

User guide

Dear Customer,

While warmly welcoming you to the big Laika family, we congratulate you on the preference you have given to our brand. You have chosen elegance, prestige and quality. Laika vehicles are technologically advanced and extremely reliable products: a sure investment over the years.

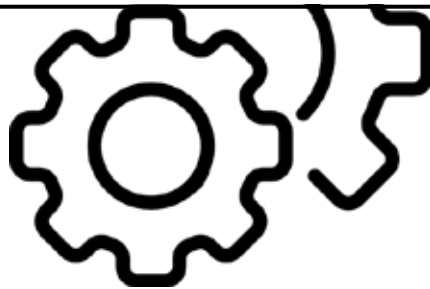
This handbook, which you should read in your own interest and keep for future reference, is intended to give you all the information you may need for the best use of your new recreational vehicle and for correct maintenance. We strongly advise you to always have any maintenance or repair operations carried out by Laika dealers who can guarantee perfect service thanks to skilled personnel and continuing technical up-dating. In all events, please do not hesitate to call our Customer Service Dept. for any information you may need.

We would be very happy to receive your opinions and suggestions which, coming from the 'field', are highly precious to us in perfecting our product and fully meeting every kind of requirement.


We take this opportunity to wish you and your family happy holidays with your Laika and...

Enjoy your trip!


LAIKA CARAVANS S.p.A. Customer Service Department



| EXTERNAL DIMENSIONS | | | |
|---------------------|-------------|------------|-------------|
| Model | Length (cm) | Width (cm) | Height (cm) |
| Kosmo Compact 5 | 595 | 214 | 271 |
| Kosmo Compact 9 | 665 | 214 | 271 |
| Kosmo 209 | 695 | 233 | 290 |
| Kosmo 509 | 741 | 233 | 290 |
| Kosmo 509L | 741 | 233 | 290 |
| Kosmo 512 | 741 | 233 | 290 |
| Kosmo F510 | 725 | 233 | 310 |
| Kosmo 909 | 741 | 233 | 290 |
| Kosmo 909L | 741 | 233 | 290 |
| Kosmo 912 | 741 | 233 | 290 |
| Ecovip L 2009 | 659 | 225 | 296 |
| Ecovip L 3009 | 699 | 225 | 296 |
| Ecovip L 3010 | 699 | 225 | 296 |
| Ecovip L 3019 | 699 | 225 | 296 |
| Ecovip L 3412 DS | 720 | 225 | 296 |
| Ecovip L 4009 | 740 | 225 | 296 |
| Ecovip L 4009 DS | 740 | 225 | 296 |
| Ecovip L 4012 | 740 | 225 | 296 |
| Ecovip L 4012 DS | 740 | 225 | 296 |
| Ecovip H 2109 | 659 | 225 | 296 |
| Ecovip H 3109 | 699 | 225 | 296 |
| Ecovip H 3110 | 699 | 225 | 296 |
| Ecovip H 3119 | 699 | 225 | 296 |
| Ecovip H 3512 DS | 720 | 225 | 296 |
| Ecovip H 4109 | 740 | 225 | 296 |
| Ecovip H 4109 DS | 740 | 225 | 296 |
| Ecovip H 4112 | 740 | 225 | 296 |
| Ecovip H 4112 DS | 740 | 225 | 296 |
| Kreos L 5009 | 789 | 230 | 299 |


 **WARNING**

The dimensions refer to the standard vehicle, without any optional equipment mounted.

 **NOTE**

This handbook refers to devices and/or features that may be optional (not standard) or not foreseen for certain models.



 **WARNING**

Never use a backward-facing child restraint system on a seat protected by an active frontal airbag. Risk of death or serious injury to the child.

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1.1 General rules

- Read this handbook before using the motorcaravan for the first time.
- Follow all the instructions on labels inside the vehicle
- Using the vehicle in faulty conditions is dangerous for passengers and things as well as for the vehicle itself.
- Do not carry inside the vehicle material that can cause dangerous fumes.
- The water from the tanks is not suitable for drinking, cooking or washing food.
- The kitchen sink cover and any other free object that could be dangerous during the journey must be kept in closed places.



WARNING

Never leave children alone inside the vehicle.



WARNING

Qualified personnel only can carry out maintenance operations of both gas and electric systems.



WARNING

Inspect flexible gas hoses regularly for deterioration and renew as necessary with the approved type. Either the expiry date or the production date is marked on the hoses. If the production date is indicated, refer to the regulations in force in your country to determine the expiry date. In any case, the expiry date of the hoses may vary depending on the country you are in.



WARNING

Use upper bunks for sleeping only, with protection against falling-out. Care should be taken against the risk of falling out when upper bunks are used by children, especially under 6 years of age. These bunks are not suitable for use by infants without supervision.



WARNING

Your vehicle is equipped with a refrigerator specifically designed for motor caravans and nautical vehicles that can operate with three different sources of energy: 230 V, 12 V and gas. We recommend the utmost care in storing perishable food because the performances of this appliance cannot be compared with those of a household refrigerator constantly powered at 230 V and they are also affected by the climatic conditions the vehicle is exposed to.



WARNING

If you have purchased a new vehicle, please get the wheel bolts checked by a specialised workshop after traveling 50 km.

1.2 Fire prevention

- Provide one dry powder fire extinguisher complying with EN 3-7 of at least 1 kg capacity, or one equivalent fire extinguisher, by the main exit door, and a fire blanket next to the cooker. Familiarise yourself with the instructions on your fire extinguisher and the local fire precaution arrangements.



WARNING

Inside the vehicle never use any kind of braziers, portable equipments for heating or cooking, as there is a risk of fire and death by asphyxiation.



WARNING

It is forbidden to transport easily inflammable materials (petrol, diesel oil, kerosene oil, propane gas, butane gas, natural gas, ect.) inside the vehicle. Keep combustible materials (wood, fabric, cotton, wool, board, ect.) far from heating system and burners. Gas bottles must be transported exclusively inside the special locker. During the journey or during stops at filling stations it is forbidden to keep the main valve of the gas bottle open.



WARNING

If you transport mopeds or similar, which are powered by flammable fuels, make sure that their tank is completely empty.

1.3 In case of fire

- Evacuate the passengers and call the firemen.
- Close the gas bottle valve and try to extinguish the flames (only in case these operations are not dangerous).

1.4 Regulations for supplying electricity

1.4.1 During connection

- 1) Before connecting the motorhome system to the electricity supply, check that:

- the power supply system provided at the campsite has suitable voltage for the motorhome's electric system and electric appliances;
- the cable and connections are all compatible;
- the motorhome's circuit breaker (see electric system section in this manual) is turned to the "OFF" position.



WARNING

The power supply cable must be fully unwound to prevent any damage from overheating.

- 2) Check that the cable, connectors and connections are all intact and not damaged in any way.
- 3) Take the cover off the external 230 V socket and insert the plug.
- 4) Connect the cable to the socket of the campsite power point.
- 5) Turn the motorhome's circuit breaker to the "ON" position.
- 6) Check that the motorhome's circuit breaker operates correctly by pressing the test button, and then reactivating it again.



WARNING

In case of doubt or if the power supply fails to work or malfunctions after being connected, contact the manager of the campsite.

1.4.2 During disconnection

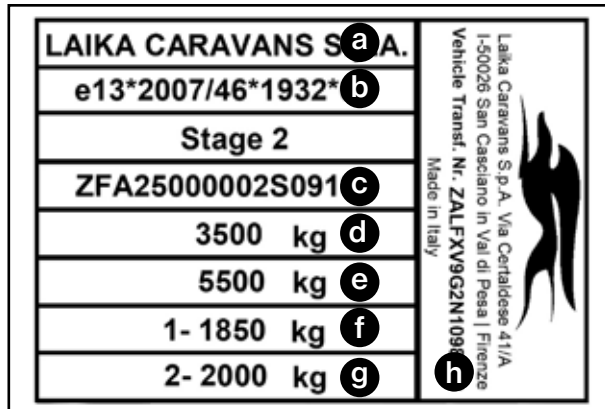
Turn motorhome's circuit breaker on the "OFF" position and first disconnect the power supply cable from the camping site mains, and then from the motorhome's system.

1.4.3 Additional inspections

It is recommended to have the motorhome's power supply system inspected at least once every three years - and once a year in case of intensive use of the vehicle - by a qualified electrician who can provide a printed report of the system's actual conditions.

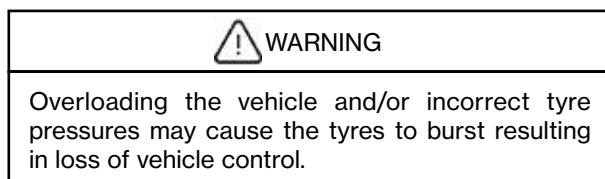
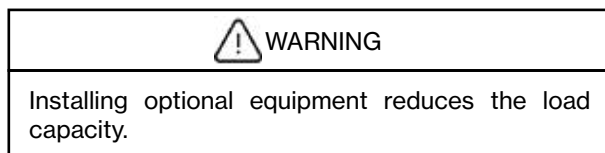
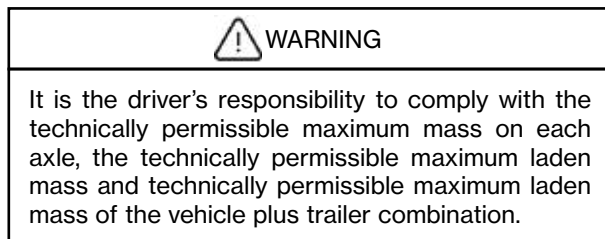
1.5 Technically permissible maximum masses

A label containing the vehicle identification data and the technically permissible maximum masses is located behind the right cab seat.



Example of label

- a) Manufacturer name.
- b) Approval number.
- c) Chassis number.
- d) Technically permissible maximum laden mass.
- e) Technically permissible maximum laden mass of vehicle plus trailer combination.
- f) Technically permissible maximum mass on the front axle.
- g) Technically permissible maximum mass on the rear axle.
- h) Laika chassis number.



1.5.1 How to load the vehicle correctly

- Distribute the load evenly on the left and right sides of the vehicle.
- Distribute the load evenly across the two axles, front and rear.
- Heavy loads behind the rear axle can lighten the front axle because of the lever effect. This is especially true with a long rear overhang, if a motorcycle is transported on the rear carrier or if the garage/rear storage space is overloaded. Front axle unloading adversely affects road behaviour, especially on front-wheel drive vehicles.

1.6 Refuelling



The refuelling cap is located on the exterior left wall of the vehicle near the driving cab and is marked with "DIESEL".



WARNING

Other caps for water tank refilling may also be present on the exterior vehicle wall. Use the utmost care to avoid confusing the two types of caps.



WARNING

Close the main valve of the gas bottle before refuelling.



WARNING

During the journey or during stops at filling stations it is forbidden to keep the main valve of the gas bottle open.

Additive for diesel emissions AdBlue®

The vehicle is equipped with a system to reduce harmful emissions. This system requires a regular supply of an additive (AdBlue®).



The cap, in light blue color, for the supply of the additive is located in different places according to the various models:

- Models on Fiat/Citroën chassis: outer door on the left side, together with the diesel filler.



WARNING

Other caps for water tank refilling may also be present on the exterior vehicle wall. Use the utmost care to avoid confusing the two types of caps.



WARNING

For warnings relating to the operation of the emissions reduction system and the refuelling methods for the AdBlue® additive, refer to the chassis manual.

1.7 Removable inside ladder

Some models can be equipped with a removable ladder that gives access to the raised beds.



WARNING

Make sure the ladder is not damaged before using it to climb into or out of bed. The ladder must be securely fastened to the corresponding hooks on the bed and should rest on the floor in a stable manner.



WARNING

There is a risk of falling when using the ladder: be careful when climbing into or out of bed.



WARNING

The ladder has been designed for climbing into and out of bed inside the vehicle. Do not use the ladder for other purposes.

1.8 Inside steps

Some vehicles are equipped with steps that connect different areas of the living area or facilitate access to the raised beds.



WARNING

Memorise the position of inside steps so as not to accidentally walk into or trip on them: doing so can cause a risk of falling and injury.

1.9 Furniture doors

Some furniture doors, either high or low, may remain open in positions in which they may strike vehicle users, e.g. high doors may interfere with the head and low doors may interfere with the legs. Use extreme caution to avoid injury.

1.10 Cab blinds

If the vehicle is fitted with cab blinds for the windscreen and side windows, before driving whilst the vehicle is stationary please check that all blinds are fully open and are locked by the relevant catches. Pay particular attention to the windscreen blind. It is in two halves and must be securely fastened to the side catches. After locking the blinds with the catches, try to unlock them by pulling them quite strongly but without releasing the catches: the blinds must remain locked.



WARNING

If these procedures are not followed, there is a risk that the blinds will close inadvertently while driving, causing accidents, which can have very serious consequences.



WARNING

If you are not sure of the integrity of the blind locking mechanisms, do not drive the vehicle and contact a Laika authorised workshop.

1.11 Cab carpeting

Ensure that any carpet located in the cabin is always laid flat and does not interfere with the driver's pedals.



WARNING

Before each departure ensure that any carpet does not interfere with the driver's pedals.

1.12 Front passenger side airbag and child restraint systems



 WARNING

Never use a backward-facing child restraint system on a seat protected by an active frontal airbag. Risk of death or serious injury to the child.

For satisfactory and continuous maintenance, you are recommended to follow the directions given herein and those contained in the Instructions for Use and Maintenance concerning the different appliances with which the recreational vehicle is fitted. Laika vehicles are fitted on chassis made by various manufacturers. The optional equipment and components used are produced by a number of selected suppliers. The chassis manufacturers and producers of optional equipment and components run their service networks independently. Therefore, in case of need, it is recommended to directly contact the Service Dept. of the manufacturer of the faulty component. Having the recommended checks and services carried out, vehicle conditions will be optimised for many years.

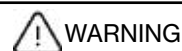
2.1 Warning

In order to prevent any abnormal wear of tyres, we recommend that you check the toe-in values of your vehicle after driving the first 500 km. This should be done by a specialised workshop and at your charge. Should this check not be performed, Laika Caravans S.p.A. shall not be held responsible for any inconvenience or damage resulting therefrom.

2.2 Departure

Before starting-off you are recommended to:

- remove any parking rests and smooth the ground around the vehicle, if the original conditions prior to your stay have been altered;
- make sure you have not forgotten anything under the vehicle or in the immediate vicinity;
- turn off the 230 V connection;
- close the gas bottle valve;
- firmly position all items inside the vehicle;
- make sure that all internal doors and cabinet doors are closed;
- make sure that all the windows are closed (also in the overcab);
- close the roof-lights;
- take a look at the control panel in order to check the level of the fresh water tank and of the different waste water tanks, as well as the condition of the battery;
- make sure that the entrance step is closed;
- make sure that cab and entrance doors are closed;
- correctly direct the side mirrors;
- if possible, remove or move away the table in front of the rear seats;
- make sure that all passengers are seated as required for driving;
- fasten your seat belts.



WARNING

Before departure it is mandatory to completely empty the hot water boiler.



WARNING

On Ecovip and Kreos series vehicles, it is required before departure to empty the fresh water tank down to 20% of the total capacity. This can be done by using the dedicated discharge tap.



WARNING

On Kosmo series vehicles, it is required before departure to empty the fresh water tank down to 20 litres. This can be done by using the dedicated discharge tap.

2.3 Driving

No matter how easy it is to drive a recreational vehicle, it is necessary to remember that you are at the wheel of a vehicle that is much more cumbersome than a car. The bigger size also involves more care at both the right hand side (do not drive too near to the guard rail) and the left hand side (do not stay in the middle of the road). It is advisable to practice a little to familiarise yourself with the new size. In particular, we suggest paying attention to the following:

- in case of wind, especially when overtaking, on viaducts or coming out of tunnels;
- before going under passages restricted in height, remember that optional equipment or luggage may be installed on the roof which increase the total height of the vehicle. Therefore, take care in: car parks which limit vehicle access in height, tunnels, garages and workshops, fuel station structures, tree branches, etc.;
- when reversing, take a careful look at the rear area and, if necessary, ask for the guidance of another person;
- going down very steep hills.

In general, and under all circumstances, especially when overtaking, remember that the performance levels of a recreational vehicle are unlikely to match those of your car. It is therefore necessary to strictly adhere to traffic regulations, particularly the safety distance.

2.4 Stops

During stops we advise you to:

- closely adhere to the various recommendations for use of the systems of the living quarters provided for in this handbook and in the instructions of the different appliances (refrigerator, boiler, oven, etc.), making sure these documents are on-board. Should any documentation be missing when the vehicle is handed over, it will be possible to ask Laika's sales organisation for it;
- make sure that the vehicle is perfectly horizontal to ensure optimum performance of the various parts and systems;
- always find out about any local law concerning parking and camping.



Never obstruct the air inlets of the vehicle, both on roof and on floor level.



In case of long stops, the blinds of the bathroom window and of the bathroom roof-light must be kept closed.



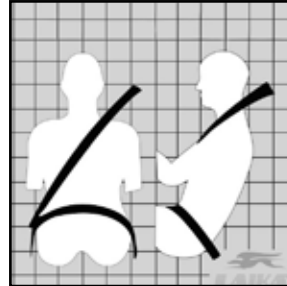
The seats in the living area used by passengers while the vehicle is in motion are marked by the symbol displayed here on the side.

! WARNING

The driver of the motorhome bears full responsibility, both for him/herself and for the passengers, for the correct use of the seatbelts, as per the current local laws.

! WARNING

The reeling system blocks the seatbelt should it be taken out quickly, with an excessive pulling angle, and consequently with strong accelerations and/or decelerations. In order to pull it out you must let it briefly rewind in its holder and then pull it out again.



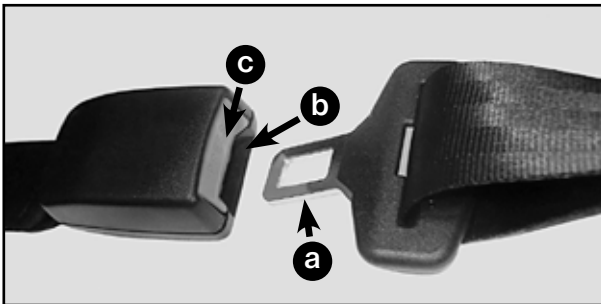
Picture 1 - 3 point seatbelt



Picture 2 - Lap seatbelt

3.1 Use and maintenance

3.1.1 How to use the seatbelts



To fasten the seatbelt

- Grasp the metallic tab (a) of the seatbelt placed to your right, pass it around your abdomen and insert it in the buckle (b), placed to your left, until it is securely fastened inside.
- The seatbelt, once fastened, must be taut, placed tightly over the body, but it should not hinder the occupant's movements.
- You must be in an upright position and lean against the back of the seat while putting your seatbelt on.

To unfasten the seatbelt

- Press the red button (c) on the buckle, and accompany the seatbelt while it winds back into its holder (if it comes with a reeling system), so as to prevent it from twisting.

✓ THINGS TO DO

- Always put your seatbelt on before you get on the road.
- Follow the examples shown in pictures 1 and 2 in order to correctly put your seatbelt on.
- The seatbelts must be used on only one passenger at a time.
- Once you have arrived to your destination unfasten the seatbelt and slowly accompany it until it is completely wound up in its holder. Pay careful attention that it does not twist.

✗ THINGS TO AVOID


- Do not press the button (c) while the vehicle is in motion.
- The seatbelt must not be twisted in any way or part.
- Do not use devices that may hinder contact between the seatbelt and the passenger, or that may prevent the seatbelt from winding back into place.
- Do not hold children on your knees by using only one seatbelt to protect yourself and them.

! WARNING


The seatbelts described above were made for adult passengers with a minimum height of 150 cm.

3.1.2 Maintenance and cleaning of the belts

- Always make sure that the belts are not twisted in any way so that they may smoothly slide in and out.
- Wash the belts with water and neutral soap, then rinse. Let them dry at room temperature.
- Do not use any other types of detergents since they could ruin or weaken the texture of the belts.
- Do not wet the reels.
- Replace the belts should they be ripped and/or loose. This repair must be carried out by authorised personnel.

 **THINGS TO DO**

- If the seatbelt was used under great stress (such as in a serious accident), you must replace the entire system along with all its fastening equipment.

 **THINGS TO AVOID**

- Do not attempt to disassemble or alter the parts of the seatbelt. Each and every intervention must be carried out by authorised personnel.

3.2 Vehicles equipped with Isofix attachment for transporting children (optional)

In order to travel in a motorhome each passenger must be able to fasten him/herself to a suitable restraint system.

Also children must be fastened to restraint systems that are suitable for their weight / height / age, as stated in European Regulation ECE R44, since these systems are mandatory.

Child restraint systems are divided into 5 groups:


- Group 0..... up to 10 kg
- Group 0+ up to 13 kg
- Group 19 – 18 kg
- Group 215 – 25 kg
- Group 3 22 – 36 kg

3.2.1 Kosmo F510


The following child restraint systems may be placed on the seats of the motorhome:

| Group | First row Passenger seat | Second row Seat position 5 and 6 | Third row Seat position 3 and 4 |
|-------|-----------------------------|-------------------------------------|--|
| 0 | See Fiat / Citroën manual | Not applicable | U [E-ISO/R1] U [F-ISO/L1] U [G-ISO/L2] |
| 0+ | See Fiat / Citroën manual | Not applicable | U [E-ISO/R1] U [D-ISO/R2] U [C-ISO/R3] |
| 1 | See Fiat / Citroën manual | Not applicable | U [D-ISO/R2] U [C-ISO/R3] U [B-ISO/F2] U [B1-ISO/F2X] U [A-ISO/F3] |
| 2 | See Fiat / Citroën manual | Not applicable | U [Not applicable] |
| 3 | See Fiat / Citroën manual | Not applicable | U [Not applicable] |

U = suitable for child restraint systems and for [ISOFIX child restraint systems] of universal category for the respective weight class.

 **WARNING**

The use of the child restraint system and the [ISOFIX child restraint system] is only permitted after the table has been removed.

 **WARNING**


Always check the correct attachment of the child seat, try to remove it without intervening with the locking device.


3.2.2 Ecovip series (except for DS models)


The following child restraint systems may be placed on the seats of the motorhome:

| Group | First row Passenger seat | Second row Seat position 5 | Third row Seat position 3 and 4 |
|-------|---------------------------|----------------------------|--|
| 0 | See Fiat / Citroën manual | Not applicable | U [E-ISO/R1] |
| 0+ | See Fiat / Citroën manual | Not applicable | U [E-ISO/R1] U [D-ISO/R2] U [C-ISO/R3] |
| 1 | See Fiat / Citroën manual | Not applicable | U [D-ISO/R2] U [C-ISO/R3] U [B-ISO/F2] U [B1-ISO/F2X] U [A-ISO/F3] |
| 2 | See Fiat / Citroën manual | Not applicable | U [Not applicable] |
| 3 | See Fiat / Citroën manual | Not applicable | U [Not applicable] |

U = suitable for child restraint systems and for [ISOFIX child restraint systems] of universal category for the respective weight class.

| |
|--|
|  WARNING |
| The use of the child restraint system and the [ISOFIX child restraint system] is only permitted after lowering the table under the seat height. When the table is lowered, seats 3 and 4 cannot be used by adult passengers. |

| |
|--|
|  WARNING |
| The ISOFIX attachments of the vehicle are not suitable for ISOFIX F-ISO/L1 and G-ISO/L2 child restraint systems. |


| |
|--|
|  WARNING |
| Always check the correct attachment of the child seat, try to remove it without intervening with the locking device. |


3.2.3 Ecovip series (DS models)


The following child restraint systems may be placed on the seats of the motorhome:

| Group | First row Passenger seat | Third row Seat position 3 (forward facing) | Third row Seat position 4 (forward facing) |
|-------|---------------------------|--|--|
| 0 | See Fiat / Citroën manual | U [E-ISO/R1] | U [E-ISO/R1] |
| 0+ | See Fiat / Citroën manual | U [E-ISO/R1] U [D-ISO/R2] | U [E-ISO/R1] U [D-ISO/R2] U [C-ISO/R3] |
| 1 | See Fiat / Citroën manual | U [D-ISO/R2] U [C-ISO/R3] U [B-ISO/F2] U [B1-ISO/F2X] U [A-ISO/F3] | U [D-ISO/R2] U [C-ISO/R3] U [B-ISO/F2] U [B1-ISO/F2X] U [A-ISO/F3] |
| 2 | See Fiat / Citroën manual | U [Not applicable] | U [Not applicable] |
| 3 | See Fiat / Citroën manual | U [Not applicable] | U [Not applicable] |

U = suitable for child restraint systems and for [ISOFIX child restraint systems] of universal category for the respective weight class.

| |
|--|
|  WARNING |
| The ISOFIX attachments of the vehicle are not suitable for ISOFIX F-ISO/L1 and G-ISO/L2 child restraint systems. |

| |
|--|
|  WARNING |
| The seat position 3 is not suitable for ISOFIX C-ISO/R3 child restraint systems. |

| |
|--|
|  WARNING |
| Always check the correct attachment of the child seat, try to remove it without intervening with the locking device. |

3.2.4 Kreos series

The following child restraint systems may be placed on the seats of the motorhome:

| Group | First row Passenger seat | Second row Seat position 3 and 4 |
|-------|-----------------------------|--|
| 0 | See Fiat / Citroën manual | U [E-ISO/R1] |
| 0+ | See Fiat / Citroën manual | U [E-ISO/R1] U [D-ISO/R2] U [C-ISO/R3] |
| 1 | See Fiat / Citroën manual | U [D-ISO/R2] U [C-ISO/R3] U [B-ISO/F2] U [B1-ISO/F2X] U [A-ISO/F3] |
| 2 | See Fiat / Citroën manual | U [Not applicable] |
| 3 | See Fiat / Citroën manual | U [Not applicable] |

U = suitable for child restraint systems and for [ISOFIX child restraint systems] of universal category for the respective weight class.



WARNING

The use of the child restraint system and the [ISOFIX child restraint system] is only permitted after lowering the table under the seat height. When the table is lowered, seats 3 and 4 cannot be used by adult passengers.



WARNING

The ISOFIX attachments of the vehicle are not suitable for ISOFIX F-ISO/L1 and G-ISO/L2 child restraint systems.



WARNING

Always check the correct attachment of the child seat, try to remove it without intervening with the locking device.



THINGS TO DO

- Make sure that the ECE R44 type-approval label is placed on the restraint system.
- Follow the directions provided by the maker of the child restraint system in order to install it correctly.
- Disconnect the Airbags of the passenger side before installing a class 0 / 0+ restraint system that faces towards the back of the vehicle, placed on the front seat of the cab (refer to the chassis documentation).



THINGS TO AVOID

- Children under 150 cm cannot travel fastened only to the seatbelts that come with the vehicle.

4.1 Key equipment



- a) Key of the chassis.
- b) Key of the living quarters door, storage hatches and water caps (and cab door on Ecovip A-class and Kosmo A-class).

i NOTE

The chassis key (a) is supplied in double copy, but only one is equipped with an integrated remote control.

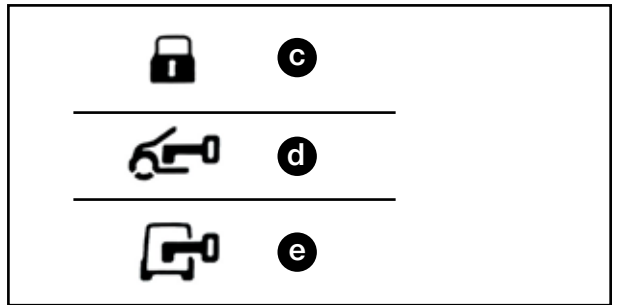
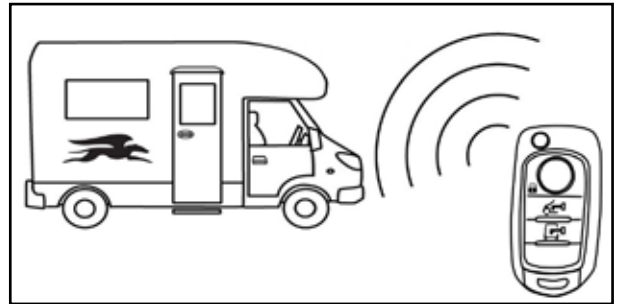
✓ THINGS TO DO

- Should the vehicle stay unwatched we advise you to always close it with a key.
- Before any start please check that every single door has been closed properly.

! WARNING

Some vehicles are equipped with a device called “dead lock”, which, if set, prevents the opening of the cab doors from inside. For information on this device, refer to the chassis manual.

4.1.1 Central locking and alarm



Remote control integrated in the ignition key (a):

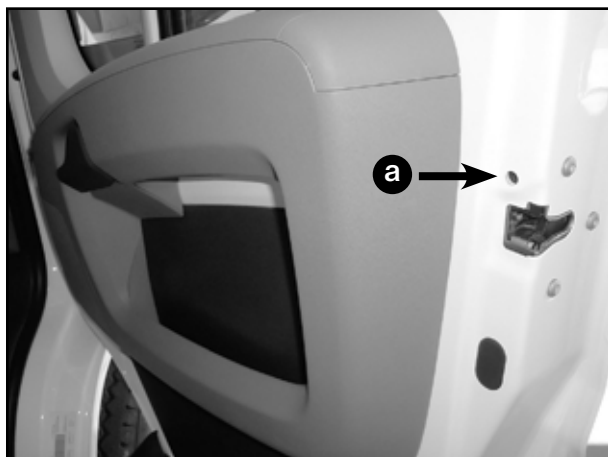
- c) Button to lock all doors and activate the alarm.
- d) Button to open cab doors and deactivate the alarm.
- e) Button to open the living quarters door and deactivate the alarm.

i NOTE

The alarm system is optional (not standard).

4.1.2 Vehicles fitted on Fiat/Citroën chassis: manual use of key

For the vehicles fitted on Fiat/Citroën chassis – except for Ecovip A-class and Kosmo A-class – the central locking can be activated as well by means of the key, using the lock of the cab door on the driver's side. With regard to opening, instead, the cab doors and the living quarters door are independent.



WARNING

On the passenger side door there is no lock, so in case of malfunction of the central locking control unit or in case of run down engine battery, to lock the door manually, with the door open, introduce a screwdriver in the hole (a) and push upward the lever located inside, then close the door.

NOTE

The Kosmo Compact 5 and Compact 9 models do not have a central locking system. The remote control integrated in the ignition key acts only on the cab doors. For opening/locking the living quarters door must be used the special key provided.

4.2 Living quarters door

WARNING

In case of emergency, the living quarters door is used as a safety exit. Take care not to obstruct the areas near the exit.

THINGS TO DO

- Periodically lubricate hinges and locks with sprays (ordinary maintenance).
- Periodically treat rubber seals with talcum powder.
- For correct ventilation, periodically clean the ventilation grids.

4.2.1 Kosmo Compact 5 and Compact 9

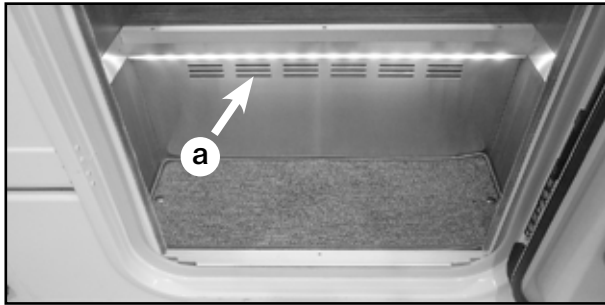
The living quarters door is fitted with sliding mosquito net and sliding blind.

WARNING

Do not close the living quarters door if the mosquito net is not fully withdrawn.

4.2.2 Ecovip and Kosmo series (except for Kosmo Compact 5 and Compact 9)

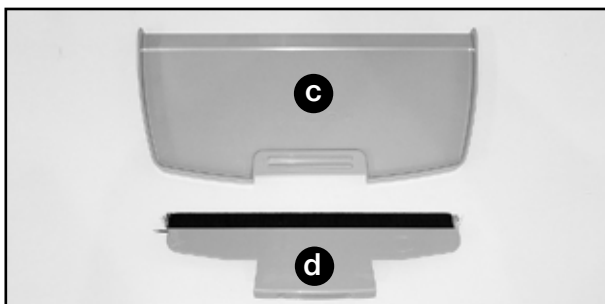
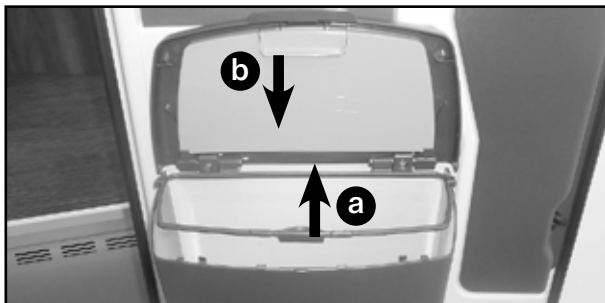
The living quarters door is fitted with sliding mosquito net, sliding blind and dust bin.



a) Vent located near the entrance step.

| |
|---|
| WARNING |
| Do not obstruct, even partially, the vent located near the entrance step. |

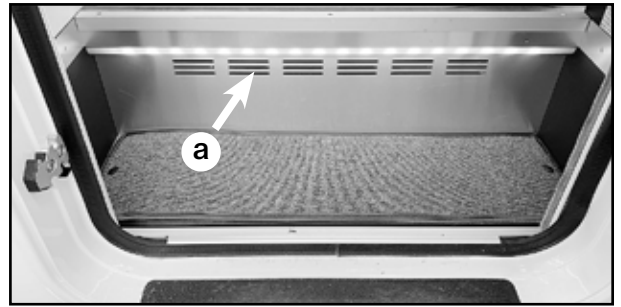
| |
|---|
| WARNING |
| Do not close the living quarters door if the mosquito net is not fully withdrawn. |



Pull on the frame (a) to open the dust bin. Pull the handle (b) downward to find a dustpan (c) and a brush (d) to collect dirt.

4.2.3 Kreos series

The living quarters door is fitted with sliding mosquito net and sliding blind.



a) Vent located near the entrance step.

| |
|---|
| WARNING |
| Do not obstruct, even partially, the vent located near the entrance step. |

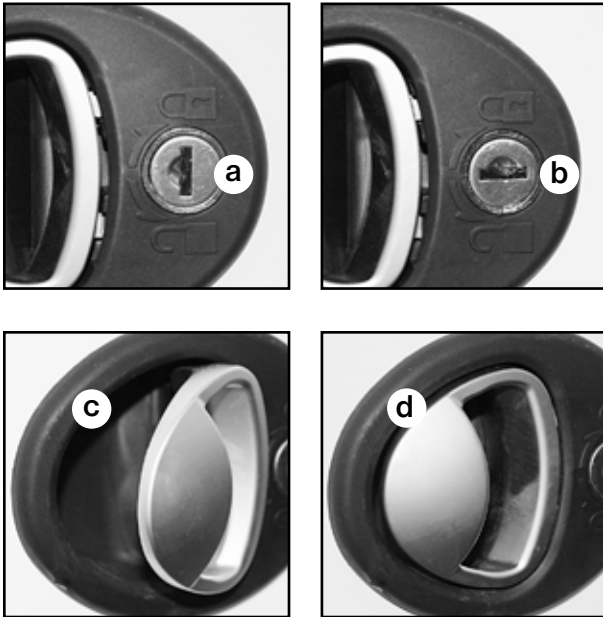
| |
|---|
| WARNING |
| Do not close the living quarters door if the mosquito net is not fully withdrawn. |

4.3 Hatches

 THINGS TO DO

- Periodically lubricate hinges and locks with sprays (ordinary maintenance).
- Periodically treat rubber seals with talcum powder.

4.3.1 Kosmo series



To open a hatch, turn the lock in vertical position (a) and pull the handle. To lock a hatch, set the lock in horizontal position (b) and, after you have closed it, move the handle to the locking position (d).

 NOTE

Once you have the lock in horizontal position (b), you can continue to open and close the hatch as many times as you want, as long as you leave the handle in open position (c): if you turn the handle to position (d) the hatch will remain locked.

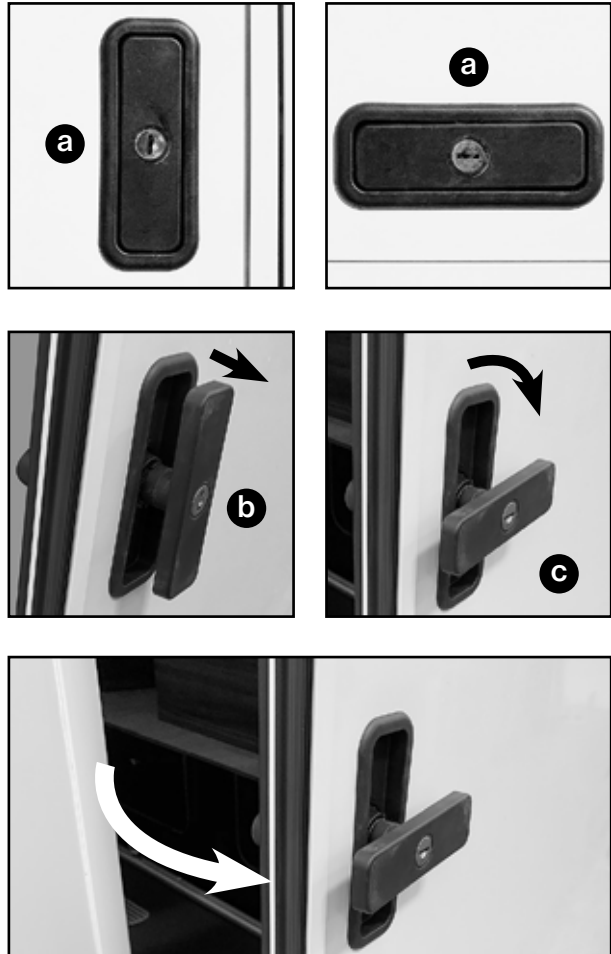
 WARNING

When you close a hatch, make sure that the outside handle is in open position (c).

 WARNING

A slight push is sufficient to close the hatches. Do not close them by slamming.

4.3.2 Ecovip series

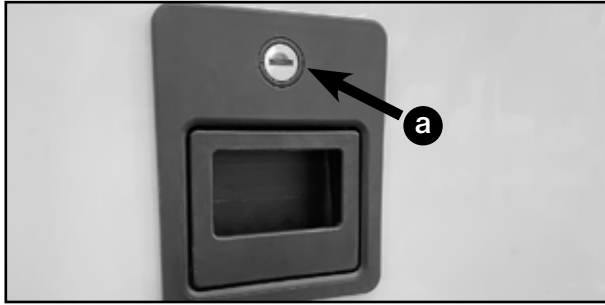


To open a hatch:

- 1) Turn the lock to the vertical position (a). The handle will snap outwards (b).
- 2) Turn the handle 90° clockwise (c).
- 3) Open the hatch.

Carry out the described operations in reverse order to close a hatch.

4.3.3 Kreos series



To open a hatch:

- 1) Turn the lock (a) to unlock the handle.
- 2) Pull the handle.
- 3) Open the hatch.

Carry out the described operations in reverse order to close a hatch.

 **WARNING**

Do not use alcohol, alcohol-based products or aggressive detergents to clean window and roof light panes. A damp cloth is enough to ensure proper cleaning; if necessary use diluted neutral soap with a lot of water.

5.1 Windows

The windows comprise an external frame, an internal frame and a transparent, double, openable pane which may be of the sliding or top hung type.

The transparent, double panes have an air gap which may absorb damp. Therefore any condensate appearing inside is perfectly normal.

The internal frame encloses the blind and roller mosquito net which are spring-operated. A manual mechanism allows changing their position according to preference.

Should the winding device need maintenance, you are advised to contact a Laika authorised workshop, because this operation requires disassembly of the frame.

 **WARNING**

In case of long stops, the blinds of the bathroom window and of the bathroom roof-light must be kept closed.

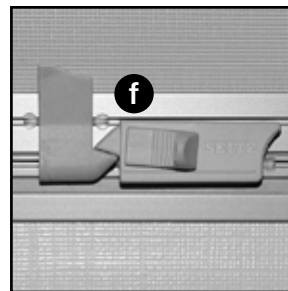
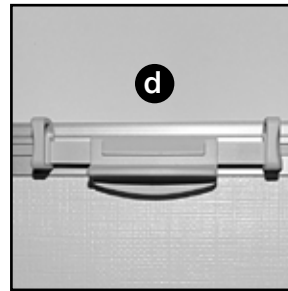
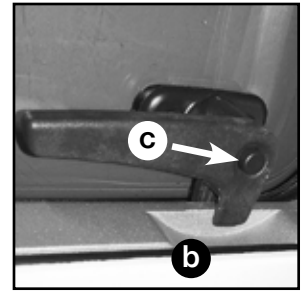
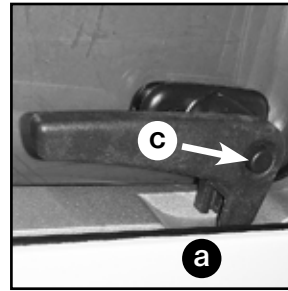
 **THINGS TO DO**

- Periodically clean the sliding window guides and the top hung window support arms.
- Treat rubber seals with talcum powder.
- Check the locks at regular intervals.

 **THINGS TO AVOID**

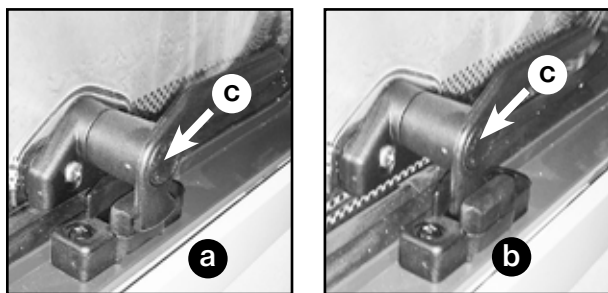
- Do not use alcohol or solvents for washing.
- Do not stick self-adhesive labels on the transparent panes.

5.1.1 Ecovip series



- a) Top hung window: internal handle in closing position.
- b) Top hung window: internal handle in permanent air vent position.
- c) Release button.
- c) Handle blind for sliding.
- d) Small window mosquito net lock.
- e) Large window mosquito net lock.

5.1.2 Kosmo series



- a) Top hung window: internal handle in closing position.
- b) Top hung window: internal handle in permanent air vent position.
- c) Release button.

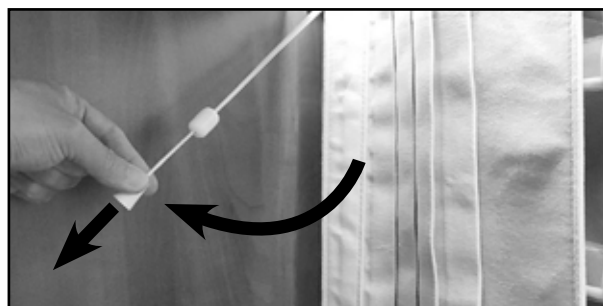
5.1.3 Kreos series



- a) Top hung window: internal handle in closing position.
- b) Top hung window: internal handle in permanent air vent position.

5.1.4 Roman blinds

A type

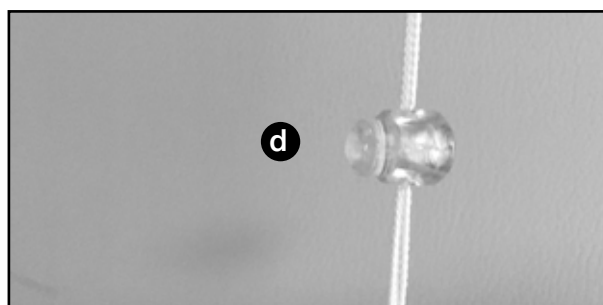


To release the blinds, pull the cord toward the inside of the vehicle.



To lock the blinds in the desired position, push the cord toward the wall.

B type



Adjust the height with the stop (d) (press to unlock).

5.2 Cab windows



WARNING

For a correct use of the cab windows, refer to the chassis manual (Kosmo coachbuilds, Kosmo low-profiles, Ecovip low-profiles, Kreos low-profiles).



WARNING

The driver must make sure that all electric equipment and/or devices are used correctly.



WARNING

Before raising a window make sure that it may not have any consequences on the other passengers in the vehicle



WARNING

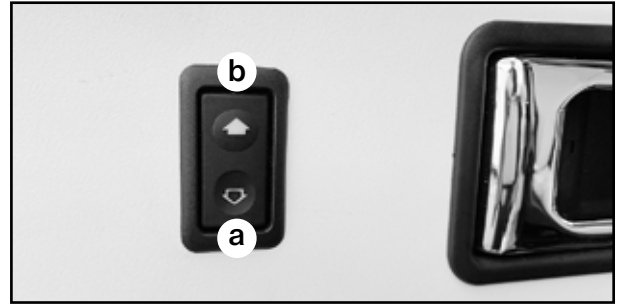
For safety reasons, leave the vehicle only after having properly removed the key.

⊗ THINGS TO AVOID

- Do not leave children unattended in the vehicle, especially when the electric windows may still be activated.

5.2.1 Kosmo A-class

Electric windows



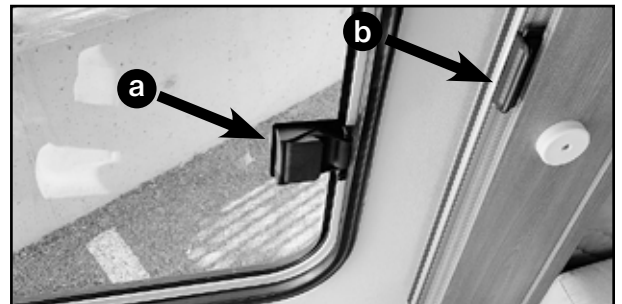
The push-buttons for the electric window are placed on the left cab door.

For use:

- press button (a) in order to lower the window;
- press button (b) in order to raise the window.

The electric windows are active with the engine running or with the ignition key in position "MAR". After the key has been turned to "STOP" position or extracted, the electric windows will remain active for about three minutes, or until a door is opened.

Right side sliding window

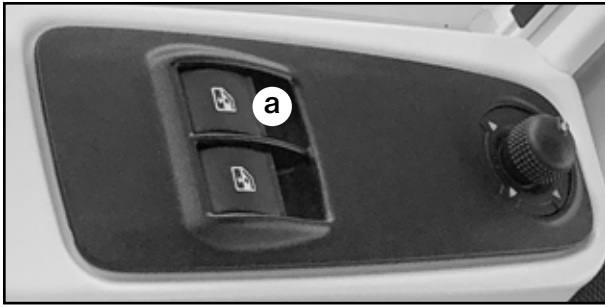


a) Sliding window lock.

b) Sliding blind lock.

5.2.2 Ecovip A-class

Electric windows



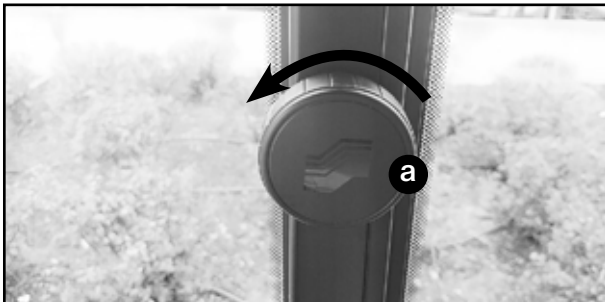
The push-button for the electric window is placed on the arm-rest of the left cab door

For use:

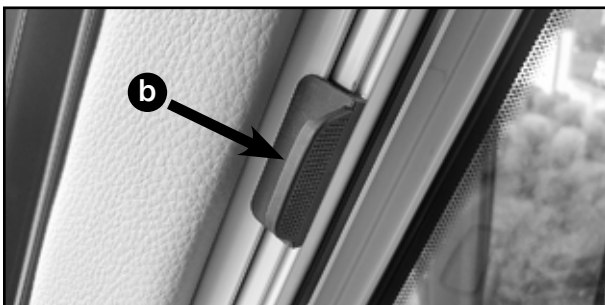
- press part (a) in order to lower the window;
- pull part (a) in order to raise the window.

The electric windows are active with the engine running or with the ignition key in position "MAR". After the key has been turned to "STOP" position or extracted, the electric windows will remain active for about three minutes, or until a door is opened.

Right side sliding window



To open the window, turn the knob (a).




b) Sliding blind lock.

5.3 Roof lights

The roof houses different roof lights, all with compass opening and integrated mosquito net, fixed or sliding.

 WARNING

Roof lights are designed to ensure suitable air recycle even when they are closed. For your safety, do not obstruct air grilles.

 WARNING

When travelling, the roof-lights must be closed while the blinds and the mosquito nets must be open.

 WARNING

When the vehicle is parked under the sun, the blinds must not remain completely closed.

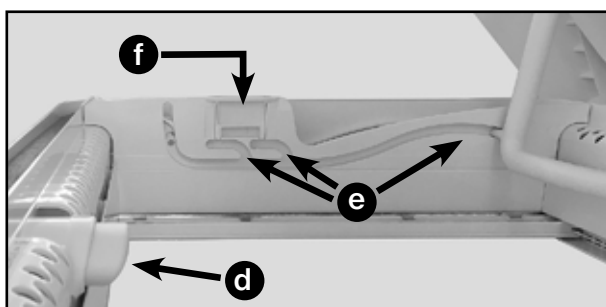
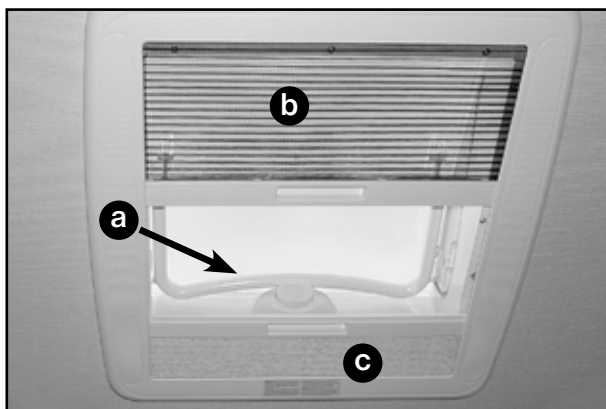
 THINGS TO DO

- Lubricate with vaseline, at least once a year, the roof lights equipped with handle seal mechanism.
- Treat rubber seals with talcum powder.
- Make sure there is continuous airing not only in summer but particularly in winter.
- In case of snow, make sure that ventilation is efficient.

 THINGS TO AVOID

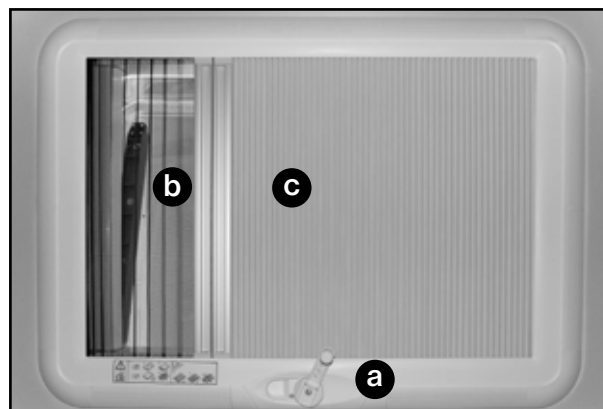
- Do not drive with the roof lights open.
- Do not obstruct air grilles.
- Do not close the blinds while driving because they may fall out of their guides due to the pressure of air.

5.3.1 Dometic Micro/Mini/Midi Heki



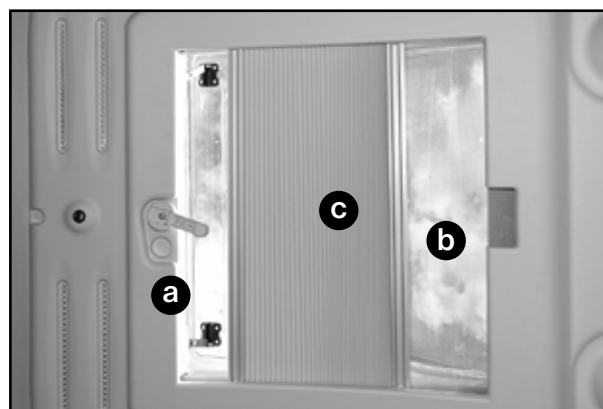
- a) Opening handle.
- b) Sliding mosquito net.
- c) Sliding blind.
- d) Lock button.
- e) Intermediate opening positions.
- f) Intermediate opening positions lock.

5.3.2 Dometic Heki 3



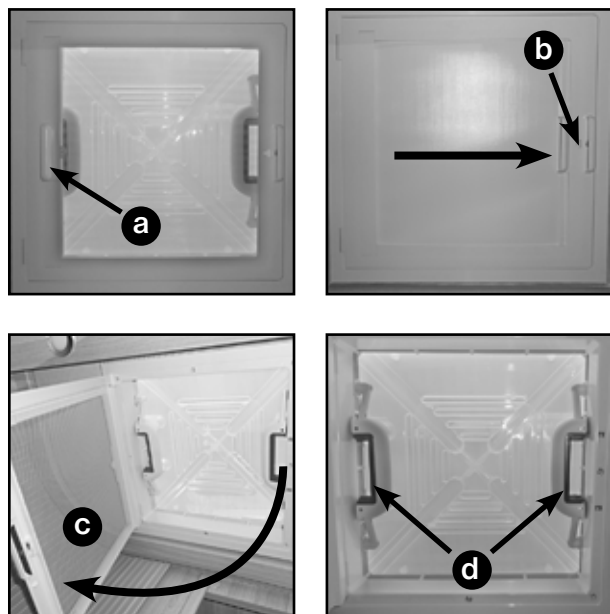
- a) Opening crank handle.
- b) Sliding mosquito net.
- c) Sliding blind.

5.3.3 Dometic SkyView



- a) Opening crank handle.
- b) Sliding mosquito net.
- c) Sliding blind.

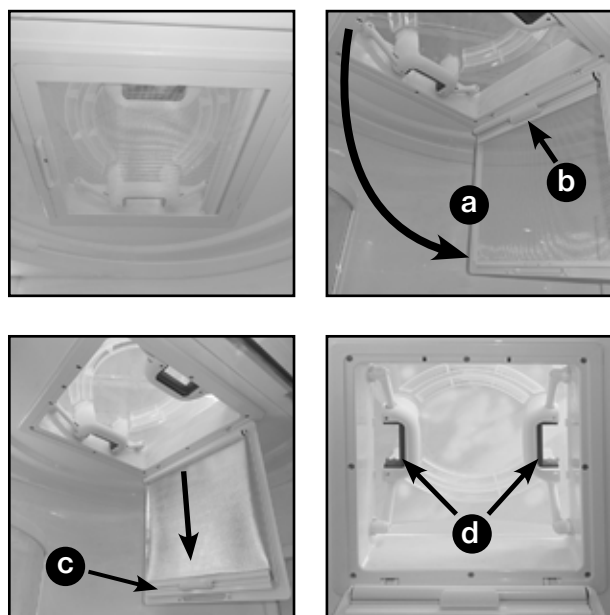
5.3.4 MPK 40 X 40



To close the blind, pull up the handle (a) until you find the locking point (b).

To open the roof light, open the mosquito net (c), press the lock buttons (d) situated in the handles and push the roof light cover upward.

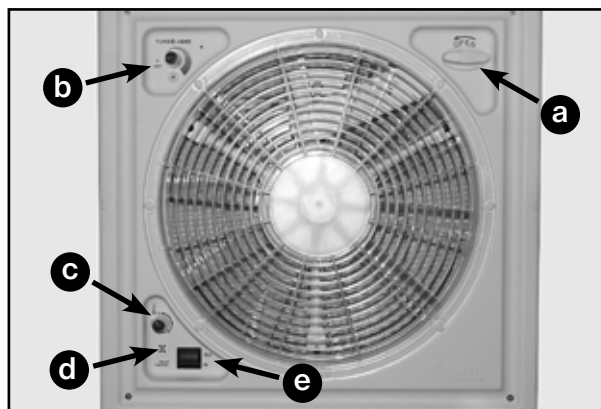
5.3.5 MPK 28 X 28



To close the blind, open the mosquito net (a), pull up the handle (b) until you find the locking point (c).

To open the roof light, press the lock buttons (d) situated in the handles and push the roof light cover upward.

5.3.6 Fiamma Turbo Vent 40 X 40



- a) Opening crank handle.
- b) Fan speed selector.
- c) Temperature selector.
- d) Temperature sensor.
- e) Intake/ventilation switch.

This roof light is provided with a thermostat for automatic operation. To disable automatic operation, position selector (b) to "OFF".

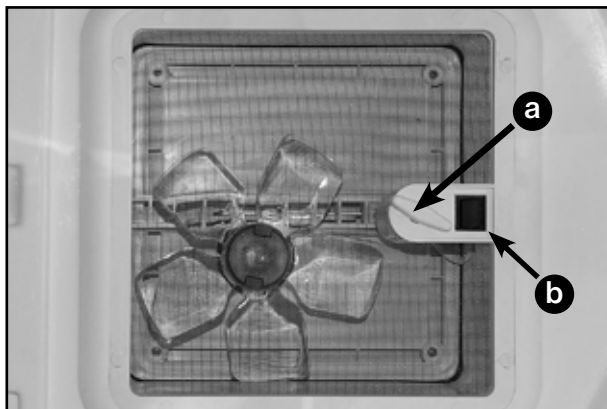
Automatic operation

- 1) Open the outer cover by means of crank (a).
- 2) Set the desired speed of the fan by means of selector (b).
- 3) Set the direction of rotation of the fan through the switch (e) (intake mode or ventilation mode).
- 4) Set the operating temperature by means of selector (c). When the ambient temperature exceeds the set temperature, the fan automatically starts running. When the ambient temperature drops below the set temperature, the fan stops.

Manual Operation

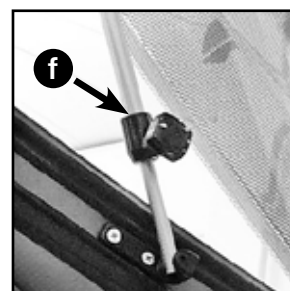
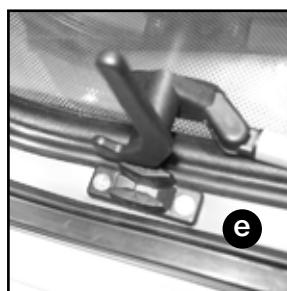
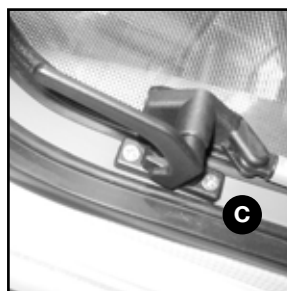
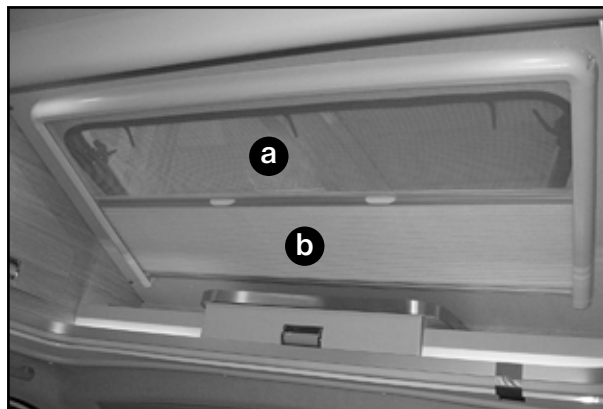
For manual operation, follow the same steps as for automatic operation, setting minimum temperature with selector (c).

5.3.7 Fiamma Turbo Vent 28 X 28



- a) Opening crank handle.
- b) Fan switch, three positions: intake, off, ventilation.

5.3.8 Polyplastic StarView



- a) Sliding mosquito net.
- b) Sliding blind.
- c) Internal handle in closing position.
- d) Internal handle in permanent air vent position.
- e) Internal handle in open position.
- f) Knob for fixing the tube stay (open position).

5.3.9 Vehicles with electric drop-down bed over the dinette (optional)



 **WARNING**

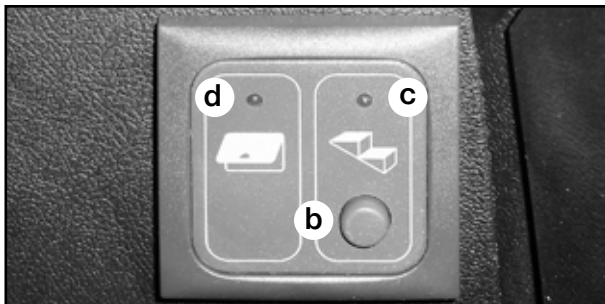
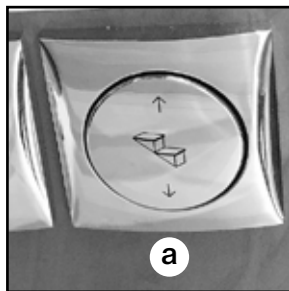
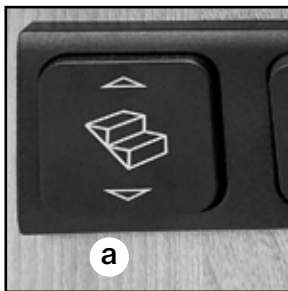
If the vehicle is provided with an electric drop-down bed over the dinette (optional), when the vehicle is parked for a long time under the sun, the bed must not remain in fully raised position: leave a space of at least 10 cm between the roof-light and the bed mattress.

6.1 Living quarters entrance step

i NOTE

No living quarters entrance step is provided on the Kosmo series (except for Kosmo Compact 5 and Compact 9).

The opening and closing of the living quarters entrance step can be actuated by means of a switch on the inside of the vehicle, in the living quarters door area. Moreover, on the dashboard, in a position that can be accessed by the driver, there is a control panel with a button that controls the closure of the step and two lights that warn about open step and open garage door.



- a) Button located on the side of the living quarters entrance door.
- b) Button on dashboard (closing only).
- c) Open step warning light.
- d) Open locker door warning light.

i NOTE

On the Kreos 5009 the control panel is to be found near the cab ceiling light.

i NOTE

No control panel is provided on the Kosmo Compact 5 and Compact 9.

i NOTE

To guarantee safety, a buzzer alert that the step is open when the vehicle is started.

! WARNING

When opening/closing the step make sure that the opening/closing operation has taken place correctly.

! WARNING

Check that the step is closed before driving off.

! WARNING

Do not go up or down the step while it is moving.

! WARNING

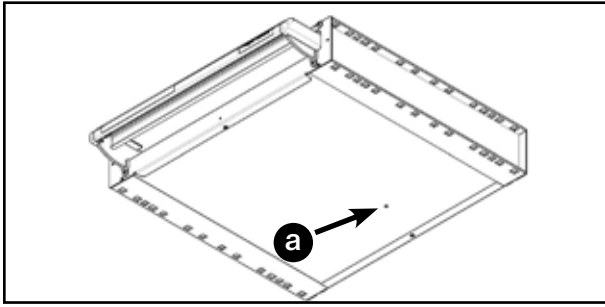
Always proceed with care when climbing up and out: the step may be slippery.

⊗ THINGS TO AVOID

- Do not leave objects on the step.
- Do not leave the step open at night when the temperature drops below 0 °C.

6.1.1 In case of malfunction

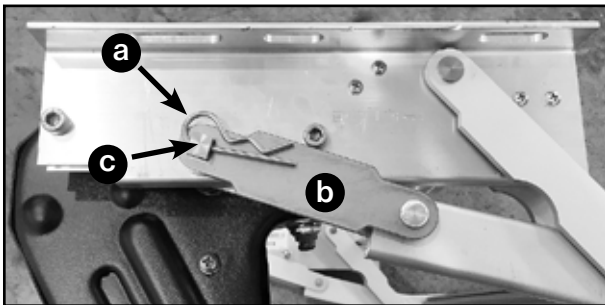
Ecovip and Kreos series



In case of malfunction, with the step blocked in open position, proceed as follows to manually move the step to its closing position, then contact one of Laika authorised workshops.

- 1) Insert a screwdriver or other suitable tool inside of the hole (a) located under the step and push until the step unlocks.
- 2) Manually push the step to its closure position.

Kosmo Compact 5, Compact 9



In case of malfunction, with the step blocked in open position, proceed as follows to manually move the step to its closing position, then contact one of Laika authorised workshops.

- 1) On the left side of the step, remove the R-clip (a) and unhook the arm (b) from the rotating shaft (c), use a screwdriver or other suitable tool to help lever.
- 2) Manually push the step to its closure position.

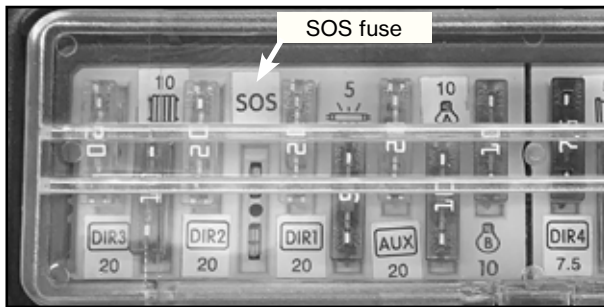
7.1 Introduction

The electric system includes a power supply/battery charger, a 12 V distribution control unit fitted with fuses, and a control panel.

The battery charger automatically operates when the vehicle is connected to a 230 V power source, recharging both the auxiliary battery and the engine battery (with holding power only for the latter).

The 12 V distribution control unit includes the appliances controls and the tank and batteries level controls. Each appliance control is protected by a fuse.

The 12 V distribution control unit has a provision for an auxiliary output controlled from the panel under the wording AUX, and it is fitted with an SOS fuse, for powering the main appliances directly from the auxiliary battery and disabling the electronic controls, in case the control panel does not carry out its functions anymore (first of all verify that there is water in the fresh water tank because the pump starts automatically).



12 V distribution control unit

Insert a fuse – of any amperage – to power the main appliances directly from the auxiliary battery and disabling the electronic controls. The yellow LED indicates that the SOS function is activated.

WARNING

The power supply and the control unit must not be exposed to rain, sources of heat or brought in contact with any conductive or inflammable fluid. Such use may cause short-circuits, fires, or irreversible harm to people, animals or objects.

NOTE

The lighting system is equipped with a dimmer switch. You can change the intensity of the interior lighting by pressing each pushbutton that switches on the lights and keeping it pressed.

THINGS TO DO

- It is advisable to routinely check that the circuit breaker is working properly.
- For the installation of optional equipment, contact a Laika authorised workshop. Never modify the original electric system of the chassis used for the caravan.
- Inside outlet sockets may only be used with suitable appliances.

THINGS TO AVOID

- Do not insert any metal object or wire in the air vent slots of the power supply.
- No appliance should be used outside when connected to the internal socket.

NOTE

On the Ecovip series – except for DS models – the power supply and the 12 V distribution control unit are reached from the outside, through a door located on the left side wall, front area. On the Ecovip DS models the power supply and the 12 V distribution control unit are located inside the settee behind the right cabin seat.

NOTE

On the Kreos series the power supply and the 12 V distribution control unit are reached from the garage, through a door.

7.2 Batteries

7.2.1 Engine battery

On Fiat/Citroën chassis, the engine battery is located under the cab floor, on the left side.



NOTE

When turning on the engine the vehicle's alternator automatically recharges also the auxiliary battery.



WARNING

For maintenance of the engine battery, please refer to the manual provided by the chassis manufacturer.

7.2.2 Auxiliary battery

On all vehicles there is the provision for installing an auxiliary battery.

We recommend to install a 100 Ah auxiliary battery, hermetic without maintenance model.

The location for the battery, with protection fuse, is situated in different places, according to the vehicle model:

- Ecovip series: under the floor, accessible via a hatch located near the living quarters door.
- Kreos series: under the floor, accessible via a hatch located near the kitchen (provision for two batteries).



NOTE

When turning on the engine the vehicle's alternator automatically recharges also the auxiliary battery. Recharge can also be achieved, always automatically, through the connection to the 230 V network: the use of this source is recommended whenever possible.



WARNING

Do not leave the appliances turned on for a long period of time without recharging the battery: should the voltage reaches 10 V, all the appliances will be automatically disconnected. That occurs in order to avoid damages to the battery.



WARNING

If installing a second auxiliary battery or optional equipment powered at 12 V, it is recommended to install an additional power supply.



WARNING

If installing a second auxiliary battery, the batteries cables must be positioned in such a way that no hazards arise. The installation must be performed by specialized personnel. Always contact an authorised Laika workshop.

Installation and removal of the auxiliary battery



WARNING

Switch off all appliances and lamps before connecting or disconnecting the auxiliary battery.

To install/remove the auxiliary battery, proceed as follows:

Installation:

- 1) Make sure that all the appliances are disconnected and the system is not energised.
- 2) House the battery inside the bay and fasten it by the specific fasteners.
- 3) Connect the cables to the terminals, taking care to respect polarities (red/positive - black/negative).

Removal:

- 1) Make sure that all the appliances are disconnected and the system is not energised.
- 2) Disconnect the terminals from the battery poles, taking care to protect the ends of the cables by the specific caps.
- 3) Unlock the fasteners for battery positioning and remove it.



WARNING

For safety reasons, always protect the battery poles and do not store metallic objects near the batteries (danger of shortcircuit).

✓ THINGS TO DO

- Bear in mind that the battery capacity is limited and lowers considerably in winter.
- Disconnect the battery poles in case of maintenance works on the electric system.
- If your vehicle is not going to be in use for a long time please disconnect the auxiliary battery by means of the proper switch (see below “ Battery master switch”).

✗ THINGS TO AVOID

- Do not overload the lines with electric optional equipment.
- Do not leave the engine turned on when either the engine battery or the auxiliary battery terminals are disconnected (danger of short circuit).

7.3 Power supply - Battery charger

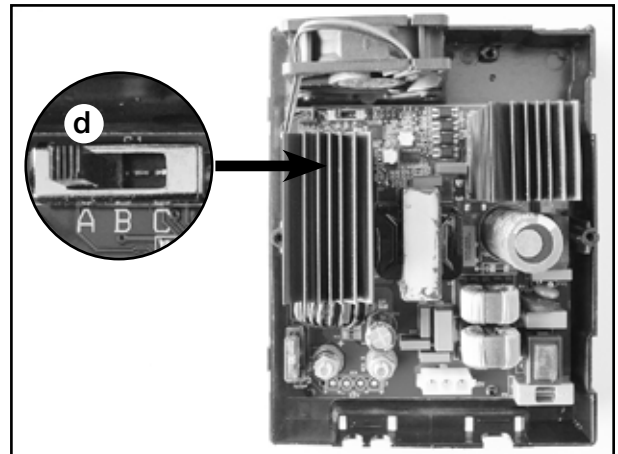
i NOTE

On the Ecovip series – except for DS models – the power supply/battery charger is reached from the outside through a door located on the left side wall, front area. On the Ecovip DS models the power supply/battery charger is installed inside the settee behind the right cabin seat.

i NOTE

On the Kreos series the power supply/battery charger is reached from the garage, through a door.

The battery charger can recharge different types of batteries: for optimal battery charger operation, a selector (d) is provided inside the charger that can be accessed by removing the cover.



In case Lead-Acid batteries are used, set the selector (d) in position “A”. In case Gel batteries are used, set the selector (d) in position “B”. In case AGM batteries are used, set the selector (d) in position “C”.

i NOTE

Refer to the documentation provided by the manufacturer of the battery to be installed to make sure it is compatible with the battery charger.

i NOTE

If installing a second auxiliary battery or optional equipment powered at 12 V, it is recommended to install an additional power supply.

✓ THINGS TO DO

- Read the producer's handbook carefully.
- Always maintain open the aeration provided for air recycle.
- Disconnect the power supply before connecting or disconnecting to the battery.
- Minimise the drawing of current while the battery is being recharged (excessive absorption extends charging times and the battery could be damaged).
- If the power cable or the connection terminals to the battery are damaged, they must be replaced with similar items available from the manufacturer or the technical service.
- Before connecting the power supply of the battery charger to a power unit, make sure that the 230 V output of the latter is stabilised.

✗ THINGS TO AVOID

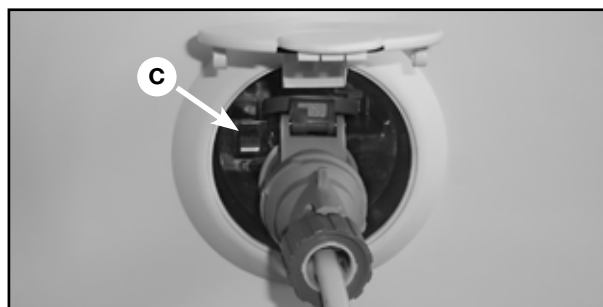
- Do not insert any metal object or other wire in the air vent slots of the power supply.
- Do not obstruct the air intakes on the cover.
- Disconnect the 230 V and 12 V power supply before performing maintenance works.

⚠ WARNING

Warranty is void in case of improper use and the manufacturer shall not be liable for damages to goods or people.

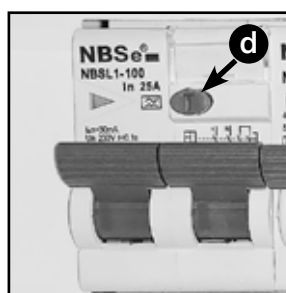
7.4 Other components

External 230 V socket



Insert the plug into the socket as shown in the picture. To remove the plug from the socket, hold the lever (c) while pulling the plug.

Main circuit breaker: 230 V switch



A type

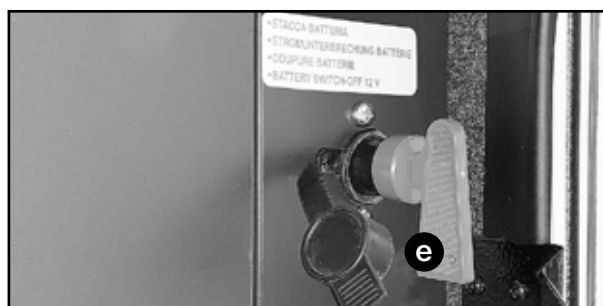


B type

⚠ WARNING

It is advisable to routinely check that the circuit breaker is working properly, by pressing the button (d).

Battery master switch



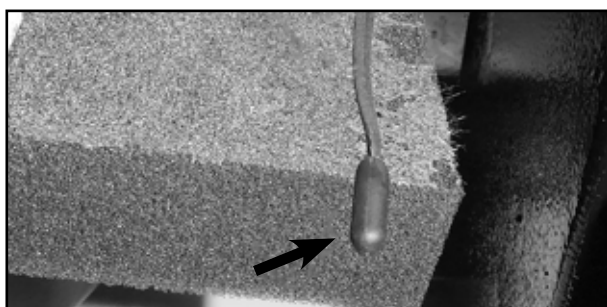
If your vehicle is not going to be in use for a long time, always disconnect the auxiliary battery by means of lever (e), located near the 12 V distribution control unit.

Internal temperature sensor



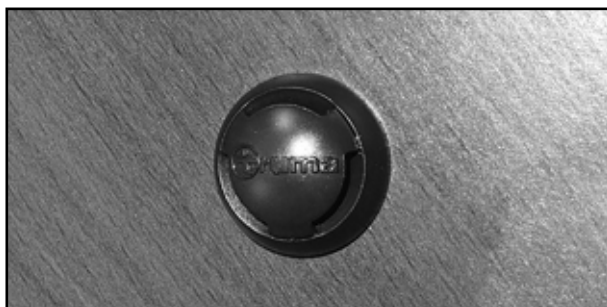
The internal temperature sensor is usually installed next to the control panel or on the side of the piece of furniture between the cab and the living quarters.

External temperature sensor



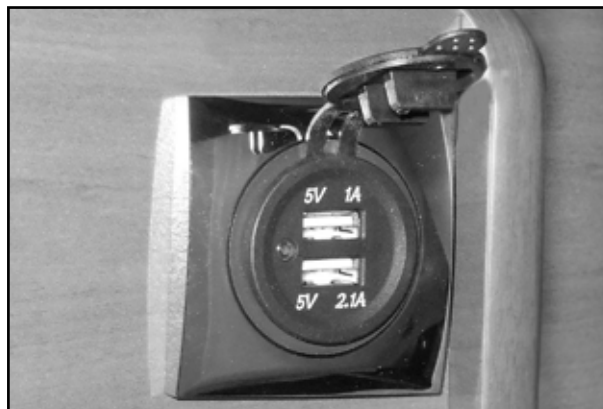
The external temperature sensor is below the floor in the front right area of the vehicle.

Truma system temperature sensor



Sensor usually installed next to the control panel, required for the operation of the Truma heating system.

USB sockets



There are USB sockets in the living quarters that can be used to charge devices such as smartphones. To supply current to the USB sockets, activate the AUX output on the control panel by means of the special pushbutton (see chapter 9 - Control panel).

USB sockets integrated into the reading lights

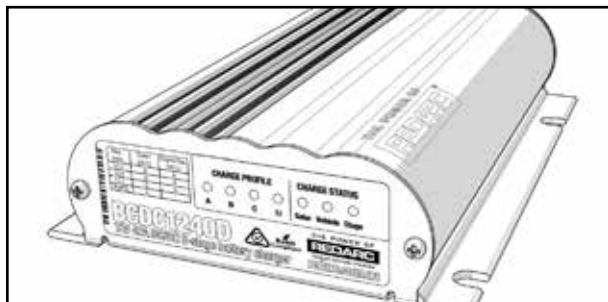


In the rear area there are USB sockets integrated into the reading lights. To supply current to the USB sockets, activate the 12 V/inside lights button on the control panel.

Awning light

An awning light is fitted on the right-hand wall of the vehicle. It can be turned on (only when the engine is off) by means of the switch located on the control panel.

7.5 Booster



An additional component (booster) is fitted on the vehicles to optimise auxiliary battery charging while driving. The booster is located near the 12 V distribution control unit.

Charging profile

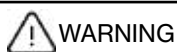


WARNING

The actions described must be performed exclusively by specialised personnel. Always contact a Laika authorised workshop.

According to the type of auxiliary battery installed in the vehicle, the booster must be set to the most suitable charging profile. The charging profile is determined by the type of connection of the orange cable:

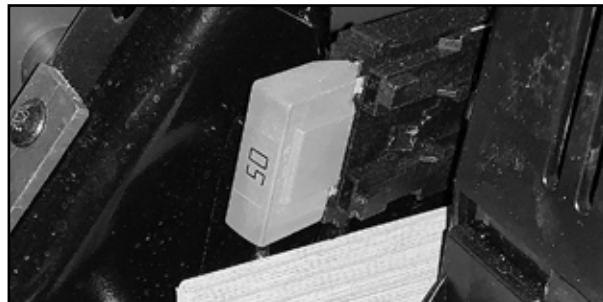
- Leave the orange cable disconnected to select a maximum voltage of 14.6 V (Profile A).
- Connect the orange cable with the General Earth to select a maximum voltage of 15.0 V (Profile B).
- Connect the orange cable with the red cable (battery positive) to select a maximum voltage of 15.3 V (Profile C).
- Connect the orange cable with the green cable to select Li profile (Lithium profile).



WARNING

Check the technical specifications provided by the auxiliary battery manufacturer to ensure that the maximum voltage of the selected profile does not exceed the maximum charging voltage recommended by the manufacturer. Choose another charging profile if the maximum voltage is too high for the type of battery installed.

Inactivity of the vehicle



In case of a long period of inactivity of the vehicle, it is advisable to disconnect the booster by removing the 50 A fuse, located near the 12 V distribution control unit.



NOTE

Refer to the manufacturer's manual for more information on the booster.

8.1 Introduction

The electric system includes a power supply/battery charger, a 12 V distribution control unit fitted with fuses, and a control panel.

The battery charger automatically operates when the vehicle is connected to a 230 V power source, recharging both the auxiliary battery and the engine battery (with holding power only for the latter).

The 12 V distribution control unit includes the appliances controls and the tank and batteries level controls. Each appliance control is protected by a fuse.

THINGS TO DO

- It is advisable to routinely check that the circuit breaker is working properly.
- For the installation of optional equipment, contact a Laika authorised workshop. Never modify the original electric system of the chassis used for the caravan.
- Inside outlet sockets may only be used with suitable appliances.

THINGS TO AVOID

- Do not insert any metal object or wire in the air vent slots of the power supply.
- No appliance should be used outside when connected to the internal socket.

NOTE

The power supply and the 12 V distribution control unit are located under the left cabin seat.

WARNING

The power supply and the control unit must not be exposed to rain, sources of heat or brought in contact with any conductive or inflammable fluid. Such use may cause short-circuits, fires, or irreversible harm to people, animals or objects.

8.2 Batteries

8.2.1 Engine battery

The engine battery is located under the cab floor, on the left side.

NOTE

When turning on the engine the vehicle's alternator automatically recharges also the auxiliary battery.

WARNING

For maintenance of the engine battery, please refer to the manual provided by the chassis manufacturer.

8.2.2 Auxiliary battery

The auxiliary battery, with protection fuse, is installed under the right cabin seat.

NOTE

When turning on the engine the vehicle's alternator automatically recharges also the auxiliary battery. Recharge can also be achieved, always automatically, through the connection to the 230 V network: the use of this source is recommended whenever possible.

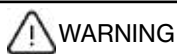
WARNING

Do not leave the appliances turned on for a long period of time without recharging the battery: should the voltage reaches 10 V all the appliances will be automatically disconnected. That occurs in order to avoid damages to the battery.

WARNING

If installing a second auxiliary battery, the batteries cables must be positioned in such a way that no hazards arise. The installation must be performed by specialized personnel. Always contact an authorised Laika workshop.

Installation and removal of the auxiliary battery



WARNING

Switch off all appliances and lamps before connecting or disconnecting the auxiliary battery.



WARNING

If replacement of the auxiliary battery is required, please only use batteries of the same type and same characteristics of the battery originally installed.

To install/remove the auxiliary battery, proceed as follows.

Installation:

- 1) Make sure that all the appliances are disconnected and the system is not energised.
- 2) House the battery inside the bay and fasten it by the specific fasteners.
- 3) Connect the cables to the terminals, taking care to respect polarities (red/positive - black/negative).

Removal:

- 1) Make sure that all the appliances are disconnected and the system is not energised.
- 2) Disconnect the terminals from the battery poles, taking care to protect the ends of the cables by the specific caps.
- 3) Unlock the fasteners for battery positioning and remove it.



WARNING

For safety reasons, always protect the battery poles and do not store metallic objects near the batteries (danger of short circuit).



THINGS TO DO

- Bear in mind that the battery capacity is limited and lowers considerably in winter.
- Disconnect the battery poles in case of maintenance works on the electric system.
- If your vehicle is not going to be in use for a long time, always disconnect the auxiliary battery by removing the relevant fuse (see below "Battery master switch").



THINGS TO AVOID

- Do not overload the lines with electric optional equipment.
- Do not leave the engine turned on when either the engine battery or the auxiliary battery terminals are disconnected (danger of short circuit).

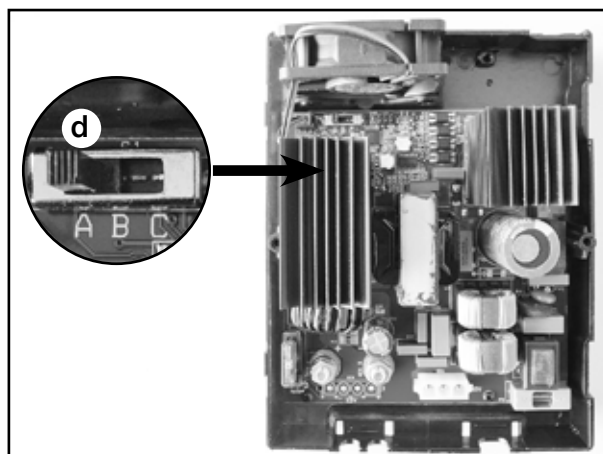
8.3 Power supply - Battery charger



NOTE

The power supply/battery charger is located under the left cabin seat.

The battery charger can recharge different types of batteries: for optimal battery charger operation, a selector (d) is provided inside the charger that can be accessed by removing the cover.



In case Lead-Acid batteries are used, set the selector (d) in position "A". In case Gel batteries are used, set the selector (d) in position "B". In case AGM batteries are used, set the selector (d) in position "C".



NOTE

Refer to the documentation provided by the manufacturer of the battery to be installed to make sure it is compatible with the battery charger.

 THINGS TO DO

- Read the producer's handbook carefully.
- Always maintain open the aeration provided for air recycle.
- Disconnect the power supply before connecting or disconnecting to the battery.
- Minimise the drawing of current while the battery is being recharged (excessive absorption extends charging times and the battery could be damaged).
- If the power cable or the connection terminals to the battery are damaged, they must be replaced with similar items available from the manufacturer or the technical service.
- Before connecting the power supply of the battery charger to a power unit, make sure that the 230 V output of the latter is stabilised.

 THINGS TO AVOID

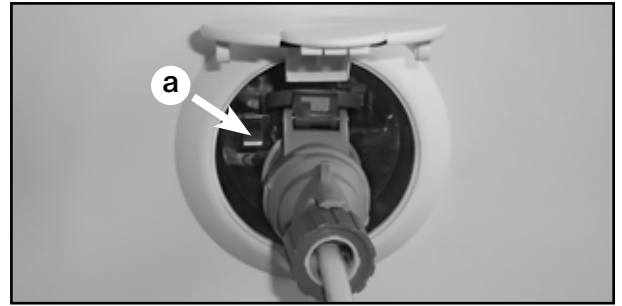
- Do not insert any metal object or other wire in the air vent slots of the power supply.
- Do not obstruct the air intakes on the cover.
- Disconnect the 230 V and 12 V power supply before performing maintenance works.

 WARNING

Warranty is void in case of improper use and the manufacturer shall not be liable for damages to goods or people.

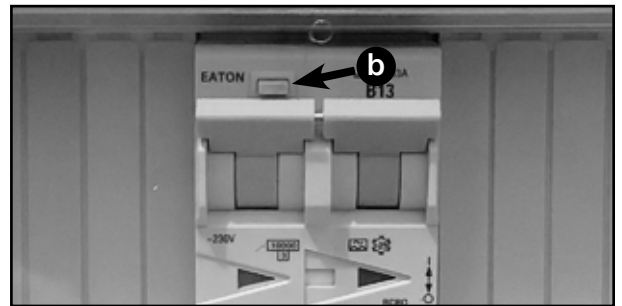
8.4 Other components

External 230 V socket



Insert the plug into the socket as shown in the picture. To remove the plug from the socket, hold the lever (a) while pulling the plug.

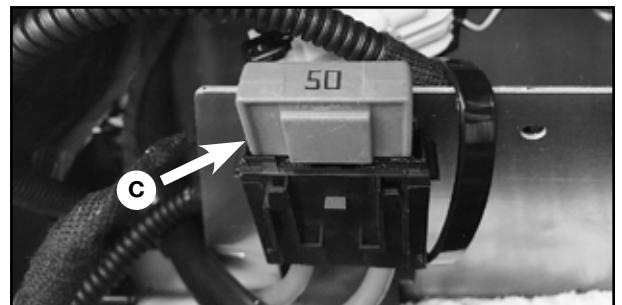
Main circuit breaker: 230 V switch



 WARNING

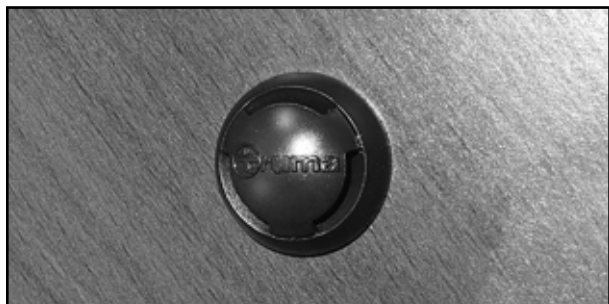
It is advisable to routinely check that the circuit breaker is working properly, by pressing the button (b).

Battery master switch



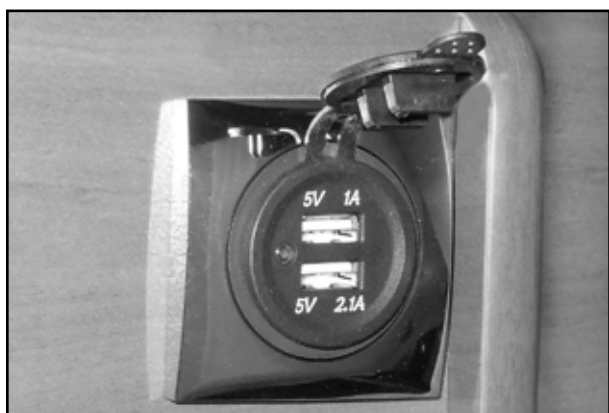
If your vehicle is not going to be in use for a long time, always disconnect the auxiliary battery by removing the relevant fuse (c), located under the right cabin seat (near the battery).

Truma system temperature sensor



Sensor usually installed next to the control panel, required for the operation of the Truma heating system.

USB sockets

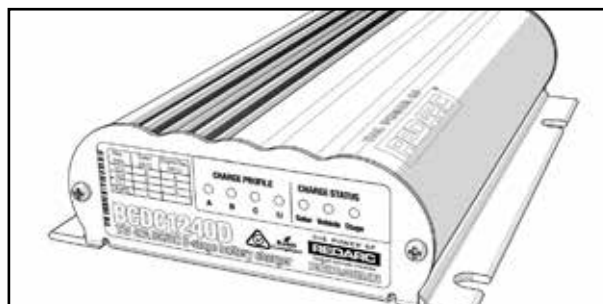


There are USB sockets in the living quarters that can be used to charge devices such as smartphones. To supply current to the USB sockets, activate on the control panel the inside lights button (all the models except for Compact 5 and Compact 9) or the on/off main switch (Compact 5 and Compact 9).

Awning light

An awning light is fitted on the right-hand wall of the vehicle. It can be turned on (only when the engine is off) by means of the switch located on the control panel.

8.5 Booster



An additional component (booster) is fitted on the vehicles to optimise auxiliary battery charging while driving. The booster is located near the 12 V distribution control unit.

Charging profile



WARNING

The actions described must be performed exclusively by specialised personnel. Always contact a Laika authorised workshop.

According to the type of auxiliary battery installed in the vehicle, the booster must be set to the most suitable charging profile. The charging profile is determined by the type of connection of the orange cable:

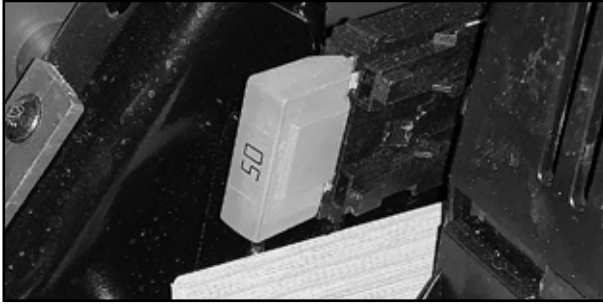
- Leave the orange cable disconnected to select a maximum voltage of 14.6 V (Profile A).
- Connect the orange cable with the General Earth to select a maximum voltage of 15.0 V (Profile B).
- Connect the orange cable with the red cable (battery positive) to select a maximum voltage of 15.3 V (Profile C).
- Connect the orange cable with the green cable to select the Li profile (Lithium profile).



WARNING

Check the technical specifications provided by the auxiliary battery manufacturer to ensure that the maximum voltage of the selected profile does not exceed the maximum charging voltage recommended by the manufacturer. Choose another charging profile if the maximum voltage is too high for the type of battery installed.

Inactivity of the vehicle



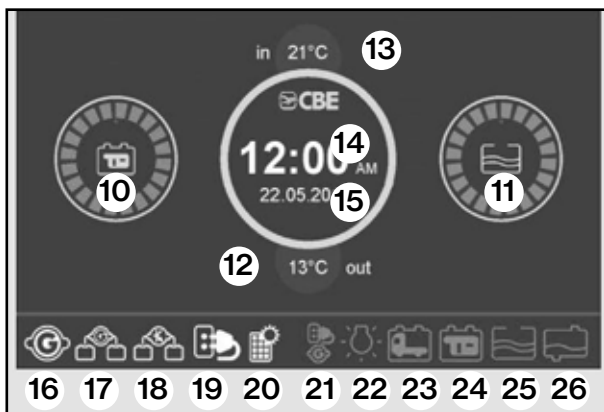
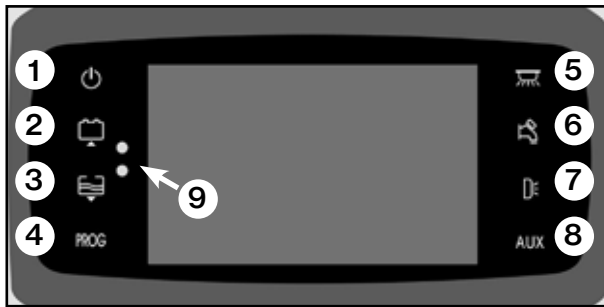
In case of a long period of inactivity of the vehicle, it is advisable to disconnect the booster by removing the 50 A fuse, located near the 12 V distribution control unit.

| |
|--|
|  NOTE |
|--|

| |
|---|
| Refer to the manufacturer's manual for more information on the booster. |
|---|

9.1 Ecovip and Kreos series

Main screen



- 1) On/off main switch (to turn on/off press for two seconds). If the relevant LED is green the control panel is on, if it is red an alarm is on (batteries, tanks, etc.).
- 2) Button for control of engine and auxiliary batteries voltage (in Volt) and for the setting of the programmable parameters (see "Setting").
- 3) Button for the control of fresh, waste and additional (optional) water tanks, for fresh water tank refilling function (see "Fresh water tank refilling function") and for the parameters setting (see "Setting").
- 4) Button for system setting (see "Setting").
- 5) General light control button (light groups "A" and "B").
- 6) Button to switch the pump on and off.
- 7) Awning light button; this light switches automatically off when you start up the engine.
- 8) Button for "AUX" output power supply .
- 9) Sensor for activating the twilight function and waking up the control panel with proximity system.
- 10) "B2" auxiliary battery status display.
- 11) Fresh water tank status display.
- 12) External temperature digital indicator.
- 13) Internal temperature digital indicator.
- 14) Clock digital display.
- 15) Date display.

- 16) It displays that the "+ key" is activated (the symbol appears even when the panel is off).
- 17) It displays that the battery parallel is on when engine is on (the symbol appears even when the panel is off).
- 18) It displays that the engine battery recharging unit is on.
- 19) It indicates that the 230 V power supply is connected (the symbol appears even when the panel is off).
- 20) It indicates the recharging through solar panel (with a CBE solar regulator only).
- 21) It displays, with "+ key" inserted, that the 230V mains is still connected. The alarm is signalled even when the panel is switched off.
- 22) It displays the minimum voltage control device is on.
- 23) It displays that the engine battery (B1) has run down.
- 24) It displays that the auxiliary battery (B2) has run down.
- 25) It displays that the fresh water tank or the additional fresh water tank (optional) is empty.
- 26) It displays that the waste water tank is full.

Fresh water tank refilling function

This function is used during the fresh water tank refilling, and shows the water level during refilling.

To activate this function, press for more than two seconds on button (3) until the "water fill" screen appears.

The control panel beeps in order to warn that tank is getting filled: one short beep at 75% level, two short beeps at 85% level a one long beep at 100% level.

Minimum voltage control (battery protection)

The electronic battery protection device disconnects the 12 V users when auxiliary battery reaches 10 V and disables: pump, lights, awning light, RH output, AUX output, 12 V sockets.

Symbol (22) is the visual alarm signal.

It is possible to connect all users for one more minute by pressing the ON/OFF button (1).

The control panel automatically turns off with a voltage lower than 9.5 V.

Users are automatically reconnected with a voltage higher than 13.5 V.

This device doesn't control the 12 V users connected directly to the auxiliary battery B2.

Setting

To enter the set mode, press the button (4) for more than two seconds.

Select, by pushing the arrow keys (2) and (3), the setting menu you want to operate and then confirm by pushing the button (4):

- By selecting “CLOCK” you operate the menu to set only the parameters clock and alarm clock.
- By selecting “DISPLAY” you operate the menu to set the display parameters.
- By selecting “SETTING” you operate the menu to set the system parameters.
- By selecting “ADJUST” you operate the menu to set the temperature and battery parameters.
- By selecting “SW VERSION” you operate the menu to view the connected CBE devices’ software versions.

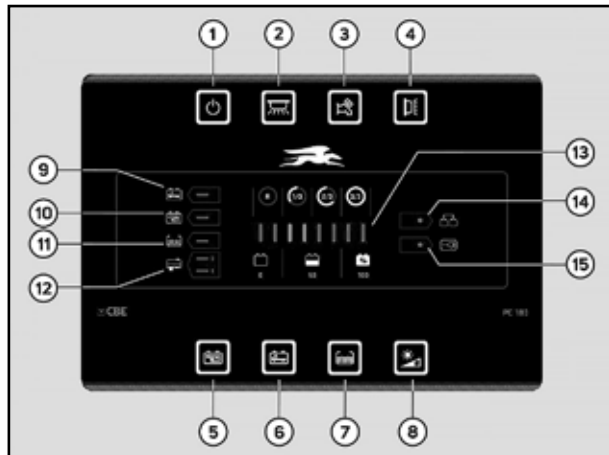
By using the arrow keys (2) and (3) you can modify the setting of the parameters. Confirm the setting by pushing the button (4), you then go automatically to next parameter.

To abandon programming and save changes, select “EXIT” and then choose to save or not save changes.

NOTE

Refer to the producer's handbook for further information on the control panel.

9.2 Kosmo series (except for Kosmo Compact 5 and Compact 9)



- 1) On/off main switch. The flashing LED indicates that the auxiliary battery is run down and all the appliances will soon be disconnected.

NOTE

At startup the control panel checks the working of all LEDs, except LED 14 and 15.

- 2) Inside lights button.
- 3) Button for pump on and off.
- 4) Awning light control button, switches automatically off when you start up the engine.
- 5) Button to control auxiliary battery voltage (B2).
- 6) Button to control engine battery voltage (B1).
- 7) Button to control fresh water and waste water tank level.
- 8) Button for adjusting panel night backlight. To set, press for more than three seconds until the desired level has been reached. When the ambient light decreases, a dusk sensor located near the button will automatically reduce the backlight intensity to the set level.
- 9) The flashing of this LED indicates that the engine battery (B1) has run down.
- 10) The flashing of this LED indicates that the auxiliary battery (B2) has run down.
- 11) The flashing of this LED indicates that the fresh water tank is empty.
- 12) The flashing of this LED indicates that the waste water tank is full (tank 1).
- 13) Battery voltage and tank level display.
- 14) Indicates the auxiliary battery charging by means of the vehicle alternator.
- 15) Indicates 230 V power source connection.

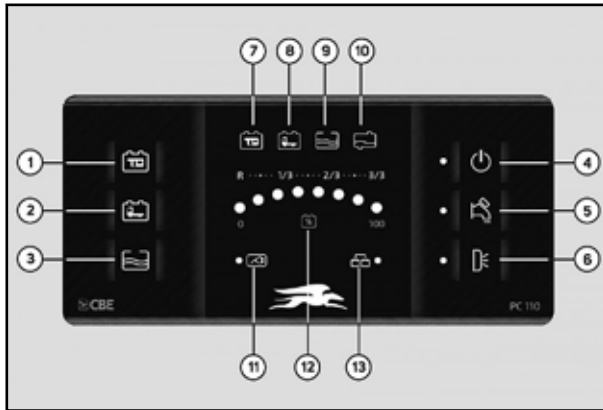
i NOTE

Refer to the producer's handbook for further information on the control panel.

i NOTE

Refer to the producer's handbook for further information on the control panel.

9.3 Kosmo Compact 5, Compact 9



- 1) Button to control auxiliary battery voltage (B2).
- 2) Button to control engine battery voltage (B1).
- 3) Button to control fresh water and waste water tank level.
- 4) On/off main switch. The flashing LED indicates that the auxiliary battery is run down and all the appliances will soon be disconnected.

i NOTE

At startup the control panel checks the working of all LEDs.

- 5) Button for pump on and off.
- 6) Awning light control button, switches automatically off when you start up the engine.
- 7) The flashing of this LED indicates that the auxiliary battery (B2) has run down.
- 8) The flashing of this LED indicates that the engine battery (B1) has run down.
- 9) The flashing of this LED indicates that the fresh water tank is empty.
- 10) The flashing of this LED indicates that the waste water tank is full.
- 11) Indicates 230 V power source connection.
- 12) Battery voltage and tank level display.
- 13) Indicates the auxiliary battery charging by means of the vehicle alternator.

! WARNING

Quantify the loads with skilled personnel before installing electric optional equipment other than those of the standard outfit and carefully determine the type of connection to be made.

i NOTE

For information on the connections of the control unit, refer to the manufacturer's manual.

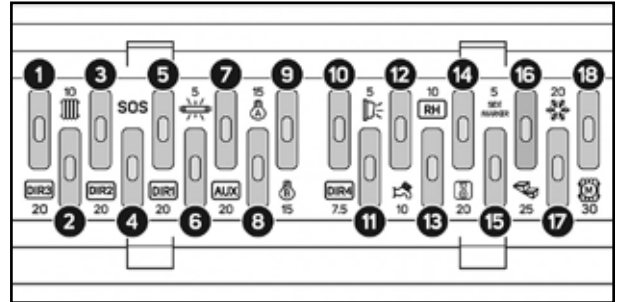
i NOTE

Some fuses are related to optional devices, or are not available on some models.

i NOTE

If the vehicle is equipped with a diesel fuelled Truma heating (optional), its fuse will be 20 A instead of 10 A.

10.1 Ecovip and Kreos series



- 1) 20 A fuse - DIR3 - Rear electric bed.
- 2) 10 A fuse - Heating.
- 3) 20 A fuse - DIR2 - Front electric bed.
- 4) SOS - Insert a fuse – of any amperage – to power the main appliances directly from the auxiliary battery and disabling the electronic controls. The yellow LED indicates that the SOS function is activated.
- 5) 20 A fuse - DIR1 - Satellite antenna.
- 6) 5 A fuse - Night lights (Ecovip) / Garage lights (Kreos).
- 7) 20 A fuse - AUX output.
- 8) 15 A fuse - Lights group A.
- 9) 15 A fuse - Lights group B.
- 10) 7.5 A fuse - DIR4.
- 11) 5 A fuse - Awning light.
- 12) 10 A fuse - Water pump.
- 13) 10 A fuse - RH output.
- 14) 20 A fuse - 12 V sockets.
- 15) 5 A fuse - Side-marker lights.
- 16) 25 A fuse - Electric entrance step.
- 17) 20 A fuse - Fridge 12 V power supply, it turns off automatically when engine is off.
- 18) 30 A fuse - Heating motor.

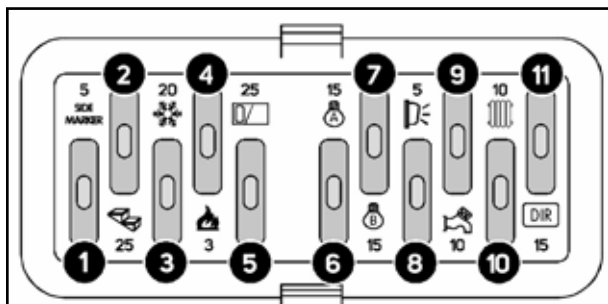
i NOTE

On the Ecovip series – except for DS models – the control unit is reached from the outside through a door located on the left side wall, front area. On the Ecovip DS models the control unit is installed inside the settee behind the right cabin seat.

i NOTE

On the Kreos series the control unit is reached from the garage, through a door.

10.2 Kosmo series



- 1) Side-marker lights.
- 2) Electric entrance step.
- 3) Fridge 12 V power supply.
- 4) Gas hob ignition.
- 5) Electric bed.
- 6) Lights group "A".
- 7) Lights group "B".
- 8) Awning light.
- 9) Water pump.
- 10) Heating.
- 11) DIR output.

i NOTE

The control unit is located under the left cabin seat.

11.1 Warning

All the refrigerators can operate in three ways, that is to say that they can be powered with: AC at 230 V, DC at 12 V, gas.

Power supply with current at 12 V allows to keep the appliance on also during transfers but it provides only holding power; for this reason, before departure, it is important to cool the refrigerator and the possible food using power supply at 230 V or gas.

Always remember that the refrigerator cooling power is affected by:

- the source of energy it is powered with;
- possible breaks in shifting from one source to another one;
- the ice thickness on the refrigerator's walls that works as insulator (defrost when it exceeds 3 mm);
- the quantity of food inside the refrigerator;
- the climatic conditions the vehicle is exposed to (if parked in the summer sun, inside the vehicle it is possible to reach and exceed 50 °C).

To avoid dangerous food intoxications we recommend to use the utmost care in storing perishable food bearing in mind that the performances of these appliances cannot be compared with those of a household refrigerator.



WARNING

Read the user guide of the producer before using the appliance.



WARNING

Periodically clean the back of the refrigerator, accessible through the grids placed on the outer wall of the vehicle and check that there are no spider webs or other objects that obstruct the gas burner.

Automatic mode

By selecting the automatic mode, the electronic board will automatically identify the most suitable power supply in the following priority order: 230 V, 12 V, gas. In passing from 12 V to gas, the automatic system requires a waiting period of 15 minutes. This is to prevent the fridge from passing too quickly to the gas supply, when this is not necessary (for example, when a short stop is needed at a fuel station).

Manual selection of the type of power supply

Gas supply is strictly forbidden during stops at filling stations and when driving the vehicle. For safety reasons, the gas supply can only be selected after 15 minutes have elapsed from the time the engine is turned off. Concerning 12 V or 230 V power supply, if these are selected respectively when the engine is off or without connection to the external power grid, the refrigerator does not operate. For these reasons we recommend the automatic mode, which enables proper and safe operation of the equipment.



THINGS TO DO

- Use the utmost care in storing perishable food.
- If possible, the refrigerator should be turned on for about 6 hours prior to inserting the food items.
- When parked, level the vehicle as much as possible.
- Defrost when the ice thickness exceeds 3 mm.
- Wash the inside with suitable cleaners when the appliance is no longer in use.
- Treat the rubber door seals with talcum powder.
- Insert the door safety device while travelling.



THINGS TO AVOID

- Do not open the door too often in summer.
- Do not introduce hot food.
- Do not consume perishable foods in case of prolonged refrigeration interruption.
- Do not expose to the sun the wall where the refrigerator is housed
- Do not damage or obstruct the air intakes.
- Do not leave the refrigerator doors closed during a long period of inactivity.
- Do not dismantle the refrigerator on your own.

11.2 Use and maintenance

11.2.1 Dometic refrigerator (A type)



- 1) ON/OFF button.
- 2) Indicator failure.
- 3) 12 V power supply pilot lamp.
- 4) Gas power supply pilot lamp.
- 5) 230 V power supply pilot lamp.
- 6) Automatic mode pilot lamp.
- 7) Cooling level indicator.
- 8) Power supply selection button.
- 9) Cooling level selection button.

i NOTE

Refer to the manufacturer's handbook for further information on the refrigerator.

11.2.2 Dometic refrigerator (B type)



To switch on the refrigerator: press the control knob (a) for 2 seconds.

To navigate in the menu:

- Press the control knob (a) to activate the navigation menu.
- Turn the control knob (a) to select the desired detail menu.
- Press the control (a) knob to open the selected detail menu.
- Turn the control knob (a) to navigate through the detail menu
- Press the control knob (a) to choose the selected setting.

To switch off the refrigerator: press the control knob (a) for 4 seconds.

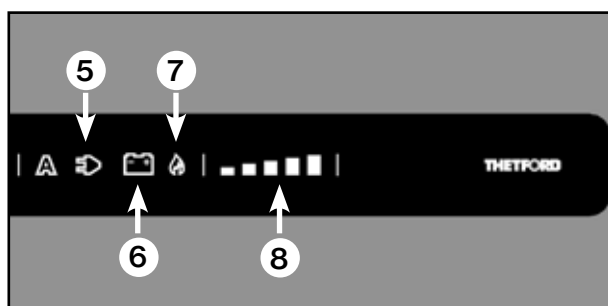
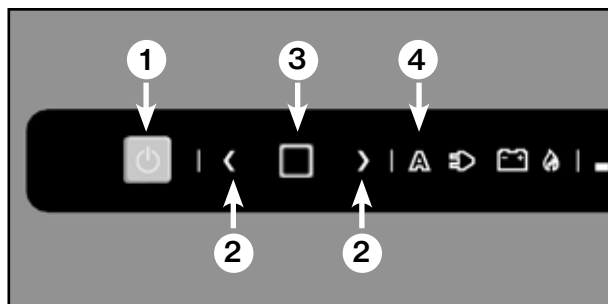
- b) Cooling level indicator.
- c) Operation with DC power.
- d) User mode/Settings.

i NOTE

Refer to the manufacturer's handbook for further information on the refrigerator.

11.2.3 Thetford refrigerator

Control panel



- 1) ON/OFF button.
- 2) Arrow buttons.
- 3) Confirm button.
- 4) Automatic mode pilot lamp.
- 5) 230 V power supply pilot lamp.
- 6) 12 V power supply pilot lamp.
- 7) Gas power supply pilot lamp.
- 8) Cooling level indicator.

Operation

To choose a type of power supply, keep the confirm button (3) pressed for two seconds: the pilot lamps that indicate the type of supply (automatic, 230 V, 12 V, gas) will start to flash. Choose the desired type using the arrow buttons (2). Confirm your choice with the confirm button (3).

To select the cooling level, keep the confirm button (3) pressed for two seconds: the pilot lamps that indicate the sources (automatic, 230 V, 12 V, gas) will start to flash. Press the confirm button once again. The cooling level indicator (8) will start to flash. Choose the desired level using the arrow buttons (2). Confirm your choice with the confirm button (3).

i NOTE

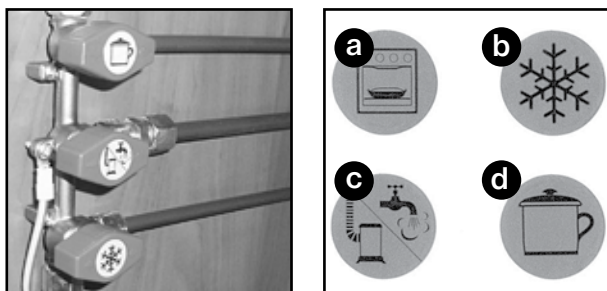
Refer to the manufacturer's handbook for further information on the refrigerator.

12.1 General description

The gas system, calibrated at a running pressure of 30 mbar, branches out from the gas bottle locker which is completely sealed with respect to the living quarters and is provided with air grilles directed outwards.

The space available allows housing one gas bottle, with the possibility to house a second gas bottle. Gas bottles must be secured using the fastening belts. The pipes are made of protected steel and connect one or more valves which distribute gas to each appliance.

It is recommended to close the taps of unused appliances and the main valve of the bottle, if no gas appliance is being used.



Two, three, four-way taps marked with symbols.

- a) Oven.
- b) Refrigerator.
- c) Heating-boiler.
- d) Hob.

| |
|---|
| WARNING |
| During the journey or during stops at filling stations it is forbidden to keep the main valve of the gas bottle open. |

| |
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| WARNING |
| Before using any gas appliance, ensure that gas system is safe and controlled, and the air inlets of the vehicle are cleaned, both on the roof and on the floor level. |

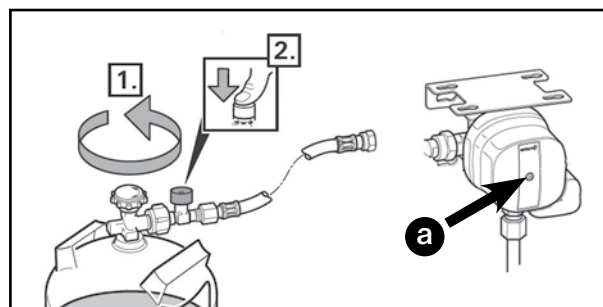
| |
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| NOTE |
| During the winter the use of propane gas is recommended (the butane gas does not gasify at temperatures lower than 0 °C). |

12.2 Gas pressure regulator with crash sensor

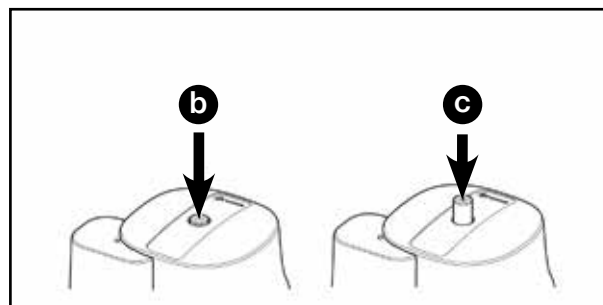
On some models, the gas pressure regulator is equipped with a safety device (crash sensor) which immediately stops the gas flow in the event of an accident.

| |
|---|
| WARNING |
| Some models are not equipped with a gas pressure regulator with crash sensor. |

Start up



- 1) Open bottle valve.
- 2) Firmly press the hose rupture protection on the high-pressure hose for about 5 seconds.



The crash sensor has a yellow reset button (a), the position of which indicates its status: "ready for operation" position (b) or "not ready for operation" position (c). If the reset button (a) is not pressed ("not ready for operation" position), reset the crash sensor. To reset, press the reset button (a) firmly, turn it slightly clockwise, hold it for 5 seconds and ensure that it stays in the "ready for operation" position (b).

| |
|---|
| NOTE |
| Refer to the producer's handbook for further information on the gas pressure regulator with crash sensor. |

12.3 Gas bottle replacement



WARNING

When connecting or disconnecting the gas bottle and during any handling operations of the gas bottles inside the locker, extreme care must be taken to avoid damaging, stretching or bending the flexible hose.

For gas bottle replacement, follow the procedure below:

- 1) Ensure that the taps of all the gas powered appliances are closed.
- 2) Close the tap of the bottle to be replaced.
- 3) Unscrew the nut which fastens the hose to the tap of the empty bottle.
- 4) Detach the bottle from the fasteners and remove it from the bay.
- 5) Verify the closure of the tap of the bottle to be installed.
- 6) Insert it in the bay inside the bottle housing, fastening it with the specific fasteners.
- 7) Remove the plastic cap which seals the new bottle.
- 8) Remove from inside the cap the new seal and replace the old one at the end of the hose.
- 9) Manually screw the nut of the hose to the new bottle, completing fastening by the specific wrench, in order to ensure seal tightness.
- 10) Slowly open the tap of the bottle, taking care to detect any gas leakage (strong smell of gas or pressure leak noise).



WARNING

Look for any minor leak by means of a soap water solution (never using flames) using a brush, spreading such solution on the areas where a leak is more likely (joints). Bubbles, if any, indicate a leak.



WARNING

Inspect flexible gas hoses regularly for deterioration and renew as necessary with the approved type. Either the expiry date or the production date is marked on the hoses. If the production date is indicated, refer to the regulations in force in your country to determine the expiry date. In any case, the expiry date of the hoses may vary depending on the country you are in.

✓ THINGS TO DO

- Check that the gas bottles are anchored with the special fastening belts.
- Regularly check that the gas bottle hoses are properly connected.
- Have a Laika authorised workshop check the tightness of the gas system yearly.
- Transport the gas bottles only inside the gas bottle locker.

✗ THINGS TO AVOID

- Do not obstruct the air grilles of the gas bottle locker.
- Do not use gas appliances with a different working pressure.

12.4 Hob and oven

i NOTE

On some models the oven is optional (not standard).

The stainless steel hob and oven are fitted with thermocouple valves to stop gas delivery if the flame is blown out. To turn them on when they are cold, it is necessary to press and turn the relevant delivery knobs, wait for the flame to light and release the knobs after a few seconds.

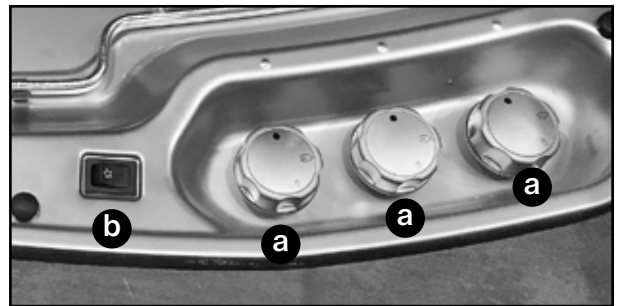
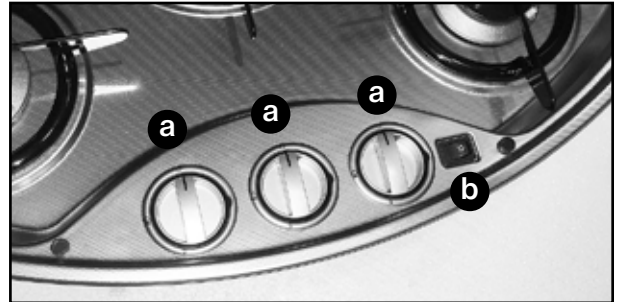
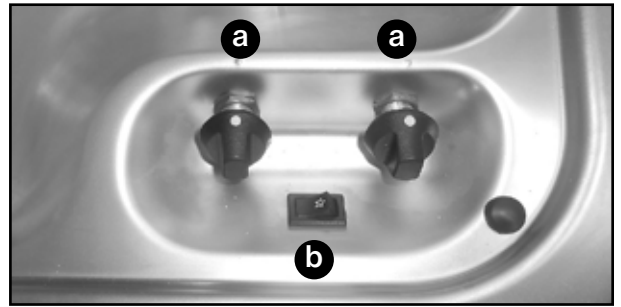
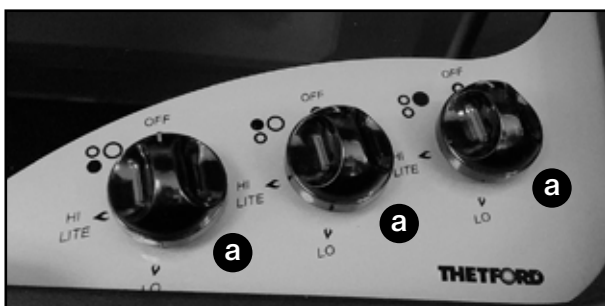
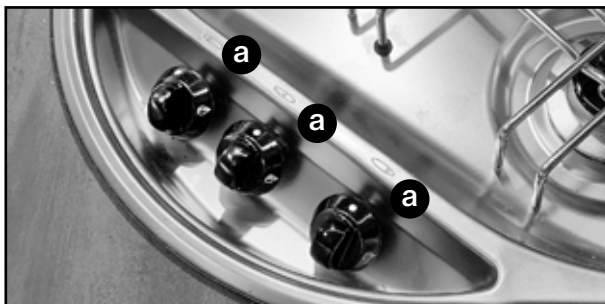
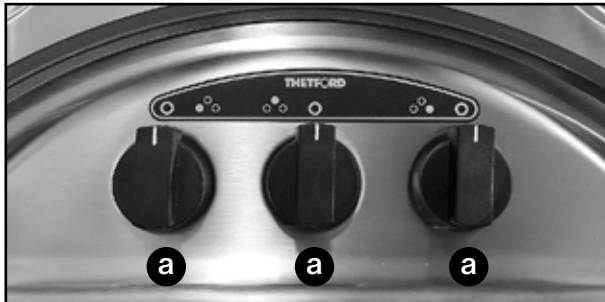
! WARNING

Periodically check the proper operation of the thermocouple valves.

i NOTE

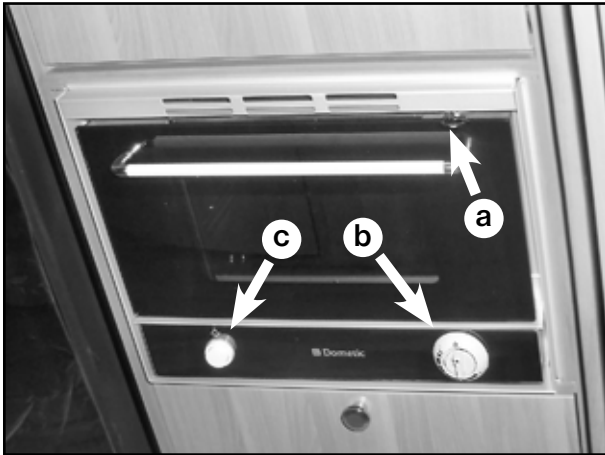
We recommend not to place hot pots on the kitchen top.

Hob (2 or 3 burners)



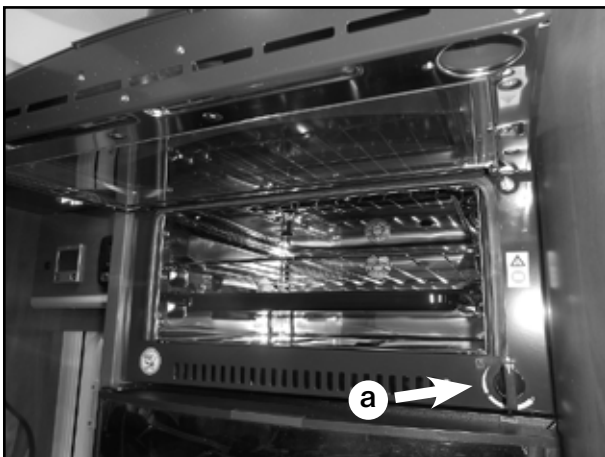
- a) Burner knobs.
- b) Ignition button.

Oven without grill (A type)



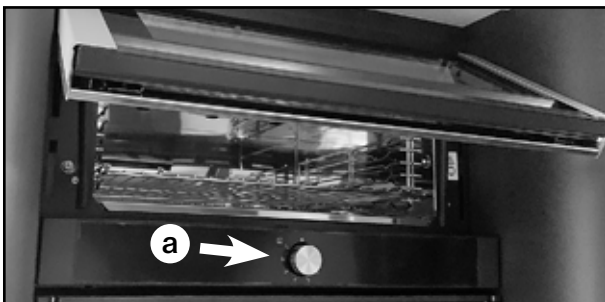
- a) Hatch for door blocking.
- b) Oven burner knob. To turn on press and turn towards left.
- c) Oven light switch.

Oven without grill (B type)



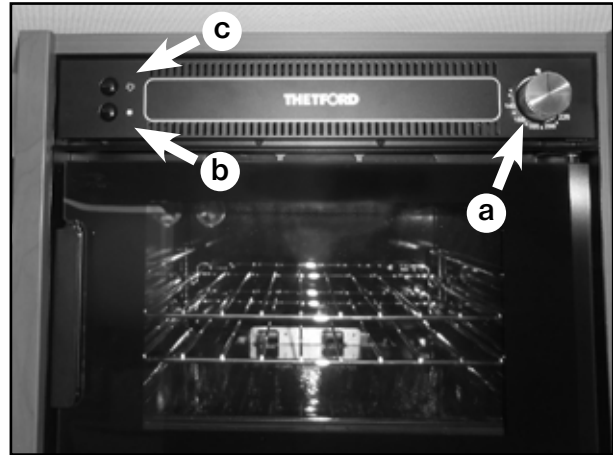
- a) Oven burner knob. To turn on press and turn towards left.

Oven without grill (C type)



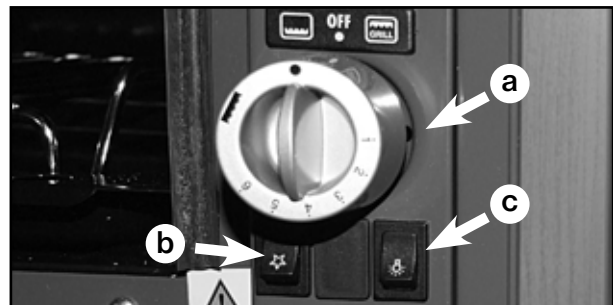
- a) Oven burner knob. To turn on press and turn towards left.

Oven without grill (D type)




- a) Oven burner knob. To turn on press and turn towards left.
- b) Ignition button.
- c) Oven light switch.

Oven with grill



- a) Oven burner knob.
- b) Ignition button.
- c) Oven light switch.
- d) Heat protection plate.

| |
|--|
|  WARNING |
| When using the grill, extract the heat protection plate (d) and leave the oven door open. |

i NOTE

Please refer to the producer's handbook for further information on hob and oven.

✓ THINGS TO DO

- Push the ignition button only with the oven door completely opened.
- Clean after use with specific oven and stainless steel cleaners.
- After use, carefully dry all stainless steel surfaces.

✗ THINGS TO AVOID

- Do not obstruct the air circulation grilles.
- Do not leave the vehicle unattended when the oven or burners are on.
- Do not insert paper bags (or similar) when heating up food.
- Do not use ovens or burners during the journey.
- Do not close the glass cover of the hob until the gas-rings have cooled off.
- Do not use burners to heat the vehicle.
- Do not use detergents containing chlorine, abrasive detergents, scourers or metal brushes to clean stainless steel surfaces.

12.5 Cooker with integrated oven (optional)

This cooker version includes a three gas-rings top and a combined oven/grill, all provided with thermocouple valves to stop gas delivery if the flame is blown out.

For lighting it is necessary to push and turn the knobs. After lighting, wait for a few seconds before release; lighting of oven/grill must be performed with fully open door.

Use the grill only with the hob cover open and oven door fully open.

! WARNING

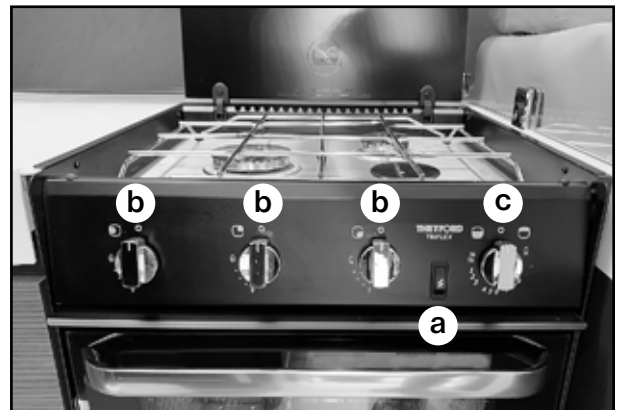
Periodically check the proper operation of the thermocouple valves.

i NOTE

We recommend not to place hot pots on the kitchen top.

i NOTE

Please refer to the producer's handbook for further information on hob and oven.



a) Ignition button.

b) Top burner knobs.

c) Oven/grill knob.

✓ THINGS TO DO

- Push the ignition button only with the oven door completely opened.
- Clean after use with specific oven and stainless steel cleaners.
- After use, carefully dry all stainless steel surfaces.

✗ THINGS TO AVOID

- Do not obstruct the air circulation grilles.
- Do not leave the vehicle unattended when the oven or burners are on.
- Do not insert paper bags (or similar) when heating up food.
- Do not use ovens or burners during the journey.
- Do not close the glass cover of the hob until the gas-rings have cooled off.
- Do not use burners to heat the vehicle.
- Do not use detergents containing chlorine, abrasive detergents, scourers or metal brushes to clean stainless steel surfaces.

12.6 Kitchen additional work-surfaces



The kitchens of some models have additional removable work-surfaces.

When travelling, remove the additional tops and stow them in a closed area. To release the tops from their guides, pull them upwards.



WARNING

Before departure it is mandatory to completely empty the hot water boiler.



WARNING

Always remember that in absence of electric power supply the heating system does not work. For this reason during the winter it is recommended to check the auxiliary battery charge frequently and, if connecting to 230 V power supply is impossible, limit the use of the various appliances to the minimum to ensure the battery charge enough to operate the heating system.

13.1 Truma heating system

The Truma heating system consists of a heater with integrated boiler and provides for environment heating and production of hot water.

Hot air distribution is guaranteed by suitably positioned vents.



NOTE

For the correct operation of the heating system, leave all the air vents open.



NOTE

When the heating is turned off and there is the risk of freezing, the boiler empties automatically.

The boiler emptying operation can be either manual, by means of the special switch located on the drain valve, or automatic. The boiler empties automatically when the internal temperature is close to 3 °C. To facilitate emptying operations, leave at least a kitchen or a washroom tap open (it is however recommended to leave all of them open, to prevent water from stagnating inside the taps themselves with consequent damages caused by frost).

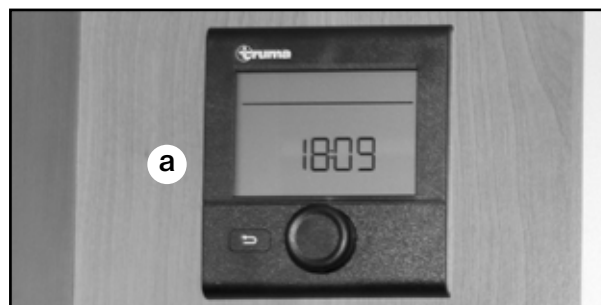


NOTE

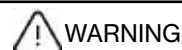
In case of either automatic or manual emptying, close the drain valve for later use.

The control panel can be digital (CP Plus) or analogue depending on the model and equipment.

CP Plus digital control panel



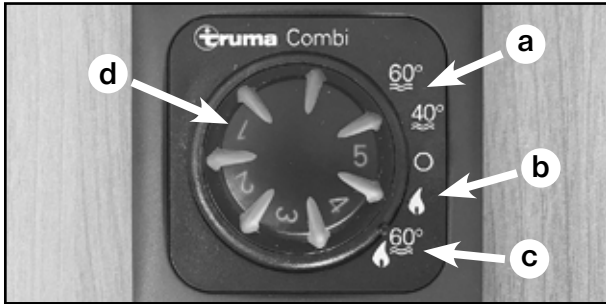
All the functions of the system can be programmed by the Truma CP Plus control panel (a). To switch on, operate, and switch off the system, as well as for all the information concerning maintenance and safety, carefully read the manual of the manufacturer, which is provided together with the vehicle documentation.



WARNING

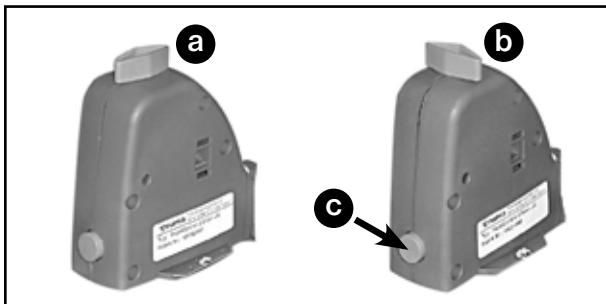
If gas supply is cut-off (for example when a bottle is empty) the control panel might show the following error codes 507, 516 or 517. In these conditions, first of all restore gas supply (for example replacing the empty gas bottle with a new one), then operate the knob/button on the control panel to clear the error (remember that when you press the knob/button for the first time only the panel back lighting might switch on and the knob/button needs to be pressed again). If you delete the error four times without having restored the gas supply first, the control panel locks for 15 minutes (the error code flashes on the display). If the error code is displayed and the control panel switches off/on, the control panel will lock for 15 minutes (the error code flashes on the display). When the control panel locks, no operation is allowed: you need to wait till the end of the lock period (the error code stops flashing) before operating on the control panel again.

Analogue control panel



- a) Summer operation (water temperature 40 or 60 °C)
- b) Winter operation (heating without water temperature monitoring).
- c) Winter operation (heating with water temperature monitoring).
- d) Thermostat.

Drain valve



To manually empty the boiler open the drain valve by turning the switch to position (a). After the emptying, close the valve by turning the switch to position (b) and pushing the button (c).

✓ THINGS TO DO

- Check the integrity of the heating flue pipe at regular intervals.
- When there is the risk of freezing, check that the boiler empties automatically.
- During the winter the use of propane gas is recommended (the butane gas does not gasify at temperatures lower than 0 °C).
- Read the producer's handbook carefully.

✗ THINGS TO AVOID

- Do not tamper with the flue pipe. Have all maintenance operations performed by the Laika Customer Service or the dealer.

13.2 Alde heating system

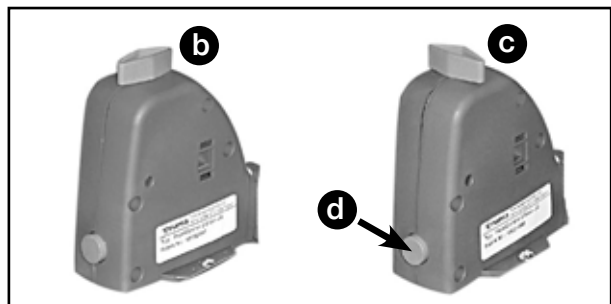
The Alde heating system, operating by means of circulation of hot water, consists of a boiler and a few radiators positioned in suitable positions inside the home unit.

The boiler can be powered by gas or 230 V AC and provides for environment heating and production of hot water.



All the functions of the system can be programmed by the Alde control panel (a). To switch on, operate, and switch off the system, as well as for all the information concerning maintenance and safety, carefully read the manual of the manufacturer, which is provided together with the vehicle documentation.

Drain valve



To manually empty the boiler open the drain valve by turning the switch to position (b). After the emptying, close the valve by turning the switch to position (c) and pushing the button (d).

i NOTE

The valve automatically opens when indoor temperature is near 3 °C.

i NOTE

In case of either automatic or manual emptying, close the drain valve for later use.

Control of the amount of heating liquid (ordinary maintenance)

Contact a Laika authorised workshop to periodically control the level of the heating liquid.

For this heating system the liquid must be composed of glycol (40%) diluted in water (60%). In case of emergency it may be refilled with water only.




Tank for the control and refill of heating liquid

Heat exchanger (only Ecovip - Kreos)

The system is completed by a heat exchanger under one of the cabin seats, enabling it to use the engine heat to heat the home unit during travelling.



To activate the heat exchanger, press button (a) on the dashboard and activate the constant pump operation on the Alde control panel, indicated by the symbol  (check manufacturer's manual).



THINGS TO DO

- Check the integrity of the heating flue pipe at regular intervals.
- When there is the risk of freezing, check that the boiler empties automatically.
- During the winter the use of propane gas is recommended (the butane gas does not gasify at temperatures lower than 0 °C).
- Read the producer's handbook carefully.

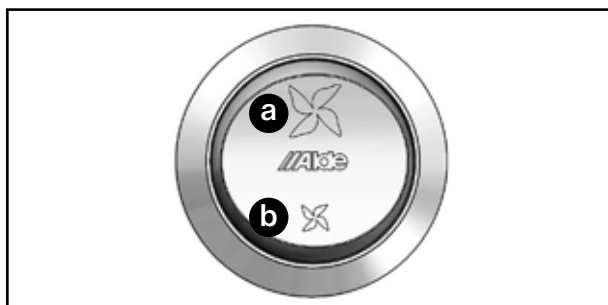


THINGS TO AVOID

- Do not tamper with the flue pipe. Have all maintenance operations performed by the Laika Customer Service or the dealer.

13.2.1 Ecovip A-class cab heating

In Ecovip A-class models with Alde heating system, it is possible to turn on extra heating fans under the cabin seats.



To activate the heating fans, press the switch located on the base of the right cabin seat. You can select two fan speeds: press part (a) for a higher speed or part (b) for a lower speed. To turn off the heating fans, place the switch in the middle position ("0").

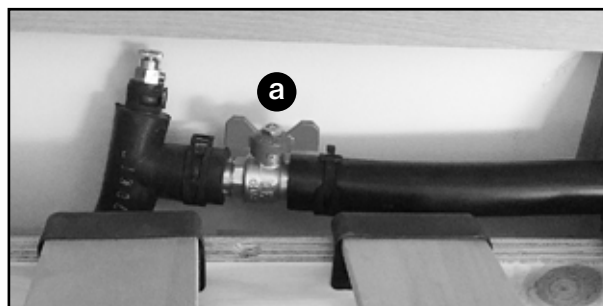
13.2.2 Heating of the rear bed area (Kreos)

On the models of Kreos series there is a knob present which permits an independent regulation of the heating in the rear bed area, in confront to the rest of the living area.



The Alde heating knob is located inside the rear bedroom. By selecting the lowest value (*) you will obtain the complete exclusion of the rear bed area from the heating circuit, whilst raising the values, the heating will increase in this area until complete alignment with the rest of the living quarter (maximum value).

13.2.3 Heating of the rear bed area (Kosmo)



On the models of Kosmo series it is possible to exclude the heating of the rear bed area by turning valve (a). This valve is located inside the rear bedroom.

14.1 Introduction

All the LAIKA-models are equipped with a water system expressly conceived to grant a high comfort and a suitable safety level.

Here below you will find some useful advice that will allow you to avoid damages to the system, especially in case of very low temperatures:

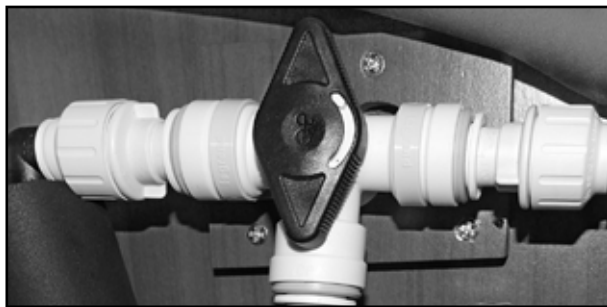
- do not use in any case abrasive or acid products to clean the pipes;
- to keep the water pump functioning properly, periodically clean the filter;
- in case of frost, the system must be completely emptied (please also read "Maintenance – Inactivity of the vehicle"). It is very important to be sure that no water still remains in the final part of the system, in the taps of the sink and in the lavatory.

14.2 Water Pump

The pump takes water from the selected tank (standard or additional, if installed). The water goes through a filter located in the pump inlet and is then sent into the system, flowing inside antifreeze polybutylene pipes to reach the taps. The pump is fitted with a pressure switch and it works each time a water tap is turned on.

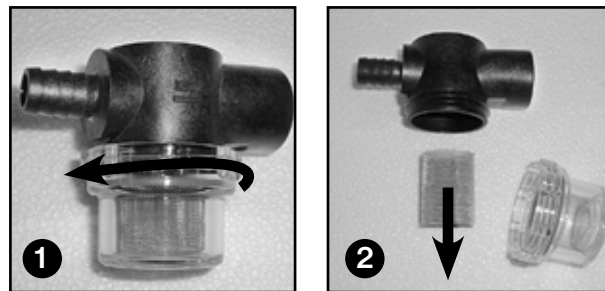
Refer to the producer's handbook for further information on the pump.

Vehicles equipped with additional fresh water tank (optional)



Vehicles equipped with additional fresh water tank are provided with a tap, usually installed next to the pump, to select the tank (standard or extra).

14.2.1 Filter cleaning



Removal of the pump filter in order to clean it.

14.2.2 Problems which can happen and their possible causes

The pump fails to start when a tap is turned on:

- pump not activated from control panel;
- cable disconnected;
- battery run down;
- contacts oxidised.

The pump starts with the taps turned off:

- check valve not holding;
- pump damaged;
- water leak in the system.

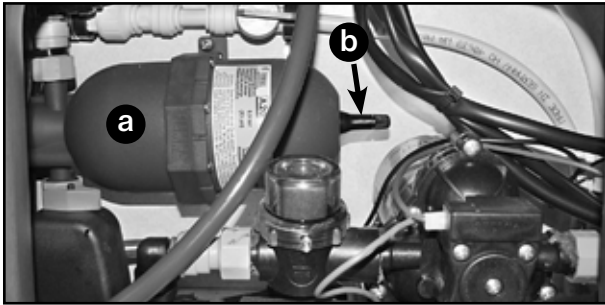
The pump fails to stop when the taps are turned off:

- water tank empty;
- air in the system;
- leak in the system;
- faulty pressure switch (turn off the pump after each use).

Water does not come out of the taps:

- water tank empty;
- twisted pipe;
- air in the line;
- filter clogged;
- tap clogged;
- pipe frozen.

14.2.3 Expansion tank



An expansion tank (a) is installed next to the pump. Its function is to optimise the operation of the pump and to ensure a smooth flow of the water.

The expansion tank is adjusted to a pressure of 0.9 bar that is suitable for operation with the pump installed as standard on the vehicle. The pressure can be adjusted with a standard compressor by means of the appropriate valve (b). It is recommended to check the pressure at least once a year, using a pressure gauge. In the case of replacement of the pump with a different type, it is necessary to change the pressure of the expansion tank.

Refer to the manufacturer handbook for further information on the expansion tank.

✓ THINGS TO DO

- Clean the pump filter at regular intervals.
- Check, at least once a year, the value of the pressure of the expansion tank.

✗ THINGS TO AVOID

- Do not operate the pump if the fresh water tanks are empty as damage to the pump may result.

14.3 Fresh water tank

⚠ WARNING

It is required before departure to empty the fresh water tank down to 20% of the total capacity. This can be done by using the dedicated discharge tap.

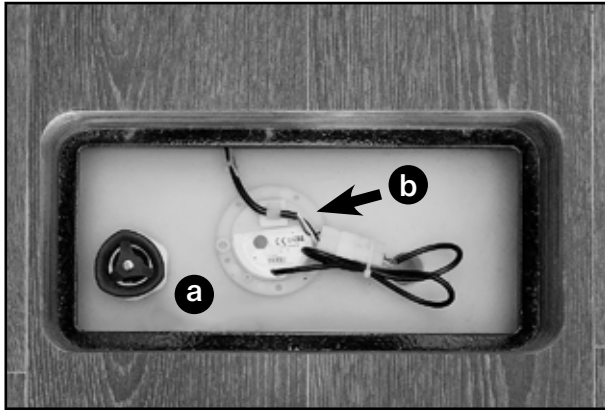
✓ THINGS TO DO

- Constantly check the water level in the tanks on the control panel.
- For the installation of additional tanks, contact an authorised workshop and use genuine Laika spare parts.
- Wash and rinse the tanks with water conditioning products at regular intervals.
- Empty the system completely when the vehicle is not being used.
- Do not keep the taps open when the vehicle is not being used.

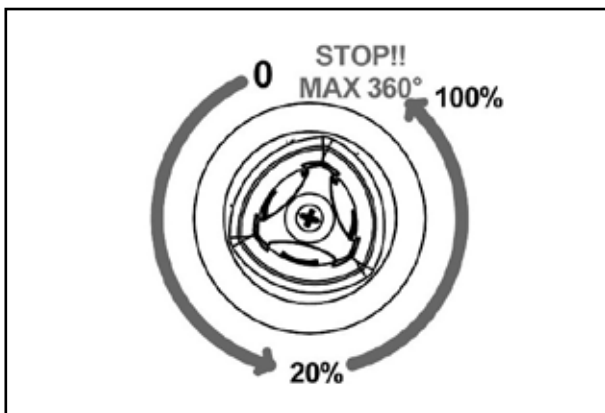
✗ THINGS TO AVOID

- Do not leave water in the tanks when the vehicle is not being used.
- Do not leave the system under pressure when the vehicle is not being used.
- The water of the tanks is not suitable for drinking, cooking and washing food.


Ecovip series

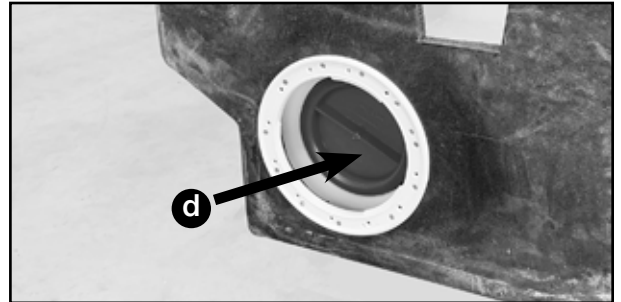
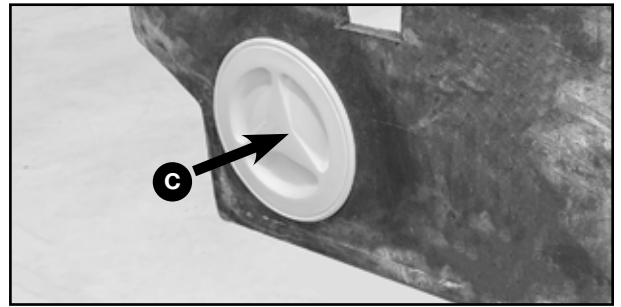


Through a trap door in the floor, near the rear bed, it is possible to reach the tap (a) and the probes (b).



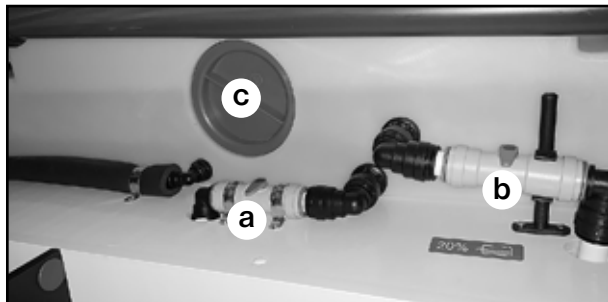
By rotating the tap (a) by half a turn there will be a drainage to the level of 20% of the total capacity, whilst rotating by a whole turn there will be a 100% drainage.

| |
|--|
|  WARNING |
| The tap (a) must be rotated a turn at the most. |

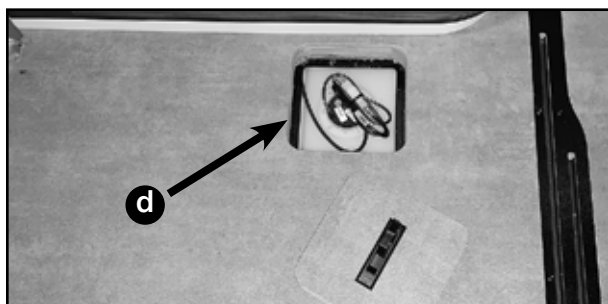


Outside, on the left hand side, there is the cap (c) for access to the inspection cap (d).

Kreos 5009



From inside the garage it is possible to reach the 100% drainage tap (a), the tap to empty to 20% of the total capacity (b) and the inspection cap (c).



Through a trap door in the floor, near the left rear bed, it is possible to reach the probes (d).

14.4 Waste water tank

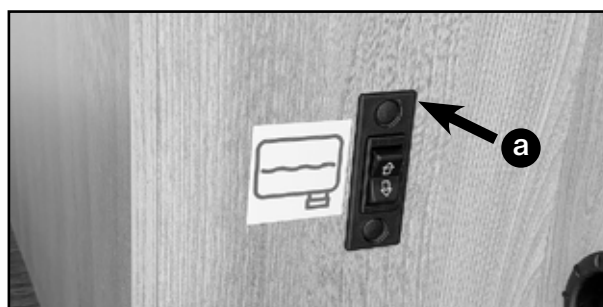
✓ THINGS TO DO

- Constantly check the water level in the tanks on the control panel.
- Drain the tanks without harming the environment.
- Close the drain hole of the shower after each use as it could let out foul odours.
- In winter, add antifreeze, salt or similar products to the waste water (perform this operation with empty pipes and tanks).

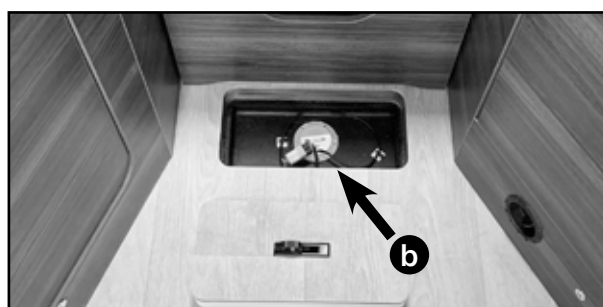
✗ THINGS TO AVOID

- Do not pour boiling water down kitchen and bathroom drains.
- Do not use abrasive products for washing the tanks.

Ecovip series



From inside the garage it is possible to have access to the drainage switch (a).

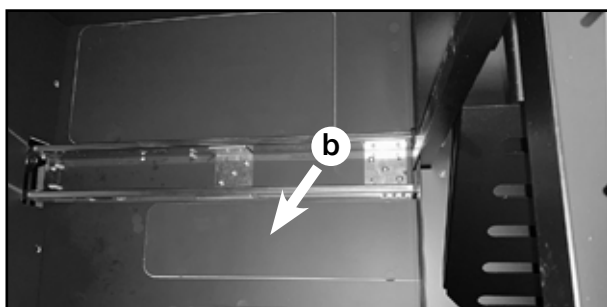


Through a trap door in the floor, near the rear bed, it is possible to reach the probes (b).

Kreos 5009



From inside the garage it is possible to have access to the drainage switch (a).



To reach the probes, remove the panel (b) located under the right rear bed.

15.1 Introduction

All the LAIKA-models are equipped with a water system expressly conceived to grant a high comfort and a suitable safety level.

Here below you will find some useful advice that will allow you to avoid damages to the system, especially in case of very low temperatures:

- do not use in any case abrasive or acid products to clean the pipes;
- to avoid damage to the water pump, do not open the taps when the fresh water tank is empty;
- in case of frost, the system must be completely emptied (please also read "Maintenance – Inactivity of the vehicle"). It is very important to be sure that no water still remains in the final part of the system, in the taps of the sink and in the lavatory.

15.2 Fresh water tank



WARNING

It is required before departure to empty the fresh water tank down to 20 litres. This can be done by using the dedicated discharge tap.

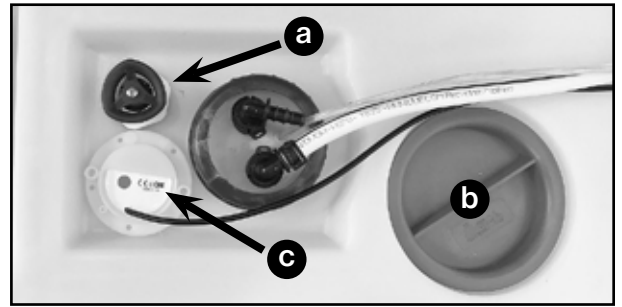
✓ THINGS TO DO

- Constantly check the water level in the tanks on the control panel.
- Wash and rinse the tanks with water conditioning products at regular intervals.
- Empty the system completely when the vehicle is not being used.
- Do not keep the taps open when the vehicle is not being used.

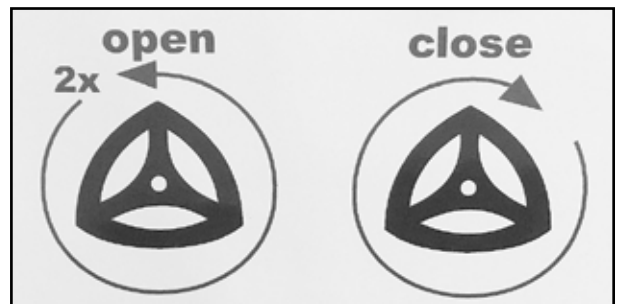
✗ THINGS TO AVOID

- Do not leave water in the tanks when the vehicle is not being used.
- The water of the tanks is not suitable for drinking, cooking and washing food.

The fresh water tank is located inside the forward facing settee or under the rear bed.



In the upper part of the tank there is the draining tap (a), the inspection cap (b) and the probes (c).



To empty the fresh water tank to the level of 20 litres you need to rotate the tap (a) by three quarters of a turn. If you rotate the tap (a) by two whole turns the fresh water tank will be fully drained.



WARNING

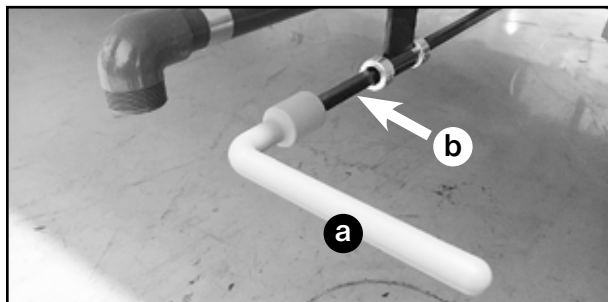
The tap (a) must be rotated two turns at the most.



NOTE

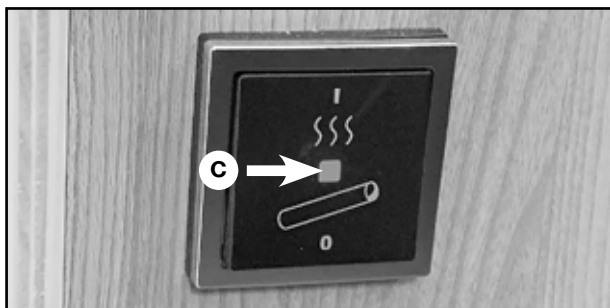
The water pump (immersion pump) is located inside the tank. The pump is maintenance-free.

15.3 Waste water tank



The discharge control is located outside under the floor, on the left or right side, depending on the model. Apply the handle (a) on the rod (b) which controls the exhaust valve. Turn the handle to discharge.

Electric tank heating (optional)



c) Indicator lamp.

Press the switch on "I" to turn on, press on "0" to turn off.

NOTE

The switch is located on the base of the settee.

WARNING


The electric heating of the tank involves a considerable consumption of current: if the vehicle is not connected to the 230 V mains, the battery can run out quickly.

THINGS TO DO


- Constantly check the water level in the tanks on the control panel.
- Drain the tanks without harming the environment.
- Close the drain hole of the shower after each use as it could let out foul odours.
- In winter, add antifreeze, salt or similar products to the waste water (perform this operation with empty pipes and tanks).

THINGS TO AVOID


- Do not pour boiling water down kitchen and bathroom drains.
- Do not use abrasive products for washing the tanks.

 **WARNING**

Wash bathroom plastic parts only with water and neutral soap.

 **WARNING**


In case of long stops, the blinds of the bathroom window and of the bathroom roof-light must be kept closed.

 **WARNING**


Some vehicles have a wooden platform, designed as a floor cover when using the sink. The platform must be removed when taking a shower.

16.1 Cassette-type toilet

This system includes a mobile tank (cassette) that can be removed through a lid on the outside of the vehicle.

 **THINGS TO DO**

- Wash and disinfect the tank using special chemical products at regular intervals.
- Use biodegradable toilet paper.
- Lubricate the seals at least once a year.
- Drain the tanks without harming the environment.
- Read the producer's handbook carefully.

 **THINGS TO AVOID**

- Do not wash the toilet bowl with abrasive products.

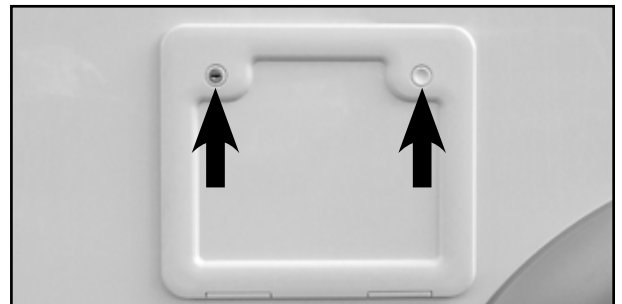
A type toilet



- a) Button for flushing and draining into the tank.
- b) Full tank warning light.



Blade opening and closing handle. To extract the tank first close the blade, pushing the handle in the direction indicated by the arrow.

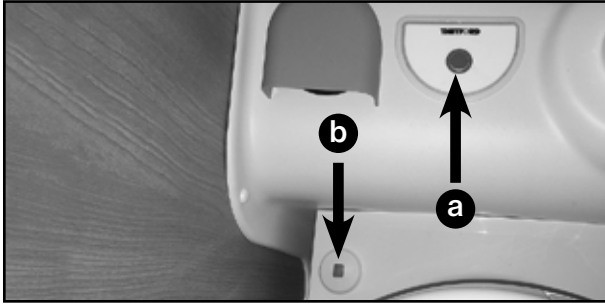


Outside lid which allows access to the tank. To open, press the two buttons simultaneously.



Removable tank (cassette). To remove the tank, pull up the handle (c).

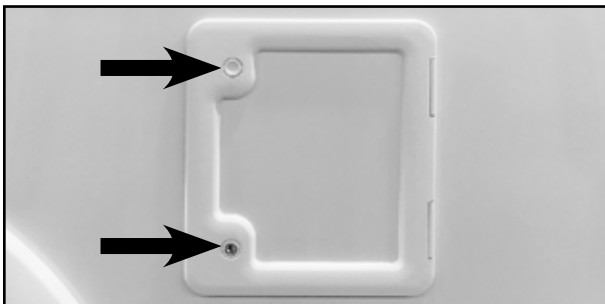
B type toilet



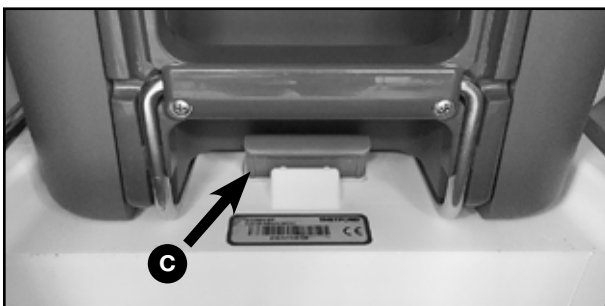
- a) Button for flushing and draining into the tank.
- b) Full tank warning light.



Blade opening and closing handle. To extract the tank first close the blade, pushing the handle in the direction indicated by the arrow.



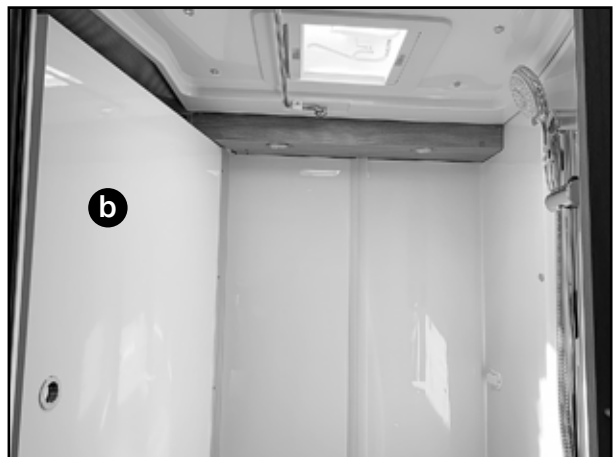
Outside lid which allows access to the tank. To open, press the two buttons simultaneously.



Removable tank (cassette). To remove the tank, pull up the handle (c).

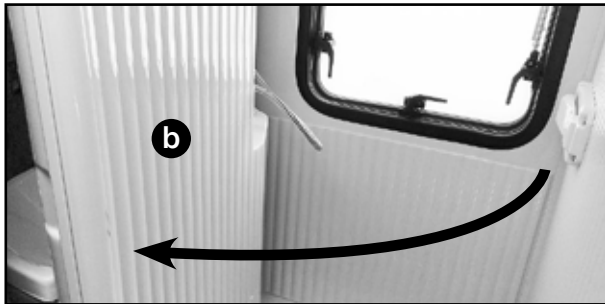
16.2 Shower cab (Ecovip L 3010, L 3019, H 3110, H 3119)

The Ecovip L 3010, L 3019, H 3110, H 3119 models have been provided with a system that allows them to have a separated shower cabin according to the following instructions: release the catch (a) (press to unlock) and rotate the panel (b).

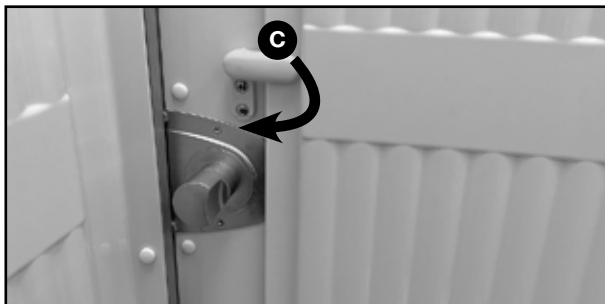


16.3 Shower cab (Kosmo 209)

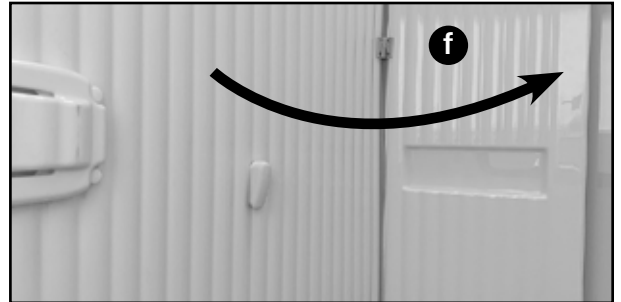
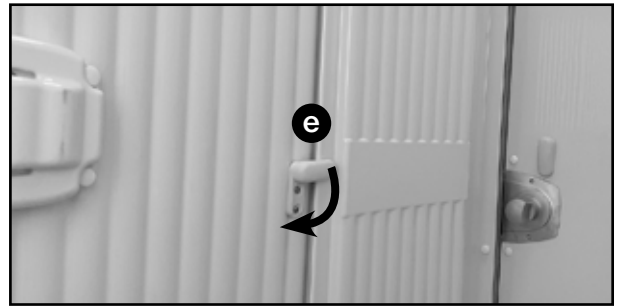
The Kosmo 209 model has been provided with a system that allows it to have a separated shower cabin according to the following instructions:



Release the catch (a) (press to unlock) and rotate the panel (b).



Release the catch (c) and rotate the panel (d).



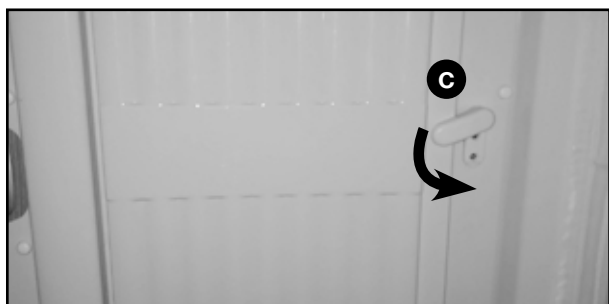
Release the catch (e) and rotate the panel (f).

16.4 Shower cab (Kosmo Compact 5, Compact 9)

The Kosmo Compact 5 and Compact 9 models have been provided with a system that allows them to have a separated shower cabin according to the following instructions:



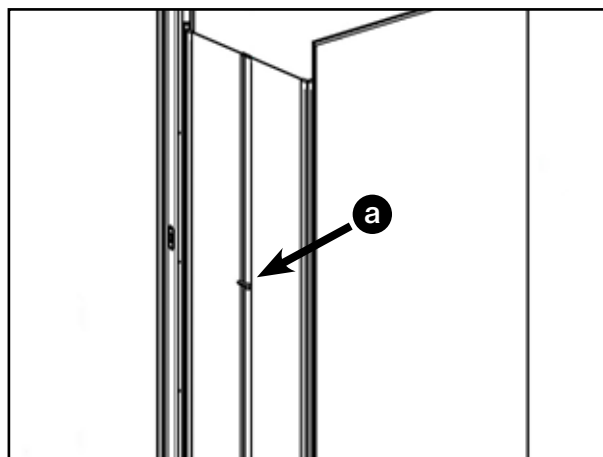
Release the catch (a) (press to unlock) and rotate the panel (b).



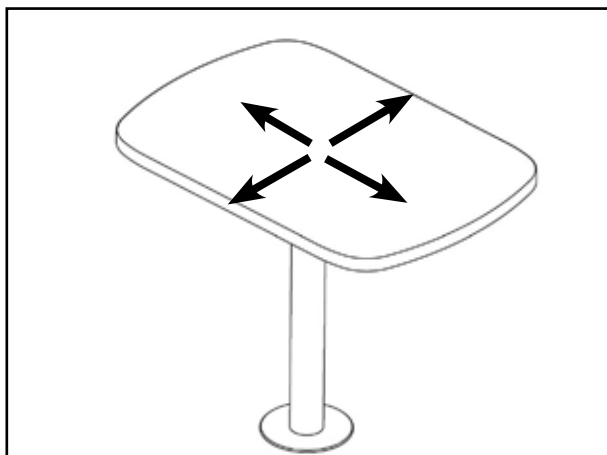
Release the catch (c) and rotate the panel (d).

16.5 Shower cab (Kosmo 509L, 512, 909L, 912)

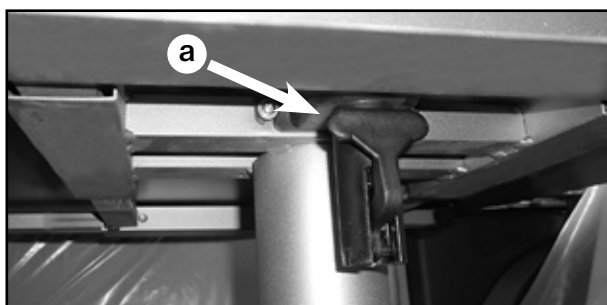
During the journey, the shower door must be locked by using the catch (a).



17.1 Table - A type

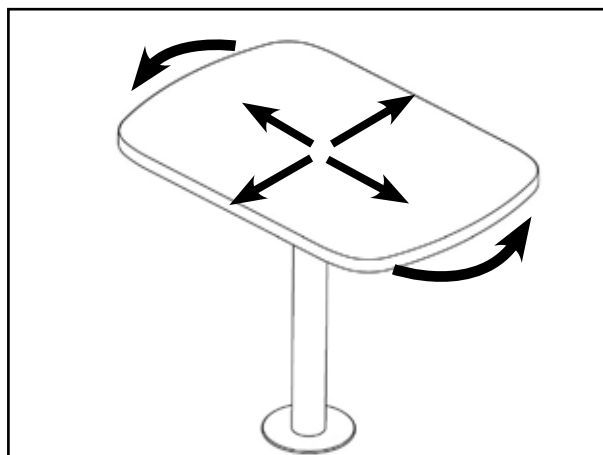


The table top can slide in four directions.

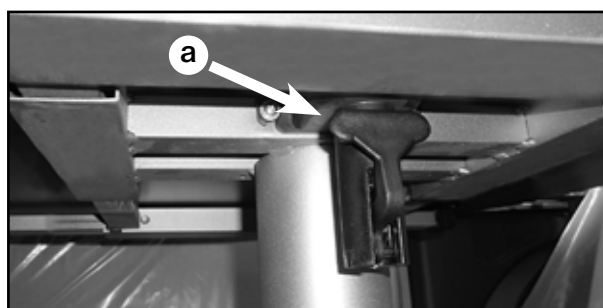


Slide the table top pressing the unlock lever (a) positioned under the table top.

17.2 Table - B type

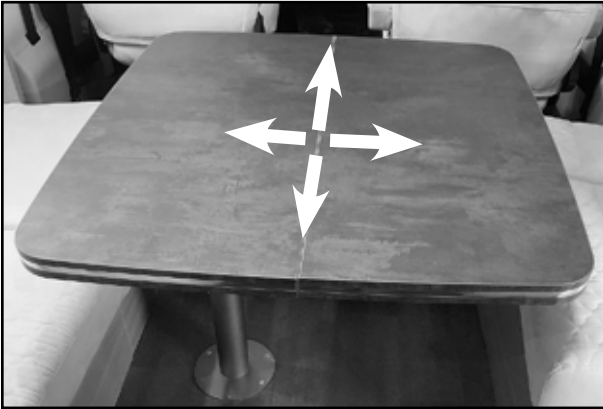


The table top can be rotated and can slide in four directions.

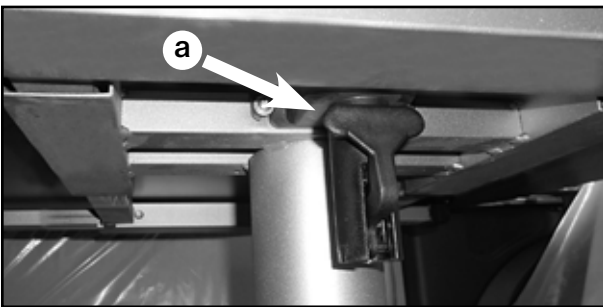


Slide the table top pressing the unlock lever (a) positioned under the table top.

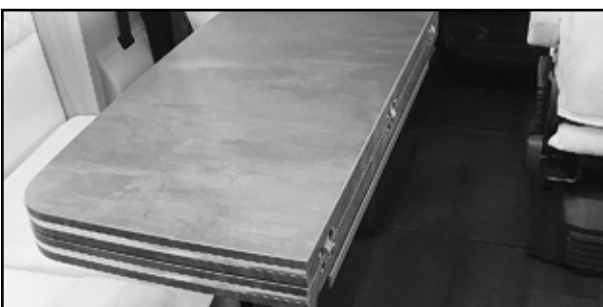
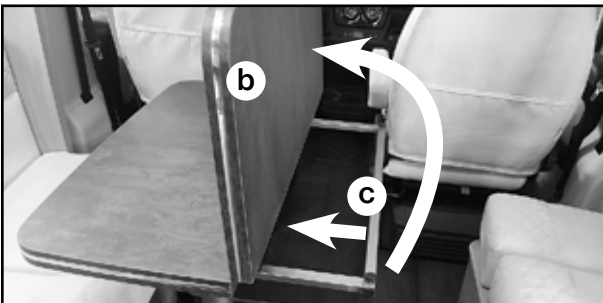
17.3 Table - C type



The table top can slide in four directions.



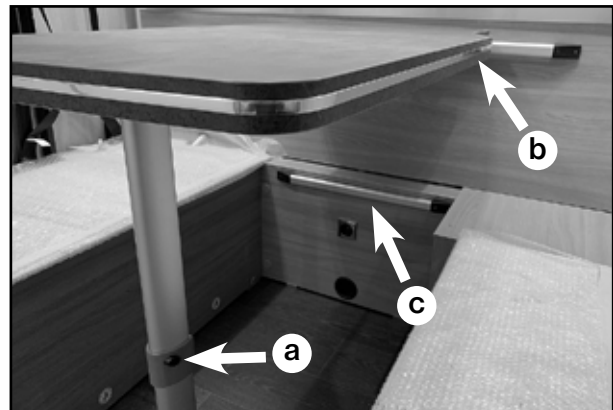
Slide the table top pressing the unlock lever (a) positioned under the table top.



The table top can be closed like a book: lift part (b) and push the support forward (c).

17.4 Table - D type

To lower the table (support position for the bed)

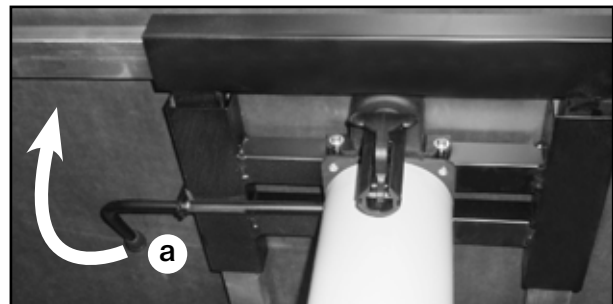


Press the button (a) to fold the table leg.

Lift the table to release it from the upper guide (b).


Hook the table to the lower guide (c).


17.5 Tables with telescopic leg (optional)



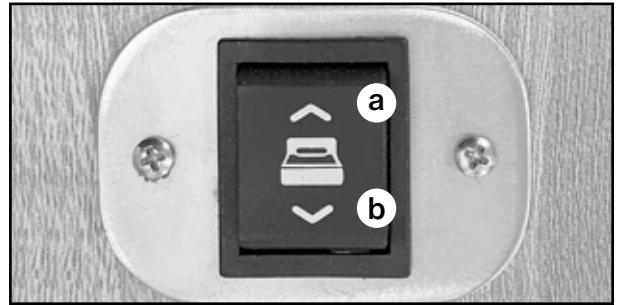
To lower the table, rotate the handle (a) 180 degrees, then push the table to the desired position. Move back the handle to its original position to lock the table.

17.6 Beds with electric handling (optional)

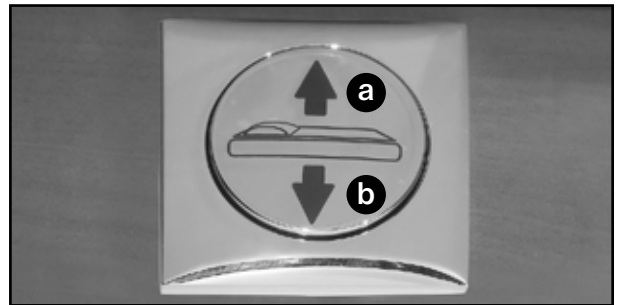
| |
|---|
|  WARNING |
| <p>Bed handling by means of electric control should only be performed by adults, and only when the vehicle is parked.</p> |

| |
|---|
|  WARNING |
| <p>During bed handling by means of electric control, ensure that no person or thing is in the operating range of the bed.</p> |

17.6.1 Bed above the dinette (Ecovip and Kreos series)





Control panel (Ecovip)





Control panel (Kreos)

- a) Bed up control.
- b) Bed down control.

| |
|--|
|  WARNING |
| <p>Before lowering the bed, it is necessary to lower the dinette table (night position).</p> |

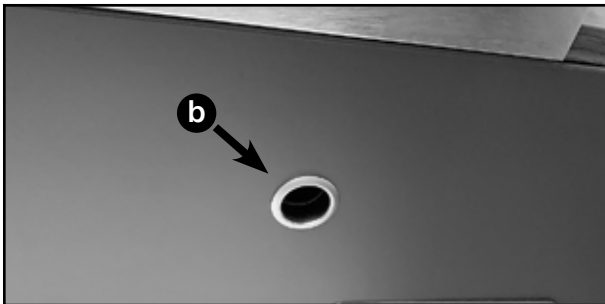
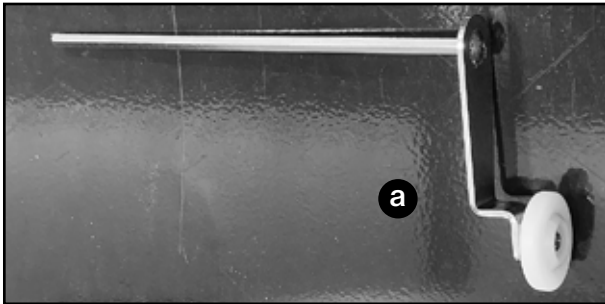
| |
|--|
|  WARNING |
| <p>Before lowering the bed, remove the headrest and backrests on the dinette.</p> |

| |
|---|
|  WARNING |
| <p>Before lowering the bed, position the cab seats so that they do not interfere with bed movement.</p> |

| |
|---|
|  WARNING |
| <p>When the vehicle is parked for a long time under the sun, the bed must not remain in fully raised position: leave a space of at least 10 cm between the roof-light and the bed mattress.</p> |

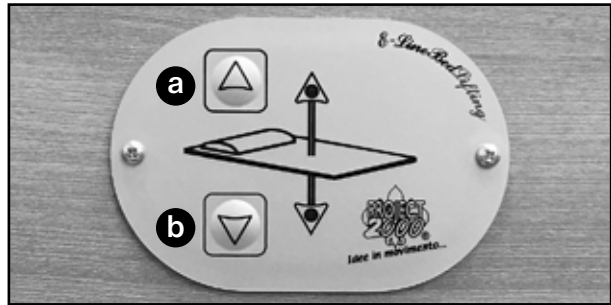
Manual handling of the bed

In case of malfunction or power failure, the bed can be moved manually using the special handle (a) supplied as standard equipment.



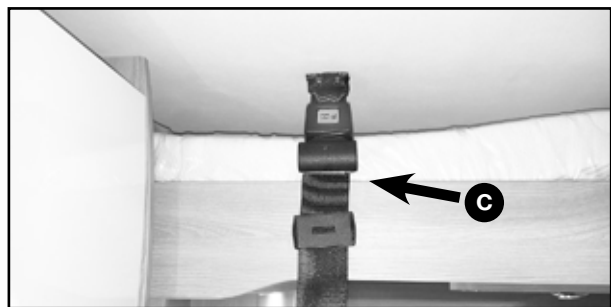
The handle must be inserted in to hole (b) located in the cabinet under the bed surface, on the left side.

17.6.2 Bed above the dinette (Kosmo series)



Control panel

- a) Bed up control.
- b) Bed down control.



| |
|---|
| WARNING |
| When the bed is lowered using the electric controls, make sure to unhook the latch (c) first, otherwise the mechanism could be seriously damaged. |

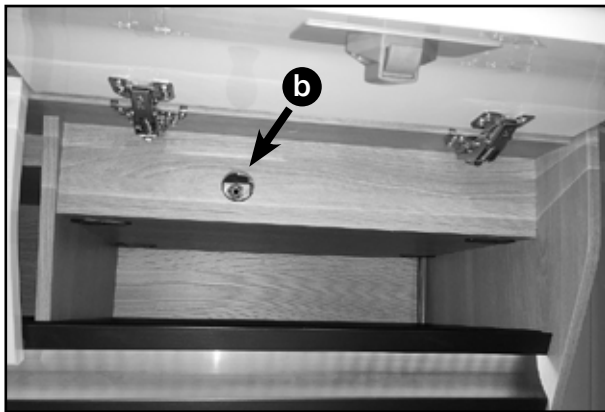
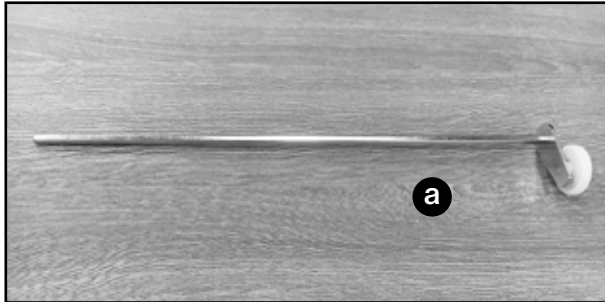
| |
|--|
| WARNING |
| Before lowering the bed, position the cab seats so that they do not interfere with bed movement. |

| |
|--|
| WARNING |
| Make sure that children do not activate the bed down/up control by themselves. |

| |
|--|
| WARNING |
| When the vehicle is parked for a long time under the sun, the bed must not remain in fully raised position: leave a space of at least 10 cm between the roof-light and the bed mattress. |

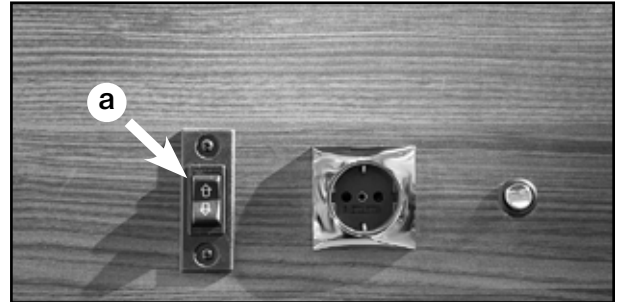
Manual handling of the bed

In case of malfunction or power failure, the bed can be moved manually using the special handle (a) supplied as standard equipment.



The handle must be inserted in to hole (b) located in the cabinet under the bed surface, on the left side.

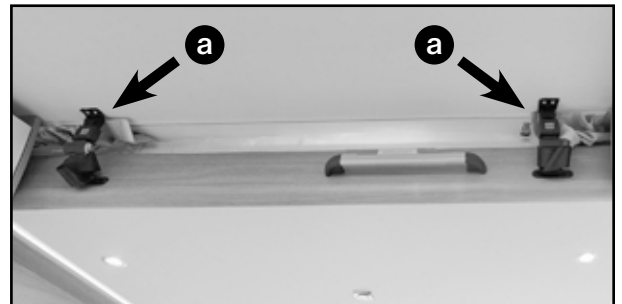
17.6.3 Rear bed



The switch (a) for the control of ascent and descent is located under the bed, inside the garage.

The electric motor is protected by a fuse (see chapter 10 - Control Unit - Fuses).

17.7 Tilting bed cab Kosmo A-class with manual handling

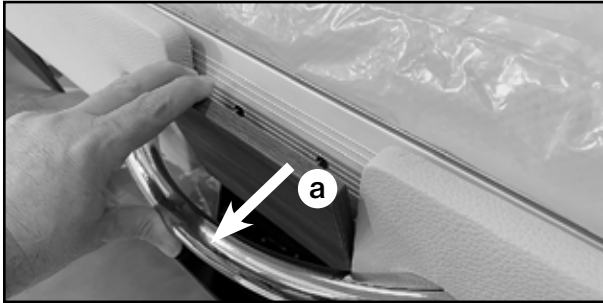


The bed is equipped with two safety latches (a) for locking in the raised position.

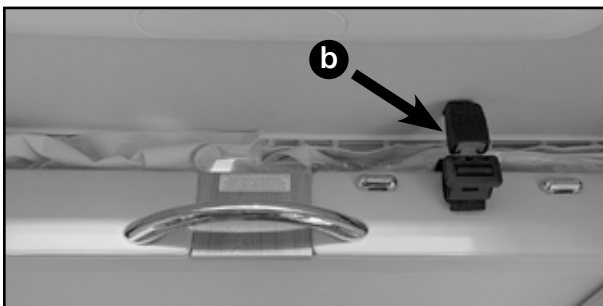
| |
|---|
| WARNING |
| <p>Some parts of the bed may hit the table when the bed is lowered. Furthermore, the table may prevent proper positioning of the ladder for access to the bed. Before lowering the bed, arrange the table top so that it does not interfere with any part of the bed.</p> |

| |
|---|
| WARNING |
| <p>Before driving off, make sure that the bed is locked in the raised position.</p> |

17.8 Tilting bed cab Ecovip A-class with manual handling



To lower the bed, it must be unlocked by pulling the handle (a).

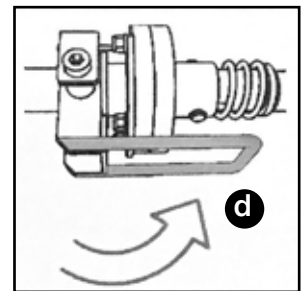
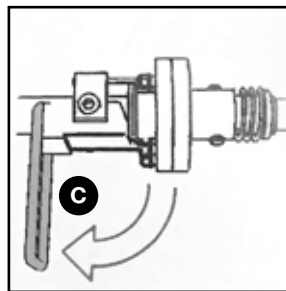
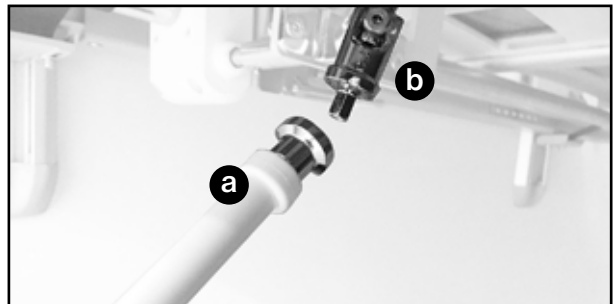
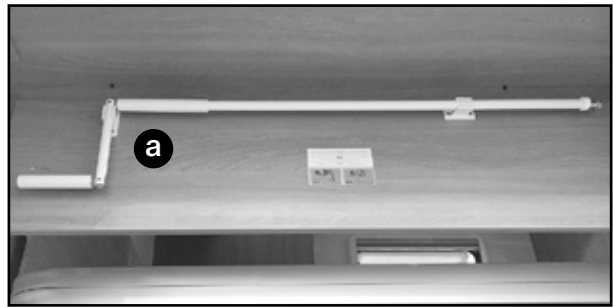


The bed is equipped with one safety latch (b) for locking in the raised position.

| |
|---|
| WARNING |
| <p>Some parts of the bed may hit the table when the bed is lowered. Furthermore, the table may prevent proper positioning of the ladder for access to the bed. Before lowering the bed, arrange the table top so that it does not interfere with any part of the bed.</p> |

| |
|---|
| WARNING |
| <p>Before driving off, make sure that the bed is locked in the raised position.</p> |

17.9 Rear bed with manual handling



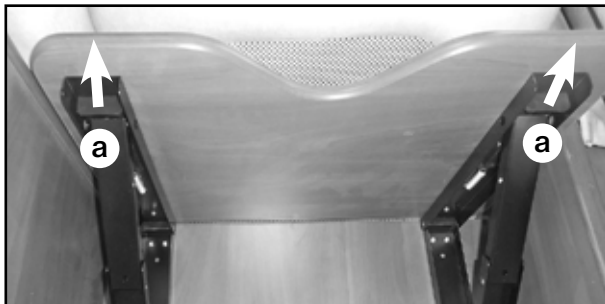
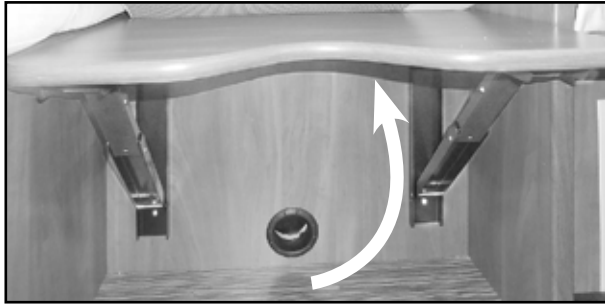
To raise or lower the bed:

- 1) Move the lever to position (c).
- 2) Insert the handle (a) into the coupling (b);
- 3) Turn the handle;
- 4) Once the desired position has been reached, return the lever to position (d).

| |
|---|
| WARNING |
| <p>Before using the bed, check that the lever is in position (d).</p> |

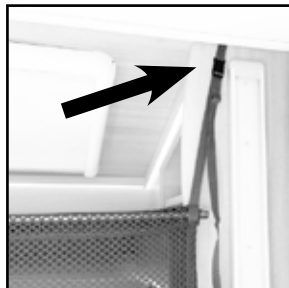
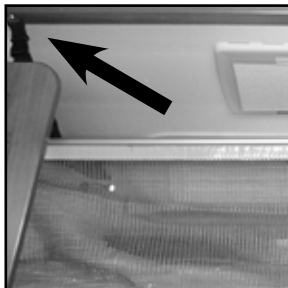
17.10 Other components

17.10.1 Snap in tilting piece



To open the tilting piece, pull it upward until it snaps in position. To close it, pull the catches (a) outwards, then lower it.

17.10.2 Bed safety net

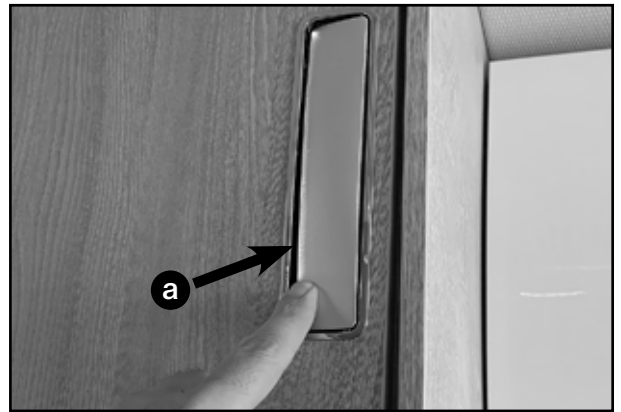


When using the bed, the safety net, if provided, must always be hooked with the straps to the appropriate supports on the ceiling.

i NOTE

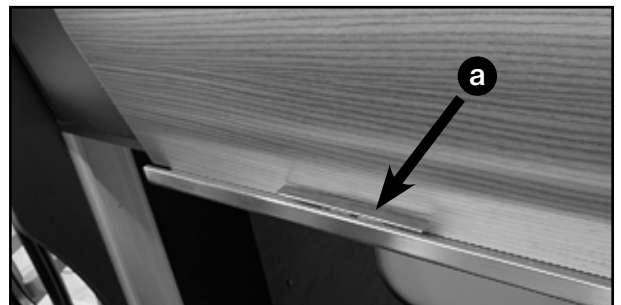
The safety net can be under the mattress of the bed.

17.10.3 Furniture door looks (Ecovip series)



To open a door, unlock the handle by pressing it at point (a), then pull the handle.

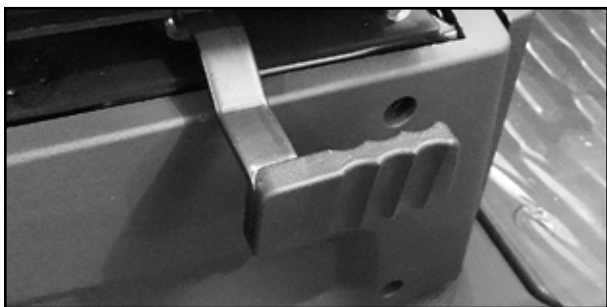
17.10.4 Furniture door looks (Kreos series)



To open a door, unlock the handle by pressing it at point (a), then pull the handle.

17.10.5 Cab seating

Both cab seats can be rotated to create the desired living area.



Seat release lever - A type



Seat release lever - B type

 **WARNING**

Rotation can be carried out in any seat position setting (seat all the way forward, all the way back or in middle positions). In some positions, seat rotation can cause seat interference with cab components. Always proceed with care when rotating, making sure that no seat parts collide against cab components.

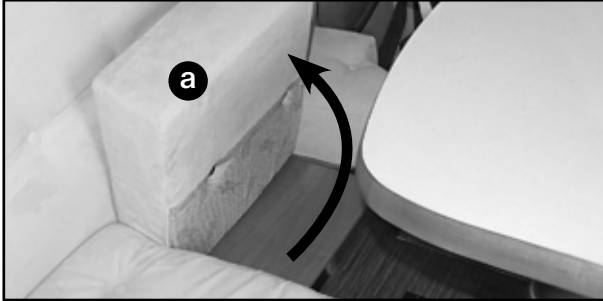
 **WARNING**

Take special care when rotating: the seat can cause damage to persons and/or objects near the seat itself.

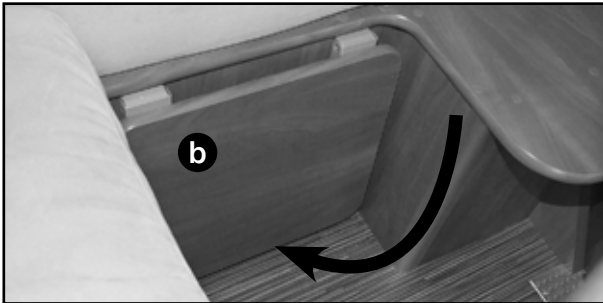
18.1 “L”-shaped settee

On the vehicles with “L” shaped settee, it is necessary to perform the operation described below to obtain an additional passenger seat.

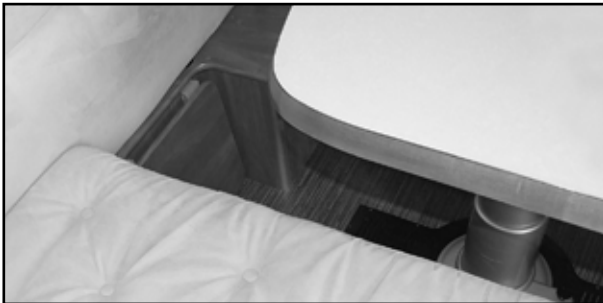
“L”-shaped settee - A type



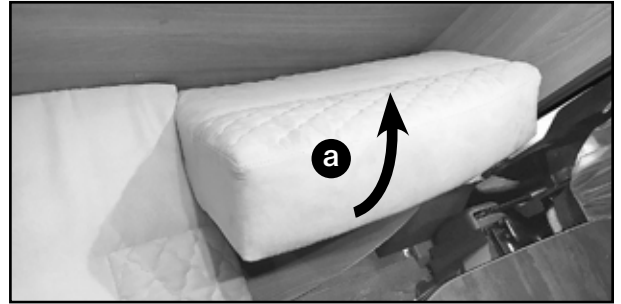
Remove the cushion (a).



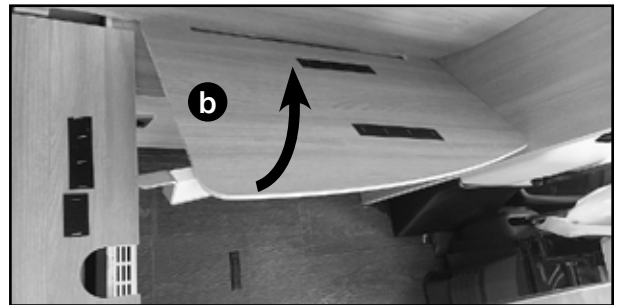
Lower the tilting piece (b).



“L”-shaped settee - B type




Remove the cushion (a).



Remove the panel (b).



 **WARNING**

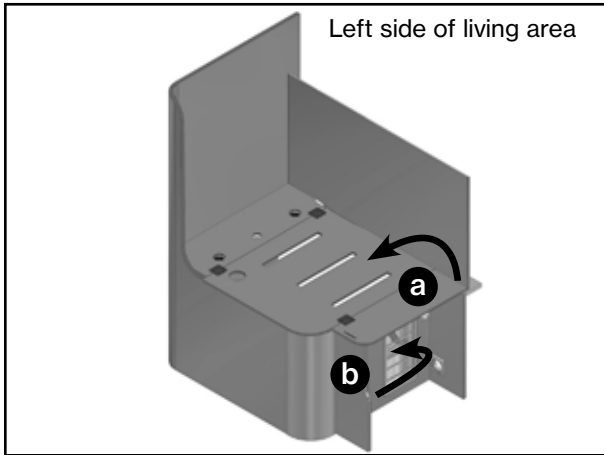
During travel, the panel (b) must be stored in a closed compartment.

18.2 Lengthways settee (Ecovip DS series)

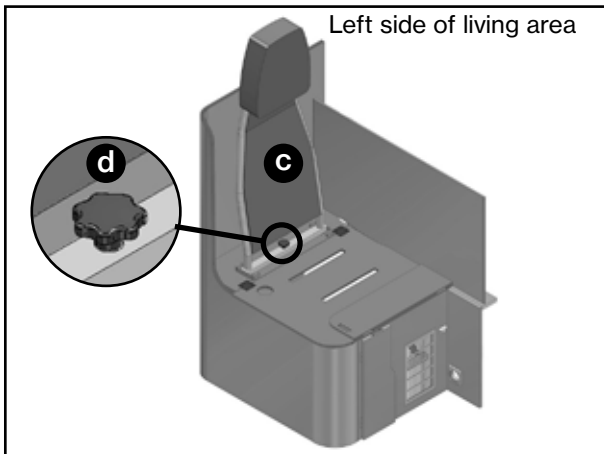
On the vehicles with lengthways settee (Ecovip DS series), it is necessary to perform the operation described below to obtain an additional passenger seat.

i NOTE

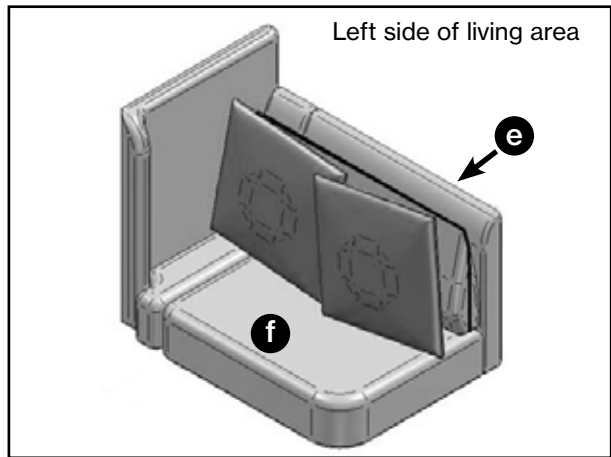
The operation can be carried out both on the left and the right settee.



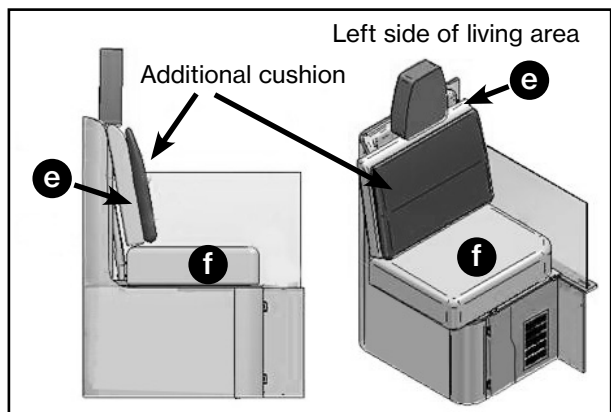
Turn the panel (a) and the panel (b).



Fit the backrest (c) and secure it with the stop (d).



Picture 1



Picture 2

Position the cushions as shown in picture (2).

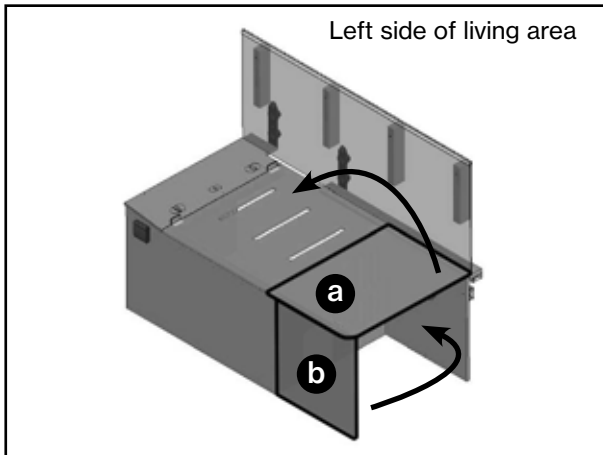
i NOTE

The additional cushion is not located between the cushions in picture (1) but is supplied as an additional piece to the vehicle upholstery.

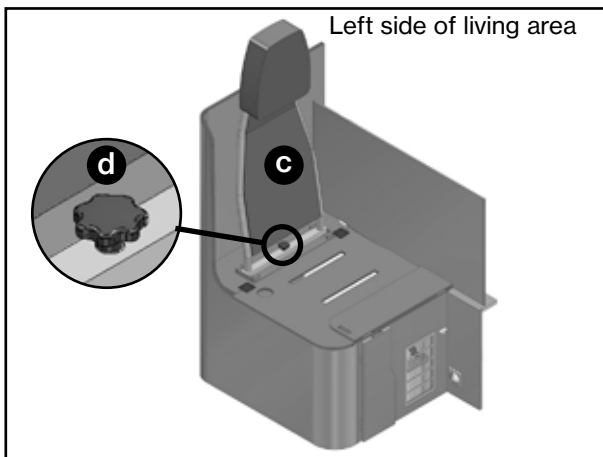
18.3 Lengthways settee (Kosmo series)

On the vehicles with lengthways settee (Kosmo series), it is necessary to perform the operation described below to obtain an additional passenger seat.

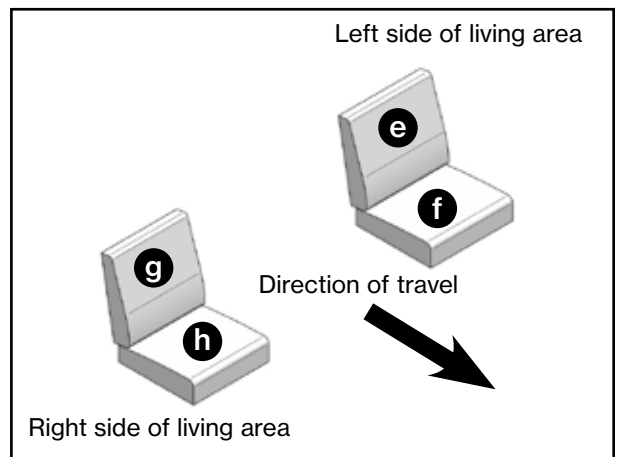
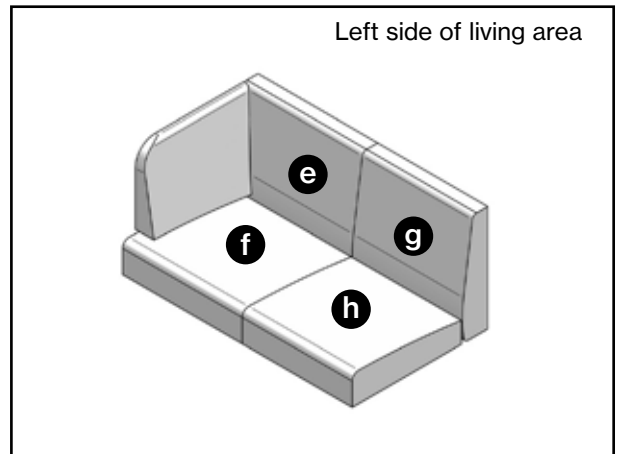
i NOTE
The operation can be carried out both on the left and the right settee.



Turn the panel (a) and the panel (b).



Fit the backrest (c) and secure it with the stop (d).



Position the cushions as shown in picture.

In some models it is possible to transform the dinette into a temporary bed (optional), for one or two persons. To obtain the bed surface, it may be necessary to lower the table and/or use mobile supports, fold-down panels, etc. The bed is then completed using the cushions of the sofas and additional cushions supplied.

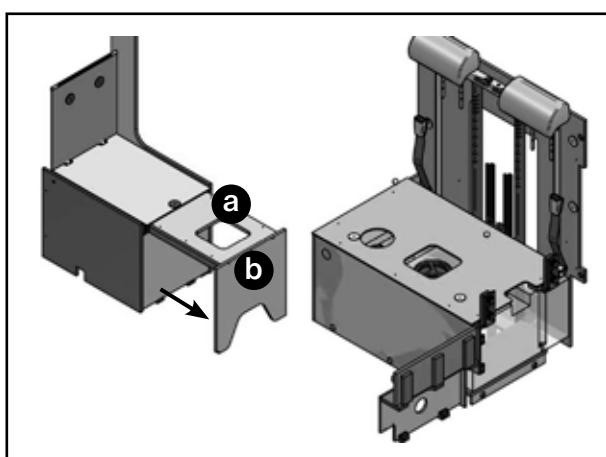
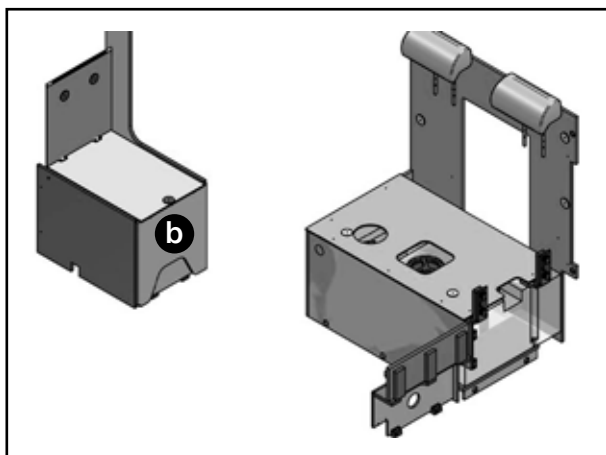
i NOTE

In some models it is not possible to transform the dinette into a bed.

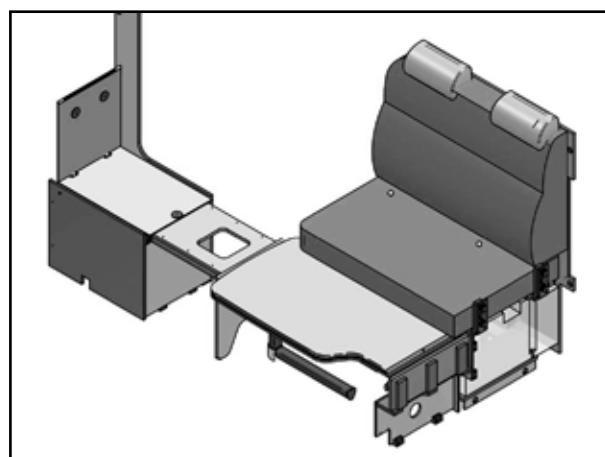
i NOTE

The bed obtained from the transformation of the dinette, while representing a valid solution, cannot provide the comfort of a bed with a real mattress.

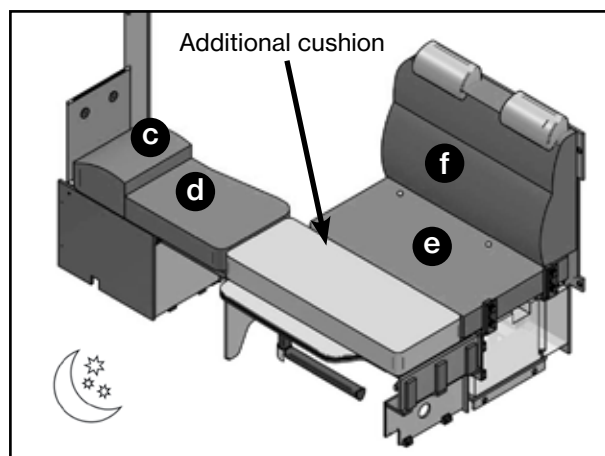
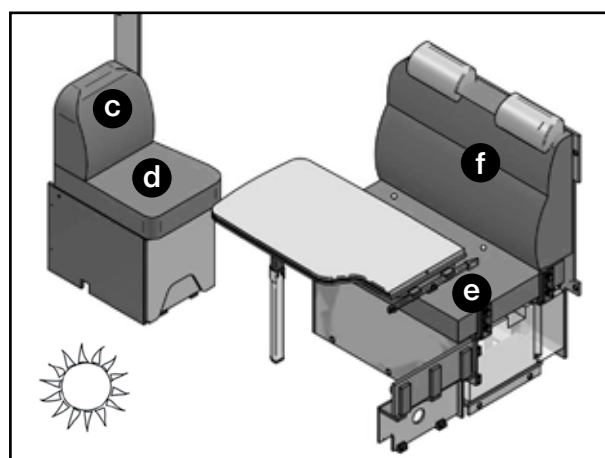
19.1 Kosmo Compact 5



To convert the dinette into a bed proceed as follows.
Slide the table top (a) together with the support foot (b).



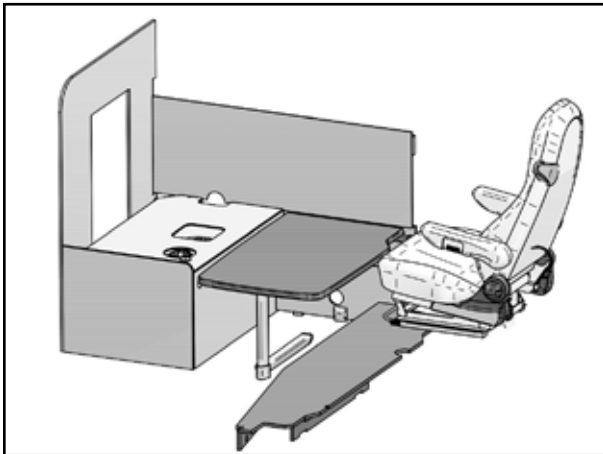
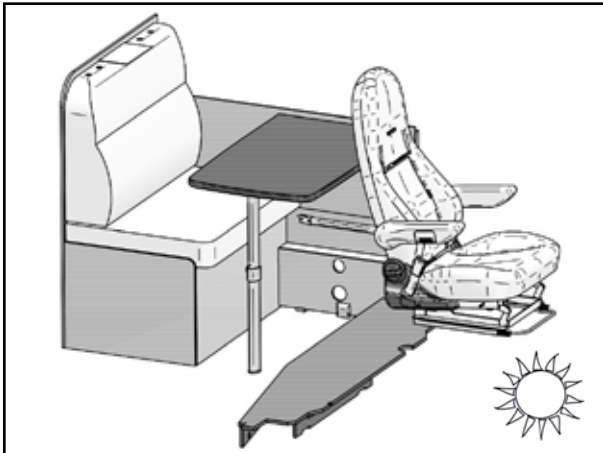
Lower the table.



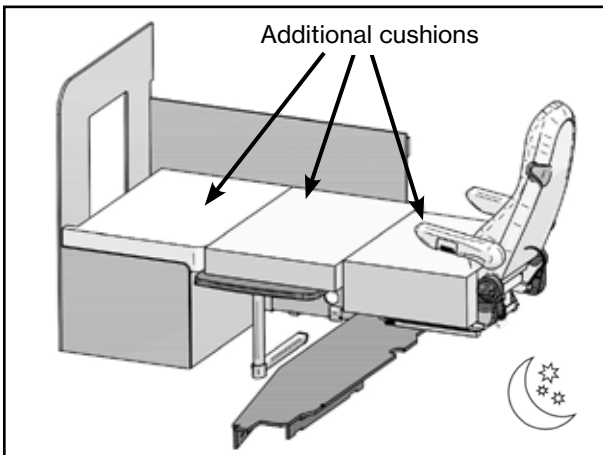
Position the cushions as shown in picture.

19.2 Kosmo Compact 9

To convert the dinette into a bed proceed as follows.



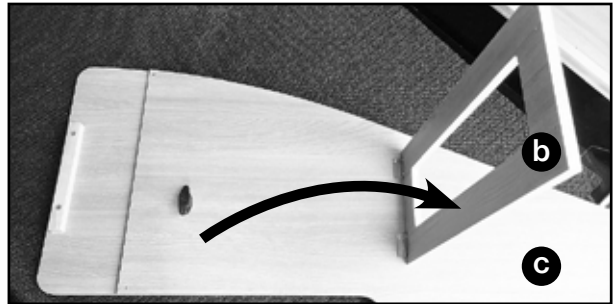
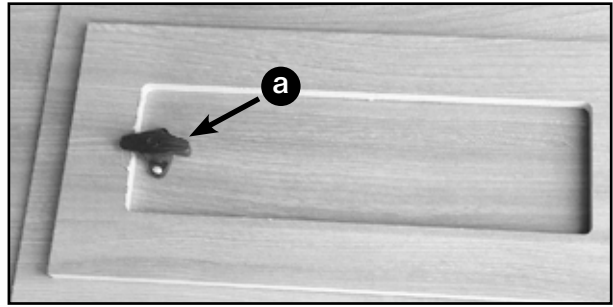
Lower the table.
Rotate the left cab seat.



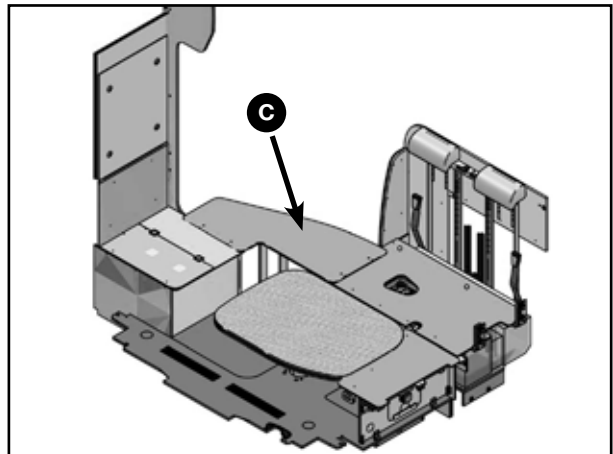
Position the cushions as shown in picture.

19.3 Kosmo 509, 909

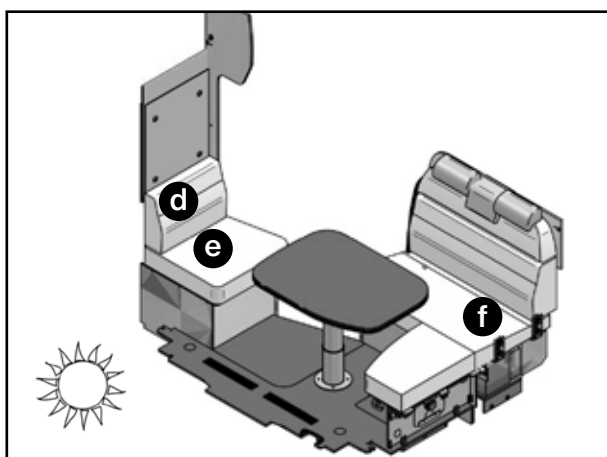
To convert the dinette into a bed proceed as follows.



Unhook the latch (a) and open the support (b) of the additional panel (c).

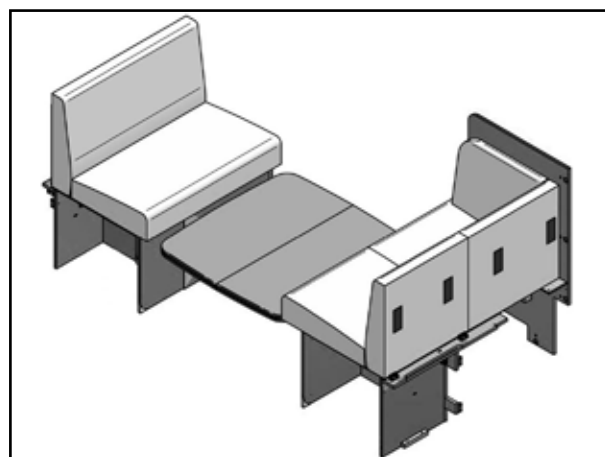
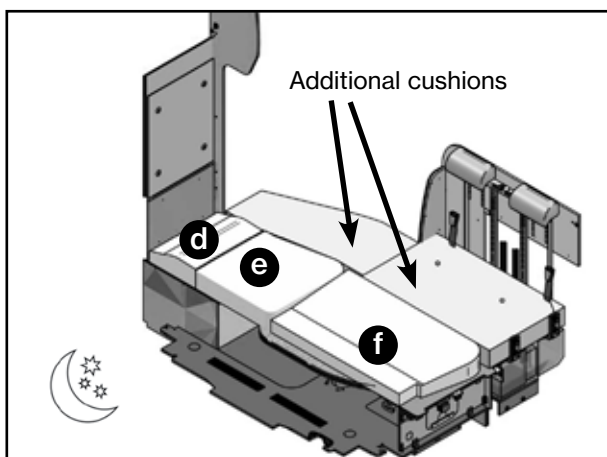
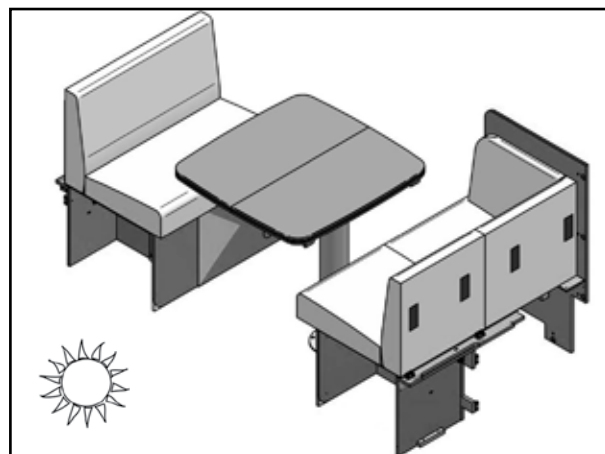


Lower the table and fit the additional panel (c).

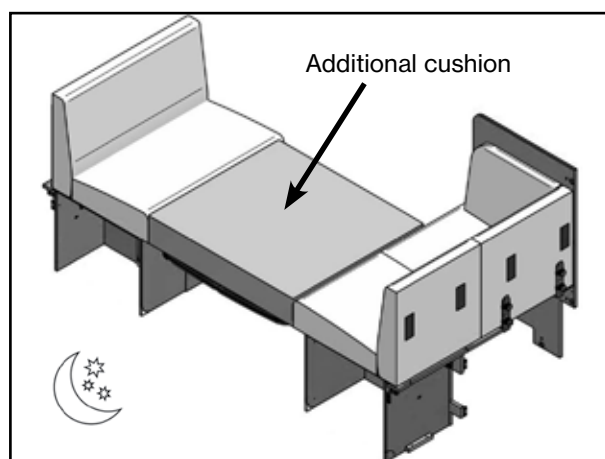


19.4 Kosmo 509L, 512, 909L, 912

To convert the dinette into a bed, lower the table, then position the cushions as shown in picture.

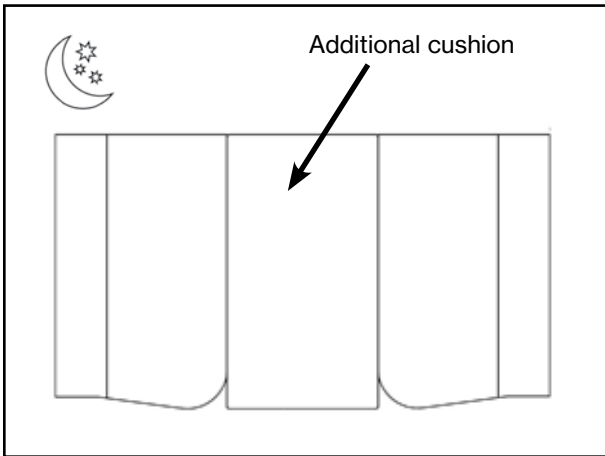
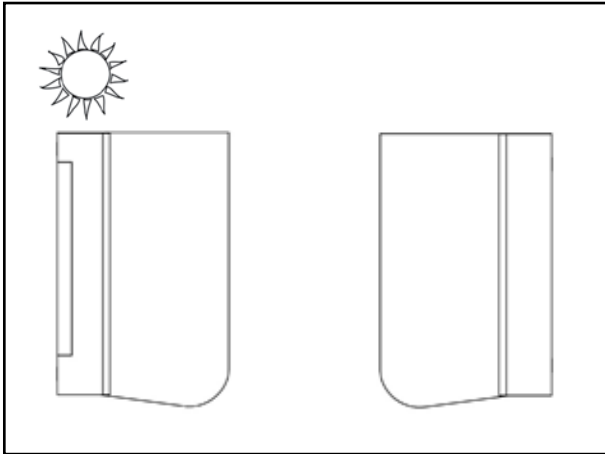


Position the cushions as shown in picture.



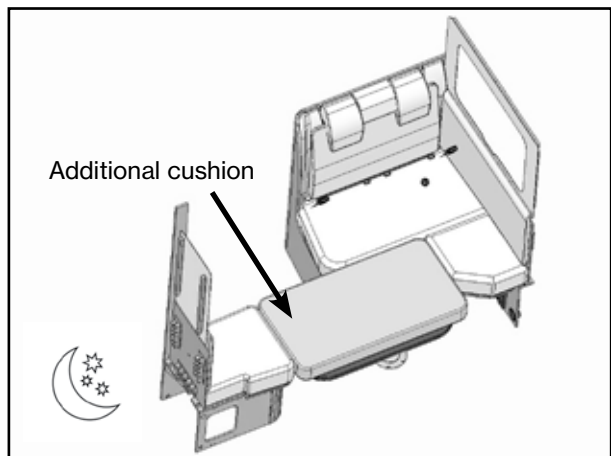
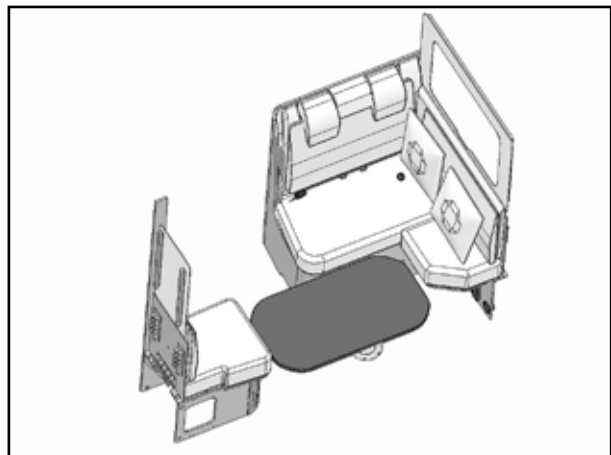
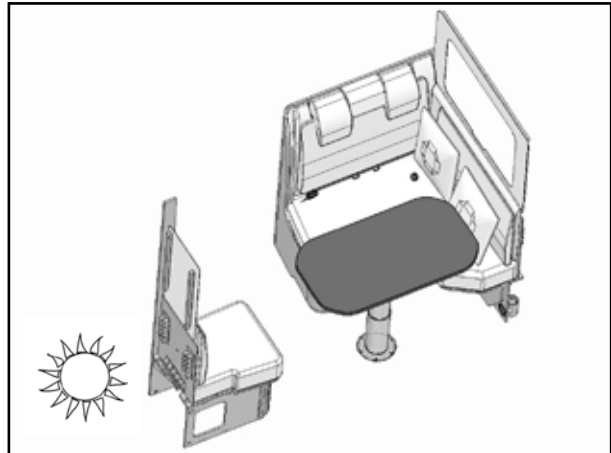
19.5 Kosmo F510

To convert the dinette into a bed, lower the table, then position the cushions as shown in picture.



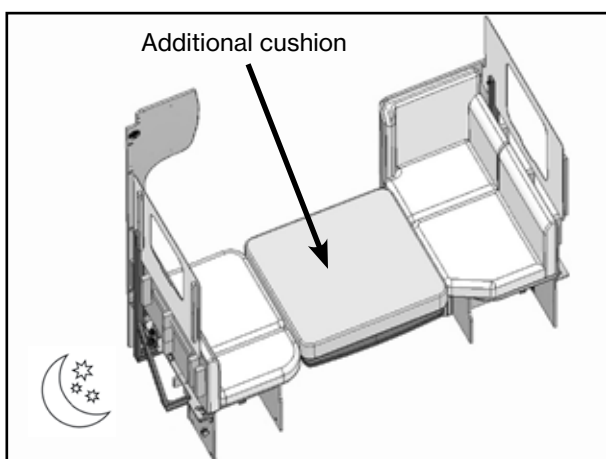
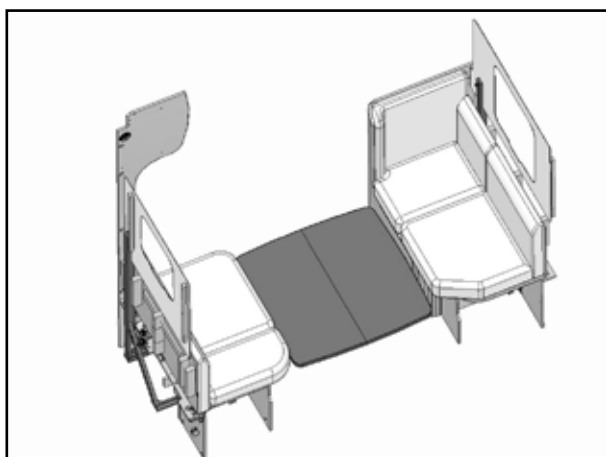
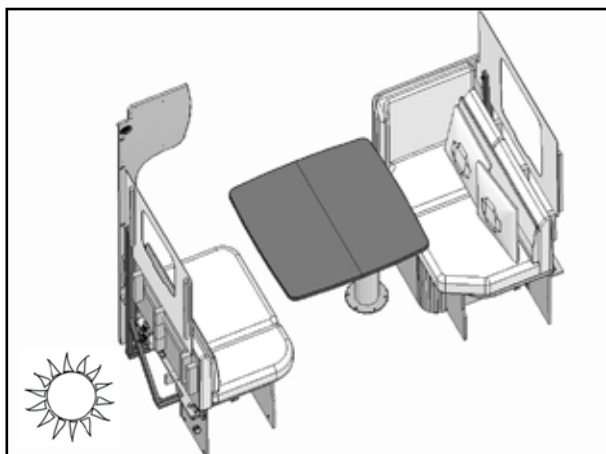
19.6 Ecovip series (except for DS models)

To convert the dinette into a bed, lower the table, then position the cushions as shown in picture.



19.7 Ecovip series (DS models)

To convert the dinette into a bed, lower the table, then position the cushions as shown in picture.



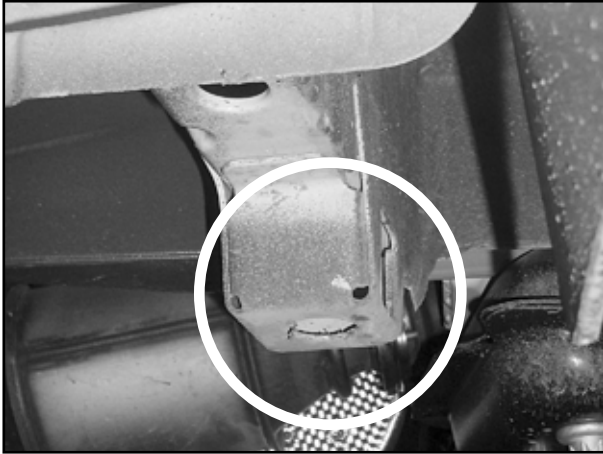
 WARNING

Some models use Fiat Ducato chassis with AL-KO transformation. These chassis have some particularities that must be taken into consideration.

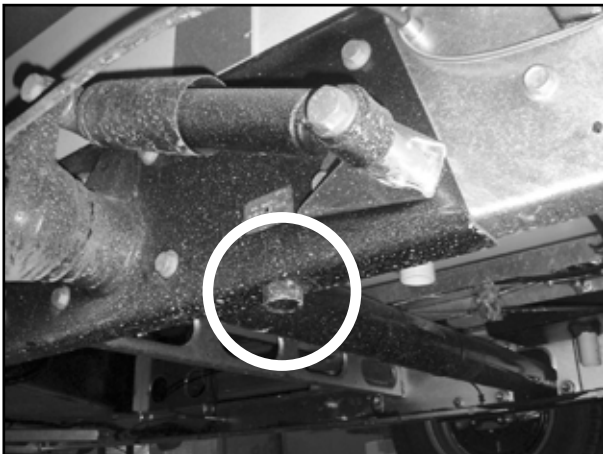
 WARNING

Read the AL-KO producer's handbook carefully.

Fixing points for lifting jack



Front



Rear

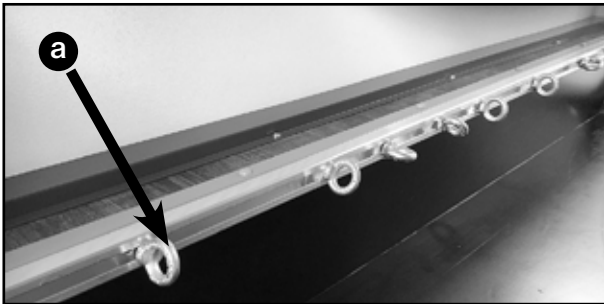
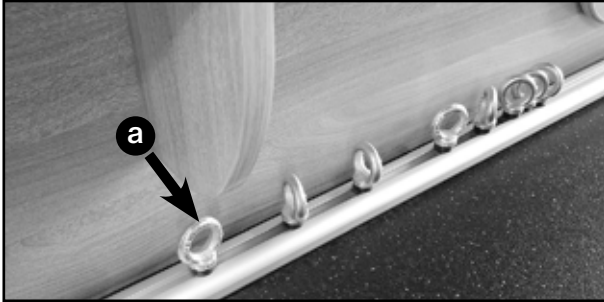
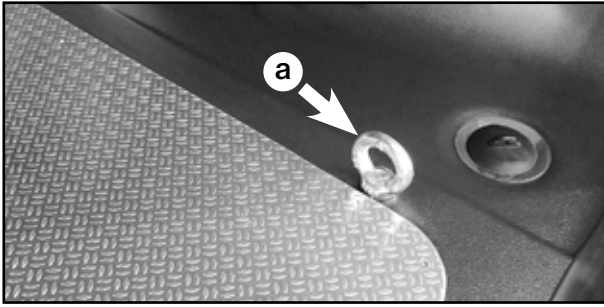
Ordinary maintenance



On the rear axle lower surface, positioned in correspondence with the two extremities, there are two nozzles used to grease the axle.


This operation must be performed every 20.000 km, and however at least once a year. For this operation the vehicle must be raised from the ground on the side being greased.

Both proper technical know-how and a special instrument are necessary to carry out this operation. Therefore perform it only if these requirements are available, otherwise contact a qualified technician.



Some vehicles are provided with a garage area for small motorcycles, mopeds or bicycles.


Such vehicles must be fastened with ties to the rings (a) located on the floor.


| |
|---|
|  NOTE |
| <p>On some models, the garage is smaller and cannot hold vehicles. In this case, it is a storage space for various materials.</p> |


The load inside the garage/rear storage space must be evenly distributed and must not exceed the maximum limit indicated on the label located inside the compartment.


If you use this area for transport of bulky objects (such as tables, chairs, etc.), the objects must be secured so that they cannot move when driving.


If you transport motorcycles, mopeds or similar, which are powered by flammable fuels, ensure that their tank is completely empty.

| |
|--|
|  WARNING |
| <p>Before the start of any journey, please make sure that all the garage/rear storage space hatches are properly closed.</p> |

| |
|---|
|  WARNING |
| <p>Do not use the garage/rear storage space as a sleeping or living space for people or pets. This space is not ventilated. Danger of asphyxiation due to lack of oxygen.</p> |

| |
|--|
|  WARNING |
| <p>When loading the garage/rear storage space, take care not to exceed the technically permissible maximum mass on each axle and the technically permissible maximum laden mass.</p> |

| |
|---|
|  WARNING |
| <p>When the garage/rear storage space is loaded to capacity, the front axle will be lighter due the lever effect. The behaviour of the vehicle on the road will worsen.</p> |

| |
|--|
|  WARNING |
| <p>Distribute the load evenly. Loads concentrated too much in one place can damage the floor covering.</p> |

 THINGS TO DO

- For the installation of optional equipment, contact a Laika authorised workshop.
- In the interest of safety, replacement parts for an appliance must conform to the appliance manufacturer's specifications and should be fitted by him or his authorised agent.

 THINGS TO AVOID

- Never modify the original electric system of the chassis on which the motorcaravan is built.

 WARNING

The failure to use genuine optional equipment or spare parts may cause damage to the vehicle or compromise the safety of the passengers. The assembly of them, if it has not been carried out following the vehicle manufacturer's instructions, may also invalidate the guarantee. You are therefore advised to use only genuine Laika products and to have them installed at authorised service centres only. Any alteration to the vehicle and its systems (electric, gas, water, etc.) not authorised in writing by Laika Caravans S.p.A. involves the automatic invalidation of the guarantee.

 WARNING

If optional equipment is installed, it is mandatory to follow the instructions and recommendations indicated by the manufacturer of the optional equipment installed.

 WARNING

Always check to see if the installation of a piece of optional equipment affects the permitted speed limit.

 WARNING

The rack carrier systems for carrying loads in the rear area are not foreseen by Laika, their use may cause damage to the vehicle or compromise the safety of the passengers.

22.1 Safety

Bicycle rack

- Do not exceed maximum load allowed.
- Do not use the bicycle rack for other purposes.
- Always ensure that bicycles are securely fastened.

 WARNING

In case of carry loads protruding from the shape of the vehicle, always inquire about the regulations in force in the country where you are traveling.

Motorcycle holder

- Do not exceed maximum load allowed.
- Do not use the motorcycle holder for other purposes.
- Fasten the motorcycle to the specific supports.

Awning

- Do not open the awning where it is not allowed.
- Do not open the awning in case of bad weather (e.g. strong winds, rain, snow).
- When you close the awning, the cloth must be perfectly dry and clean.

Stabilising jacks

- In some cases, the use of the stabilising jacks can transform parking in camping: always find out about the laws concerning parking and camping in the specific area.
- Make sure to remove the stabilising jacks before leaving.

Satellite antenna

The satellite antenna can only be activated with the ignition key set to the "STOP" position. If the ignition key is in the "MAR" position or if the engine is on, the satellite antenna will close automatically if open. Pay the utmost attention when opening and closing the satellite antenna (both manual and automatic) as the antenna can interfere with roof lights located nearby, if these are open.



WARNING

Close all roof lights when setting the satellite antenna into operation.



WARNING

Before the start of any journey, please make sure that the satellite antenna is in the lowered position.

Additional fresh water tank

Warning: the installation of the additional tank does not provide the same anti-frost features as the standard tank.

Alde heating system

Some vehicles could have a liquid heating system, similar to a domestic-type system. This kind of heating system has some important features concerning the safety and the maintenance of the system itself. So you are advised to read the user guide provided by the manufacturer and to follow the directions there given.

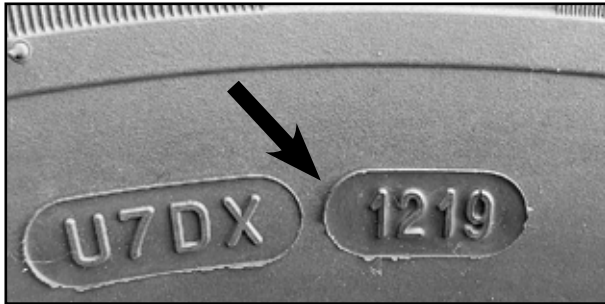
22.2 Technical notes

- The mass of the vehicle in running order (reg. EU 1230/2012) includes: 75 kg driver, 90% of fuel tank capacity, 100% gas bottle (one bottle), capacity of fresh water tank considered suitable for running.
- Anything not included in the standard vehicle version (whether referring to mechanics or to the living space) can cause an increase in mass in running order with a resulting reduction of the pay-mass. This reduction may result in the need to reduce the number of approved seats, if the total mass of optional equipment exceeds the value of the residual pay-mass. It is therefore advisable to consult the masses values of individual pieces of optional equipment listed in the price list before installing any piece of optional equipment. Please remember that the law does not permit exceeding the technically permissible maximum mass value. It is therefore advisable not to exceed the technically permissible maximum mass and that sufficient pay-mass remains for passengers and luggage. In the event of installation of a bike rack or of declassing of the Heavy chassis, the approved seating number may vary. In this case, always check with the dealer regarding any changes to approved seats.
- The calculation of pay-mass is given by the difference between the technically permissible maximum laden mass and the mass in running order. This figure includes 75 kg for each passenger (not including the driver), and the minimum pay-mass (given by the formula 10 kg for each metre of length of the vehicle plus 10 kg for each passenger, usable by the crew for luggage and equipment), which will be separated to obtain the residual pay-mass. The residual pay-mass can be used for the installation of optional equipment and for loading more luggage.
- In order to maintain optimal setup of the vehicle in running and stationary conditions, it is advisable to distribute the pay-mass in a uniform manner over the surface of the vehicle.
- The overall vehicle height is increased in case of installation of optional equipment on the roof, such as – for example – satellite antennas and solar panels. With 16" tyres on Fiat/Citroën chassis, the overall height of the vehicle increases by approximately 5 cm.
- In case of installation of optional equipment – especially in the back area, like for example of bike racks, tow hitch, and so on – you must always be sure you observe the technically permissible maximum mass on the axle.

23.1 Tyres

23.1.1 General warnings

- Six years after the date of production, tyres are to be replaced as, in the long run, rubber deteriorates and tyres are no longer safe after this period has elapsed. The date of production is indicated by the four-figure code positioned on the tyre side, where the first two figures indicate the week of production and the last ones indicate the year.



Example: week 12, year 2019

- At regular intervals check the condition of the tyres and in particular the depth of the tread: the minimum depth is fixed by law.
- At regular intervals check that the bolts of the wheels are tightened; tightening must be done "crossing" (passing from one bolt to the one positioned across from it and not to the one on the right or left-hand side). Check the tightening after the first 50 km traveled with the replaced wheel.
- When the tyres are new, for the first 100 km it is advisable to drive with care and at a particularly low speed, because when new the tyres do not ensure a perfect grip.
- All the tyres mounted on the coachbuilt must be of the same type, dimension and version (for example, do not mount summer and winter tyres on the same vehicle at the same time).
- See the registration certificate for information on the tyres approved for the vehicle.
- Always observe the local legal requirements regarding the use of winter equipment (e.g. snow tyres, chains). The vehicle driver is responsible for ensuring that the vehicle complies with these regulations.

 **WARNING**

In case of a long period of inactivity of the vehicle, tyres could deform with serious consequences in the driving position of the vehicle and its security; we recommend to move the vehicle frequently, to avoid this kind of inconvenient.

23.1.2 Tyre pressure

Correct tyre pressure varies depending on the type of tyre, its size and the load on each individual axle.

 **NOTE**

The load on each individual axle depends on any optional equipment installed and luggage transported, in addition to the default layout.

See the chassis manufacturer manual for information on correct tyre pressure.

Take into consideration that:

- an insufficient or excessive pressure results in an irregular wear of the tyres and in anomalies in the driving position of the vehicle;
- in case of low pressure, tyres can explode;
- pressure must be checked when the tyres are cold.

 **WARNING**

Tyre pressure must be checked at regular intervals, especially after periods (even short) when the vehicle is not used.

 **WARNING**

In case the original tyres are replaced (for example, with winter tyres), the recommended pressure level for the replacement tyres may be different from the level recommended for the tyres fitted as standard equipment. Consequently, it is mandatory to always follow the instructions provided by the tyre manufacturer.

23.2 Cleaning



Any differences in the shade of components in contact with each other may be caused by differences in their basic materials.

23.2.1 Interior

- Never use abrasive products. Use cleaners and household products.
- Do not use detergents containing chlorine, abrasive detergents, scourers or metal brushes to clean stainless steel surfaces.
- After use, carefully dry all stainless steel surfaces.
- Clean furniture and painted surfaces using a wool moist cloth. If necessary use furniture polishes.
- To clean plastic materials (e.g. washroom components) only use water and neutral soap.
- Do not use corrosive products to clean the drains.
- Only clean the dashboard by using a moist cloth.

23.2.2 Upholstery

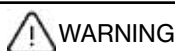
The elements of the upholstery of the Laika vehicles are manufactured with fabrics with different compositions which require different types of treatment. To wash them, refer to the labels applied on the fabrics, indicating their composition and how to treat them.

The labels are in the following locations:

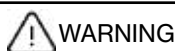
- settee cushions: in the driving direction backrest or in the side backrest;
- cab seats covers: in the backrest;
- cab carpet: in the internal side.



Upholstery fabrics are sensitive to direct ultra-violet light (sunlight or halogen light) and may fade over time. As far as possible, protect the cushions from sun rays.



Do not expose upholstery fabrics to direct heat sources.



Genuine leather and eco-leather cushions are less resistant to abrasion and fading than other fabrics. This is due to the nature of the product and does not indicate any defect.



Gently clean the eco-leather cushions with a soft, damp cloth. Do not use abrasives or chemical detergents.

23.2.3 Exterior

- Do not use high pressure cleaning devices.
- Use delicate detergents specific for aluminium.
- Pay close attention to the parts on which labels and adhesive graphics are present. These parts are more delicate.
- Do not use alcohol to clean the window panes or any other plastic parts.

23.2.4 Tanks

For a good maintenance, it is recommended to clean the fresh water tank and the waste water tank before a long period of inactivity of the vehicle, and however at least once a year.

Proceed as follows:

- 1) Open the inspection cap of the fresh water tank and remove any residues that may be present.
- 2) Fill the fresh water tank and the waste water tank up to about half its capacity, by adding the specific commercial disinfectants. Follow the instructions in the disinfectants.
- 3) Drive the vehicle for a short route in such a way that the water inside the tanks moves.
- 4) Empty the tanks and rinse them with plenty of clean water.



Drain the tanks without harming the environment.

23.3 Flooring

The surface of the floor must be treated with utmost care. Only use neutral soap diluted in water for cleaning and rinse with cold water. Do not use steam cleaners, aggressive detergents or abrasive sponges.

 WARNING

The surface of the floor is soft and sensitive to shocks: heavy and/or sharp objects falling on the floor might cut or scratch it. Even objects rubbing or sliding continuously on the floor might damage it.

 WARNING

Pay attention when putting ladders or stools on the floor: if used inappropriately, the surface might be damaged. When heavy loads are laid on the floor, the floor should be protected.

 WARNING

Certain types of shoes (such as heeled shoes) and the presence of foreign bodies under the sole (such as small stones) might damage the floor.

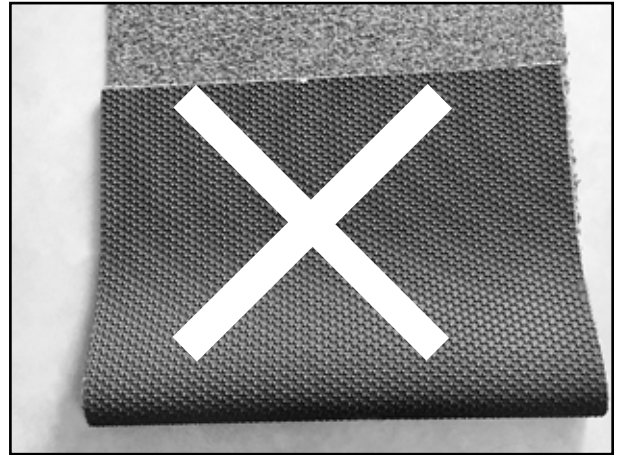
 WARNING

Any rubber object (such as tyres) laid on the floor might damage it.

Carpets

It is not advisable to place any type of carpet, rug, mat, or cloth on the floor.

Especially avoid the use of carpets with a rubber or latex bottom.



 WARNING

The use of any type of carpet can cause stains or marks to appear on the floor.

 NOTE

Flooring can be covered using original Laika carpeting.

23.4 Furniture

Doors and cabinet doors require periodic adjustment to ensure they continue working properly. You are advised to contact a Laika authorised workshop when work on the doors and cabinets is needed.

 WARNING

All wooden parts must be carefully kept dry, as moisture can deteriorate them.

23.5 Headlights

Condensation can form in the outer headlights of the vehicle. This is due to atmospheric conditions and is completely normal. No maintenance is required.

23.6 Inactivity of the vehicle

Either before or after a long period of inactivity or in case of frost, also for a short period of inactivity, it is necessary to carry out some operations.

23.6.1 In case of danger of frost

Water system

In case of danger of frost, also for a short period of inactivity, the water system must be fully emptied. Operate as follows:

- empty all the tanks;
- open all the washroom and kitchen taps;
- operate the rinsing of the toilet;
- open the boiler valve.

Batteries

Remember that the batteries can be damaged if exposed to severe cold for a long time: in this case it is advisable to remove and shelter them.

23.6.2 Before a long period of inactivity

Before a long period of inactivity, to take care of your vehicle it is necessary to carry out few but important operations:

- Empty the water system completely (see "In case of danger of frost") and rinse the various tanks.
- Disconnect the auxiliary battery by means of the proper switch or by removing the relevant fuse.
- Disconnect the terminals of the battery or recharge the battery at regular intervals by starting the engine.
- Close the main valve of the gas bottle as well as all the taps of the various appliances.
- Clean the refrigerator and the freezer and leave the doors open.
- Leave sliding blind on roof lights open (except for washroom).
- At regular intervals ventilate the living quarters completely by opening all the doors, windows and roof-lights.



If the vehicle is covered with protective tarpaulins, apply them in such a way that they do not cover the vehicle's ventilation openings or use permeable (breathable) tarpaulins. The use of tarpaulins, in any case, can cause the formation of stains, spots, mold and damage the surfaces, both external and internal, of the vehicle. It is recommended to periodically check that there is adequate air circulation both inside and outside the vehicle and that no moisture is formed.

23.6.3 After a long period of inactivity

After a long period of inactivity, for safety reasons, it is necessary to perform some checks on the conditions of the vehicle:

- Check the perfect efficiency of both the gas system and the electric system.
- Check that the heating flue pipe is not clogged (e.g. by snow, ice, leaves, insect nests, etc.).
- Clean the back of the refrigerator, accessible through the grids placed on the outer wall of the vehicle and check that there are no spider webs or other objects that obstruct the gas burner.
- Check the tyre pressure and the braking system.
- Thoroughly rinse the fresh water tank and fill it.
- Connect the batteries again.
- Recharge the auxiliary battery completely by connecting to an external 230 V socket.

23.7 Fiat/Citroën chassis number

Kosmo series

Ecovip low-profiles

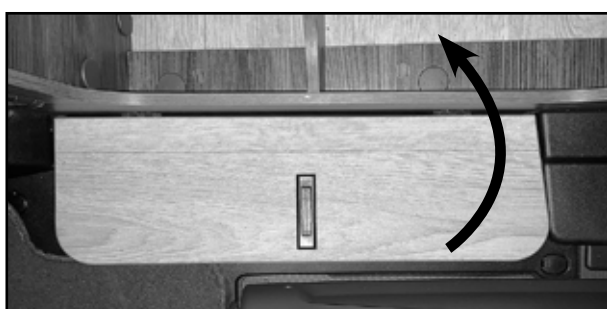
Kreos low-profiles

The Fiat/Citroën chassis number is punched into the metal sheet of the right wheel arch, and can be accessed through a small hatch located in the cab, at the bottom right hand side.



Ecovip A-class

The Fiat chassis number is punched into the metal sheet of the right wheel arch, and can be accessed through a small hatch located in the cab, at the bottom right hand side.



24.1 Spare parts and optional equipment

Laika dealers are always available for advice of any kind, repair operations and supply of spare parts and/or optional equipment.

We recommend always accurately indicate to your dealer the model, chassis number and year of first registration (indicated on the registration card) to simplify the exact identification of required spare part. Laika spare parts and optional equipment have been designed for use expressly on Laika vehicles.



WARNING

The failure to use genuine optional equipment or spare parts may cause damage to the vehicle or compromise the safety of the passengers. The assembly of them, if it has not been carried out following the vehicle manufacturer's instructions, may also invalidate the guarantee. You are therefore advised to use only genuine Laika products and to have them installed at authorised service centres only. Any alteration to the vehicle and its systems (electric, gas, water, etc.) not authorised in writing by Laika Caravans S.p.A. involves the automatic invalidation of the guarantee.



NOTE

For further information about Laika vehicles and for technical data of the models, please visit the following website: www.laika.it



The technical data and specifications contained herein refer to Laika vehicles manufactured when this handbook was printed. Pursuing an attentive policy of continuous product improvement, Laika Caravans S.p.A. reserves the right to change these data at any time without prior notice and declining any form of liability whatsoever.

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