

Operating Instructions

KARMANN



04.2004

Ontario

Congratulations on your new Karmann Mobile Home

You have made the right decision, for Karmann has been building mobile homes for more than 100 years. That means quality and reliability. And that is why Karmann is mentioned in the same breath as the best automobile manufacturers.

We don't simply put any body on any chassis. On the contrary: safe handling can only be achieved if a first-class chassis from an excellent manufacturer is given an body which is perfectly adapted to it, a body from Karmann-Mobil.

And what about service and replacement parts? Who wants to get stuck somewhere with a broken windscreen? A network of selected partners will make sure that fast help is available everywhere.

Karmann-Mobil - that means quality, reliability and pleasure for many years ahead.
We wish you a safe and happy journey.

Yours sincerely Karmann-Mobil Vertriebs GmbH

This additional literature contains important notes for operation and care of your mobile home as well as for use of its equipment.


The many practical tips included in it are intended to make it easy for you to use your Karmann mobile home in the best way possible, safely and in an environmentally-friendly way.

In the interests of safety, please read the information regarding use of the gas equipment and the 230 Volt vehicle electrical supply system.

You will find all general information regarding operation and handling of your vehicle in the operating instructions for the basic chassis.

Notes on these instructions

Sections introduced by the word "Caution" and with a coloured background indicate possible sources of accident and injury.

 ***Sections with this symbol written in italics offer important information on environmental protection***

If you wish to equip your mobile home with special accessories such as bicycle, ski or surfboard racks or awnings, you should take advantage of the range on offer from Karmann Mobil dealers.

These accessories have been especially developed for your vehicle and tested for reliability, safety and suitability - please also note the instructions regarding the basic chassis.

Detailed assembly and operation instructions are of course included with these accessories.

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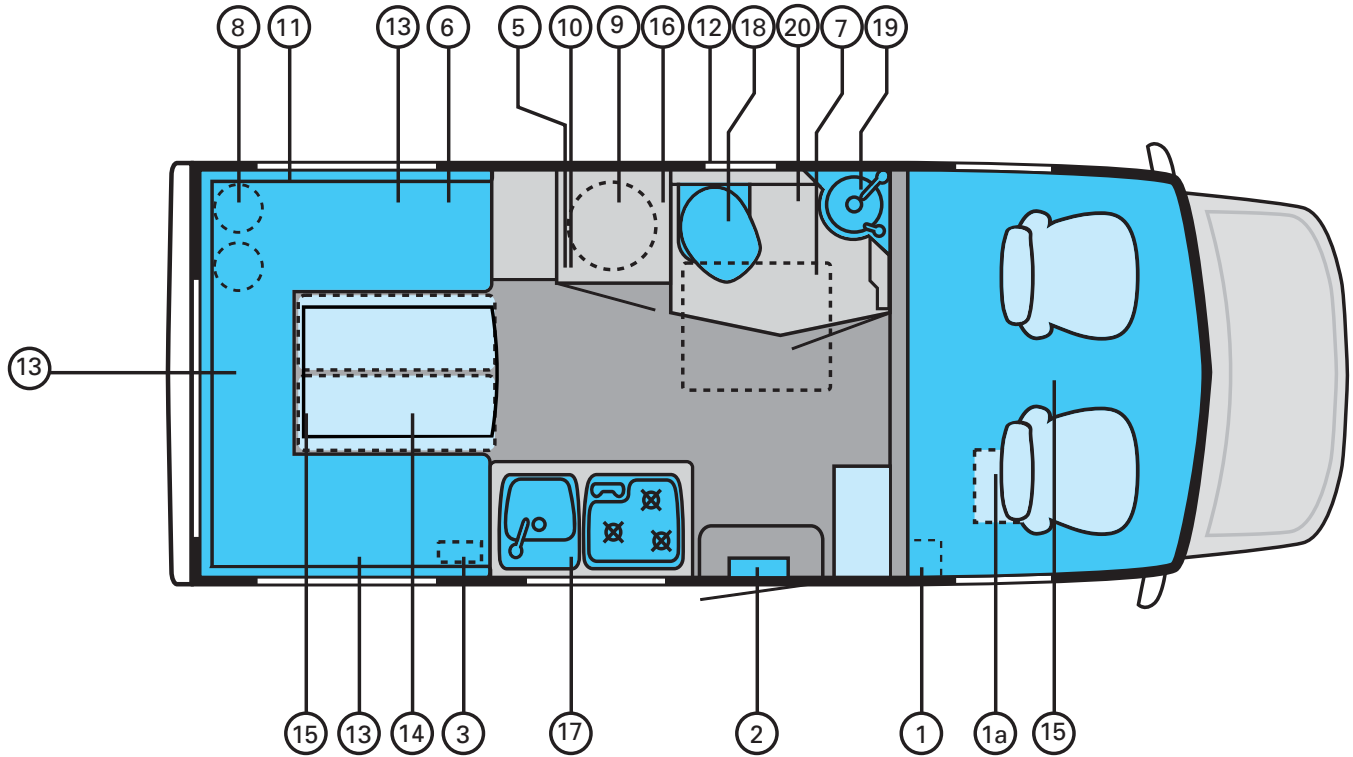
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EQUIPMENT OVERVIEW Ontario 600 H

Interior



Interior

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This list gives you an initial overview of the important components in your mobile home. More detailed information can be found in the relevant chapters.

EQUIPMENT OVERVIEW Ontario 600 H

Exterior

- ① Fuel filler cap



- ② Fresh water filler nozzle
Page 7-1



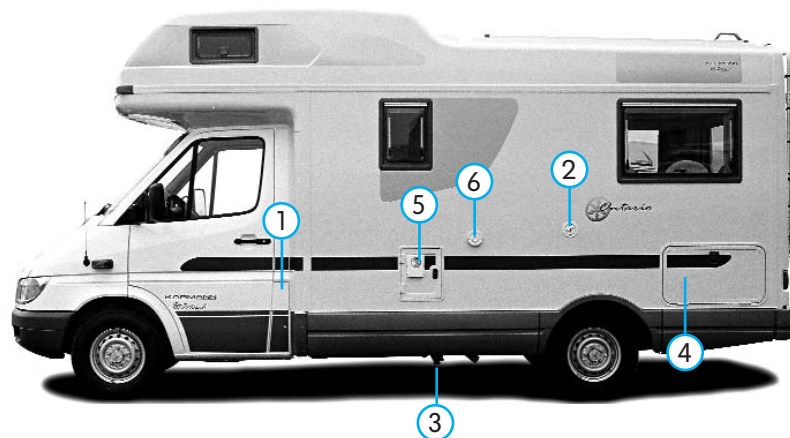
- ③ Drain outlet for fresh water
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- ④ Drain tap for fresh water
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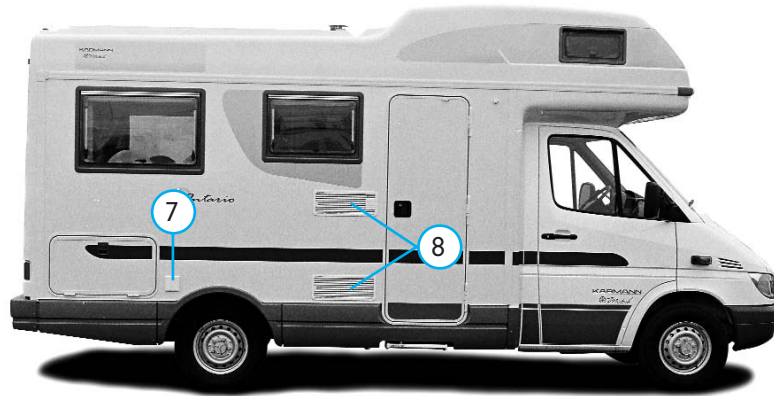
- ⑤ Discharge flap for sewage tank
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- ⑥ Air outlet for heating system



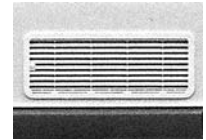
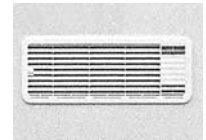
Exterior



7 230 V connector
Page 6-2

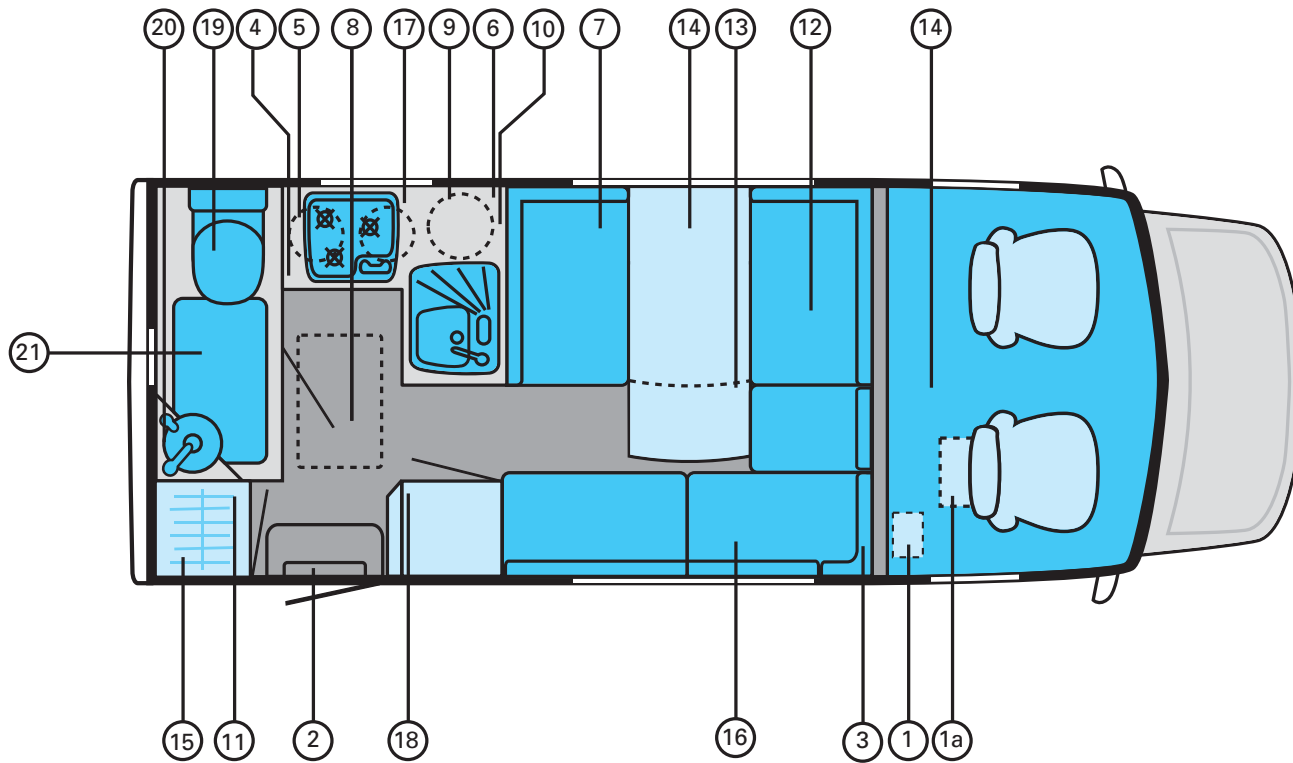


8 Refrigerator air
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EQUIPMENT OVERVIEW Ontario 635 LS

Interior



Interior

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Gas equipment		
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Bathroom and WC		
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21	Shower	

This list gives you an initial overview of the important components in your mobile home. More detailed information can be found in the relevant chapters.

EQUIPMENT OVERVIEW Ontario 635 LS

Exterior

- ① Fuel filler cap



- ② Fresh water filler nozzle
Page 7-1



- ③ Drain tap for fresh water
Page 7-2



- ④ Discharge flap for sewage tank
page 7-6



- ⑤ Air outlet for heating system/boiler



- ⑥ Outside flap for gas cylinder box
Page 5-1



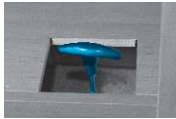
Exterior



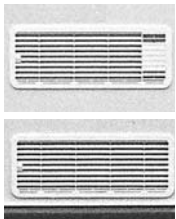
7 230 V connector
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8 Pull cord for
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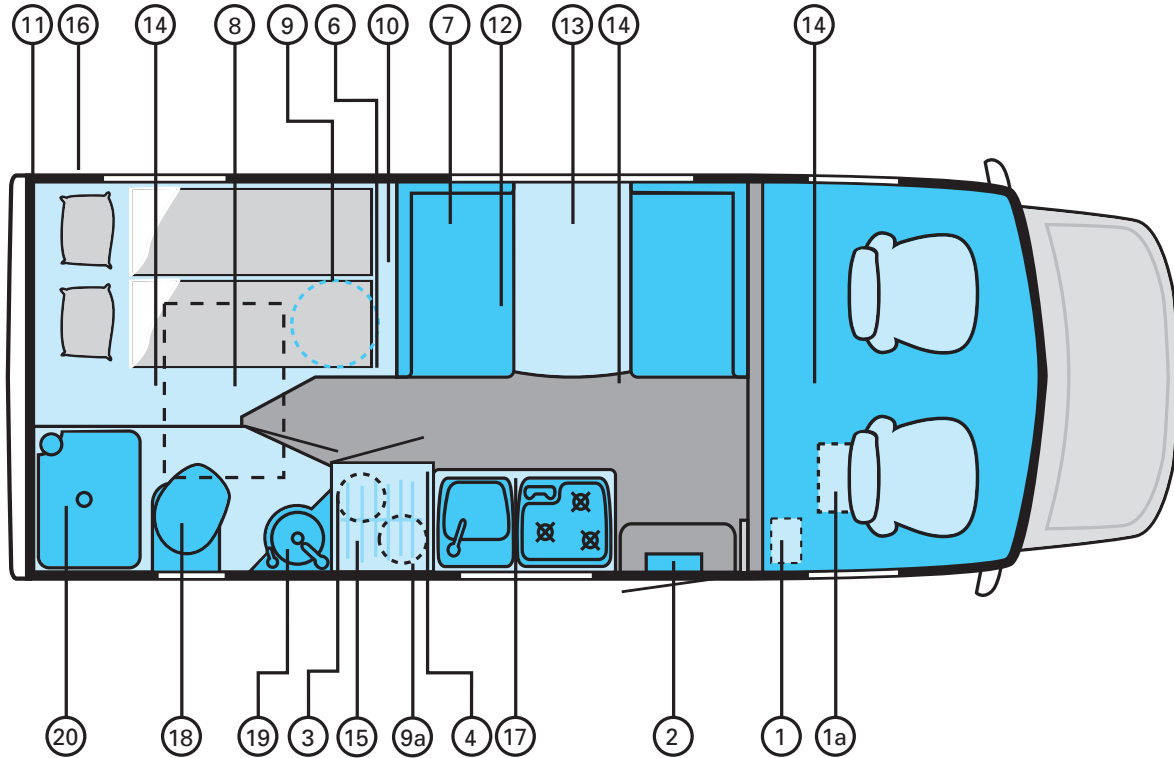


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EQUIPMENT OVERVIEW Ontario 635 LB/GB

Interior



Interior

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This list gives you an initial overview of the important components in your mobile home. More detailed information can be found in the relevant chapters.

EQUIPMENT OVERVIEW Ontario 635 LB/GB

Exterior

- ① Fuel filler cap



- ② Fresh water filler nozzle
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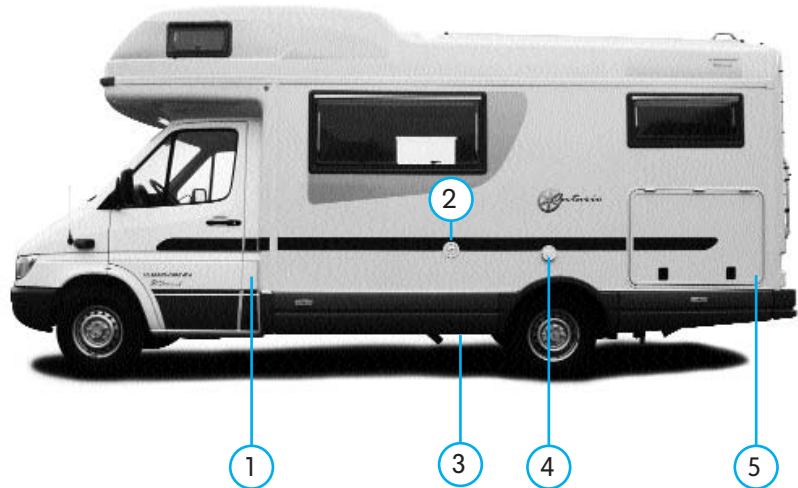
- ③ Drain tap for fresh water
Page 7-6



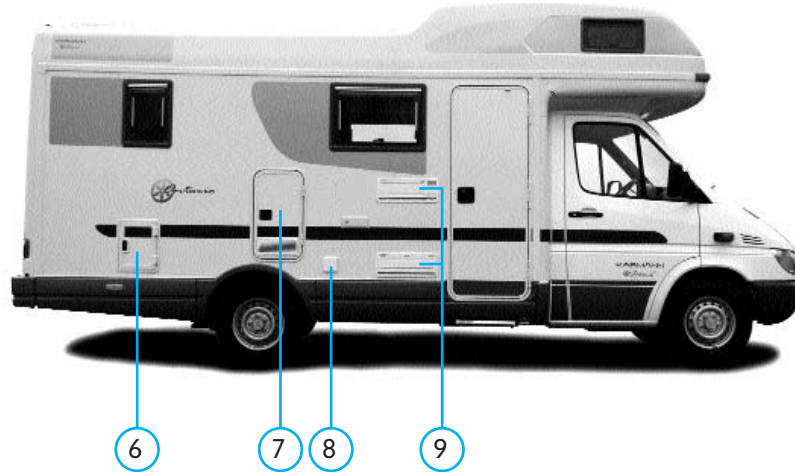
- ④ Air outlet for heating system/boiler



- ⑤ Pull cord for waste water
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Exterior



6 Discharge flap for sewage tank
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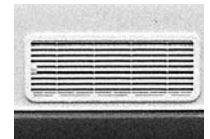
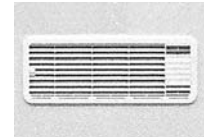
7 Outside flap for gas cylinder box



8 Connector for 230 V
Page 6-2



9 Refrigerator air vent
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Tips on commissioning

Do not use your new mobile home immediately for a long holiday trip. A weekend trip of maximum 100 kilometres is enough for the first time. Drive slowly and carefully. Observe the rules for running in the basic vehicle.

Dimensions

Your mobile home may be a larger vehicle than you are used to driving. Get used to the special dimensions of the vehicle slowly (listed in the technical data in the annex to these operating instructions).

Take particular care when:

driving through gates, over bridges, under arched tunnels or archways, into car parks. Also watch out for overhanging branches, petrol station roofs etc.

Instruments

Get to know the different instruments. Apart from the attached operating instructions for the chassis and driver's cab you will find detailed

descriptions of:

- Refrigerator 230 V/12V/Gas
- Heating/Water boiler
- Gas cooker
- Toilet
- EVS charging device
- Water pump

Although the function of all the equipment in your mobile home were certainly demonstrated to you when you bought it, you should read through the operating instructions again in detail. They contain useful advice on what to do when faults occur, care of the vehicle etc.

Tow bar

If you use a tow bar you should ensure without fail that you do not exceed the permitted load. If you wish to tow a trailer - no matter of what size - please note the relevant legal regulations.

Loading

The maximum technically permissible overall weight stated in the vehicle documents may not be exceeded by excessive loading under any circumstances.

Please consider that any built-in accessories may reduce the possible loading. When loading the vehicle, please also consider the weight of any passengers.

Incorrect tyre pressures and overloading can lead to burst tyres. Make sure that the permissible axle loads stated in the vehicle documents are not exceeded.

Tips on commissioning

Correct loading of your mobile home

As a basic principle, the heaviest items should be as near the floor as possible. Therefore store heavy objects in this area. Make sure the load is balanced between the left and right sides.

Objects in the top cupboards should also be protected against slipping. Do not exceed the maximum load for the cycle rack (special accessory) and the permissible roof load of 150 kg. Please make sure that cycles are well secured and tied. After driving for a short distance, stop and check that nothing has moved.

In the interests of safety you should have the vehicle and passengers weighed before the start of the journey.

Wing mirrors

You will find large wing mirrors on both sides of your vehicle. Before starting out on your first journey you should adjust these and if necessary correct them after a short distance.

Travelling and overnight stops

In general it is allowed to make overnight stops in car parks in Germany - at least for one night. However, camping tables, chairs etc. or other items should not be placed outside to give the impression of "camping out". Specialist magazines and camping guides contain useful information, or you can contact the CIVD club to find out about districts which welcome caravans and mobile homes, rules for waste water disposal etc. Different rules apply abroad with regard to mobile homes and overnight stops.

Find out about the following before starting your journey:

- necessary documents
- legal regulations concerning maximum speeds and prohibitions on overtaking
- electrical supply standard
- where to make overnight stops

The ADAC can also supply information with regard to the relevant regulations concerning overnight stops outside camping sites, speed limits etc. in the country you plan to visit.

BEFORE STARTING YOUR JOURNEY

Safety checklist

To make sure that your Karmann mobile home is always safe, you should check certain points before the start of every journey. You can find more detailed information about this in these operating instructions:

- Retract entry step (illuminated display)
- Close and lock all exterior flaps
- Close the body door
- Close and lock the opening window
- Close the roof hatch
- Close drawers and cupboards
- Close door to bathroom and WC
- Close refrigerator door
- Secure TV aerial, if installed
- Check luggage for secure fixing
- Store away objects lying around on shelves, tables etc.
- Close shutoff valves for gas equipment, if it is not being used
- Free the roof of ice and snow in the winter
- Check the battery voltage of the vehicle and auxiliary battery at the

control panel, particularly in winter (see Page 6-1).

- Open all blinds before starting the journey.

Check the following on the basis vehicle according to the Sprinter operating instructions:

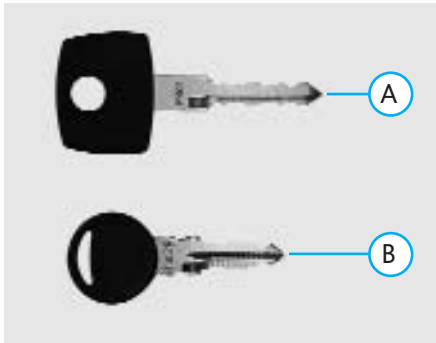
- Tire pressure
- Vehicle lights
- Oil level
- Coolant level

Travelling in the Karmann mobile home

Even if you are used to driving mobile homes, you must remember when travelling that, because of the chassis, a mobile home is virtually a small truck which requires particular care as regards driving and handling characteristics:

- Because of its relatively long projection behind the rear axle, the back end of the vehicle can break away.
- When driving up steep slopes or ramps make sure that the back end does not hit the ground.
- Avoid sudden braking if possible.
- Make sure that any passengers sitting in the rear of the vehicle are wearing their seatbelts and that they do not leave their seats.
- Only allow people to travel in the vehicle in the seat provided with seatbelts.
- Even after short interruptions to the journey, always make sure that the entry step is retracted.

Keys



Key A Ignition, driver and passenger door, fuel flap

Key B body door, external storage box, sewage tank

Note

Depending on equipment, your Karmann mobile home may also be supplied with other keys, e.g. for top box.

Caution

Before starting your journey, ensure that the body door is locked.

Body door lock

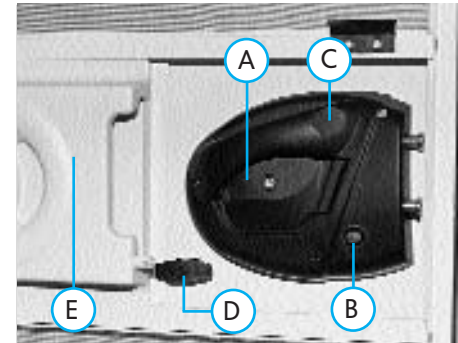


Unlocking the body door

Place the key in the lock and turn to the right until the lock opens, return key to original position and remove. Unlatch the door by pulling back the handle and pressing against the door at the same time. Then open the door. Do not try to open the door from the inside **and** the outside **at the same time**.

Opening and closing the body door from the inside

To open the door, pull handle A. To lock the door, press knob B. To close the door, pull on handle C, until it



latches in the second position.

The insect curtain door is secured by toggle D on the body door. If you want to use the insect curtain separately, turn toggle D until it is in the vertical position. In order to ensure effective protection against insects you should keep the curtain closed when the body door is open.

DOORS & WINDOWS

Locks for outside storage boxes



The outside storage boxes are all supplied with identical locks.

Unlocking the flap

Insert the key in the lock and turn to the right until the lock opens. Return the key to the original position and retract. Open the flap by pulling the handle.

Locking the flap

Insert the key in the lock and turn to the left until it locks. Return the key to the original position and retract.



Caution

Before starting your journey check that all outside flaps are closed and locked.

Entry



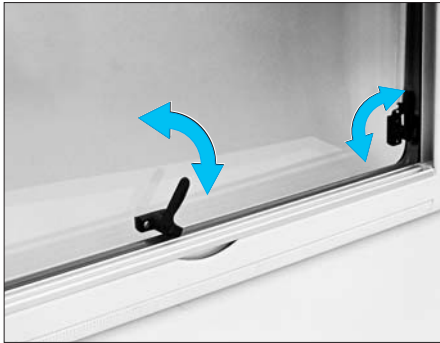
Electrically-operated entry step

The step can be extended or retracted by means of the switch in the entrance area.

Caution

Make sure that the step is always retracted during travel. When the ignition is switched on a warning lamp lights up in the instrument panel if the step is not retracted.

Opening windows



Open and close windows

In order to open the window, unlock the hook by pushing the locking button. The hooks at the side have to be horizontal, the hook on the lower side of the window must be vertical. The window is now open and can be latched into a variety of positions. In order to release the catch, lift the window slightly.

Note

In order to avoid damage, windows must not be open during travel. Please note the instructions regarding vehicle care (9-1).

In extremely humid conditions, the space between the panes may mist up. This disappears again in dry weather.

Shade and insect blinds



All windows are provided with a shade and insect blind. The illustration shows both blinds in half-open position. Both blinds can be pushed up and down together or separately.

Shade blind

The shade blind is pulled from the bottom to the top.

The blind is adjustable and can be fixed in various positions.

Insect blind

Pull the insect blind from the top to the bottom.

The handle is hooked into the handle of the shade blind and can be fixed in any position **together with the shade blind**.

Caution

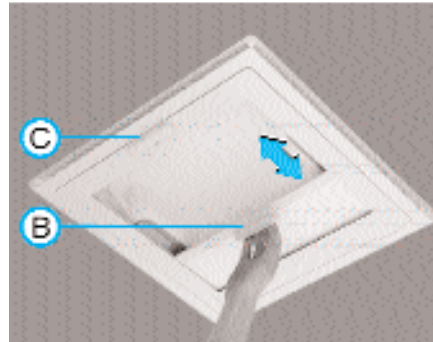
Always pull up the shade blind completely before loosening the connection between insect and shade blind. This prevents the insect blind from shooting up in an uncontrolled way, which could cause injury.

No blinds may be closed during travel!

Roof hatch (Bathroom, Ontario 635 LB/GB)



Before opening the roof hatch in the bathroom of the Ontario LB/GB, first open the insect grille. In order to push up (and close) the hatch, handle lock A must be pressed in. The roof hatch can be closed at each side. The insect grille can be removed for cleaning. Pull down grille and pull off.



Shade blind

To darken the room, hook blind B into the holder on the handle of frame C.

Notes

- In order to ensure a sufficient supply of oxygen at all times, your mobile home is supplied with automatic ventilation. However, in order to avoid condensation, it is important to air the inside of the vehicle and living space at regular intervals.

- Air your mobile home in the summer in order to avoid build-up of heat.
- Free the roof hatch of snow in winter in order to prevent water entering through the ventilation grille.
- Roof hatches must be closed during travel in order to prevent damage.

Heki 3 lift and tilt hatch



Opening and closing pane

When winding the handle to open, only wind until resistance can be felt. The angle of opening is max. 70°. When winding the handle to close, turn a further 2-3 times through a complete rotation (when the glass roof is already closed) in order to lock completely. Check lock by attempting to raise by hand.

Operation of blind

Closing: Take recess of finishing bar (without rocker/shade) and latch into opposite finishing bar with rocker.

Opening: Push joined finishing bars into the shade position. Press the rocker and push back the blind with the other hand (do not leave go of shade).

Adjustment: Push joined finishing bars into the desired position.

Caution

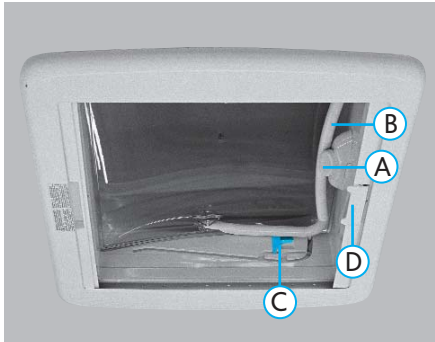
In strong sunlight the shade blind may only be closed 2/3 (plastic parts may be damaged if heat builds up between the blind and the glass).

Blinds may not be closed during travel!

Safety instructions

- Do not step on the acrylic glass
- Close the hatch completely before starting your journey
- Close the hatch before leaving the vehicle (risk of burglary or rain)
- Do not open in strong winds or rain
- Before opening, remove ice, snow leaves or any other similar items
- Do not use pressure washers, solvents or cleaning materials containing alcohol.

Mini lift and tilt roof hatch



Opening and closing

To open the mini hatch, first press button A, in order to free the bar. Pushing bar B allows the hatch to be opened in three positions. In the central position the bar can be fixed with slider C.

To lock the hatch securely in the driving or rest position, the bar must latch in behind button A.

Operation of blind / insect grille

The mini hatch has a shade blind and an insect grille. In order to darken, take the closing bar of the blind and allow it to latch in the opposite bar of the insect grille. Now blind and insect grille can be brought into any desired intermediate position.

To open, push the joined bars in the shade direction. Separate the bars by pushing rocker D with one hand and pushing the blind back with the other hand. Do not allow the blind to shoot back uncontrolled.

Safety instructions

- Do not step on the acrylic glass
- Close the hatch completely before starting your journey
- Close the hatch before leaving the vehicle (risk of burglary or rain)
- Do not open in strong winds or rain
- Before opening, remove ice, snow leaves or any other similar items

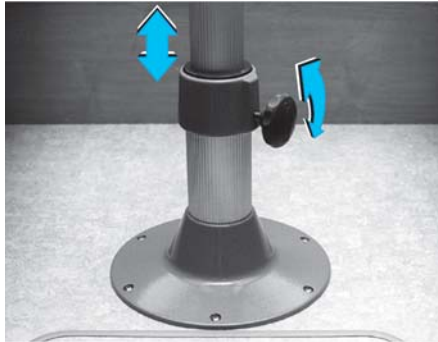
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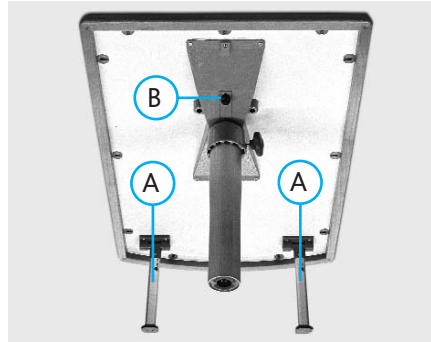
Blinds may not be closed during travel!

Table in the rear seating group



Adjusting the table height

Loosen the knurled screw on the column and push strongly where the pedestal joints the hand, are the bearings are off-entre. Hold the table at the desired height and close the screw. Please note that the toothing latches when the screw is fully inserted.

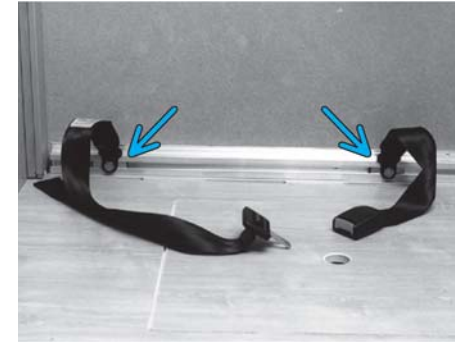


The tabletop must be supported with folding feet A if it is used as part of the bed. A gas pressure spring in the column automatically returns the tabletop to its original position after release.

Dismantle Tabletop

The table can be rotated or completely removed from the column by loosening screw B.

Safety belts in the rear



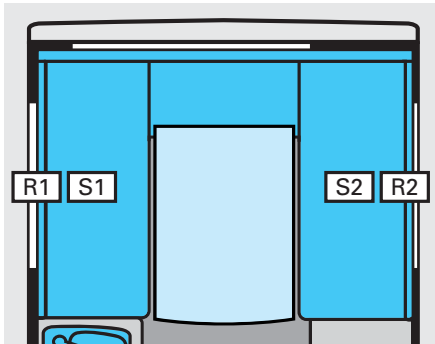
The safety belts in the rear seating group are fixed to a rail on the side walls under the upholstery.

Note

A maximum of two pairs of belts can be installed on each bench. Use an authorised installer.

Sleeping arrangements in the Karmann mobile home

Alcove

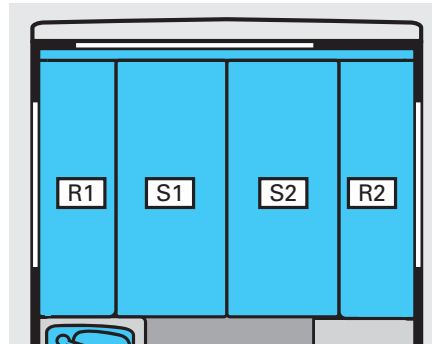


Rearrangement of rear seating group for sleeping purposes.

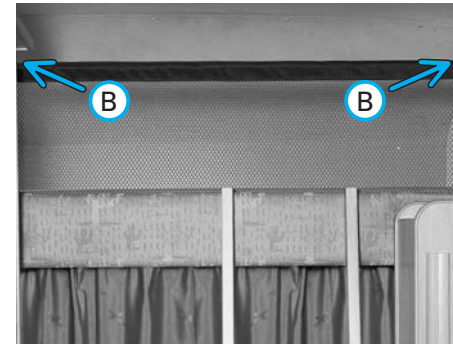
Unlock the table supports A (see Page 4-2) on the underside of the table by pulling them to the right and fold them down.

Lower the tabletop to the level of the benches as described in the previous pages.

The seat cushions (S1,S2) of the side benches are pulled onto the tabletop. use the backrests of the side benches (R1,R2) to fill in the remaining space.



Carry out the steps in reverse order to reinstate the seating group.



Alcove ladder

The bed in the alcove is reached via the ladder.

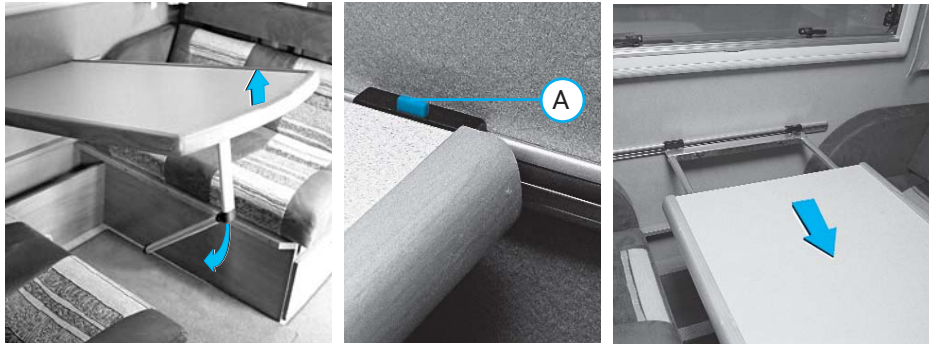
Child safety in the alcove

The child safety anti-fall barriers, to be used for example while children are asleep, is under the mattress in the alcove. They are simple inserted into holder B on both sides.

Note

The ladder must be secured with the straps during travel. The straps are in the alcove on the inside of the bed edge.

Table in seating group



Lower tabletop

Lift the table slightly at the front edge. Pull the table leg downwards and hinge it backwards. Then lift the tabletop out of the guide rail and lay it on the bench rails. In order to return the table to its original position, click it into the guide rail and hinge the table leg down.

Caution

Make sure that the table is correctly clicked in. If so, red knob A projects.

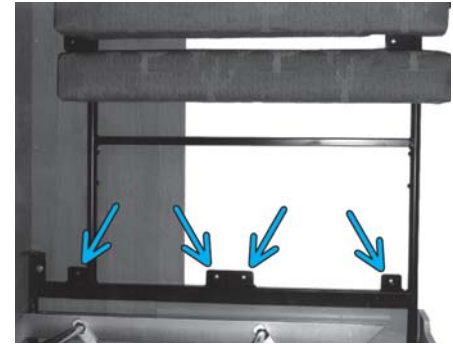
Extending tabletop

The Ontario 635 has an extending tabletop in the found seating group. In order to pull out the table, lift the tabletop slightly and pull it back to the stop. The extra leaf for the table is on the floor of the wardrobe.

Caution

Push in the table during travel and secure the extra leaf in the holder in the wardrobe.

Safety belts in the seating group



The seating group is fitted with two three-point automatic seat belts as standard, facing in the direction of travel. Further automatic belts (against the direction of travel) may be purchased as optional extras. Lap belts can be purchased as optional extras to be used against the direction of travel.

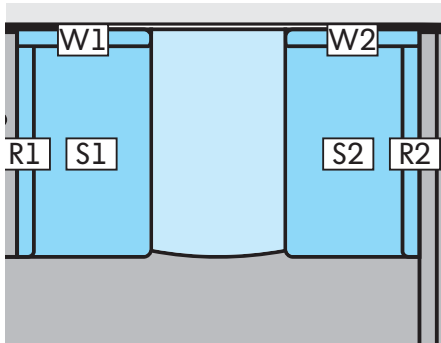
Note

Belts built in subsequently may only be fixed at the points provided on the benches. A maximum of two complete belts can be installed at each bench.

Installation should be carried out by an approved dealer.

FURNITURE Ontario 635 (SIDE SEATING GROUP)

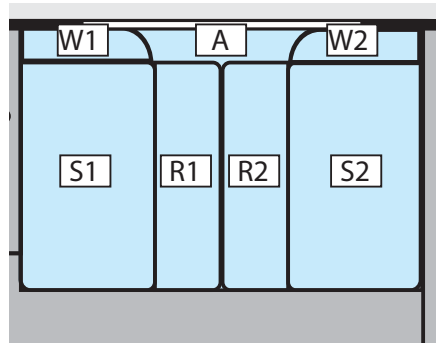
Sleeping in the Karmann mobile home



Rearrangement of the seating group for sleeping

Lower the tabletop to the level of the benches as described on the previous page.

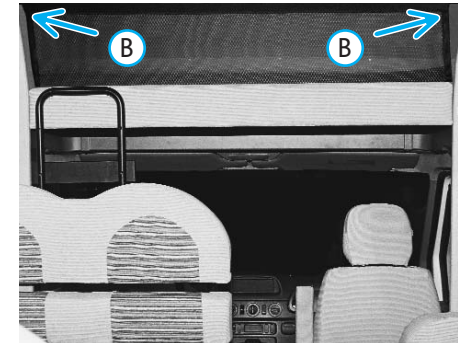
Loosen and remove the backrest cushions (R1+R2). Pull the seat cushions forward (S1+S2). Lower wall cushions (W1+W2). Add the cushion in the alcove (A) into the remaining gap in the wall. Fill the remaining surface on the tabletop with the backrest cushions.



In order to return to the seating group, carry out the steps in reverse order.

A bed widener is available for Model 635 LS (optional extra) which enables the entire width of the interior to be used for lying.

Alcove



Alcove ladder

The bed in the alcove is reached via the ladder.

Child safety in the alcove

The child safety anti-fall barriers, to be used for example while children are asleep, is under the mattress in the alcove. They are simply inserted into holder B on both sides.

Note

The ladder must be secured with the straps during travel. The straps are in the alcove on the inside of the bed edge.

Round seating group (635 LS)



Rearrangement of the seating group
Side seating group and lengthways bench of the Ontario 635 LS can be extended to form a round seating unit. Remove the seat cushion of the lengthways bench. Take the seat plank out of wardrobe and put it between side seating group and lengthways bench. The reinforced side of the seat plank is located at the lengthways bench. Pull the cushion of the side seating bench about 5 cm onto seat plank.



The backrest net for the back cushion is located under the mattress in the alcove or in the wardrobe. Click the lower rod into the provided clips. Hang the other rod into the upper holders. Complete the round seating unit with the additional cushions.



Cupboards



Pushlock

All top and bottom cupboards are provided with pushlocks which prevent the cupboards from opening of their own accord during the journey.

Locking

Close the cupboard flaps and drawers and press the locking knob inwards. Make sure that the knob remains in the pushed-in position: the pushlock is then locked.

Opening

Press the locking knob in order to open the cupboard flaps and drawers. The knob springs outwards and the flaps and drawers can be opened.

Caution

Before starting each journey made sure that all flaps and drawers are closed and locked. Secure the items stored in cupboards and drawers against slipping in order to avoid damage.

Gas Supply

Gas cylinder box

You will find the position of the relevant gas cylinder box on the equipment pages from 1-1. The gas cylinder box accommodates two 11 kg gas cylinders. Both gas cylinders must always be secured by a fastening strap to prevent twisting. The pressure controller must be connected to the cylinder (left-hand thread) in such a way that there is no tension or buckling in the connection hose. Where energy is to be supplied in the form of gas, open the cylinder. If the gas in one cylinder has been used up, connect the other cylinder manually.

Duomatic L Plus (optional)

The Duomatic L Plus automatically switches to a reserve cylinder as soon as the operating cylinder is empty. The Duomatic consists of a central controller and a switchover controller on the gas cylinders and a control element in the body. This is located next to the monitoring panel. The knob on the switch-over controller determines which cylinder is operative and which is in reserve.

The installation is started up by means of the rocker switch on the control element. The installation is ready for operation when the switch is in the "down" position. On the control element two lamps indicate whether the corresponding gas cylinders contain any gas. The lamp goes out when the gas cylinder is empty. When the switch is in the "up" position, the installation goes into winter mode: the gas pressure controllers are heated in addition. When the switch is in the central position the installation is switched

off, but it is still under pressure. The gas supply is isolated mechanically only by means of the shut-off valves of the cylinders.

Note

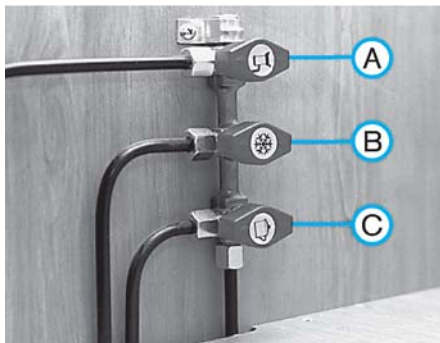
The gas cylinders are not supplied with the vehicle!

The commercially available red gas cylinders can only be filled by your local gas dealer. The commercially available grey gas cylinders can be filled or exchanged throughout Europe. Sometimes a gas test certificate, attached to the vehicle, is demanded. You can present this to your gas supplier.

Caution

In the case of accidents or malfunctions you must also consult the operating instructions from the various equipment manufacturers. You will find further safety instructions on the following page.

Gas Supply



Gas distributor block

The gas distributor block is located, depending on the layout, in the wardrobe (600 H), the kitchen block (635 LS), under the wardrobe (635 LB/GB). Each consumer has its own fast-acting closure valve there which opens or closes the gas supply. The valves are marked with pictograms on the knob.

A = Heating

B = Refrigerator

C = Gas cooker

Where the gas distributor is installed in vertical position (for example see

picture), the knobs are open when they are in the horizontal position; where the distributor is installed horizontally, they are open in vertical position. All gas devices are doubly secured. Please also note the attached operating instructions.

If you do not use your mobile home for several days, you should always close your gas cylinders.

The following safety instructions must be followed:

- No modifications may be made to the gas installation.
- The system may under no circumstances be connected to the municipal or long-distance gas mains.
- Every time the gas installation screw connections have been opened and every two years, a sealing and performance test must be conducted on the installation by authorised, skilled personnel.

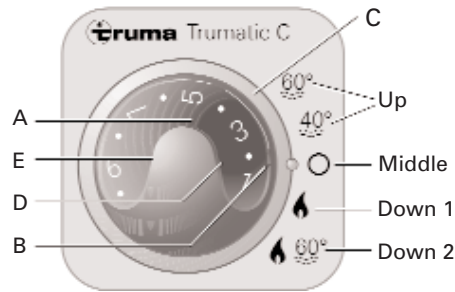
- The gas devices may be operated with propane gas throughout the year, but butane does not become gaseous below 0° C!
- The gas hose between the pressure controller and the gas installation must be checked regularly. If there is any porosity or an actual leak, it must be replaced immediately.
- The new hose must be in accordance with the standard printed on the old hose.
- The forced ventilation of the gas cylinder box may not be blocked (e.g. by slush, cleaning rags etc.) to ensure that the gas can escape if there is a leak.
- The forced ventilation must be inspected at regular intervals!

Heating and Hot Water Supply

The Trumatic heating system in your Karmann Mobile Home is equipped in addition with an integrated 12 ltr. Boiler to supply the bathroom and the kitchen with hot water. The combination unit is located under the wardrobe (600 H) and under the bed (635 LB/GB). In the 635 LS the combination unit is accessible from outside above the left rear wheel. The control element is mounted above the body door. The warmed heating air is distributed throughout the living room by means of a circulation fan.

In **summer mode** (water heating without room heating) the service water is heated up on the lowest burner stage. Once the water temperature set has been reached, the burner switches off. The yellow lamp (E) goes out.

In **winter mode** the unit determines automatically through the thermostat which burner stage is needed. Once the desired temperature has been reached:



- with the switch at **Down 1**, the heating switches off regardless of the water temperature, and with the boiler full the water is automatically also heated, or
- with the switch at **Down 2**, the hot air fan of the heating switches off and the content of the boiler is heated up to 60°C at the lowest burner stage.

Control element and modes of operation

A = Knob for room temperature
When the unit is switched on the green pilot light (B) of the knob must light up. If the light does not light up, check the fuse III on the control panel (p. 6-1).

C = Knob with five positions

- Up = Boiler (summer mode, temperature 60°C or 40°C)
- Middle = Off
- Down 1 = Heating + Boiler (winter mode, without hot water requirement)
- Down 2 = Heating + Boiler (winter mode, with hot water requirements, 60°C)

D = Red pilot light "Fault"
Indicates a fault in the gas or power supply. In such a case consult the fault table (see p. 11-2) or the attached operating instructions of the combination unit.

Heating and Hot Water Supply

E = Yellow pilot light "Boiler heat-up phase"

Lights up during the heating-up phase of the boiler. When the water or air temperature set has been reached the light goes off.

Start-up of the heating and boiler:

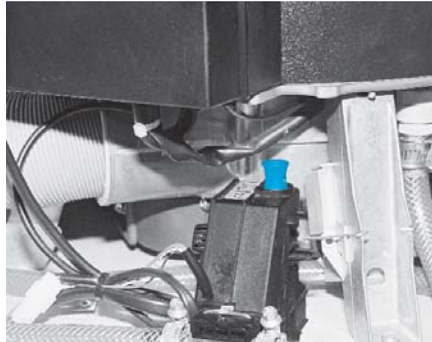
1. Switch on power supply at control panel (p. 6-1).
2. Open main valve on gas cylinder and shut-off valve (p. 5-2).
3. Set desired temperature stage at knob A.
4. Set knob C to desired mode of operation.

Switching off after extended shut-down:

1. Bring knob C to the middle position.
2. Drain boiler.
3. Close gas valves.

Note

Note also the attached original operating instructions.



Safety/drain valve with antifreeze

The safety/drain valve is mounted on the floor in front of the boiler.

When the button is out the valve is closed. To drain the boiler, press the button in.

Note

The valve only works when the power supply is guaranteed. If the body battery is disconnected or discharged, the valve will open and the boiler will drain.

At temperatures below 3°C the antifreeze safeguard will drain the boiler automatically at the drain valve to prevent any frost damage to the unit.

If the temperature drops below the response value during operation, turn the knob C to on the control element to winter mode (down) and close the valve by pulling the button out. The valve will only close from an ambient temperature of 8°C.

Filling the boiler

1. Pull the button on the safety valve out. At temperatures below 8°C, switch on the heating first so that the valve will not open.
2. Switch on water pump at control panel (p. 6-1).
3. Set single-lever mixer tap in the bathroom or kitchen to "Hot" and leave open until the water flows in a powerful stream.

Note

When filling the boiler, take care to ensure that the drain valve for fresh water pipes is closed (p. 7-2).

Heating and Hot Water Supply

Draining the boiler

1. Switch off the water pump (p. 6-1).
2. Open the hot water taps in the kitchen and bathroom.
3. Push button on safety valve in (p. 5-4).

General instructions

- Check that the water discharge of the boiler is not obstructed by slush or similar, thus ensuring complete drainage.
- Hot water should not be used as drinking water.
- The boiler can be descaled using vinegar. When you have given the vinegar a certain time to act, rinse the boiler through with fresh water.
- n The manufacturer recommends "Certisil-Argento" for disinfection purposes.

Safety instructions

- Do not modify the heating system in any way. Repairs and maintenance must be carried out by a specialist.

- Every two years the installation is subject to a mandatory inspection by an authorised inspector (TÜV, DEKRA, DVFG). You as the owner are responsible for ensuring that the inspection is performed within the mandatory period.
- The heating may not be started up when the mobile home is being fuelled or is standing in an enclosed space.
- The hot air outlets of the heating system may not be blocked by items of luggage.
- The mobile home's forced ventilation may not be closed off.

You will find further instructions in the attached operating instructions from the manufacturer.

Caution

The waste gas flue may not be sealed off by doors or flaps and must kept be free of snow and dirt.

Gas cooker



The gas cooker is equipped with a cover plate of safety glass. To prevent any damage to the glass plate never operate the gas cooker with the plate down and close the glass plate before every trip.

Starting up the gas cooker

Before cooking you must first open the main shut-off valve on the gas cylinder (p. 5-1) and the shut-off valve (p. 5-2). Open the glass plate in order to cook.

Igniting the cooking rings

- Turn the knob for the desired cooking ring in anticlockwise direction (to the High position).
- Ignite the gas from the side at the burner.
- Keep the knob pressed for about 10 seconds when the flame at the cooking ring is burning in order to override the ignition safeguard temporarily. If the knob is released too early, the flame will go out. It can then be re-ignited immediately.
- If the flame at the cooking ring is still burning when you release the knob, you can regulate it with the knob:
 - "big flame" symbol:
high position
 - "small flame" symbol:
low position.

End of cooking

- Turn the knob in clockwise direction (0 position).
- Close shut-off valve (p. 5-1).

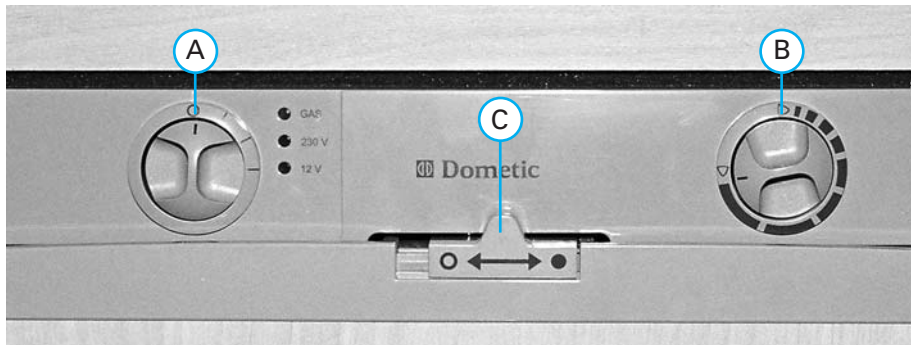
General instructions

- Place saucepans in the middle of the cooking ring.
- Only use saucepans with a maximum diameter of 16-20 cm without a curved base.
- Only use saucepans suitable for a gas cooker.
- Make sure that flames do not come out beyond the edge of the saucepan.
- Where saucepans are hot, make sure there is a minimum distance of 2 cm to the glass cover.

Gas cooker

- Do not keep any inflammable objects near the cooker when it is in use.
- While the cooker is in use, open the roof flap to prevent oxygen deficiency.
- Do not overheat oil or fat – fire hazard!
- Do not allow the handles of saucepans and frying pans beyond the edge of the work-plate to ensure that no one can knock anything off the cooker by mistake.
- Never leave the cooker unsupervised, particularly if children are on board!
- Cooker flames may not be used for heating purposes.
- All gas shut-off valves must be closed if the cooker is not used for an extended period, and invariably before setting out on a trip.

Refrigerator



The refrigerator is designed for operation with 230 V, 12 V or gas. Selection of the mode of operation and cooling capacity takes place on the control panel.

- A – Energy selector switch
- B – Gas/electro thermostat
- C – Door lock

Gas mode

- Open main shut-off valve (p. 5-1) and the shut-off valve in the body (page 5-2).

- Set the energy selector switch A to gas mode.
- Turn the knob B in clockwise direction as far as it will go.
- Ignition is automatic. When the "Gas" indicator lights up and there is a ticking noise, this shows that ignition sparks are being generated. After successful ignition the noise will stop.
- To switch off gas mode (complete shut-down) set the energy selector switch A to the vertical position 0.

230 V mode

- Set the energy selector switch to mains operation (230V).
- Make sure you only select this operating mode when the power supply matches that given for the refrigerator; otherwise the unit may be damaged.

12 V mode

- Set the energy selector switch A to 12 V mode.
- 12 V mode is only possible when the mobile home is travelling; this prevents excessively fast discharge of the battery.

Automatic mode – AES (optional)

In the AES version the refrigerator has an automatic selection facility. The unit is equipped in addition with an automatic function which chooses autonomously between different kinds of energy. To achieve this set the switch A to "Auto". The electronically selected type of energy is indicated. You can switch to manual mode at any time.

Refrigerator

Temperature control

The refrigerator needs a few hours to achieve its normal operating temperature. When the refrigerator is full the cooling time is longer.

- In 230 V mode knob B is used for control purposes.
Once operating temperature has been reached, the controller can be turned back to a middle position.
- In gas mode knob B is also turned back to a middle position after operating temperature has been reached.

Door lock

To prevent the refrigerator door from being opened during travel, it is fitted with an interlock (C). The picture shows the door when locked. To open, slide the lock to the left. If the refrigerator is taken out of service for an extended period, open the door a little way and place the interlock switch in the middle position. This will keep the door ajar to prevent the formation of mould.

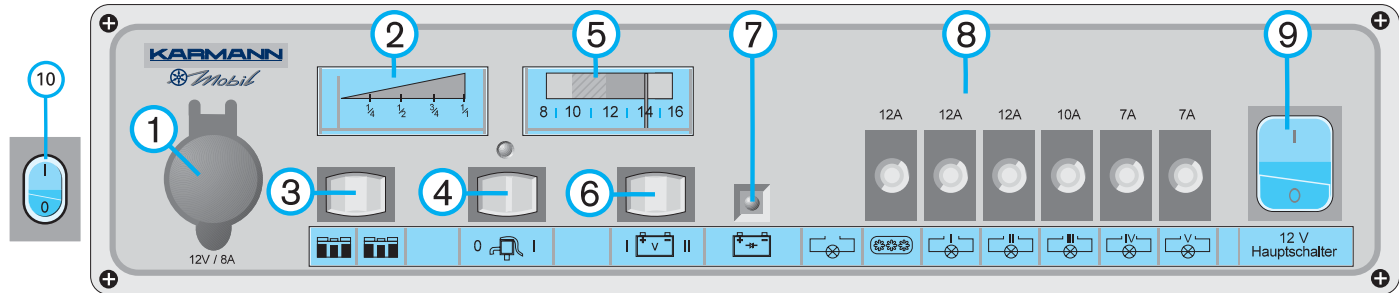
General instructions

- Where possible, use precooled foods.
- Start the refrigerator up a few hours before you start your journey to get it down to operating temperature.
- Food and drinks should only be kept in tightly sealed containers in the cooling compartment. Evaporating liquid will help cause the cooling ribs to ice up.
- You can prevent any knocking noises during travel by stuffing screwed-up paper between the containers.

You will find instructions for cleaning the refrigerator in our "care tips" on p. 9-2.

Further details can be found in the operating instructions accompanying the refrigerator.

Monitoring panel



The monitoring panel is located in the interior above the body door. It controls all control and monitoring elements of the 12 V power supply and gives information at all times on the condition of the batteries, fresh water, waste water tank, charging activity etc.

1 – 12 V standard socket

2 – Level indicator for fresh water and waste water

You can switch the **rocker switch 3** as required to indicate the fresh water level (left position) and waste water level (right position).

4 – Water pump main switch

After the 12-volt main switch (9) has been actuated, the water pump main switch can switch on the water pump.

5 – Charging level indicator

The charging level indicator shows, as required, the charging level of the vehicle battery and that of the body battery.

Rocker switch 6 to the left – vehicle battery, rocker switch 6 to the right – body battery.

7 – Pilot light for charger

When 230 V are connected, the pilot light lights up during the charging operation until the battery is fully charged.

Monitoring panel

8 – Automatic fuses for power circuits

*** = Refrigerator

I = Heating

II = Free (additional equipment)

III = 12 V (boiler, water pump, electrical ignition of refrigerator, panel socket)

IV = Ceiling lights, wet cell light, alcove light

V = Light for seats, cooking cell light

9 – Main switch

To switch off the whole 12-volt living part on-board supply system. For safety always set the main switch on the control panel to "Off" when leaving the vehicle.

10 – Switch for electrical heating of waste water tank (not with model 600 H)

When the pilot light of the switch lights up, the waste water tank is being heated up. The electric heating works with thermostat control regardless of whether the main switch is on or off.

Automatic fuse 230 V



Safeguards the supply of 230 V (see equipment overview).

It is located:

- under the seat bench (600 H/635 LS),
- in the wardrobe (635 LB/GB).

Switch up: Power circuit closed

Switch down: Fault. If repair is necessary, see annex to operating instructions.

Caution

Always make sure that the external connection is 220-230 V and is fitted externally with an earth leakage circuit breaker.

EVS charger & battery



The EVS charger (suitable for gel-type battery) is located under or behind the passenger seat, according to the layout.

When the engine is running, the starter and body battery are charged in parallel by the charger. When the engine has been switched off, the battery isolating relay isolates the starter battery from the body battery. With a connection to the 230 V external supply the body battery is always charged first.

The refrigerator relay isolates the refrigerator from the body battery once the engine has been switched off.

A 12 V supply to the refrigerator is therefore only possible when the vehicle is travelling. This prevents the body battery from being discharged by the refrigerator during standstills.

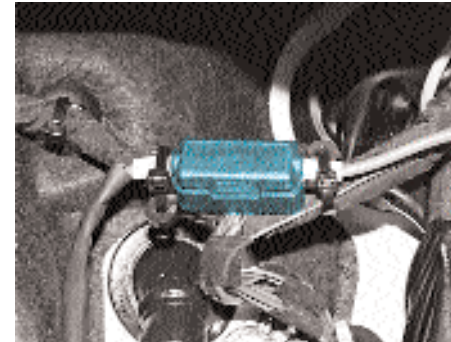
Battery

The body battery is charged by the EVS charger. The best charging capacity is obtained when the body battery is charged for at least 24 hours. If 230V is not connected, care must be taken to ensure that the body battery is not exhausted. This may cause permanent damage; the battery will then not have its full capacity. You should therefore check the optical battery warning indicator on the control panel (p. 6-1). The voltage may not fall into the red zone (10 volt). When the vehicle is temporarily laid up for the winter, pay attention to silent consumers, such as the stand-by functions of the radio. Note the instructions for winter operation on pages 10-1/10-2.

Caution

A single exhaustion of the body battery may damage it.

Fuse for starter battery



The starter battery in the engine compartment is protected by a fuse from any overload due to excessively powerful consumers (e.g. refrigerator, 12 V mode). If the body battery is not charged during travel, check this fuse as well and, if necessary, replace it.

Halogen lamps



Built-in halogen spots

The halogen spots are fitted with halogen bulbs of different power ratings.

- To change the bulb, first switch the power supply off.
- The lamp glass is held by a clamping ring. With a small screwdriver, press this ring together unit it can be levered over the retaining lug.
- Pull the halogen bulb out of its holder.
- When installing, proceed in reverse order.



Alcove light

- To change the bulb, switch off the power supply.
- Pull the head off the swan-neck and the halogen bulb out its holder.
- When installing proceed in the reverse order.

Note

Do not touch the glass body of the new bulb with unprotected fingers because any fingerprints left on it can considerably shorten its service life.

Caution

Do not turn the alcove light towards the roof. Keep a safe distance of 10 cm between the light and all other objects, such as bedding, for example.

Avoid creating hot spots which can be caused by leaving top cupboard doors near halogen spots open. Too-long exposure to heat can lead to discoloration of the door surfaces.

Rating of individual lamps:

Built-in light:	12 v / 10 W
Surface-mounted light:	12 v / 10 W
Wardrobe light:	12 v / 5 W
Alcove light:	12 v / 10 W

Fresh water supply

Caution

When the vehicle is being filled with fuel by people who do not know the mobile home well, make sure that the tank openings for fuel and water are not confused.



The water supply of your Karmann mobile home is by means of the built-in water tank. An electric pump pumps the water to the consumers in kitchen and bathroom.

Drinking water filler opening

The fresh water tank is filled using the lockable tank cap on the driver's side of your mobile home. Close all discharge valves and taps etc. beforehand.



Ontario 600 H

Fresh water tank

The fresh water tank is under the left bench of the rear seating group (600H) or under both benches of the side seating group (635 LS, second tank optional). The relevant level of the fresh water can be read at the control panel (Page 6-1).

In order to clean the tank, empty the tank and rotate the cleaning lid under the bench to open.

Note

The fresh water pump is started up by means of an automatic pressure switch. the drop in pressure when the tank is emptied switches on the pump.



Ontario 635 LS, LB/GB

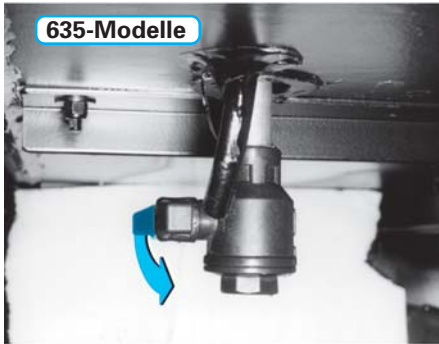
Therefore turn the pump switch off at the control panel (Page 6-1), so that the pump does not run dry when the tank is empty.

Caution

Do not use generally-available cleaning materials or fluids to clean the tank. Use special anti-bacterial cleaner from a specialist dealer. Note the instructions for use of the selected cleaner.

WATER SUPPLY AND DISPOSAL

Fresh water supply

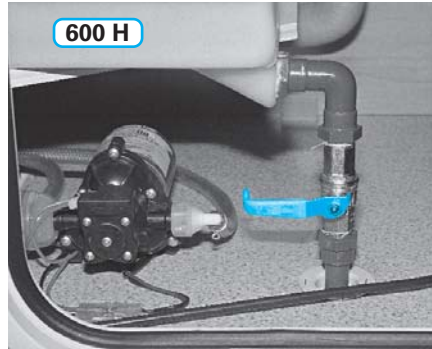


Discharge tap for fresh water

The discharge tap for fresh water is in the outer storage box on the driver's side (600H) or under the floor of the side seating group (635 LS, LB/GB). Models LB/GB (LS optional) each have two tanks with separate discharge taps.

Pump for fresh water system

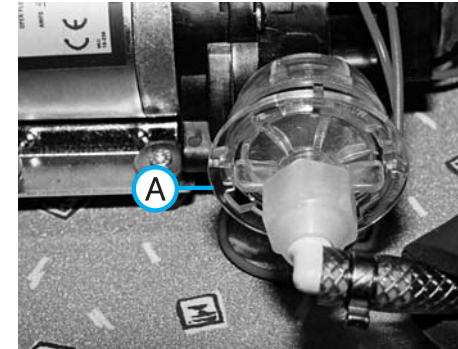
The Ontario has a pump which supplies the necessary pressure to the fresh water system. In the Ontario 600H this pump is in the storage compartment on the driver's side, in the 635 LS in the kitchen under the



sink, and in the Ontario 635 LB/GB on the left in the storage compartment. Filter (A) should be cleaned at least once a year under running water. Discharge the fresh water from the system before cleaning the filter.

Notes

- Empty the fresh water tank as described above.
- Open all taps into the central position between "hot" and "cold" and pump out the water remaining in the pipes. Then switch off the pump and separate the pipe system from the inlet and outlet of the



pump (inlet connection: double wing rotary connector piece / discharge connection: stainless steel clip).

- **Caution:** Lay down a cloth in the region of the pump. Switch the pump on again and empty the pump itself.
- Do not reattach the pipes to the pump while it is decommissioned.
- All taps should remain open in order to prevent damage.
- In models LB/GB the pump is on the left in the storage compartment, the lid of the larger compartment must be removed in order to service the pump.

Sink with mixer tap

Notes

- Only use clean water in order to fill the fresh water tank.
- Before you can draw water, you must first switch on the current supply of the pump at the control panel.
- Never operate the pump with an empty fresh water tank, as this can damage the pump.
- As water which has stood in the tank and the pipelines becomes undrinkable after a short time, you should rinse through all pipes with fresh water before each commissioning.
- In order to do this, open the taps in the bathroom and kitchen.
- While your mobile home is in operation the water supply equipment is well protected against freezing. When the vehicle is stationary without heating, the entire water system should be emptied if there is any danger of freezing (see Page 10-2).



The sink of your Karmann mobile home is supplied with a mixer tap and a cover, which then extends the working and storage area in your kitchen.

The mixer tap functions like a normal household tap. However, first make sure that there is water in the fresh water tank (see control panel, Page 6-1) and that the pump is switched on.

Instructions for care of your sink can be read on Page 9-2.

Caution

Only push the tap/spout up or down!

Do not try to turn it to the left or right (danger of breakage).

WATER SUPPLY AND DISPOSAL

Washbasin with shower



The washbasin of your Karmann mobile home is supplied with a mixer tap for regulation of cold and hot water and with a shower head and hose.

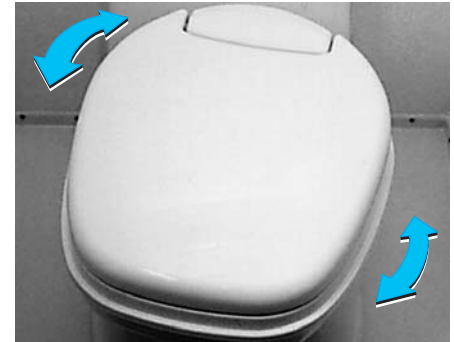
To take a shower, pull the shower head out of its holder in the washbasin and fix it to the holder on the wall. The water spray can be changed by rotating the shower head. The length of the hose is such that the shower head can reach outside the window, so that a shower can be taken outside if desired.

Notes

- The water pump must not be allowed to run dry, as otherwise the pump may be damaged.
- Check the level of the waste water tank before taking a shower in order to avoid overflowing.

Instructions for care of your bathroom can be read on Page 9-2.

Toilet



In order to gain more room in the bathroom, the toilet can be rotated. The toilet is supplied with a removable sewage tank and an electric flush.

The water for flushing the toilet is taken from the fresh water tank, which means that the contents of the tank is reduced with each flush!

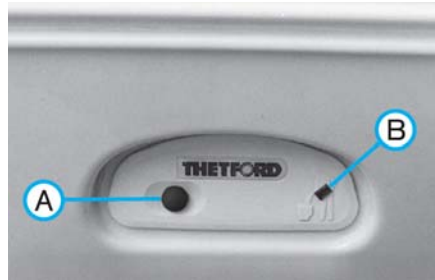
Before using the toilet for the first time, the sewage tank must be filled with a suitable chemical.

Toilet

Remove the sewage tank (see next page) and place it upright on the ground. Swing the emptying nozzle upwards and remove the cap. Use the amount of sanitary chemical recommended by the manufacturer and add enough water until the bottom of the tank is covered. Do not on any account pour the chemical directly into the toilet pan.

🔑 Follow the manufacturer's instructions exactly when using the chemical. Avoid overdosing at all costs, as this could damage the bacteria used in water authority sewage plants.

Close the tank and return it to its holder. If there is water in the fresh water tank, the toilet can be used.



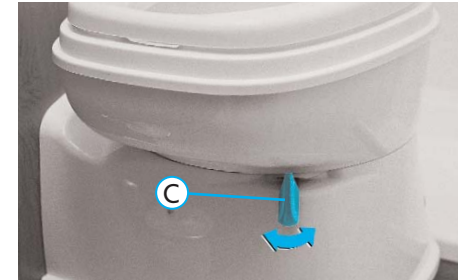
Water flush with fill level indicator

Activate the flush by pushing button A. Water only flows for as long as the button remains pressed.

Before using the toilet, activate the flush briefly in order to allow some water to enter the bowl.

After using, press lever C under the bowl in an anticlockwise direction in order to open the toilet bowl base and operate the flush. Then return the lever to its original position.

The waste is collected in the sewage tank, which holds 17 litres.



The sewage tank must be emptied when indicator lamp B is illuminated. The tank is then full up to approx. 15 litres. The remaining capacity is sufficient for around 5 flushes.

Notes

- Use original Thetford toilet paper or another fast-dissolving paper. Other papers may damage the mechanism of the sewage tank.
- Only use water and detergent to clean the sanitary equipment. On no account use cleaners which contain vinegar or alcohol.

WATER SUPPLY AND DISPOSAL

Sewage tank



The sewage tank is accessible from the outside.


- To remove and empty the tank press yellow bracket C upwards by the front end and then pull out the tank horizontally using carrier handle H. The tank slider closes automatically.
- Hold the tank vertically downwards while carrying it to a toilet or disposal station.



- Place the tank in an upright position, turn emptying nozzle F to the top and remove the cap.
- To empty, lift the tank at handles D and E.
- Press air intake button G until the tank is empty.

Note

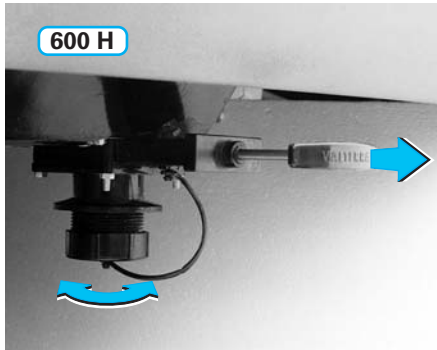
- Only press the emptying button when the emptying nozzle is pointing downwards.
- Clean the tank from the inside and outside after emptying.
- Pour a sanitary chemical into the tank as described on the previous page.
- Screw on the cap and return the emptying nozzle to its original position.
- Then push the tank back into the holder until it clicks into position and then close the disposal flap.

 ***The sewage tank may only be emptied at special disposal stations***

Note

Please read the operating instructions of the toilet manufacturer supplied.

Waste water tank



The waste water tank is under the floor of the body (see equipment overview).

The waste water level is shown on the control panel (Page 6-1).

Before allowing waste water to flow into the tank, please make sure that the discharge slider is closed.

Waste water discharge slider

In the Ontario 600 H the discharge slider is under the body on the driver's side. In the 635 models, the discharge slider is operated with a pull cord. In the 635 LS the cord is in the wardrobe and in the Ontario 635



LB/GB it is on the left side of the vehicle on the floor of the storage compartment.

Note

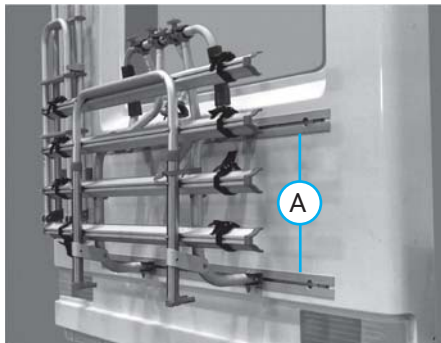
When the heating is on the waste water tank is heated by means of a heat exchanger (600H). The Ontario 645 models are equipped with a heating cartridge.

If there is danger of freezing and the heating is switched off, the waste water tank must be emptied without fail.

♣ Only empty your waste water tank at designated disposal stations or at camping sites which are provided with a suitable sewage disposal plant. Information as to which local authorities or camping sites are provided with suitable equipment can be obtained CIVD documents or camping guides. If no suitable disposal facilities are available, collect the waste water in canisters and dispose of it into the public sewage system.

ACCESSORIES

Carrier rails



Cycle racks

Carrier rails are supplied at the rear of your Karmann mobile home for cycle racks (optional extra).

- For assembly purposes, the fixing points of the rack are simply inserted into the round slots in the rails and pushed into the desired position.
- Then the fixing screws are tightened.

Note

Please note that the bearing strength of carrier rails A is max. 60 kg.

Roof ladder

If the roof ladder is needed, simply pull down the lower section. If not in use, the ladder must always be folded and fixed firmly in position. The roof ladder can be additionally secured with a bicycle lock, for example.

Tools



The tools are under the footwell on the passenger side.

Exterior

Washing

The vehicle can be washed with special vehicle shampoo.

Chemical cleaners, alcohol, glass cleaner or cleaners containing benzene or similar may not be used. The cleaners may not contain any softeners as this can lead to cracks or brittleness. Instead, clean the acrylic windows with water, a clean sponge and a soft cloth. Stickers and window pictures can also damage the windows.

The window seals should not be cleaned with abrasives or other cleaning agents. Only apply talcum powder once a year.

Decorative strips and names or writing

The decorative strips and writing should not be cleaned with high-pressure cleaners or tar removers, as they can become detached or damaged.

Otherwise they can be cleaned in the same way as the rest of the vehicle surface.

Conserving the exterior finish

The same applies to the conservation of the body as to the basic vehicle. Timely conservation makes cleaning easier, as dirt does not adhere so easily. But even if conservation liquid is used regularly for washing, the vehicle should be treated at least twice a year with hard wax polish. At least once a year the glass fibre composite walls of the body should be treated with a polish suitable for gel coat (marine sector) and should then be sealed.

Underfloor protection

Additional underfloor protection is not necessary for the body, as it is provided with a glass fibre surface. As damage to this surface cannot be avoided while driving, the underfloor of the body should be checked and if necessary repaired at regular intervals, preferably during the annual sealing check.

Interior

Floor covering

The floor covering of your Karmann mobile home can be cleaned with a normal household cleaner.

Upholstery and carpets

Upholstery and carpets should be cleaned with special upholstery or carpet cleaner.

Curtains

Do not wash curtains yourself. Have them dry cleaned, as otherwise they can shrink or the fire-resistant treatment may be washed out.

Furniture

All furniture surfaces are plastic-coated. It is possible to clean them with commercially-available cleaning materials.

Cooker, sink and mixer tap

The stainless steel surfaces of sink and gas cooker can be cleaned with commercially-available care and cleaning materials.

When cleaning the gas cooker, ensure that the thermocouples on the burners are not damaged or bent. The gas burners should be cleaned at regular intervals.

Do not use abrasive cleaners on the tap in order to avoid damage to the surface.

Refrigerator

In order to avoid buildup of ice, the refrigerator should be defrosted regularly in accordance with the manufacturer's instructions. In order to avoid damage, defrosting should not be accelerated by means of additional heat, for example a hair dryer. Removal of ice layers with a sharp object can also lead to damage. Water with the addition of a little vinegar is a suitable cleaning solution. If there are longer interruptions to operation, the refrigerator door should remain somewhat open in order to prevent smells and mould.

In winter the air vents of the refrigerator can be protected with

special winter covers.

Bathroom and toilet

The plastic items in the bathroom and toilet may on no account be cleaned with vinegar or cleaners containing alcohol.

Do not use abrasive cleaners. Sand can damage the surface of plastic items. First rinse the washbasin thoroughly with water before cleaning it with a cloth and detergent if necessary.

Further cleaning instructions can be found in the operating instructions of the toilet manufacturer which are included.

Winter operation

Your Karmann mobile home can be used in winter. In order to avoid disturbances to operation, however, you should consider the following points:

■ Fresh and waste water equipment

These also remain functional at temperatures below zero. However, the vehicle and the waste water tank must always be heated by means of the body heating (600H) or the heating cartridge (635 models).

Addition of cooking salt over the sink drain reduces the risk of the waste water slider of icing up.

■ **Butane** does not turn into gas at temperatures below 0°C. Propane is unproblematical in this respect.

■ The **anti-freeze protective device of the heating system** empties the boiler automatically at temperatures of approx. 3°C in the boiler area. If the vehicle is heated, the temperature in the boiler area is

generally higher, however. If the temperature should sink below 3°C, please follow the procedure described with regard to the safety valve on Page 5-4.

■ Note

As the fall in pressure in the fresh water system sets the fresh water pump into circulation through the automatic emptying of the boiler, the entire fresh water supply can be discharged via the boiler. This can cause damage to the pump if it runs dry. Therefore always set the pump or main switch on the control panel to "Off" when leaving the vehicle (Page 6-1).

In winter check after every journey that the **automatic venting system** of the **gas cylinder box** is not blocked by ice or snow.

■ Winter covers are available for the vent openings of the refrigerator with gas operation in winter as an optional extra. The covers may also remain in place during operation in winter.

■ Sufficient ventilation

is particularly important in winter, in order to eliminate the high humidity which arises because of cooking, damp clothes etc. Humidity can also be reduced with a commercial dehumidifier.

■ Free the **roof hatch** regularly of snow in order to free penetration of melting water through the vents.

■ Do not secure your vehicle with the handbrake (danger of freezing). Engage a gear and place wedges under the wheels.

■ A **winter partition** is available to separate the driver's cabin from the rest of the vehicle.

OPERATING INSTRUCTIONS

Immobilisation of the vehicle in winter

- Fill the fuel tank completely with fuel.
 - Charge the body battery and disconnect the terminals, as low consumers, such as the solenoid valve of the fresh water pipelines or continuous stand-by function of the radio (special equipment), can cause the battery to discharge.
 - Empty the fresh water tank and fresh water pipes. (In order to ensure that emptying is complete, the vehicle must stand completely horizontal).
 - Empty the fresh water tank as described on page 7-2.
 - Open all the taps to the central position between "Hot and "Cold" and pump out the water remaining in the pipework system. Isolate the pipework system from the pump at the inlet and outlet connection (inlet-connection: two-wing screw connector piece/outlet connection: stainless steel collar band). Remove the filter.
 - Empty waste water tank.
 - Empty sewage tank.
 - Empty heating/hot water heater by opening the hot water taps in the kitchen and bathroom. The switch at the frost valve of the boiler is set to "0", i.e. the valve is open. This ensures emptying of the boiler.
 - If the body battery is not disconnected, because the vehicle should only be immobilised for a short time, it is absolutely advisable to empty the boiler with the front protection valve in the winter, in order to avoid uncontrolled draining of the system during frosty periods.
- **Note**
 - Lay a cloth under the pump area.
 - Do not reconnect the pipelines to the pump.
 - In order to avoid damage, all taps should remain open.
- Check the state of the battery regularly (must not be below 10 volts).
 - Close the main shutoff valve on the gas cylinder and the shutoff valves on all the other equipment.
 - Slightly open the refrigerator door.

FAULT IDENTIFICATION AND ELIMINATION

Gas installation

The following table shows a list of common faults. If any optional items of equipment show defects (e.g. air conditioning etc.), please consult the operating instructions of the equipment in question.

Fault	Possible cause	Remedy
Smell of gas, usually high gas consumption	Gas system leaking	Open doors and windows and switch off entire gas equipment. Avoid any actions which could cause sparks (e.g. open fires, smoking or switching electrical switches on/off). Contact specialist repair shop and have system checked for leaks.
No gas supply to equipment	Gas bottle valve closed Shutoff valve in supply line closed Outside temperature too low, gas bottles filled with butane Gas equipment faulty	Open gas bottle valve Open shutoff valve In winter always use pure propane gas (operates down to -32°C) Contact specialist repair shop
Gas cooker will not ignite, when button is released, flame goes out.	Ignition safety device defective	Contact specialist repair shop

FAULT IDENTIFICATION AND ELIMINATION

Gas installation

Fault	Possible cause	Remedy
Lack of correct flame formation. e.g. at gas cooker	Gas pressure controller defective	Consult specialist repair shop
When controller set at "small flame", flame extinguishes	Ignition protection sensor incorrectly adjusted	Consult specialist repair shop
Refrigerator fails to work with gas mode	Gas cylinder valve or shut-off valve closed	Open gas supply

Heating/hot water

Fault	Possible cause	Remedy
"Fault" pilot light (red) on Trumatic control element lights up permanently	No gas Air in pipe Protective device defective	See above Switch unit off and switch on again after 10 minutes Consult Truma Service
"Fault" pilot light (red) on Trumatic control element flashing.	Surface-mounted battery too weak	Charge battery Replace if battery defective.

FAULT IDENTIFICATION AND CORRECTION

Heating/hot water

Fault	Possible cause	Remedy
"Operating" (green) lamp at the Trumatic device is not illuminated	Fuse triggered	Contact specialist repair shop
"Operating" (green) lamp at the Trumatic device is not illuminated	Body battery too weak or faulty	Charge or change battery
Frost protection valve has opened and emptied the boiler	Body battery is too weak or faulty Temperature in boiler environment under 3°C	Close valve by hand and charge or change battery Warm up body (the valve can only be closed at 8°C)
Frost protection valve cannot be closed	Body battery is too weak or faulty Frost protection valve faulty	Charge or replace battery Contact specialist repair shop
Water drips from safety/ discharge valve	Water pressure too high	Check pump pressure, max. 2.8 bar
Heating switches to fault mode after longer operating time	Hot air heat exchanger blocked Gas pressure regulator iced up Proportion of butane in gas cylinder too high	Check discharge opening Use De-icer Use propane

FAULT IDENTIFICATION AND CORRECTION

Power supply

Fault	Possible cause	Remedy
<p>Body battery does not supply any voltage</p>	<p>Body battery discharged to low level</p>	<p>If the battery is discharged to low level it is irreparably damaged and must be replaced.</p> <p>When the vehicle is temporarily laid up for the winter, charge the body battery and disconnect the terminals, pay attention to silent consumers, such as the stand-by functions of the radio.</p>
<p>Body battery does not charge during travel</p>	<p>Starter battery fuse defective</p> <p>Connector contacts and connections defective</p> <p>Fuses or relay in battery charger defective</p>	<p>Change fuse</p> <p>Check and correct if necessary</p> <p>Contact specialist repair shop</p>
<p>Body battery does not charge when connected to 230 V network (Charge indicator of 230 V network is via green indicator lamp on control panel).</p>	<p>230 V automatic circuit breaker switched off</p> <p>Starter battery fuse defective</p> <p>Fuses or relay in battery charger defective</p>	<p>Switch on circuit breaker</p> <p>Change fuse</p> <p>Contact specialist repair shop</p>

FAULT IDENTIFICATION AND CORRECTION

Power supply

Defect	Possible cause	Remedy
Body battery does not charge when connected to 230 V network	Battery voltage too low Connector contacts and connections faulty	Charge body battery, start motor and allow to run for approx. 30 seconds. Battery voltage rises over 12 V and charging starts. Check and eliminate fault if necessary
12 V operation of refrigerator not possible during travel	12 V switch on refrigerator off Fuse on control panel triggered Refrigerator or cabling faulty Fuse on starter battery or control panel faulty Relay in charging device faulty Bad electrical contacts (too loose)	Take switch A into 12 V position (Page 5-8) Press in fuse (Page 6-1) Contact specialist workshop Change fuse (Page 6-1, 6-3) Contact specialist workshop or change charger Check and correct fault if necessary
230 V operation of refrigerator not possible	Fuse triggered	Switch on circuit breaker (Page 6-2)

FAULT IDENTIFICATION AND CORRECTION

Water supply

Defect	Possible cause	Remedy
No fresh water	Fresh water tank empty Water pump fuse on control panel triggered Water pump faulty	Fill fresh water tank Push in fuse (Page 6-1) Contact specialist workshop
Water in interior	Pipeline system leaks	Find fault and seal
Fresh water / discharge display on control panel does not function	Connection of control panel and measuring probe interrupted Measuring probe defective Control panel defective Measuring probe dirty because of residues in water	Localise fault and close connection Replace measuring probe Contact specialist workshop Clean measuring probe

Weights

Values in kg	Tech. permitted total weight ¹⁾	Weight in driving condition ²⁾ 95 KW / 115 KW	Loading ³⁾ 95 KW / 115 KW	Permissible front axle load	Permissible rear axle load	Permissible roof load ⁴⁾
Ontario 600 H	3,800 kg ⁵⁾	3,015 kg / 3,045 kg	785 kg / 755 kg	1,750 kg	2,240 kg	150 kg
Ontario 635 LS	3,800 kg ⁵⁾	3,145 kg / 3,175 kg	755 kg / 725 kg	1,750 kg	2,240 kg	150 kg
Ontario 635 LB	3,800 kg ⁵⁾	3,235 kg / 3,265 kg	565 kg / 535 kg	1,750 kg	2,240 kg	150 kg
Ontario 635 GB	3,800 kg ⁵⁾	3,235 kg / 3,265 kg	565 kg / 535 kg	1,750 kg	2,240 kg	150 kg

- 1) The "Technically permissible total weight when loaded" must not ever be exceeded for technical reasons.
- 2) The "Weight in driving condition" corresponds to the weight of the empty vehicle in driving condition, including all series equipment built in at the factory, plus

- 75 kg for the driver along with the following equipment: furl gas and water at 90% each, contents of hot water boiler, cable reel for 230 Volt. Optional equipment is not included in this table.
- 3) The load includes passengers, person equipment and special equipment.

- 4) The roof load is reduced by means of accessories such as air conditioning etc.
- 5) With reduction of load capacity, the technical permissible total weight is reduced to 3,500 kg and the payload is reduced by 300 kg.

Notes

The empty weight is increased for special models and extra equipment - e.g. air conditioning, trailer - and through subsequent installation of accessories, which means that the useful load and its corresponding value are lower.

If heavy loads are carried, they should be placed as low as possible between the axles in the interest of good handling characteristics. The permissible axle loads and the technically permissible overall weight may not be exceeded in any situation. Please also consider that driving characteristics change because of the

loading. Driving style and speed must therefore be adapted.

We reserve the right to a weight variation of + 5%. Different levels of equipment, such as automatic gearbox or four-wheel drive may change the given weights.

TECHNICAL DATA

Dimensions ¹⁾

Values in mm	Ontario 600 H	Ontario 635 LS	Ontario 635 LB/GB
Wheelbase	3,550 mm	3,550 mm	3,550 mm
Length ³⁾	5,980 mm	6,380 mm	6,380 mm
body width	2,260 mm	2,260 mm	2,260 mm
Height ²⁾	2,970 mm	2,970 mm	2,970 mm
Internal body height	1,950 mm	1,950 mm	1,950 mm
Internal body width	2,150 mm	2,150 mm	2,150 mm
Bed dimensions			
Alcove	approx. 2,060 x 1,400 mm	approx. 2,060 x 1,400 mm	approx. 2,060 x 1,400 mm
Side seating group	-	ca. 1,900 x 1,300 mm	approx. 1,900 x 1,300 mm
Long bench seat		approx. 1,900 x 570 mm	-
Rear seating group	approx. 2,080 x 1,470 mm	-	-
Rear bed	-	-	1,970 x 1,340 mm

All other dimensions are stated in the operating instructions of the basic chassis.

1) This information refers to the basic Ontario model. Certain model versions and additional equipment - e.g. different wheel sizes - can cause variations.

2) Without additional carriers for surfboards, kajak etc.
3) Without cycle rack.

Liquid gas supply

2 gas cylindersà 11 kg
 Pressure regulator30 mbar

230 Volt network

Frequency50 Hz
 Consumption
 - Refrigerator.....125 Watt
 - Charge current EVS charging device..
max. 12 A

body battery (gel battery)75 AH (20 h)

Water supply

- Fresh water tank with electric pressure pump and sensor for fresh water level.
 - Discharge valve for fresh water tank
 - Discharge valve for pipelines
- Fresh water tank:
 Ontario 600 H90 litres
 Ontario 635 LB/GB125 litres
 Ontario 635 LS75 litres

Water disposal

- Waste water tank with level sensor
 - Discharge valve under vehicle floor.
- Waste water tank90 litres

Toilet

Sewage tank17 litres
 electric flush

This table gives examples of daily consumption of some consumers.*

Power consumption/ day	Summer operation					Winter operation		
	Output	Current	Operation (h/day)	Output/day	Consumption	Operation (h/day)	Output/day	Consumption
Halogen spot	10 W	0.8 A	2 h	20 W	1.6 Ah	4 h	40 W	3.2 Ah
Bathroom light	11 W	0.9 A	1 h	11 W	0.9 Ah	2 h	22 W	1.8 Ah
Alcove light	10 W	0.8 A	1 h	10 W	0.8 Ah	1 h	10 W	0.8 Ah
Heating/ hot water	11 W	0.9 A	8 h	11 W	7.2 Ah	16 h	176 W	14.4 Ah

*When calculating consumption, please also think of silent consumers such as the frost protection valve and quiescent current.

TECHNICAL DATA

Gas consumption/ day <small>(2 gas cylinders, 11 kg each)</small>	Summer			Winter	
Consumer	Consumption	Operating hours	Gas consumption/ day	Operating hours	Gas consumption/ day
Refrigerator	11 kg/h	24	260g	24	260g
Hot water/heating combi boiler	170 g/h at 2000 W nominal output	8	1360g	16	2720g
	285 g/h at 3400 W nominal heat output	8	2280g	16	4560g
Cooker	approx. 73 - 124 g/h (per burner)	1	146 - 248g	1	146 - 248g

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Manufactured in Germany.

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