

Changing:

- ▶ Open the flap for the Thetford cassette on the outside of the vehicle.
- ▶ Pull out the Thetford cassette completely.
- ▶ Replace fuse (Fig. 100,1 or Fig. 101,1).

Fuse for the Thetford toilet (fixed seat)

The fuse is located in the locker wall of the Thetford cassette.

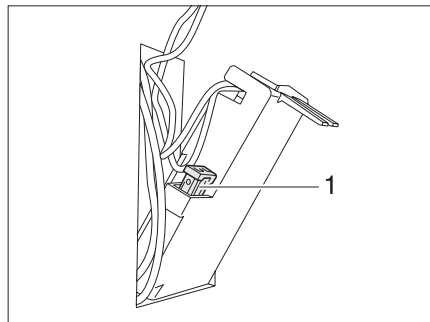


Fig. 102 Fuse for the Thetford toilet

1 Flat fuse 3 A/purple

Changing:

- ▶ Open the flap for the Thetford cassette on the outside of the vehicle.
- ▶ Remove the Thetford cassette and swing out the flap in the housing panel.
- ▶ Replace the fuse (Fig. 102,1).

12.10.2 230 V fuse



Check the residual current circuit breaker every time it is connected to the 230 V supply, but at least every 6 months.

The number of automatic circuit breakers may differ depending on the model and optional devices.

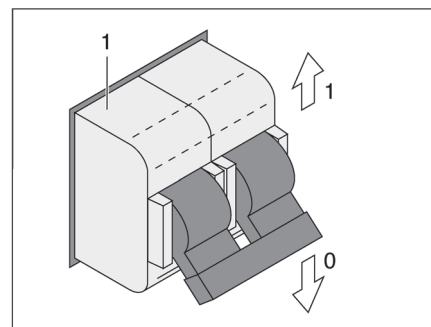


Fig. 103 230 V automatic circuit breaker

The 230 V connection is protected by one or several two-pole automatic circuit breakers (Fig. 103).

Location

Depending on the model, the circuit breaker is located in the wardrobe, in the rear garage, under a cover in the rear area (under the slatted frame) or under the seating area.

12.11 Campernet (optional extra)

Campernet is a Wi-Fi/LTE router system specifically designed for motorhomes to provide fast and stable internet on the go. It allows you to surf the internet, stream videos and music, and use apps and media libraries on various devices such as laptops, tablets, and televisions. The Campernet module (Fig. 104,1) is usually installed in one of the wall cabinets.

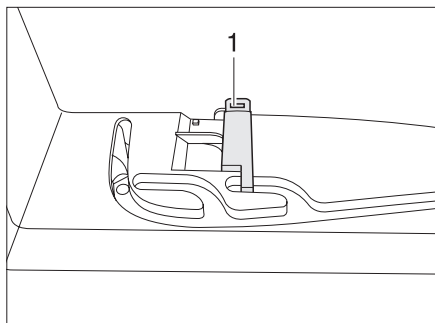


Fig. 104 Campernet (optional extra)



Fig. 105 QR code for user interface

Establish Wi-Fi connection

A Wi-Fi connection to Campernet is required for operation.

► Scan the QR code on the device.

Or

► Connect to the device manually via the WLAN menu.

Open user interface

Access the Campernet user interface as follows:

► Enter the address <http://10.10.10.10> into the browser.

Or

► Scan the QR code (Fig. 105).



► For further information, please refer to the separate operating instructions or the manufacturer's website (www.campernet.com).

13 Appliances

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.

The instructions address the following topics:

- heater
- air conditioning unit
- The boiler
- gas cooker
- Refrigerator

13.1 General



- The heat exchanger of the Truma hot-air heater has to be replaced after 30. Only the manufacturer of the heater or an authorised specialist workshop is allowed to replace the heat exchanger. The operator of the heater must see to it that the parts are replaced.
- 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.

The heater, boiler, cooker, refrigerator and air conditioning unit are fitted depending on the model of the vehicle.

In this instruction manual a description is given only for the operation of the appliances and their particular features.

To operate gas appliances, first open the regulator tap on the gas bottle and the gas isolator tap corresponding to the appliance.

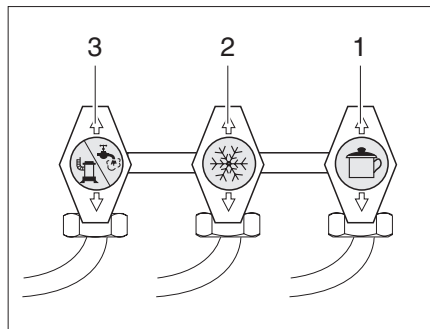


Fig. 106 Symbols for the gas isolator taps

- 1 Cooker
- 2 Refrigerator
- 3 Heater/boiler

13.2 Heater



- Never let gas escape unburned due to danger of explosion.
- Never run the heater in gas operation when filling the fuel tank, on ferries or in the garage. Danger of explosion!
- Never operate the heater in closed rooms (e.g. garages). Danger of poisoning and suffocation!

Initial start-up

When lighting the heater for the first time a small amount of smoke and odour will occur. Immediately set the operating switch of the heater to its highest position. Open doors and windows and ventilate well. Smoke and odour will disappear by themselves after a while.

13.2.1 Models with waste gas vent on the right-hand side of the vehicle



If the awning is put up and the heater is running in gas operation, exhaust gases from the heater can escape into the awning area. Danger of suffocation!

- Make sure the area is sufficiently ventilated.

13.2.2 To heat properly



Risk of burns!

Air at temperatures of 80–120°C can flow from the auxiliary heater outlet.

- Do not cover the outlet or point it directly at objects or parts of the body.

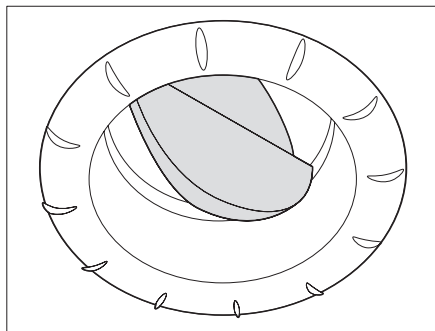


Fig. 107 Air outlet nozzle

Hot air distribution

Several air outlet nozzles (Fig. 107) are built into the vehicle. Pipes conduct the warm air to the air outlet nozzles.

- Turn the air outlet nozzles in a suitable position so the air can escape as required.
- To avoid draft close the air outlet nozzles on the dashboard and set the air distribution of the base vehicle to air circulation.

Adjusting the air outlet nozzles

- Fully open: full hot air flow
- Half or partially open: reduced hot air stream

When five air outlet nozzles are completely opened, less warm air escapes through each nozzle. However, if only three air outlet nozzles are opened, more warm air flows out of each nozzle.

13.2.3 Truma Combi hot-air heater



Do not use the space above and behind the heater as a storage compartment. Fire hazard!



- Empty the complete heating system when the heater is out of operation due to risk of frost.



Alternatively the Panel Truma CP plus control unit can also be installed. See Chapter 12.8.

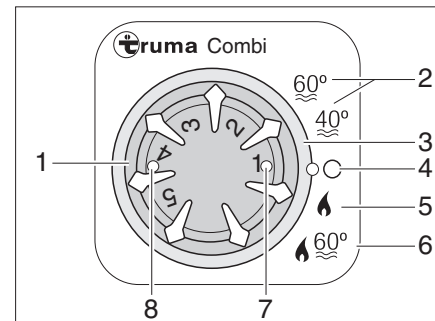


Fig. 108 Operating unit for heater/boiler

- 1 Temperature control knob
- 2 Summer operation water temperature 40 °C or 60 °C
- 3 Rotary switch
- 4 Off
- 5 Winter operation "Heater without boiler"
- 6 Winter operation "Heater and boiler"
- 7 Indicator lamp green:
Lights up = "Heater operation"
Flashes = "Delayed shut-off for appliance temperature reduction is active"
- 8 Indicator lamp yellow/red:
Lights up yellow = "Boiler heating-up phase"
Flashes/lights up red = "Fault"

Operating modes

The heater has two operating modes:

- Winter operation
- Summer operation

It is only possible to heat the vehicle in the "Winter" operating mode. With the "Summer" operating mode only water in the boiler is heated. It is not possible to heat the vehicle in this operating mode.

Selecting operating mode:

- ▶ Set the operating mode using the rotary switch (Fig. 108,3).

The power supply of the heater cannot be interrupted by means of the 12 V main switch.

Winter operation

The heater selects the required burner setting according to the set heating level.

In the "Heater and boiler" operating mode (Fig. 108,6) the water in the boiler is also heated. The heater can be operated with an empty boiler in the "Heater without boiler" operating mode (Fig. 108,5).



- To operate a diesel heater, the fuel tank must be at least ¼ full.

Switching on:

- ▶ Open the regulator tap on the gas bottle and the gas isolator tap "Heater/Boiler".
- ▶ Set the temperature control knob (Fig. 108,1) at the operating unit to the desired heating level.
- ▶ Set the rotary switch (Fig. 108,3) to winter operation "Heater without boiler" (Fig. 108,5) or to winter operation "Heater and boiler" (Fig. 108,6).

Green indicator lamp (Fig. 108,7) lights up. The circulation fan automatically switches on when the heater is activated.

Switching off:

- ▶ Set the rotary switch (Fig. 108,3) to "O" (Fig. 108,4).
- ▶ Close the gas isolator tap "Heater/Boiler" and the main regulator tap on the gas bottle.

After switching off the heater, the circulation fan may still run for a moment to use up the residual heat.

Summer operation

It is not possible to heat the vehicle in the "Summer" operating mode. In this operating mode only the water in the boiler is heated.



- ▶ Further information can be obtained from the separate instruction manual "Gas heater".
- ▶ For further information about the use of the boiler see Chapter "Boiler".

Truma iNet Box

Through the Truma iNet Box iNet-compatible devices are controlled via mobile terminal devices (for example smartphones, tablet PCs). Communication is effected via Bluetooth or GSM.

- The Truma CP plus – iNet ready Panel is mandatory if a Truma Combi heater forms part of the system (see Chapter 12.8).
- Install the Truma CP plus – iNet ready in accordance with the installation instructions.
- Observe the instructions for use (in particular for the usage of the automatic climate control) and the troubleshooting instructions.

13.3 Air conditioning unit

13.3.1 Roof air conditioning unit (Truma)

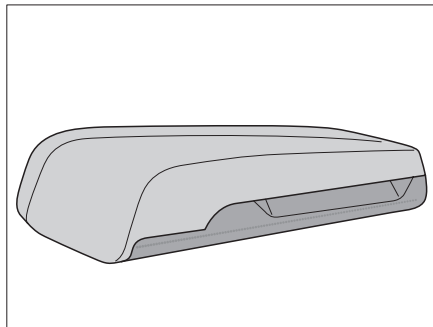


Fig. 109 Roof view

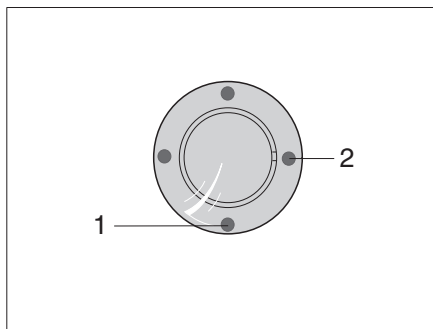


Fig. 110 Infrared receiver/function display

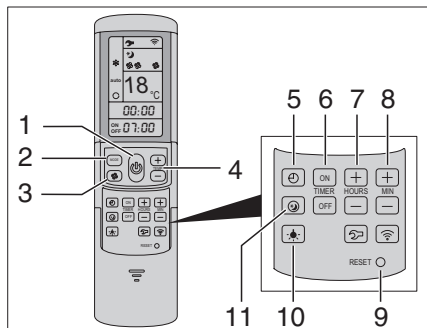


Fig. 111 Remote control

The air conditioning unit is located on the roof of the vehicle. The remote control (Fig. 111) for the air conditioning unit is located in the kitchen area.



The roof air conditioning unit (Truma) can also be controlled with Panel Truma CP plus (optional). See Chapter 12.8.

Switching on:

- ▶ Connect the vehicle to the 230 V power supply.

The air conditioning unit is ready to operate. The blue LED (Fig. 111,1) lights up.

- ▶ To switch on press the button (Fig. 111,1) on the remote control. The blue LED (Fig. 111,1) flashes.

- ▶ Set the desired operating mode using the MODE button (Fig. 111,2).

- "COOLING"

- "AUTOMATIC"
- "VENTILATION"

- ▶ If necessary, set the desired fan level by using the button (Fig. 111,3) and the room temperature by using the buttons (Fig. 111,4).
- ▶ When the temperature set on the remote control is reached, the blue LED (Fig. 111,1) goes out, the compressor switches off and the circulation fan continues to run.

Switching off:

- ▶ To switch off press the button (Fig. 111,1) on the remote control again.

Timer

The integrated timer can be used to set the switching-on and -off times for the climate system up to 24 hours in advance from the current time on.

- ▶ To carry out programming, switch on the air conditioning unit by using the button (Fig. 111,1) on the remote control.
- ▶ Set the desired operating mode by using the button (Fig. 111,2) and the room temperature by using the buttons (Fig. 111,4).
- ▶ Use the buttons (Fig. 111,6) to select the desired function:
 - "ON": Switch on the timer
 - "OFF": Switch off the timer
- ▶ Use the buttons (Fig. 111,7 and 8) to select the desired switching time (15 minutes to 24 hours).
- ▶ Confirm the setting with the buttons "ON" or "OFF" (Fig. 111,6).

13.3.2 Roof air conditioning (Telair)

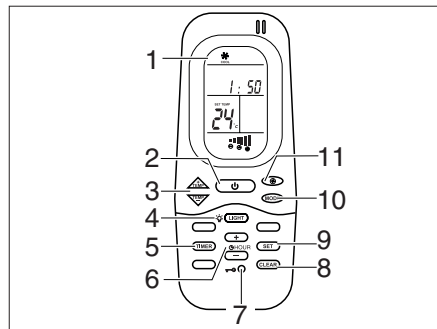


Fig. 112 Remote control

- 1 Display
- 2 On-off switch
- 3 TEMP (+/-) buttons for setting the temperature
- 4 LIGHT button for illumination on the diffuser
- 5 TIMER button for the timer function
- 6 HOUR (+/-) buttons for setting the time, remote control and operating and off times for the timer function
- 7 Reset button
- 8 CLEAR button for deleting the programming
- 9 SET button for setting mode
- 10 MODE button for selecting the operating modes
- 11 Selecting the fan speed levels

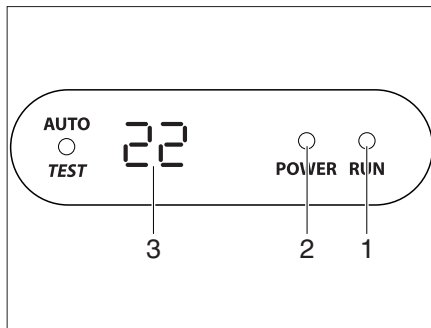


Fig. 113 Display on the diffuser

The air conditioning unit is located on the roof of the vehicle. The remote control (Fig. 112) for the air conditioning unit is located in the kitchen area.

Switching on:

- ▶ Connect the vehicle to the 230 V power supply.

The air conditioning unit is ready to operate. The LED (Fig. 113,2) on the diffuser's display lights up red.

- ▶ To switch on, press the on/off switch (Fig. 112,2) on the remote control.

The LED (Fig. 113,1) lights up green when the air conditioning unit is in cooling mode. The LED (Fig. 113,1) lights up red when the air conditioning unit is in heating mode.

- ▶ Set the desired operating mode using the MODE button (Fig. 112,10).
 - "COOLING"
 - "HEATING"
 - "AUTOMATIC"

- ▶ If necessary, set the desired fan level by using the button (Fig. 112,11) and the room temperature by using the buttons (Fig. 112,4).

Switching off:

- ▶ To switch off, press the On/Off switch (Fig. 112,2) on the remote control again.

Timer

- ▶ The integrated timer can be used to set the switching-on and -off times for the climate system up to 24 hours in advance from the current time on.
- ▶ To carry out programming, switch on the air conditioning unit with the On/off switch (Fig. 112,2) on the remote control.
- ▶ Press the TIMER button (Fig. 112,5). The ON indicator for the Start time is activated.
- ▶ Set the time with the TEMP (+/-) buttons (Fig. 112,3).
- ▶ Press the TIMER button (Fig. 112,5) again. The OFF indicator for the Start time is activated.
- ▶ Set the time with the TEMP (+/-) buttons (Fig. 112,3).
- ▶ Press the TIMER button (Fig. 112,5) again.
- ▶ Upon completing the setting, press the SET button (Fig. 112,9).
- ▶ Press the CLEAR button (Fig. 112,8) to delete the timer programming.



- ▶ For further information, refer to the separate air conditioning manual.

13.4 Boiler



- Never let gas escape unburned due to danger of explosion.
- When filling the fuel tank, on ferries or in the garage, never run the boiler in gas operation. Danger of explosion!
- Never operate the boiler in gas operation in closed rooms (e.g. garages). Danger of poisoning and suffocation!
- The water in the boiler can be heated up to 65 °C. Risk of scalding!



- Never use boiler when empty.
- If the boiler is not being used, empty it if there is any risk of frost.
- Only operate the boiler with the maximum temperature setting if you require a large quantity of warm water. This protects the boiler against the build-up of limescale.



Dethleffs recommends that you do not use the water from the boiler as drinking water.



If the awning is put up and the boiler is running in gas operation, exhaust gases from the boiler can escape into the awning area. Danger of suffocation!

► Make sure the area is sufficiently ventilated.

13.4.2 Safety/drainage valve

The boiler is equipped with a safety/drainage valve (Fig. 114). The safety/drainage valve prevents water in the boiler from freezing, when there is frost and the heater is not switched on. If there is a danger of frost (at approx. 3 °C ambient temperature), the water is drained intermittently at overpressure via a drain neck. The safety/drainage valve cannot be closed manually until the ambient temperature lies within the frost-proof range (approx. 7 °C ambient temperature).



- When the vehicle is not used for a long period of time, open the safety/drainage valve and drain the boiler.
- The water pump and the water fittings are not protected against freezing by the safety/drainage valve.



The drainage neck (Fig. 114,3) of the safety/drainage valve has to be free of dirt (e.g. leaves, ice) at all times.

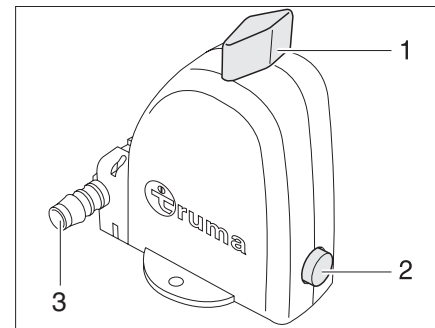


Fig. 114 Safety/drainage valve of the boiler - Operation position



If there is a risk of frost (below 3 °C), the safety/drainage valve opens automatically.

Opening the safety/drainage valve

- Turn the knob (Fig. 114,1) 90° lengthwise to the safety/drainage valve.

The push button (Fig. 114,2) trips. The boiler is drained to the outside by the drainage neck (Fig. 114,3) of the safety/drainage valve.

Closing the safety/drainage valve:

- ▶ Turn the knob (Fig. 114,1) 90° crosswise to the safety/drainage valve.
- ▶ Push in the pushbutton (Fig. 114,2).

13.5 Gas cooker



- Never let gas escape unburned due to danger of explosion.
- Before using the cooker make sure that there is sufficient ventilation.
- All ventilation should be open when gas appliances are in use (i.e. Skylight).
- Open flames are not to be used for heating.
- 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 or easily combustible objects such as dishcloths, napkins etc. may 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.
- Depending on the model, the gas cooker lid is held closed by a spring. When closing there is danger of getting injured!



- Do not use this appliance for space heating. This is based on safety considerations. The safety ventilation has been designed for cooking. Any other use may cause a danger to the users.



- Do not use the glass gas cooker lid as a hob.
- Do not close the gas cooker lid while the gas cooker is in operation.
- Do not apply pressure on the gas cooker lid when it is closed.
- Do not place hot cooking pans on the gas cooker lid.
- Keep the gas cooker lid open after cooking as long as the burner emits heat. The glass plate could otherwise burst.
- Do not place hot objects such as cooking pots on the sink cover. The plastic can deform.



- Use only pots and pans whose diameter is suitable for the burner grates of the gas cooker.
- When the flame fades, the thermocouple automatically cuts the gas supply.
- Further information can be obtained from the separate instruction manual "Gas cooker".

The vehicle kitchen unit is fitted with a two-burner gas cooker.
The cooker is equipped with an electronic ignition depending on a model.

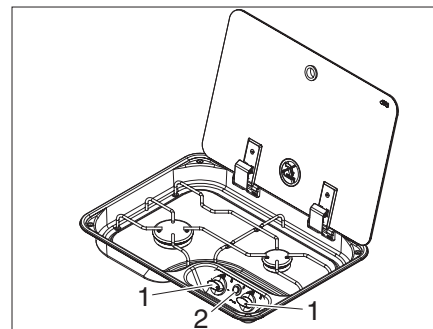


Fig. 115 Operating controls for gas cooker

Switching on

- ▶ Open the regulator tap (Fig. 77,3) on the gas bottle and the "cooker" gas isolator tap (Fig. 106,1).
- ▶ Open the gas cooker lid.
- ▶ Turn the control knob (Fig. 115,1) on the burner you wish to use to the ignition position (large flame).
- ▶ Press down the control knob and hold it down.
- ▶ Create a spark by pushing the ignition button (Fig. 115,2).
- ▶ When the flame burns, hold the control knob down for 10 to 15 seconds, until the thermocouple keeps the gas supply automatically open.

- ▶ Release the control knob and turn to the desired setting.
- ▶ If ignition was not successful, repeat the entire procedure.

Switching off

- ▶ Turn the control knob (Fig. 115,1) to the 0-position. The flame fades.
- ▶ Close the "cooker" gas isolator tap (Fig. 106,1) and the regulator tap (Fig. 77,3) on the gas bottle.

13.6 Fullcooker



- Use the appliance for cooking only and not for anything else, for example room heating. This can lead to carbon monoxide poisoning and overheating. The manufacturer cannot be held liable for damage resulting from improper use or incorrect setting of the controls.
- The use of this gas cooking appliance results in the production of heat, moisture and products of combustion in the room in which it is installed.
- Ensure the room has sufficient ventilation when the appliance is in use. During prolonged use, additional ventilation may be needed by opening a window or increasing the extraction force of the hood.



- The cooking process must be supervised. A short term cooking process must be supervised continuously. Unattended cooking on a hob with fat or oil can result in fire. Do not leave the appliance unattended when in use.
- The food shelves and trays in the appliance are hot during and after use. Allow all parts to cool before touching them, as this can cause serious injury.
- Always use oven gloves when removing the shelves and trays.
- Be sure to observe any additional safety instructions in the manufacturer's operating manual.



- Do not use harsh abrasive cleaners or sharp metal scrapers to clean the surface of the glass, since they can scratch the glass surface which may result in shattering of the glass.
- Remove any spillage from the glass lid before opening the lid.
- Do not shut the glass lid when the burners are lit or still warm.

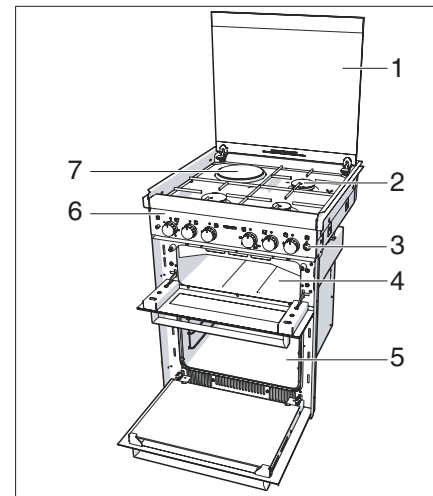


Fig. 116 Fullcooker

- 1 Glass lid
- 2 Gas burners
- 3 Spark ignition (optional)
- 4 Grill
- 5 Oven
- 6 Control panel
- 7 Electric hotplate

Use of the burners

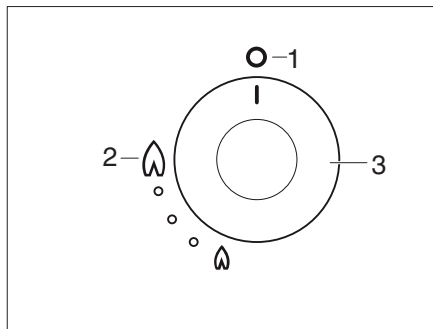


Fig. 117 Control knobs of the burners

Turning on:

- ▶ Push and turn the control knob (Fig. 117,3).
- ▶ Turn the control knob anti-clockwise to the full rate position (Fig. 117,2).
 - For spark ignition models: Push the ignition button (Fig. 116,3).
 - For non-ignition models: Hold a lit match or gas match to the burners.
- ▶ Keep the control knob pressed for about 10-15 seconds and then release it.
- ▶ Adjust the height of the flame.



- If the burner accidentally extinguishes turn the control knob (Fig. 117,3) to the 0 position (Fig. 117,1) and wait at least 1 minute before re-igniting the burner.
- If the burner has not lit within 15 seconds turn the control knob back to the 0 position (Fig. 117,1) and release it. Wait at least 1 minute and repeat the steps above to turn on the appliance.

Turning off:

- ▶ Turn the control knob clockwise to the 0 position (Fig. 117,1) to turn off the burner.



Always make sure the control knob is in the 0 position (Fig. 117,1) when you have finished using the gas burners.

Use of the electric hotplate

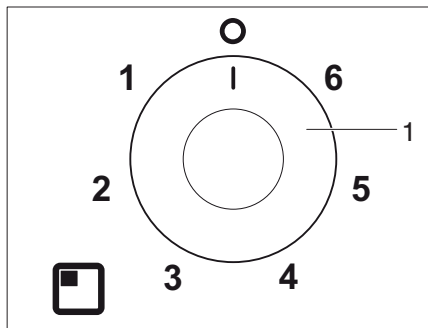


Fig. 118 Control knob for electric hotplate

Turning on:

- ▶ Rotate the control knob (Fig. 118,1) either clockwise or anti-clockwise to the required position (1 - 6).



For maximum efficiency, a correctly sized pan with a flat heavy gauge base should be used. The pan size should be the same or slightly larger than the hotplate (up to 1"/ 2.5 cm oversize).

Turning off:

- ▶ Turn the control knob (Fig. 118,1) to the 0 position to turn off the hotplate.



- Always make sure the control knob is in the off position when you have finished using the hotplate.
- Do not shut the glass lid when the hotplate is turned on or still warm.

Use of the grill

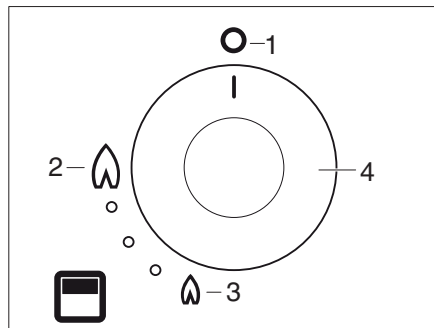


Fig. 119 Control knob of the grill

Turning on:

- ▶ Open the door and push the control knob (Fig. 119,4).
- ▶ Continue pressing the control knob and turn it anti-clockwise to the full rate position (Fig. 119,2).
 - For spark ignition models: Push the ignition button (Fig. 116,3).
 - For non-ignition models: Hold a lit match or gas match to the burners.
- ▶ Keep the control knob (Fig. 119,4) pressed for about 10-15 seconds and then release it.



Depending on the food to be cooked, the correct grilling height can be achieved by inverting the pan trivet into either the high or low position.

Turning off:

- ▶ Turn the control knob (Fig. 165,4) clockwise to the 0 position to turn off the grill.



Always make sure the control knob is in the 0 position (Fig. 119,1) when you have finished using the grill.

Use of the oven

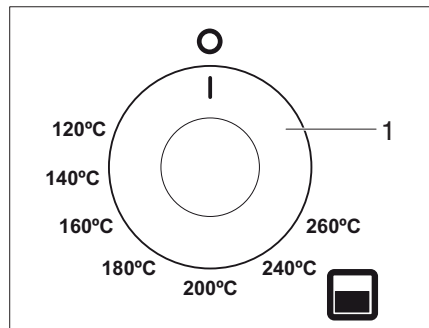


Fig. 120 Control knob of the oven

Turning on:

- ▶ Open the door and push in the control knob (Fig. 120,1).
- ▶ Continue pressing the knob and turn it anti-clockwise to the full rate position (260°C, gas mark 9).
 - For spark ignition models: Push the ignition button (Fig. 116,3).
 - For non-ignition models: Hold a lit match or gas match to the burners.
- ▶ Keep the control knob (Fig. 120,1) pressed for about 10-15 seconds and then release it.

- ▶ Adjust the required heat setting.

- ▶ Place the oven shelf in the required position and close the door.



- If the burner accidentally extinguishes turn the control knob (Fig. 120,1) to the 0 position and wait at least 1 minute before re-igniting the burner.
- If the burner has not lit within 15 seconds turn the control knob back to the 0 position and release it. Wait at least 1 minute and repeat the steps above to turn on the appliance.

Turning off:

- ▶ Turn the control knob (Fig. 120,1) clockwise to the 0 position to turn off the burner.



Always make sure the control knob is in the 0 position and the oven door is closed when you have finished using the oven.



Further information can be obtained from the separate user manual.

13.7 Refrigerator



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

13.7.1 Operation (Dellcool CVB3 series)

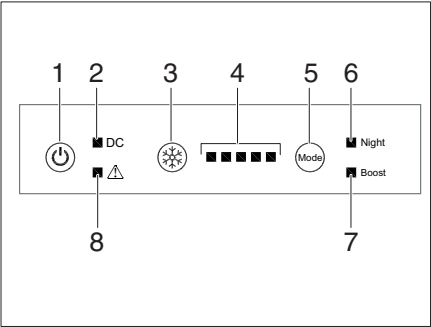


Fig. 121 Control panel with operating and display elements for the fridge

- 1 On-off switch
- 2 DC indicator light
- 3 Temperature setting button
- 4 LEDs for temperature display
- 5 Operating mode button
- 6 Display operating mode "Night"
- 7 Display operating mode "Boost"
- 8 Fault display

Switching on the refrigerator

- ▶ Press the on/off switch for 1 second. All indicators light up and the buzzer sounds. After 10 seconds, all indicator lights go out except the DC indicator (Fig. 121,2).

Switching off the refrigerator

- ▶ Press any button on the control panel (Fig. 121).
- ▶ Press the on/off switch for 10 seconds. All indicators go out and the buzzer sounds. The fridge is off.

Set operating mode

There are two different operating modes:

- Night mode;
the fan runs at low speed to limit the compressor speed and reduce noise.
- Boost mode (factory setting);
the compressor runs at a preset high speed and the refrigerator cools down quickly.



- ▶ Boost mode is recommended after switching on the refrigerator to reach the desired cooling temperature as quickly as possible.

Set cooling temperature

- ▶ Press the temperature setting button (Fig. 121,3).
A LED lights up on the temperature display (Fig. 121,4).
- ▶ Press the temperature setting button until the desired cooling temperature is reached.

The LEDs indicate the following temperature ranges:

Temperature display	Refrigerator °C	Freezer compartment °C
●○○○○	6...10	-17...-10
●●○○○	4...8	-19...-12
●●●○○	2...6	-20...-14
●●●●○	0...4	-21...-15
●●●●●	-2...2	-22...-16



At high ambient temperatures full cooling power is not possible. When external temperatures are high, full cooling power of the cooling unit is only ensured if the refrigerator is ventilated sufficiently.

13.8 Smoke Alarm



- ▶ Test the smoke alarm weekly.
- ▶ If the product does not work properly, check the battery firstly.
- ▶ If the battery is ok, do not open the product by yourself. Contact the professional.

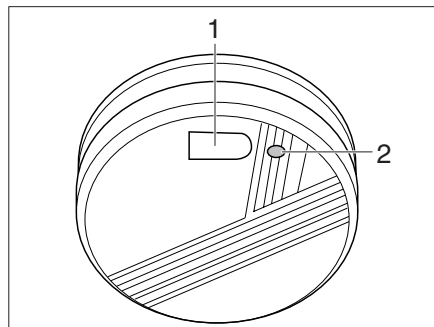


Fig. 122 Smoke Alarm

13.8.1 Test the Smoke Alarm

Test the smoke detector regularly and after replacing the battery.

- ▶ Depress the test button (Fig. 122,1). The red LED (Fig. 122,1) flashes quickly and in the mean while the detector sounds. It means, the detector works well.

13.8.2 Low Battery Alarm

When the battery reached a low energy level, the detector will sound to indicate that the battery must be replaced.



- ▶ Further information can be obtained in the instruction manual for the smoke alarm.

13.9 Carbon Monoxide Alarm



- Do not ignore any warning from your CO detector.
- This CO detector does not respond to smoke, fire, or toxic gases other than carbon monoxide—even though carbon monoxide can be produced during a fire.



Ten years after initial activation, this CO detector will „beep“ at 30-second intervals to indicate that it needs to be replaced.

- ▶ Replace the unit immediately! Without an adequate power supply, this detector cannot detect CO!



- ▶ Further information can be obtained in the instruction manual for the smoke alarm.

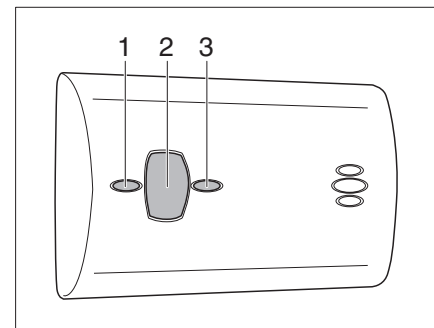


Fig. 123 Carbon Monoxide Alarm

- 1 Alarm LED (red)
- 2 Test/Reset Button
- 3 Operational LED (green)

13.9.1 Carbon Monoxide Alarm Indicator

If the CO detector detects a dangerously high CO concentration, the device emits a loud alarm signal.

During the first 4–5 minutes, the alarm consists of 4 short beeps followed by a 5-second pause; thereafter, 4 short beeps sound once per minute for as long as the hazardous situation persists.

The red alarm LED flashes in sync with the audible signal.

13.9.2 Testing the device

► Press the Test/Reset button (Fig. 123,2).

If the device is operating correctly, you will hear 4 short alarm tones every 5 seconds.

The red alarm LED (Fig. 123,1) flashes in sync with the tones.

After a few seconds, the device resumes CO monitoring.

13.9.3 Low Battery Alarm

When the battery reached a low energy level, the CO detector will sound to indicate that the battery must be replaced.

The red alarm LED (Fig. 123,1) flashes every 60 sec and an alarm tone chirps in sync.

14 Sanitary fittings

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

The instructions address the following topics:

- water tank
- waste water tank
- complete water system
- the bath area
- toilet

14.1 Water supply, general



- Only fill the water tank from supply systems that have been verified to provide drinking water quality.
- Use only hoses or vessels for filling that are approved for drinking water.
- Rinse the filling hose or vessel thoroughly with drinking water before use (2 to 3 times the capacity).
- Drain the filling hose or vessel completely after use and close the openings of the filling hose or vessel.



- 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 case of lay-ups lasting more than a week, disinfect the water system before using the vehicle.



- ▶ 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. Leave the water taps on in central position. Leave the safety/drainage valve (if available) and 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. 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.
- The water supply system conforms to the latest state of technology 03/2009 (Directive 2002/72/EC).
- With immersion pumps featuring venting or a vented non-return valve, a fine jet of water may escape between the pump cover and the nozzle connection if the pump is not fully submerged. This bubbling effect is the actual venting of the pump and is therefore harmless.
- The pumps were designed to be operated for max. 20 minutes at a time. Depending on the interval, a longer break must be taken. If this is not complied with, consequential damage can occur.

14.2 Water tank

14.2.1 Drinking water filler neck with cap



The caps for the drinking water filler neck and the fuel filler neck are very similar.

- Before filling the tank, always check the label.

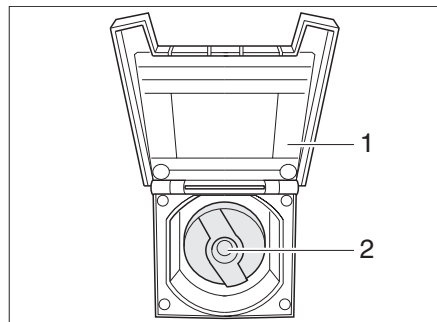


Fig. 124 Cap for the drinking water filler neck

The drinking water filler neck is on the right or left side of the vehicle, depending on the model. In order to prevent confusion, the drinking water tank is closed with a blue cover.

Opening:

- Open the cover flap (Fig. 124,1) of the drinking water filler neck.
- The cover is magnetically affixed to the outside wall of the vehicle.
- Insert the key into the locking cylinder (Fig. 124,2) and turn a quarter turn anticlockwise.
- Remove the cap.
- Fill the water tank with drinking water.

Closing:

- Place the cap on the drinking water filler neck.
- Turn the key one quarter turn clockwise.
- Remove the key.
- Check that the cap sits firmly on the drinking water filler neck.
- Close the cover flap.

14.2.2 Filling with water



When filling the water tank, observe the maximum permissible gross weight of the vehicle. Luggage must be reduced accordingly when the water tank is full.

To fill the water tank with drinking water, proceed as follows:

- Open the drinking water filler neck (Fig. 124).
- Fill the water tank with drinking water. Use a water hose, a water canister with a funnel or similar for filling.
- Close drinking water filler neck.

14.2.3 Draining water

All models without double floor have no drain cock.

The water tank is drained either through a stopper or a drain cock.

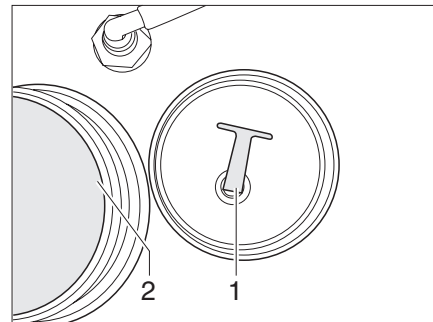


Fig. 125 Stopper

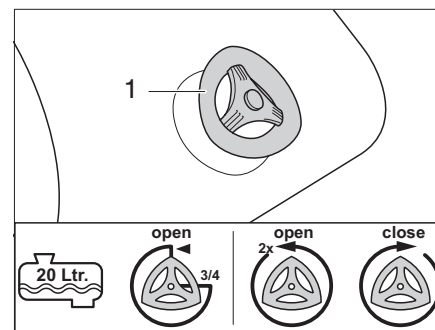


Fig. 126 Drain cock

Draining the water tank with stopper:

- Screw the stopper (Fig. 125,1) out of the drainage opening (Fig. 125,2).

The water drains off.

- Screw in the stopper.
- Screw the cap onto the water tank.

Emptying the water tank with drain cock:

- Check the filling level of the water tank, see Chapter 12.
- 1/2 full or less: Turn the drain cock (Fig. 126,1) 3/4 of a rotation anti-clockwise.

The water drains off.

- 3/4 full and more: Turn the drain cock (Fig. 126,1) 2 rotations anti-clockwise.

The water drains off.

- Close the drain cock (Fig. 126,1) clockwise.

14.3 Waste water tank



- In case of frost add so much anti-freeze (such as kitchen salt) to the waste water tank so that the waste water cannot freeze.
- Never pour boiling water directly into the sink outlet. Boiling water could cause deformation and leaks in the waste water pipe system.



- Do not drive with a full waste water tank. A full waste water tank may cause water to leak inside the vehicle.
- Empty the waste water tank before it reaches the maximum level.



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

Depending on the model, the waste water tap for waste water disposal is located on the left or right hand side of the vehicle.

The square bolt for opening the waste water tap is directly accessible under the vehicle floor.

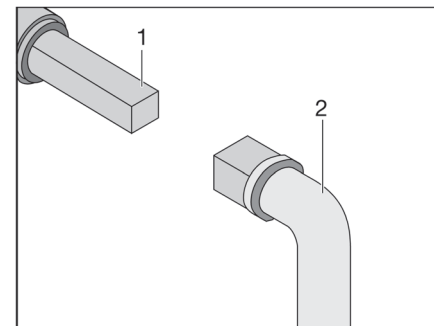


Fig. 127 Operation of the waste water tap

Emptying:

- Place key (Fig. 127,2) onto the square bolt (Fig. 127,1).
- In order to open the waste water tap, turn the square bolt a quarter turn.
- Completely empty waste water tank.
- To close the waste water tap, turn the square bolt back as far as it will go.

14.4 Siphon (odour seal)



- If there is a risk of frost, remove the siphon base. This protects the siphon from freezing up.
- If the siphon bases are removed and the vehicle is in use:
 - Place a suitable container under the siphons to collect the waste water.

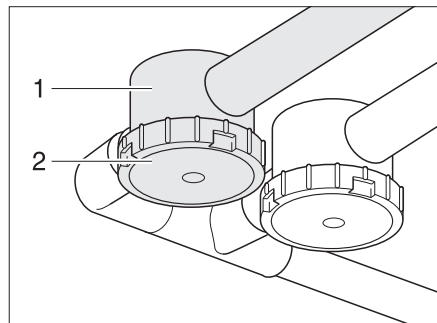


Fig. 128 Odour seal

In order to prevent odours occurring in the waste water system, the vehicle - depending on the model - has been equipped with siphons (Fig. 128,1). The siphons are installed in the waste water pipes.

- Clean the siphons every 6 months at the latest. To do so, unscrew and remove the bottom cover (Fig. 128,2).

14.5 Water system

14.5.1 Filling the water system



When filling the water tank, observe the maximum permissible gross weight of the vehicle. Luggage must be reduced accordingly when the water tank is full.



The water pump will overheat without water and can get damaged.

- Never operate water pump when the water tank is empty.
- Do not drive with a full fresh water tank. A full fresh water tank may cause water to leak inside the vehicle.
- Do not fill the water tank more than 70%.



- The Truma system and the Alde system (heater/boiler) each have a safety/drainage valve. If a pressurised water pump is installed, a drain cock is located next to the pressurised water pump.
- The water level can be checked on the panel while the water tank is being filled.

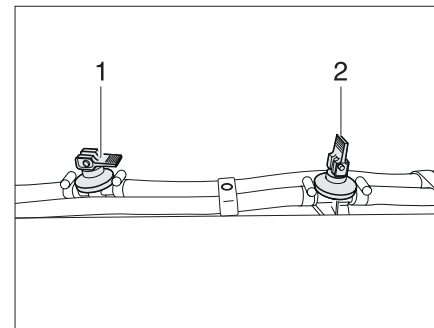


Fig. 129 Drain cock

Filling:

- Position the vehicle horizontally.
- Switch on 12 V power supply on the panel.
- If necessary, switch on the water pump on the panel.
- Clean or disinfect water system.
- Close the safety/drainage valve. To do this, turn the rotary switch to the "Operation" position until it clicks into place, and press the push button (see section 13.4.2).

- ▶ If the temperature is below 7 °C, the safety/drainage valve cannot be closed. Therefore switch on the living area heater and wait until the temperature of the safety/drainage valve exceeds 7 °C.
- ▶ Close all drain cocks. Position the rocking lever (Fig. 129,1) horizontally.
- ▶ If needed, set the stopper into the drainage opening of the water tank or screw it in.
- ▶ Close all water taps.
- ▶ Fill the water tank with drinking water.
- ▶ Set all the water taps to "Hot" and open them. The water pump is turned on. The hot water pipes are filled with water.
- ▶ Keep the taps open until the water flowing out of the taps has no bubbles in it. This is the only way to ensure that the boiler is full of water.
- ▶ Set all water taps to "Cold" and leave them open. This will fill the cold water pipes with water.
- ▶ Keep the taps open until the water flowing out of the taps has no bubbles in it.
- ▶ Close all water taps.
- ▶ Check that the cap on the water tank is not leaking.

14.5.2 Emptying the water system



- ▶ 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. Leave the water taps on in central position. Leave the safety/drainage valve (if available) and 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.
- ▶ If the water pump can be turned off from the panel, always turn off the water pump from the panel before you empty the water system. Otherwise the water pump runs until it overheats or the battery is empty.



The Truma system (heating/boiler) has a safety/drain valve.

To empty and ventilate the water system, proceed as follows. This prevents frost damage and deposits:

- ▶ Position the vehicle horizontally.
- ▶ If necessary, switch off the water pump on the panel.
- ▶ Switch off the 12 V power supply on the panel.
- ▶ Deactivate the boiler (see section 13.4).
- ▶ Open all drain cocks. To do this, set the toggle lever (Bild 183,1) vertically.
- ▶ Open the safety/drainage valve. To do so turn the rotary switch by 180° until it latches

in. The push button trips. The boiler drains externally via the drain outlet (see section 13.4.2).

- ▶ For models with water drainage in the water tank: Unscrew the cap of the water tank.
- ▶ Open the water tank drain (see section 11.2.3).
- ▶ Open all water taps and set to the central position.
- ▶ After fully emptying the system, drive the vehicle a few kilometres so the remaining water can run out of the tank.
- ▶ Allow the pressure pump to run for approx. 1 minute to dry it.
- ▶ Empty the waste water tank. Take note of the environmental tips in this chapter.
- ▶ Empty Thetford cassette. Take note of the environmental tips in this chapter.
- ▶ Clean the water tank and then rinse it out thoroughly.
- ▶ Blow out the hoses and lines with compressed air (max. 1.5 bar).
- ▶ Let the water system dry for as long as possible.
- ▶ After emptying, leave all water taps on in the central position.
- ▶ Leave all drain cocks open.

14.6 Bath area



Do not transport loads in the shower tray. The shower tray or other items of equipment in the toilet compartment can otherwise be damaged.



- For ventilation purposes during or after a shower, and for drying wet clothing, close the toilet compartment door and open the toilet compartment window or skylight. This improves the air circulation.
- Close the shower curtain completely while showering, so that water cannot penetrate between the washroom wall and the shower tray.
- After taking a shower, rinse soap residue from the shower tray, otherwise cracks can appear in the shower tray over time.
- After using the shower, wipe it dry to prevent moisture from collecting.
- For further information on cleaning the wet room, see chapter 12.2.

14.7 Toilet



- If there is any risk of frost and the vehicle is not heated, empty the sewage tank (cassette).
- 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.
- Never allow the toilet cassette or sewage tank to become too full. Empty the toilet cassette or waste tank before reaching the critical level.



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



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

14.7.1 Swivel toilet (Thetford)



The swivel toilet is designed for a maximum load of 100 kg.

The flushing of the Thetford toilet is fed directly from the water system of the vehicle. The toilet bowl can be moved into the optimal position.

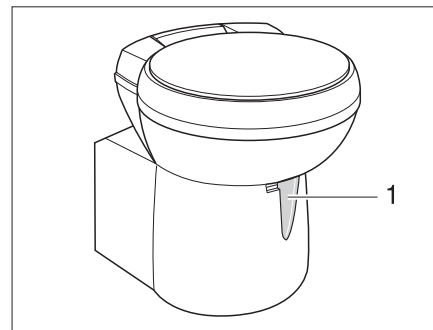


Fig. 130 Thetford toilet bowl, swivelling

The operating unit is located close to the toilet bowl.

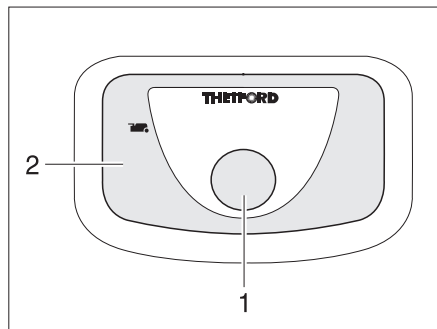


Fig. 131 Flush button/indicator lamp Thetford toilet

Flushing:

- Before flushing open the sliding trap of the Thetford toilet. To do this, push the slide lever (Fig. 130,1) anticlockwise.
 - For flushing, press the blue flush button (Fig. 131,1).
 - After flushing close the sliding trap. To do this push the slide lever in a clockwise direction.
- The indicator lamp (Fig. 131,2) goes on whenever the Thetford cassette has to be emptied.

Emptying the water tank:

- Open the sliding trap. To do this, turn the slide lever in an anticlockwise direction.
- Press the flush button until water ceases to flow into the bowl.
- Close the sliding trap. To do this push the slide lever in a clockwise direction.
- Empty Thetford cassette.

Emptying the Thetford cassette:

- Push the slide lever (Fig. 130,1) in a clockwise direction. The sliding trap is closed. To empty, the sliding trap in the Thetford toilet **must** be closed.
- Remove and empty the Thetford cassette as described in sections 11.7.4 and 11.7.5.

14.7.2 Removing the cassette



The sewage tank (cassette) can only be removed when the sliding trap is closed.

The sewage tank (cassette) is accessible via a special service flap on the outside of the vehicle.

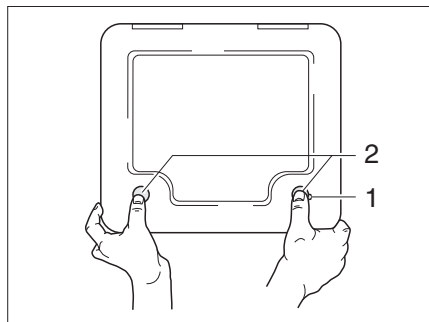


Fig. 132 Flap for the toilet cassette

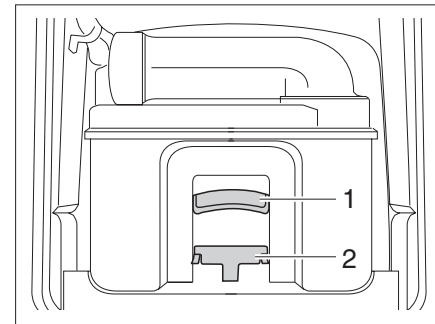


Fig. 133 Thetford cassette

- Open the flap for the cassette on the outside of the vehicle. Insert the key into the locking cylinder of the push-button lock (Fig. 132,1) and turn a quarter turn.
- Remove the key.
- Press both push-button locks (Fig. 132,2) simultaneously with your thumb and open the flap for the cassette.
- Pull the retaining clip (Fig. 133,2) forward to unlock the toilet cassette and pull out the cassette at the handle (Fig. 133,1).

14.7.3 Emptying the cassette

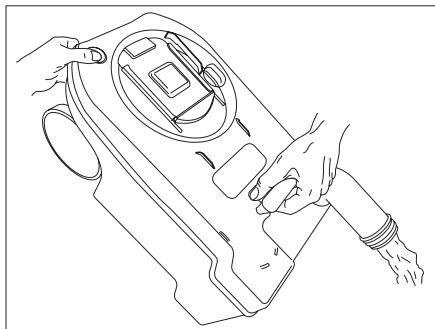


Fig. 134 Emptying the Thetford cassette

- ▶ Take the cassette to a disposal point provided to this purpose. Keep the drainage neck pointing upwards in the process.
- ▶ If required, turn the drainage neck upwards.
- ▶ Remove the cap of the drainage neck.
- ▶ Point the cassette with the drainage neck downwards.

For Thetford cassettes:

- ▶ Press the aeration knob with your thumb. The cassette empties.
- ▶ Close the drainage neck by putting the cap on.
- ▶ If necessary turn the drainage neck back into position.
- ▶ Slide the cassette back into its place.
- ▶ Ensure that the cassette is secured by the retaining clip.
- ▶ Lock the flap for the cassette.

15 Care

This chapter contains instructions regarding the care of the vehicle.

The instructions address the following topics:

- exterior of the vehicle
- interior
- water system
- toilets
- winter operation

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.

The checklist address the following topics:

- temporary lay-up
- winter lay-up
- start-up after a lay-up

15.1 External care

15.1.1 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 instructions of the high-pressure cleaner.

When cleaning with the nozzle for circular jet between the vehicle and the cleaning nozzle,

le, 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, ventilation grills or skylights. The vehicle may be damaged or water may enter the interior.

15.1.2 Washing the vehicle



Never have the vehicle cleaned in a car wash. Water can penetrate in the refrigerator grills, the waste gas vents or in the forced ventilation. 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.
- Clean surfaces made of glass-fibre reinforced plastic (GRP) only with mild cleansers.

Cleaning agents and polishes for GRP surfaces are available in specialised stores.

- 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 of doors and storage flaps with talc.
- Treat locking cylinder of doors and storage flaps with graphite dust.

15.1.3 Windows of acrylic glass

Acrylic glass windows are delicate and require very careful handling.



- Never rub acrylic glass windows when dry as dust particles might damage the surface.
- Only clean acrylic glass windows with plenty of warm water, dish washing liquid and a soft cloth.



- Never use glass cleaning agents with chemical, abrasive or alcohol-containing additives. Premature brittleness of the panes and associated cracks may result from their use.
- Avoid contact of cleansing agents used for the body (e.g. tar- or silicone-removing agents) with acrylic glass.
- Do not drive into car wash units.
- Do not apply stickers to the acrylic glass windows.
- After cleaning the vehicle rinse the acrylic glass windows again with sufficient clear water.
- Treat rubber seals with glycerine.



Acrylic glass cleanser with antistatic effect is suitable for a follow-up treatment. Small scratches can be treated with acrylic glass polish. These agents are available at the accessories shop.

15.1.4 Underbody

The underbody of the vehicle is partly coated with an age-resistant underbody protection. Should the underbody protection be damaged, repair immediately. Do not treat areas coated with underbody protection with spray oil.



- Only use products approved by the manufacturer. Our authorised dealers and service centres will be happy to advise you.
- In the case of models which have an underbody with glass-fibre reinforced plastic use only care products which are suitable for the material.

15.1.5 Waste water tank

Clean the waste water tank after every use of the vehicle.

Cleaning:

- ▶ Empty the waste water tank.
- ▶ Thoroughly rinse out the waste water tank with fresh water.
- ▶ If possible, clean waste water sensors through the cleaning opening by hand.

15.1.6 Entrance step

If the entrance step is lubricated, coarse particles of dirt can settle on the lubricant during the journey and cause damage to the operating mechanism of the entrance step.



Do not lubricate or oil the moving parts of the entrance step with grease.

15.2 Interior care



- If possible, treat stains immediately.
- Acrylic glass windows are delicate and require very careful handling (see Chapter 12.1.3).
- Synthetic parts in the toilet and living area are very delicate and should be treated with care. Do not use solvents, alcohol-containing cleaning agents or scourers containing sand. This procedure will help you to avoid brittleness and formation of cracks.
- Do not pour any corrosive agents into the drain holes. Never pour boiling water directly into the drain holes. Corrosive agents and boiling water cause damage to drainage pipes and siphon traps.



- Do not use vinegar based products to clean the toilet and water system, or for decalcification of the water system. Vinegar-based products may cause damage to seals or parts of the installation. Use standard decalcifying products for decalcification.
- Save water. Mop up all remaining water.
- Vacuum off carpets and cushions with a suitable brush attachment.



- For information about the use of maintenance products, our representatives and service centres will be glad to advise.
- Staining from textiles is excluded from any and every manufacturer guarantee claims. This is by no means a fault in the cover fabric, but rather a fault in the clothing for which the clothing store has to be contacted.
- Surface and knobs of furniture, lamps and synthetic parts in the toilet and living area should be cleaned with water and a wool cloth. A mild cleanser may be added to the water. If necessary, treat finished surfaces with furniture polish.



- Clean upholstery with dry foam specially manufactured for the use on upholstery or with the foam of a mild detergent. Do not wash upholstery, only have them cleaned. Protect upholstery from direct sunlight so that it does not lose its colour.
- Clean covers made of synthetic leather at least once a week with an absorbent cloth or sponge and with a mixture of water and mild lather. Wipe off with clear water, but do not use too much water. Clean stubborn stains with a mixture of alcohol and water (30% alcohol and 70% water) or with 10% diluted ethanol (10% ethanol and 90% water) and then with clear water. However marks may remain.
- Do not use solvent-based or scouring products, nor undiluted alcohol and/or acetone.
- Curtains and net curtains should be dry cleaned.
- Clean PVC-floor covering with a mild, soapy cleanser for PVC floors. Do not place carpet on wet PVC-floor covering. The carpet and the PVC-floor covering may stick together.



- Vacuum clean the carpet, if necessary clean with carpet shampoo.
- Never clean the sink or the gas cooker with a scourer. Avoid anything which may cause scratching or grooves.
- Clean gas cooker only with a moist cloth. Prevent any water from penetrating the gas cooker. Water may damage the gas cooker.
- Brush insect screens on doors, windows and skylights with a soft brush or vacuum with the brush attachment of the vacuum cleaner.
- Brush blinds with a soft brush or vacuum with the brush attachment of the vacuum cleaner. Grease or stubborn dirt may be removed with a mild soap at 30 °C (curd soap).
- Brush Roman shades with a soft brush or vacuum with the brush attachment of the vacuum cleaner. Grease or stubborn dirt may be removed with a mild soap at 30 °C (curd soap).
- Unrolled seat belts can be cleaned with warm soapsuds. The seat belts must be completely dry before being rolled up.

15.3 Water system

15.3.1 Cleaning the water tank

- ▶ Clean the water tank with a plastic-compatible cleanser from specialised stores. Observe the manufacturer's instructions.

15.3.2 Cleaning the water pipes



Use only suitable cleansers from specialised stores.



- ▶ Collect the exiting mixture of water and cleansers and dispose of it correctly.
- ▶ Empty the water system.
- ▶ Close all the drainage openings and drain cocks.
- ▶ Fill a mixture of water and cleanser into the water tank. Observe the manufacturer specifications for the mixing ration.
- ▶ Open the drain cocks individually.
- ▶ Leave the drain cocks open until the mixture of water and cleanser has reached the respective drain.
- ▶ Close the drain cocks again.
- ▶ Set all the water taps to "Hot" and open them.
- ▶ Leave the water taps open until the mixture of water and cleanser has reached the drain.
- ▶ Set all the water taps to "Cold" and open them.
- ▶ Leave the water taps open until the mixture of water and cleanser has reached the drain.

- ▶ Close all water taps.
- ▶ Flush the toilet several times.
- ▶ Let the cleanser act in accordance with the manufacturer specifications.
- ▶ Empty the water system. Collect the exiting mixture of water and cleansers and dispose of it correctly.
- ▶ To rinse fill the entire water system with drinking water and empty it again several times.

15.3.3 Disinfecting the water system



Use only suitable disinfectants from specialised stores.



- ▶ Collect the exiting mixture of water and disinfectant and dispose of it correctly.
- ▶ Empty the water system.
- ▶ Close all the drainage openings and drain cocks.
- ▶ Fill a mixture of water and disinfectant into the water tank. Observe the manufacturer specifications for the mixing ration.
- ▶ Open the drain cocks individually.

- ▶ Leave the drain cocks open until the mixture of water and disinfectant has reached the respective drain.
- ▶ Close the drain cocks again.
- ▶ Set all the water taps to "Hot" and open them.
- ▶ Leave the water taps open until the mixture of water and disinfectant has reached the drain.
- ▶ Set all the water taps to "Cold" and open them.
- ▶ Leave the water taps open until the mixture of water and disinfectant has reached the drain.
- ▶ Close all water taps.
- ▶ Flush the toilet several times.
- ▶ Let the disinfectant act in accordance with the manufacturer specifications.
- ▶ Empty the water system. Collect the exiting mixture of water and disinfectants and dispose of it correctly.
- ▶ To rinse fill the entire water system with drinking water and empty it again several times.

15.4 Wash basin/sink

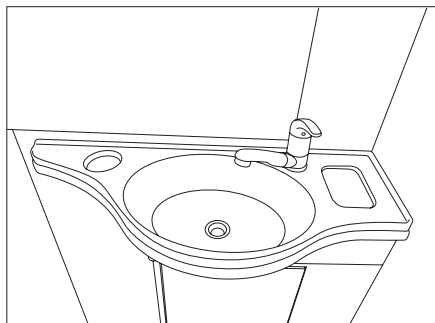


Fig. 135 Wash basin (variant 1)

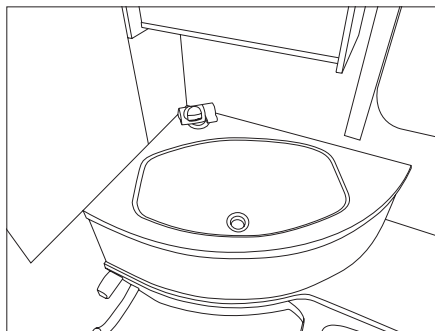


Fig. 136 Wash basin (variant 2)

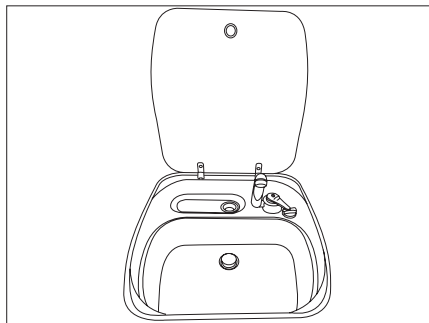


Fig. 137 Sink

15.4.1 Stainless-steel wash basin/sink



- Do not use bleaches, products containing chloride or hydrochloric acid, baking soda or silver polish for cleaning.
- Do not use scouring milk or rough sponges.



- ▶ Before cleaning test at an inconspicuous point whether the cleanser used is suitable for the surface.
- ▶ After cleaning the surfaces, wipe thoroughly dry to avoid traces of lime.
- ▶ With brushed stainless-steel surfaces, wipe in the same direction as the polish.

- ▶ Clean and treat the wash basin/sink at least twice a year with a household stainless-steel cleaner.
- ▶ Rinse out the wash basin/sink after use and dry it with household cloths.

Removing stubborn soiling:

- ▶ Clean the wash basin/sink with a common household sponge and cleansing milk.
- Rinse out the wash basin/sink and dry it with household cloths.

Removing greasy and oily residue:

- ▶ Saturate a kitchen cloth in some white spirits and rub the wash basin/sink with it.
- ▶ Rinse out the wash basin/sink and dry it with household cloths.

Removing fingerprints:

- ▶ Clean the wash basin/sink with a cleaning solution and a leather cleaning cloth.
- Rinse out the wash basin/sink and dry it with household cloths.

15.4.2 Plastic sink



- Do not use scouring milk/scouring powder or rough sponges.



- Before cleaning test at an inconspicuous point whether the cleanser used is suitable for the surface.
- After cleaning the surfaces, wipe thoroughly dry to avoid traces of lime.

Removing normal soiling:

- Clean the sink with a conventional washing-liquid or non-scouring household cleaner.

Removing stubborn soiling:

- Apply spot salt or dishwasher salt with a moist sponge and allow it to work in for several hours.
- Remove salt and clean sink with a food-safe plastic cleaner.
- Rinse out sink.

Removing lime deposits:

- Clean the sink with vinegar or lime remover.
- Rinse out sink.

15.5 Toilets

If the toilet will not be used for a longer period of time, e.g. for Winter lay up, the toilet must be cleaned and completely emptied.

15.5.1 Toilet with separate water tank

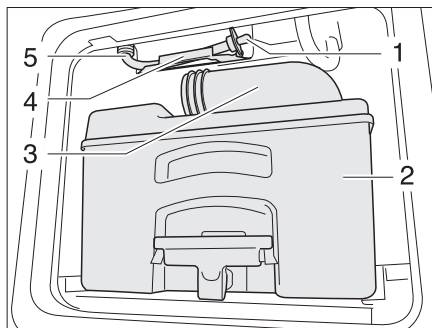


Fig. 138 Toilet water tank drain hose

Emptying the tank:

- Press the flush button, to active the operating panel.
- Open the sliding trap and flush until no more water flows.
- Close the sliding trap.
- Empty the cassette (Fig. 138,2) at a disposal station authorized for this purpose and clean it.
- Leave the drainage neck (Fig. 138,3) open.

- Remove the drain hose (Fig. 138,5) from the holder (Fig. 138,4).
- Place a sufficiently large container under the drain hose.
- Remove the drain plug (Fig. 138,1) and let the residual water run out.
- When no more water flows out, place the drain plug in the drain hose.
- Replace the drain hose in the holder.

15.6 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.



- If there is any risk of frost, always run heater at a minimum of 15 °C. Set the circulation fan (if existing) to automatic mode. In the case of extreme external temperatures, the furniture flaps and doors should be left slightly open. The inflowing warm air can help prevent the freezing of water pipes, for example, and counteract the formation of condensation in the storage spaces.
- If there is any risk of frost, cover the outside surface of the windows with winter insulation mats.

15.6.1 Preparations

- ▶ Check the vehicle for paint and rust damage. Repair damage as necessary.
- ▶ Make certain that water cannot penetrate the automatic floor ventilation system and the heater.
- ▶ Use a wax-based rust inhibitor to protect the metal parts of the underbody.
- ▶ Use appropriate protection for external painted surfaces.

15.6.2 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.

15.6.3 At the end of the winter season

- ▶ Thoroughly clean the underbody and 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.

15.7 Laying up

15.7.1 Temporary lay-up



- After the vehicle has been standing for a longer period (approx. 10 months) have the braking and gas systems checked by an authorised specialist workshop.
- Take into consideration that water is undrinkable after only a short time.
- Animal damage to cables can lead to short circuits. Fire hazard!

Animals (especially mice) can cause great damage to the interior of the vehicle. This is especially true if the animal remains undisturbed in a parked vehicle.

The animals can get into the vehicle at an opportune moment and hide from view.

To keep damages from animals to a minimum or to avoid them altogether, regularly check the vehicle for damage or animal traces.

This is especially important approx. 24 hours after parking the car.

If animal traces are found, contact your authorised dealer or service centre. If damage to cables has occurred, they can result in short circuits. The vehicle could catch fire.

Go through the following checklist before lay-up:

Base vehicle

Activities	done
Completely fill fuel tank. This can prevent corrosion to the tank system	
Jack up the vehicle so that the wheels do not bear any load, or move the vehicle every 4 weeks. This prevents any pressure points from occurring on tyres and wheel bearings	
Protect the tyres from direct exposure to the sun. Danger of formation of cracks!	
Inflate tyres up to the recommended maximum pressure	
Check the spare wheel or tyre repair kit respectively	
Always provide for sufficient ventilation in the underbody area. Humidity or lack of oxygen e.g. by covering with plastic film may cause optical irregularities to the underbody.	
Also observe the specifications in the operating instructions of the base vehicle	

Body

Activities	done
All vents should be sealed with the appropriate caps and all other openings (apart from forced ventilations) should also be sealed. This prevents animals (e.g. mice) from gaining entry	

Activities	done
In order to avoid the formation of condensation and thus mould, ventilate the interior, all the storage areas accessible from the outside and the parking space (e.g. garage) every 3 weeks	

Interior

Activities	done
Place upholstery in an upright position for ventilation, and cover	
Clean refrigerator	
Allow refrigerator and freezer compartment doors to remain slightly open	
Search for traces of animals that have gained entry	
Disconnect the flat screen from the mains and, if necessary, remove it from the vehicle	

Gas system

Activities	done
Close regulator tap on the gas bottle	
Close all gas isolator taps	
Always remove gas bottles from the gas bottle compartment, even if they are empty	

Electrical system

Activities	done
Fully charge living area and starter battery ► Charge the battery for at least 20 hours before laying up.	
Disconnect the living area battery from the 12 V power supply	

Water system

Activities	done
Empty the entire water system. Leave the water taps on in central position. Leave the safety/drainage valve (if available) and all drain cocks open. Observe the specifications in Chapter 11.	
Switch off the safety/drainage valve on the transformer/rectifier. Otherwise the battery will become discharged too quickly.	
 If the safety/drainage valve is switched off, the water system is no longer protected sufficiently against frost. Open the water filter at the pressure water pump and drain the water (see chapter 11.5.1.)	

15.7.2 Winter lay-up

Additional measures are required if laying up the vehicle over winter:

Base vehicle

Activities	done
Clean body and underbody thoroughly and spray with hot wax or protect with varnish	
Fill fuel tank with winter diesel	
Check the frost protection in the cooling water	
Repaint paint damage	
Inflate tyres up to the recommended maximum pressure	

Body

Activities	done
Keep the forced ventilation open	
Clean and lubricate the mounted steady legs	
Clean and grease all door and flap hinges	
Brush oil or glycerine on all locking mechanisms	
Rub all rubber seals with talc	
Use graphite dust to treat locking cylinders	

Interior

Activities	done
Position de-humidifiers	
Remove upholstery from the vehicle and store in a dry place	
Air the interior at regular intervals	
Empty all cabinets and storage compartments. Opening flaps, doors and drawers	
Thoroughly clean the interior	
If there is a risk of frost, do not leave the flat screen in the vehicle	

Electrical system

Activities	done
► Remove the starter battery and living area battery and store in a place protected from frost (see Chapter 12)	

Water system

Activities	done
► Clean the water system using a cleaning agent from a specialised store	
► Drain the pressure water pump filter (see also chapter 14.5.1)	

Complete vehicle

Activities	done
Arrange the tarpaulins in such a way that the ventilation openings are not covered, or use porous tarpaulins	

15.7.3 Starting up the vehicle after a temporary lay-up or after lay-up over winter

Go through the following checklist before start-up:

Base vehicle

Activities	done
Check the tyre pressure on all tyres	
Check the tyre pressure and condition of the spare wheel or tyre repair kit respectively	

Body

Activities	done
Clean the pivot bearing of the entrance step	
Check that the doors, windows and pop-up roof are working properly	
Check the function of all external locks	
Remove the cover from the waste gas vent of the heater (if there is one)	
Remove the winter cover from the refrigerator grills (if there is one)	

Gas system

Activities	done
Place the gas bottle in the gas bottle compartment, tie down and connect to the gas pressure regulator	

Electrical system

Activities	done
Connect to 230 V external power supply	
Fully charge living area and starter battery	
 Charge the battery for at least 24 hours after laying up.	
Connect the living area battery with the 12 V power supply (see Chapter 12)	
Check that the electrical system are working, e.g. interior light, socket and all installed electrical appliances	

Water system

Activities	done
Disinfect water pipes and water tank	
Check the functionality of the operating lever for the waste water tank	
Close safety/drainage valve, drain cocks and water taps	
Check the safety/drainage valve, water taps, drain cocks and water distributors for leaks	

Appliances

Activities	done
Check the function of the refrigerator	
Check the function of the heater/boiler	
Check the function of the gas cooker	
Check the function of the air conditioning unit	

16 Maintenance

This chapter contains instructions about official inspections as well as inspection and maintenance work concerning the vehicle.

The maintenance instructions address the following topics:

- air conditioning unit
- replacing bulbs and fluorescent tubes

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

16.1 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 authorised dealers and 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 specified 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 also serves as valid proof in the case of damage and claims under the guarantee.

16.2 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 basic vehicle and the appliances serviced at the intervals specified in the corresponding instruction manuals.

16.3 Independent vehicle heater

Use the independent vehicle heater for 10 minutes at least once a month with a cold engine and smallest fan settings.

Before the heating season starts have the independent vehicle heater checked by an authorised specialist workshop.

16.4 Replacing bulbs and fluorescent tubes



- Bulbs and light fittings can be extremely hot. Therefore, allow lights to cool down before changing bulbs.
- Before changing bulbs, switch off the power supply at the safety cut-out in the 230 V fuse box.
- Store bulbs in a safe place inaccessible to children.
- Do not use any bulb that has been dropped or which shows scratches in its glass. The bulb might burst.
- Lights can get very hot. When the light is switched on, a safety distance of 30 cm to combustible material has to be maintained. Fire hazard!



- New bulbs should not be touched with the fingers. Use a cloth when inserting the new bulb.
- Only use bulbs of the same type and with the correct wattage.
- If LEDs in the lights are defective, contact an authorised dealer or a service centre.

16.4.1 LED spotlight

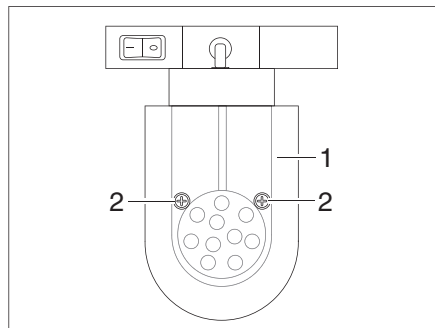


Fig. 139 LED spotlight (movable)

Changing bulbs:

- ▶ Loosen the fixing screws (Fig. 139,2).
- ▶ Remove the lamp glass cover (Fig. 139,1) carefully.
- ▶ Remove the LED lamps.
- ▶ Insert a new LED lamp.
- ▶ Reassemble the lamp in the reverse order.

16.4.2 Garage light

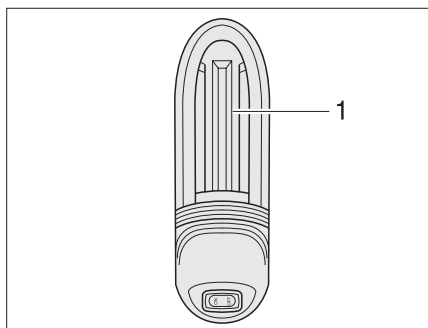


Fig. 140 Garage light

Changing bulbs:

- ▶ Push the light covering (Fig. 140,1) up slightly and remove it.
- ▶ Remove bulb.
- ▶ Put in a new bulb.
- ▶ Reassemble the lamp in the reverse order.

16.5 Vehicle identification plate

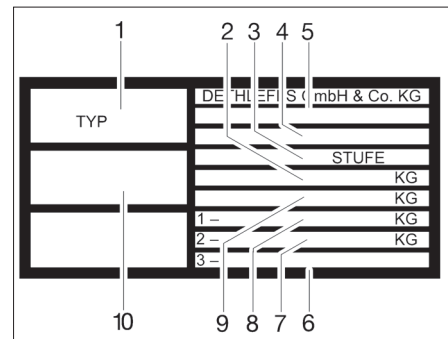


Fig. 141 Vehicle identification plate

- 1 Type
- 2 Maximum permissible gross weight of the vehicle with trailer
- 3 Manufacturer of the unit (add-on unit)
- 4 Chassis number
- 5 EC type approval number
- 6 Permissible rear axle load (for tandem axle)
- 7 Permissible axle load rear
- 8 Permissible axle load front
- 9 Maximum permissible gross weight of the vehicle
- 10 Serial number

The vehicle identification plate (Fig. 141) with the serial number is mounted in the area of the passenger's door.

Do not remove the vehicle identification plate.

The vehicle identification plate:

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

16.6 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 the service centre.

17 Spare parts

This chapter contains important instructions on how to obtain 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 Elddis have been specially developed and supplied for your vehicle. These products are available at the authorised dealers or service centres. The authorised dealers or service centres are informed about admissible technical details and carries out the required work correctly.
- The use of accessories, parts and fittings not supplied by Elddis 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 Elddis. 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.

Here are some suggestions of important spare parts:

- Fuses
- V-belt
- Windscreen blades
- Bulbs
- Water pump (submerged pump)

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

The vehicle described in this instruction manual is built and equipped to factory standards.

Special equipment is offered depending on its purpose or use. When fitting special equipment check if such equipment has to be entered in the vehicle documents. Observe the max. permissible gross weight.

The authorised dealer or service centre will be happy to advise you.



In the interest of safety, replacement parts for an appliance shall conform to the appliance manufacturer's specifications and should be fitted by him or his authorized agent.

18 Wheels and tyres

This chapter contains instructions regarding the tyres of the vehicle.

The instructions address the following topics:

- tyre selection
- tyre designations
- handling of tyres
- installation of the rim protection ring
- changing wheels
- tyre pressure

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

18.1 General



- Check the tyre pressure before a journey and at 2-week intervals. Wrong tyre pressure causes excessive wear and can lead to damage or even to tyre burst. You can lose control of the vehicle.



- Only check the tyre pressure on cold tyres.
- Tubeless tyres are mounted on the vehicles. Never mount tubes in these tyres.
- Observe the instruction manual of the base vehicle.



Depending on the base vehicle and model, the vehicles are only equipped with a tyre repair kit as standard.

- In the case of a puncture, pull over to the side of the road. Make the 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: (1509)

Week 15, year of manufacture 2009.

Note

- 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, same brand and same type (summer and winter tyres).
- Only use tyres approved for the wheel rim type fitted. The permitted rim and tyre sizes are specified 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.

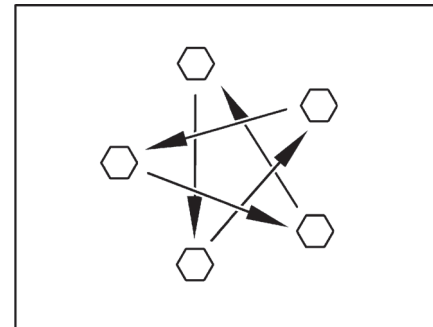


Fig. 142 Tighten the wheel nuts or wheel bolts cross-wise

- Check regularly that the wheel nuts or wheel bolts are firmly seated. Re-tighten the wheel bolts of a changed wheel cross-wise after 50 km (30 miles) (Fig. 142).
- When using new or newly painted rims, re-tighten the wheel nuts or wheel bolts once again after approx. 1000 to 5000 km (600 miles to 3000 miles).

- For lay-ups or long periods of inactivity, keep the tyres and tyre bearings free from pressure points in the following manner:
 - ▶ 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.
- Replace the spare wheel or tyre repair kit respectively regularly.

18.2 Tyre selection



The wrong tyre choice can lead to damage to the tyres or even to tyres bursting.



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.

Weight refers to the maximum permissible axle load which can be distributed on two tyres. The maximum load-carrying capacity of a tyre is indicated by its load index (= LI, load index code). The axle geometry of a vehicle, such as wheel camber and track, is also important for tyre selection. 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.

18.3 Tyre designations

215/70 R 15C 109/107 Q

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)
CP	reinforced tyres especially for camping vehicles
109	Load index code for single tyres
107	Load index code for twin tyres
Q	Speed index (Q = 160 km/h)

18.4 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 case of unequal tread wear have the toe-in and wheel camber checked. Driving with an incorrect toe-in or a one-sided wheel camber results in markedly increased wear.
- Avoid block brakings. When braking with a lock, the tires develop more or less severe "brake plates". This reduces driving comfort.
- The tyres can even become unusable.
- 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 so as to avoid unnecessary wear and damage to the tyres. Avoid sharp braking, racing starts and long trips on bad roads.

18.5 Changing wheels

18.5.1 General information



- The vehicle must be on level, firm ground, secure from slipping.
- ▶ Go into first gear. In the case of automatic transmission, change gear to "P" position.
- ▶ Before jacking up the vehicle firmly apply the handbrake.
- ▶ Prevent the vehicle from rolling away by blocking the opposite wheel with the wheel chocks.
- ▶ If a trailer is connected: Detach the trailer before the vehicle is raised.
- Never overload the vehicle jack. The maximum permissible load is specified on the vehicle jack's identification plate.
- Use the jack only to lift the vehicle briefly while changing the tyre.



- Do not start the engine while the vehicle is jacked up.
- Persons may not lie under a vehicle that is jacked up.



- ▶ Do not damage the thread of the thread bolts when changing the wheel.
- ▶ Tighten the wheel nuts or wheel bolts cross-wise (Fig. 142).
- ▶ When changing wheels (e.g. light metal wheel rims or wheels with winter tyres), use the correct wheel bolts of the correct length and shape. The firm seating of the wheels and the function of the braking system depend on this.
- ▶ Wheel rims and tyres not permitted for use with the vehicle can jeopardise road safety.
- ▶ Do not replace wheels cross-wise.



- ▶ Protect the vehicle according to national regulations, e.g. with a hazard warning triangle.
- ▶ Before changing the wheel, check the wheel rim and tyre size, the max. tyre load and the speed index on the tyres. Only use the wheel rim and tyre sizes stated in the vehicle documents.

Further information can be obtained in the instruction manual of the base vehicle.

18.5.2 Tightening torque

Wheel rim	Tightening torque
Steel wheel rim 15"	160 Nm
Steel wheel rim 16"	180 Nm
Alloy wheel rim 15" (Fiat / Citroen)	130 Nm
Alloy wheel rim 16" (Fiat / Citroen)	160 Nm
Alloy wheel rim 17" (light chassis)	140 Nm
Alloy wheel rim 17" (maxi chassis)	160 Nm
Elddis alloy wheel 16" (Light-Chassis)	140 Nm
Elddis alloy wheel 16" (Maxi-Chassis)	160 Nm

18.6 Tyre repair kit

For some models, a tyre repair kit is included for inflating the flat tyre with foam.

18.7 Tyre pressure



Tyre pressure that is too low results in overheating of the tyre. Serious damage to the tyre can be the result.

- Check the tyre pressure before a journey and at 2-week intervals. 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.



- Only check the tyre pressure on cold tyres.

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 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 valve used has to be approved for the air pressure. We recommend the use of a metal valve for pressures exceeding 4.75 bars.
- For the maximum permissible axle loads for your vehicle please refer to specific documentation.
- When a replacement is needed, Elddis recommends "Camping" tyres.

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, the Elddis dealer will be happy to provide the newest values.

Tyre pressure table (depending on the axle loads)

Tyre size	Air pressure [bar]	Axle loads [kg]						
		1500	1650	1700	1750	1850	1900	1950
215/70 R15 C (109/107R)	front	3.1	3.5	3.7	3.75	4.0	4.1	4.25
	rear	3.1	3.5	3.7	3.75	4.0	4.1	4.25
215/70 R15 CP (109R)	front	3.25	3.6	3.75	3.9	4.25	4.4	4.5
	rear	3.75	4.25	4.4	4.5	4.9	5.0	5.25
225/70 R15 C (112/110R)	front	3.0	3.1	3.25	3.5	3.7	3.8	3.9
	rear	3.0	3.1	3.25	3.5	3.7	3.8	3.9
225/70 R15 CP (116R)	front	3.0	3.0	3.0	3.25	3.3	3.4	3.5
	rear	3.0	3.0	3.5	3.6	3.9	4.0	4.1
215/75 R16 C (116/114R)	front	3.0	3,	3.25	3.5	3.7	3.8	3.9
	rear	3.0	3.1	3.25	3.5	3.7	3.8	3.9
225/75 R16 C (116/114N)	front	3.0	3.0	3.0	3.25	3.3	3.4	3.5
	rear	3.0	3.0	3.0	3.25	3.3	3.4	3.5
225/75 R16 CP (116R)	front	3.0	3.0	3.0	3.25	3.3	3.4	3.5
	rear	3.0	3.0	3.5	3.6	3.9	4.0	4.1
225/75 R16 C (121/120R)	front	3.0	3.0	3.1	3.2	3.4	3.5	3.6
	rear	3.0	3.0	3.1	3.2	3.4	3.5	3.6
255/55 R18 CP (120R)	front	3.0	3.1	3.25	3.5	3.7	3.8	3.9
	rear	3.0	3.1	3.25	3.5	3.7	3.8	3.9

Tyre size	Air pressure [bar]	Axle loads [kg]					
		2000	2100	2200	2300	2400	2700
215/70 R15 C (109/107R)	front	4.5	—	—	—	—	—
	rear	4.5	—	—	—	—	—
215/70 R15 CP (109R)	front	4.75	—	—	—	—	—
	rear	5.5	—	—	—	—	—
225/70 R15 C (112/110R)	front	4.0	—	—	—	—	—
	rear	4.0	—	—	—	—	—
225/70 R15 CP (116R)	front	3.75	4.0	4.25	4.5	4.75	—
	rear	4.25	4.5	4.75	5.0	5.25	—
215/75 R16 C (116/114R)	front	4.0	4.25	4.5	4.75	5.0	—
	rear	4.0	4.25	4.5	4.75	5.0	—
225/75 R16 C (116/114N)	front	3.75	4.0	4.25	4.5	4.75	—
	rear	3.75	4.0	4.25	4.5	4.75	—
225/75 R16 CP (116R)	front	3.75	4.0	4.25	4.5	4.75	—
	rear	4.25	4.5	4.75	5.0	5.25	—
235/60 R17 C (117/115R)	front	4.0	4.25	4.5	4.75	5.0	—
	rear	4.0	4.25	4.5	4.75	5.0	—
225/75 R16 C (121/120R)	front	3.75	4.0	4.25	4.5	4.75	5.5
	rear	3.75	4.0	4.25	4.5	4.75	5.5

Tyre size	Air pressure [bar]	Axle loads [kg]					
		2000	2100	2200	2300	2400	2700
255/55 R18 CP (120R)	front	4.0	4.1	4.25	4.3	4.5	4.85
	rear	4.0	4.1	4.25	4.3	4.5	4.85
255/55 R18 (118T)	front	–	–	–	4.0	–	–
	rear	–	–	–	–	5.0	–

IVECO chassis

Tyre pressure table (depending on the axle loads)

Model	Tyre size	Max. front axle load (kg)	Filling pressure (bar)	Max. rear axle load (kg)	Filling pressure (bar)
35C - 40C	195/75 R16	1900	4.5	2600	3.5
	107/105R			3100	
35C - 50C	195/75 R16	2100	5.0	2600	3.5
	110/108R			3100	
				3700	4.5
60C	225/65 R16	2200	4.75	4200	
	112/110R				
60C - 65C	225/75 R16	2300	4.5	5000	5.0
	118/116R				
70C	225/75 R16	2500	4.75	5350	5.5
	121/120R				
72C		2700	5.25		

19 Troubleshooting

This chapter contains instructions about possible faults in your vehicle. The faults are listed with their possible causes and corresponding remedies.

The instructions address the following topics:

- braking system
- electrical system
- gas system
- gas cooker
- heater
- boiler
- Refrigerator
- air conditioning unit
- water supply
- toilet
- body

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.

19.1 Braking system



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

19.2 Electrical system



► When the living area battery is changed, only use batteries of the same type.



See Chapter 12 for changing the fuses.

Fault	Cause	Remedy
Exterior road light system no longer functions correctly	Bulb is defective	Replace bulb. Note volts and watts specifications
	Fuse on the transformer/rectifier is defective	Replace fuse on the transformer/rectifier
	Fuses in the vehicle fuse box are defective	Check the fuses in the vehicle fuse box and, if necessary, replace.
Interior lighting does not work	Bulb is defective	Replace bulb. Note volts and watts specifications
	Fuse on the transformer/rectifier is defective	Replace fuse on the transformer/rectifier

Fault	Cause	Remedy
The electrically operated entrance step cannot be moved in or out	Fuse on the transformer/rectifier is defective	Replace fuse on the transformer/rectifier
No 230 V power supply despite connection	230 V automatic circuit breaker has triggered	Switch on 230 V automatic circuit breaker
	Fuse in the cable reel is defective	Check the fuse in the cable reel and, if necessary, replace
Starter or living area battery is not charged when operated in 230 V mode	Maxi flat fuse (40 A) on the starter or living area battery is defective	Replace maxi flat fuse (40 A) on the starter or living area battery
	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
	Disconnecter relay in the transformer/rectifier is defective	Contact customer service

Fault	Cause	Remedy
12 V indicator lamp does not light up	12 V power supply 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
	Disconnecter relay in the transformer/rectifier is defective	Contact customer service
	Flat fuse (2 A) in the living area battery is defective	Replace flat fuse (2 A) in the living area battery
No display on the panel	12 V power supply switched off	Switch 12 V power supply on
	Living area battery disconnected from the 12 V power supply	Connect the living area battery with the 12 V power supply
	Starter or living area battery is not charged	Charge the starter or living area battery
	Disconnecter relay in the transformer/rectifier is defective	Contact customer service

Fault	Cause	Remedy
12 V power supply does not work	12 V power supply switched off	Switch 12 V power supply on
	Living area battery disconnected from the 12 V power supply	Connect the living area battery with the 12 V power supply
	Living area battery is discharged	Charging the living area battery
	Jumbo flat fuse (40 A) on the living area battery is defective	Replace jumbo flat fuse (40 A) on the living area battery
	Disconnecter relay in the transformer/rectifier is defective	Contact customer service

Fault	Cause	Remedy
12 V power supply does not work in 230 V operation	12 V power supply 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
	Charger module in the transformer/rectifier is defective	Contact customer service
	230 V automatic circuit breaker has triggered	Contact customer service
	Jumbo flat fuse (40 A) on the living area battery is defective	Replace jumbo flat fuse (40 A) on the living area battery
Starter battery is discharged in 12 V operation	Disconnecter relay in the transformer/rectifier is defective	Contact customer service
	Living area battery disconnected from the 12 V power supply	Connect the living area battery with the 12 V power supply

Fault	Cause	Remedy
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. If the living area battery has been totally discharged for too long, it is defective.	
No output voltage at the converter ("Power Status" LED shows a fault)	Input voltage too high (rapid flashing)	Check input voltage
	Input voltage too low (slow flashing)	Recharge battery
		Check cables and connections
	Thermal overload (periodical flashing)	Switch off converter and appliances, and switch back on again after approx. 5 to 10 minutes
		Improve ventilation

Fault	Cause	Remedy
No output voltage at the converter ("Power Status" LED shows a fault)	Short circuit, incorrect polarity or excessive continuous load (continuous lighting)	Switch off the converter and remove the appliance. If no fault occurs after switching back on without an appliance, it is the appliance that is defective. If the fault still occurs, contact customer service.
Air conditioning unit cannot be switched on or off	230 V automatic circuit breaker has triggered	Switch on 230 V automatic circuit breaker
	Remote control battery is empty	Change remote control battery

19.3 Gas system



- In case of a defect of the gas system (gas odour, high gas consumption) there is danger of explosion! Close the regulator tap on the gas bottle immediately. Open doors and windows and ventilate well.
- In case of a defect in the gas system: Do not smoke; do not ignite any open flames, and do not operate electric switches (light switches etc.).
- Have the defect in the gas system repaired by an authorised specialist workshop.

Fault	Cause	Remedy
No gas	Gas bottle empty	Changing gas bottles
	Gas isolator tap closed	Open the gas isolator tap
	Regulator tap on the gas bottle is closed	Open regulator tap on the gas bottle
	Outdoor temperature 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

19.4 Gas 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	Set thermocouple sensor correctly (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

19.5 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.

Fault	Cause	Remedy
Heater does not ignite	Temperature sensor at the control unit or remote sensor defective	Remove the connector at the control unit. The heater then functions without the thermostat. Contact the customer service as soon as possible
Red indicator lamp "Fault" illuminates	Air in the gas pipe system	Switch off and on again. After two futile ignition attempts, wait for 10 minutes before trying again.
	Lack of gas	Open regulator tap and gas isolator tap
		Connect a full gas bottle
Red indicator lamp "Fault" flashes	Defect of a safety element	Contact customer service
	Operating voltage too low	Charge, have charged or renew the living area battery

Fault	Cause	Remedy
Green indicator lamp behind knob is not lit	Fuse on the transformer/rectifier is defective	Replace fuse on the transformer/rectifier
	Fuse in the electronic control unit has been triggered	Contact customer service
	Living area battery defective	Charge, have charged or renew the living area battery
Yellow indicator lamp on the energy selector switch does not illuminate	No supply voltage	Check 230 V connection and fuses
	Overheating switch was triggered	Press overheating switch
Boiler empties, safety/drainage valve has opened	Internal temperature below 7 °C	Heat up the interior
	Safety/drainage valve disconnected from battery supply	Remove battery separation. To do this, switch on the battery cut-off switch on the electrical block or remove the battery disconnection via the panel
	Operating voltage under 10.8 V	Charge, have charged or renew the living area battery
	Fuse is defective	Replace fuse on the transformer/rectifier

Fault	Cause	Remedy
Safety/drainage valve does not close during switching on	Safety/drainage valve disconnected from battery supply	Remove battery separation. To do this, switch on the battery cut-off switch on the electrical block or remove the battery disconnection via the panel
	Operating voltage under 10.8 V	Charge/have living area battery charged
Safety/drainage valve does not close during switching on	Fuse is defective	Replace fuse on the transformer/rectifier
Red and green indicator lamps are not lit	Fuse is defective	Replace fuse on the transformer/rectifier
Fan wheel runs loudly or unevenly	Fan wheel soiled	Contact Truma Service

19.6 Refrigerator

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.



In case of malfunctions, the fault indicator (Fig. 121,8) lights up. A table of fault codes and a table of general malfunctions can be found in the manufacturer's operating manual.

19.7 Air conditioning unit

Fault	Cause	Remedy
Air conditioning unit does not cool	No 230 V power supply	Connect 230 V power supply
	Fuse is defective	Check fuse and replace if necessary
	Temperature below 16 °C	
	Temperature has been set incorrectly	Adjust the temperature
	Air filter soiled	Replace the air filter

19.8 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 switched off	Switch 12 V power supply 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
Toilet has no flush water	Water tank is empty	Replenish drinking water
	Fuse for toilet is defective	Replace fuse
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

Fault	Cause	Remedy
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, de-calcify in vinegar water (only for products made from metal)
Water jets on the shower nozzle clogged	Water jets calcified	De-calcify shower nozzle in vinegar water (only for products made from metal) or rub off soft nozzle burling
Water drains from the shower tray slowly or does not drain at all	The vehicle is not in a horizontal position	Position the vehicle horizontally

Fault	Cause	Remedy
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
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 Microbiological deposits in the water system	Contact a specialist workshop immediately Clean water system mechanically and chemically; then disinfect and rinse copiously with drinking water

Fault	Cause	Remedy
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

19.9 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
Hinges/joints in the bathroom unit/toilet compartment are difficult to operate/ make a grating noise	Hinges/joints are not sufficiently lubricated	Lubricate hinges/ joints with solvent-free and acid-free grease  Spray cans often contain solvents
Storage compartment hinges are difficult to operate/ make a grating noise	Storage compartment hinges are not sufficiently lubricated	Lubricate storage compartment hinges with acid-free and resin-free grease
Heki skylight difficult to operate	Threaded spindle not lubricated	Lubricate threaded spindle
	Threaded spindle defective	Have threaded spindle replaced



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

20 Special equipment

20.1 Weight details for special equipment



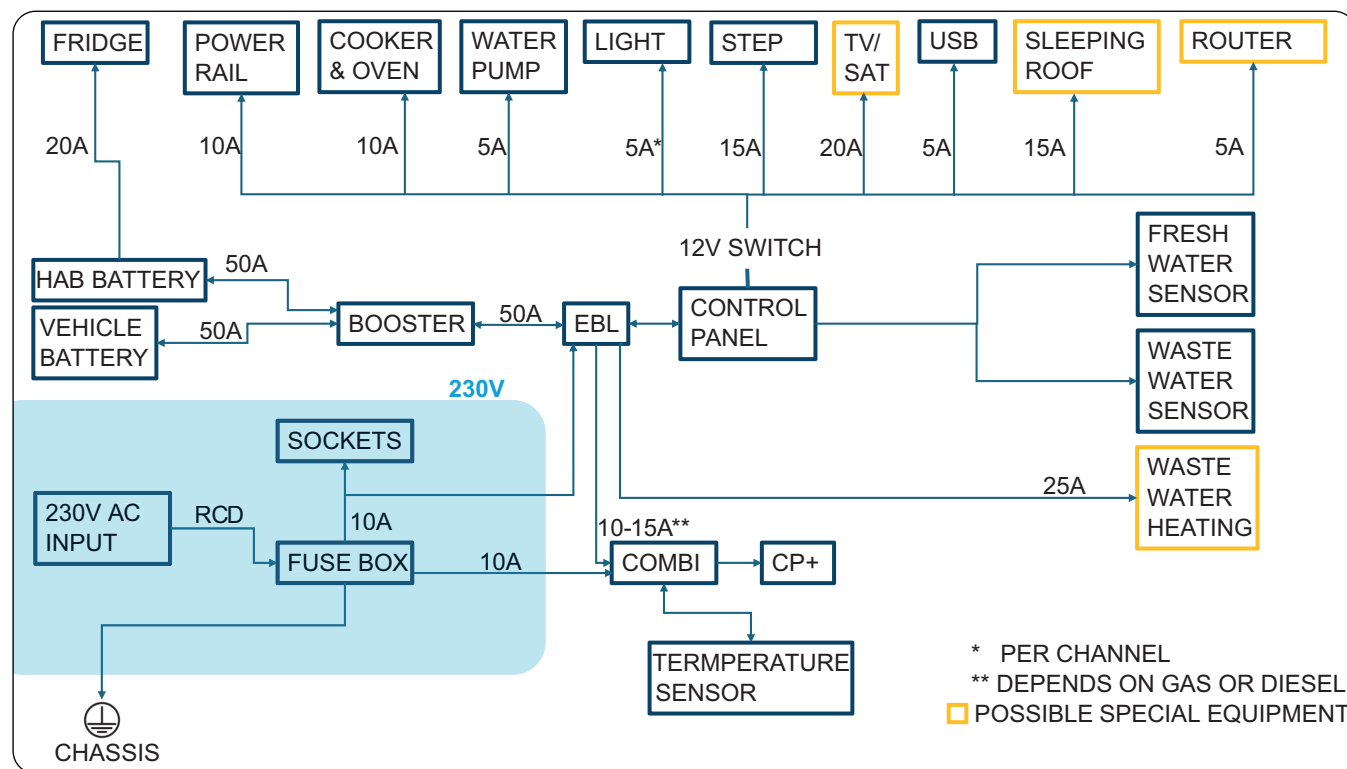
- The use of accessories, parts and fittings not supplied by Elddis may cause damage to the vehicle and jeopardize road safety. Even if an expert's report, a general type approval or a design certification exists, there is no guarantee for the proper quality of the product.
- Every alteration of the 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 Elddis. This also applies to impermissible alterations to the vehicle.

21 Dimensions and permitted number of persons

Model	Seats	Sleeping places	Dimensions (length × width × height) in mm
554	4	2 (3)*	5413 × 2050 × 2580
560 (CV20/40)	4	2 (3)*	5998 × 2050 × 2580
563	4	2 (3)*	6363 × 2050 × 2580

* with guest bed

22 Electrical drawing



23 Campervan Construction-Main components

The following is a brief description of the main components used in your campervan. More comprehensive descriptions can be found in the equipment manufacturers literature held in the Owner's Information Pack.

Windows

Windows are all of a double glazed acrylic construction.

Insulation

Erwin Hymer Group UK campervans are built to comply with grade 1 thermal insulation in accordance with the European Standard EN 1646.

