CABBY

INSTRUCTION AND SERVICE MANUAL

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DENMARK
FINLAND
UK

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Congratulations on your new Cabby!

With the correct maintenance and regular servicing, you will be able to spend countless enjoyable times with your caravan. Your Cabby will also retain a high second-hand value for a long time.

In buying your Cabby, you have made a major investment. You consequently have every right to demand quality, service, access to spare parts and knowledgeable personnel. Your knowledge and your experiences will help us to develop Cabby. We are therefore keen to hear what you have to say, and would be more than happy to receive your opinions regarding any improvements or changes. One easy way of sharing your experiences is to contact your dealer, who can be found at www.cabby.se.

The design of a Cabby is adapted for optimum driving characteristics when towing with a car, not with other vehicles such as lorries and vehicles with an extremely rigid rear section. Cabby does not accept guarantee liability for damage caused by towing the caravan with such a vehicle. If you have any questions regarding the towing vehicle, you should contact your Cabby dealer.

SETTING OFF WITH YOUR CABBY FOR THE FIRST TIME:

- ☑ Check the caravan's road lights
- ☑ Check that the Calor gas bottle is filled
- ☑ Check the operation of the stove, refrigerator, boiler and water system
- ☑ For longer trips, you should check the Calor gas level, and it is a good idea to take a spare wheel and a jack
- ☑ Test the braking of your car and caravan combination before driving any further

CHECKLIST BEFORE DEPARTURE

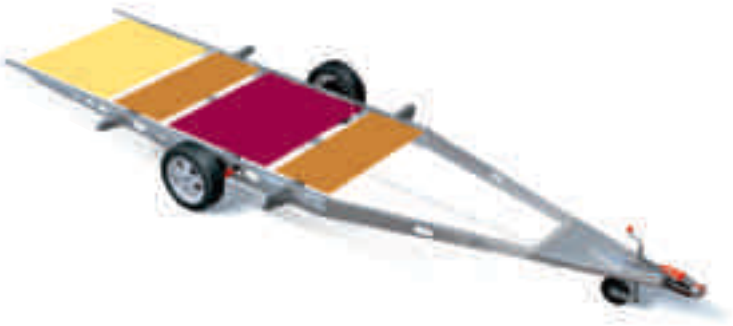
- ☑ Ensure that the caravan's handbrake is disengaged
- ☑ Wind up the corner steadies and jockey wheel
- ☑ Check that the hitch is properly secured to the car's ball
- ☑ Make sure that no electrical cables or emergency brake wire are dragging on the ground
- ☑ Check that the load inside the caravan is correctly positioned and securely stowed
- ☑ Check the road lights
- ☑ Take extra fuses and bulbs with you
- ☑ Empty and load a waste water container, if you have one
- ☑ Make sure the lid for the fresh water tank is closed
- ☑ Close and lock windows and skylights
- ☑ Take down the TV aerial
- ☑ Lock hatches and doors
- ☑ Secure the refrigerator door
- ☑ Lock the outer door
- ☑ Adjust the door mirrors
- ☑ Do you need a spare tyre, tools and a jack?

LOADING

It is important to load your caravan correctly so as not to impair the driving characteristics. The caravan's total weight and guaranteed axle pressure are specified on the caravan's type plate. You can find other information in the registration certificate.

Load the caravan carefully and ensure that no heavy objects can fall out of cupboards. Check that hatches and doors are closed and locked. The differences between various cars and caravans mean that there are varying solutions for how to position and distribute your load.

Gather heavier items just in front of or above the wheel axle (see picture). The tow hitch pressure should be around 70-80 kg. Excessively low tow hitch pressure can produce impaired directional stability. Excessively high tow hitch pressure can produce various problems, such as the beam of the car's headlights being too high. This problem can be rectified with additional suspension for the car, and many modern cars also allow you to lower the headlight beam with a control on the dashboard.



Light packing | Medium packing | Heavy packing

CONNECTING TO THE CAR

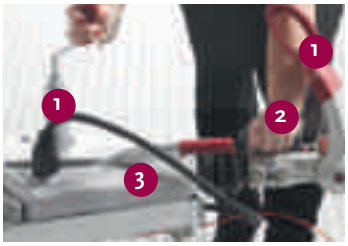
The hitch on the caravan consists of a ball hitch with an automatic locking device.

The ball hitch is designed for use together with a 50 mm coupling ball. **When connecting, check carefully that the ball hitch has engaged properly over the ball and that the locking mechanism is locked. To achieve complete functionality, the car must be equipped with a 13-pin trailer plug.**

NB.
The ball must be free from grease and dirt when using an AKS stabiliser hitch. Clean the ball with a degreasing agent before departure.

PROCEED AS FOLLOWS:

1. Manoeuvre the car's coupling ball as close to the caravan's ball hitch as possible. Use the jockey wheel's crank to raise the coupling head slightly above the car's ball.



2. Lift the handle on the coupling head upwards/forwards. In this way, the ball coupling's locking mechanism is opened automatically.
3. Disengage the caravan's parking brake. Take care if the caravan is on a slope. In a sloping location, the handbrake may only be disengaged after the caravan has been coupled to the car.
4. Lower the ball hitch over the car's ball using the jockey wheel crank. In the correct position, the coupling head will lock automatically. A green indicator becomes visible.

5. Lift the drawbar and rock the coupling head a couple of times as an additional check.
6. Fold down the stabiliser hitch's handle to the horizontal position.
7. Secure the emergency brake wire with the snap hook in the intended location on the car's drawbar.

8. Wind – and pull up the jockey wheel and lock it carefully in its uppermost position.
9. Connect the caravan's 13-pin plug to the car's outlet. Check that the plugs fit each other – see guide groove – and lock the caravan's plug by turning the outer locking ring clockwise. During the winter, ice can form on the plug pins. Heat the plug carefully and wipe clean. Poor contact can also be caused by corrosion – spray the pins with contact spray.

10. Check that the emergency brake wire and electrical cables are not dragging on the ground.
11. Check that all road lights are working.
12. Check that the green ATC lamp glows green.
13. Go through the checklist on the previous page before departure.

WHEN DRIVING

- Start smoothly and avoid jerky movements.
- Remember that the caravan is wider than the towing vehicle.
- Keep a lookout behind you. Do not cause traffic queues, and make it easy for faster vehicles to pass you.
- A car/caravan combination requires a longer overtaking distance and takes longer.
- Be considerate before an overtaking manoeuvre, and above all – take it easy.

PUNCTURES

It is a good idea to have a jack and a spare tyre with you in case of an accident. In the event of a puncture, it is necessary to raise the caravan using a jack so that the wheel can be replaced.

NB. The caravan must never be lifted with the corner steadies. Because the chassis frame is made of a relatively thin material, it is not permitted to position the jack directly against the chassis frame. The jack must be positioned under the wheel axle and very close to the attachment of the axle to the chassis frame. Alternatively, a special jack can be attached to a special dolly on the chassis frame (see picture). Remember not to mix different tyre dimensions or tyre types when changing tyres.

TYRES

The tyres are filled with nitrogen in the factory. Feel free to refill the tyres with nitrogen if necessary. In the event nitrogen is not available, the tyres can be filled with air.

PITCHING THE CARAVAN

- Select a flat surface (important e.g. for the refrigerator to work properly). Ensure that you have chocks with you for the wheels or corner steadies. It can also be useful to have a spirit level with you.
- Select a firm, hard surface, as the car and caravan together are very heavy. This is particularly important when it is raining.
- Estimate your need for current, if it is not possible to connect to the 230 V mains.

DISCONNECTING THE CARAVAN

PROCEED AS FOLLOWS:

A. The caravan is on as flat a surface as possible. Apply the handbrake.
B. Lower and lock the jockey wheel in place.
C. Disconnect the electrical connection and the emergency brake wire.
D. Release the friction coupling by pulling the coupling handle upwards/forwards, which opens the locking device. The hitch can now be lifted off by hand or with the aid of the jockey wheel's crank.
E. Adjust the caravan to the horizontal position by raising or lowering the jockey wheel.
F. Wind down the corner steadies and adjust the position of the caravan.

NB.
The weight of the caravan should rest on the wheels. Not on the corner steadies!

ATC ANTI-SKID SYSTEM

BEFORE DEPARTURE

- Connect the caravan.
- Connect the 13-pin trailer cable to the towing vehicle.
- Check that the caravan's lights are working.
- Check ATC's LED.
- ATC starts a self-test – the LED glows red for approx. 3 seconds.
- The LED then glows green.
- The unit is now ready to be driven.

IF THE LED DOES NOT SWITCH TO GREEN: PROCEED IN ACCORDANCE WITH THE TABLE

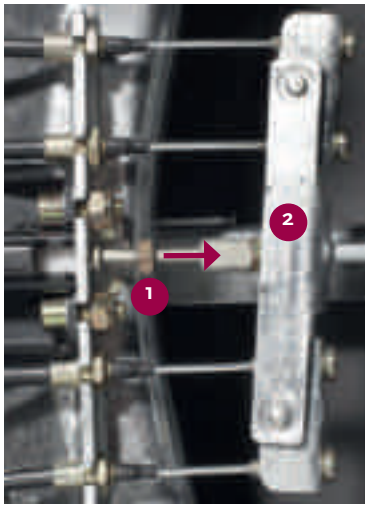
Indication	Status	Consequence	Action
Green	**ATC active**	**Everything is OK**	
Red	ATC not active	Continued journey possible	Disconnect the 13-pin trailer cable from the towing vehicle. Wait for approx. five seconds. Connect the 13-pin trailer cable to the towing vehicle.
Flashing red	ATC braking	Continued journey prohibited.	Disconnect the 13-pin trailer cable from the towing vehicle. Wait for approx. five seconds. Connect the 13-pin trailer cable to the towing vehicle.Repeat several times if the LED does not switch to green the first time. If the LED continues to flash: Check the push rod extension.
LED off	No power to ATC	Continued journey prohibited.	NB. Status of the brakes uncertain. Check the push rod!

In the event of problems that cannot be rectified using this table: Contact a specialist workshop!

CHECK THE PUSH ROD

Check the connection between the caravan's chassis and ATC.

Push rod extended (brake position)	Red indicator visible	Do not drive!	Disengage the emergency release.
Push rod in specialist (end position)	Red indicator not visible.	Continue journey without ATC function.	Contact a workshop.



DISENGAGE THE EMERGENCY RELEASE

Undo the stop nut (1) and screw it onto the brake rod extension's head (2).
Unscrew the brake rod extension from the rod.
Lift the rod a little and pull the brake rod extension out of ATC.
Unscrew the stop nut from the brake rod extension and thereby secure the ball nut. (3)

MAINTENANCE AND CLEANING

Do not clean with a high-pressure washer.
The system is maintenance free.

SAFETY INSTRUCTIONS

- Even though ATC entails increased safety, remember not to expose yourself or your fellow road users to any safety risks.
- Always adjust your speed according to the weather, road and traffic conditions.
- Caravans/trailers with a high centre of gravity can tip over before they start to oscillate!
- The function of ATC is dependent on the condition of the tyres.

MAINTENANCE OF AL-KO CHASSIS

All of Cabby's caravans have a hot-dip galvanised chassis.

MAINTENANCE OF HOT-DIP GALVANISED PARTS

Hot-dip galvanising provides complete rust protection. Through a chemical reaction with the carbon dioxide in the air, it achieves complete protection after a few months. AL-KO KOBER's vehicle parts are supplied with a layer with a minimum thickness of 70 µ. This protection is affected by climate conditions, and thins out by 2-5 µ/year under normal conditions.

During the first few months after hot-dip galvanising, the surface layer is sensitive to moisture and poor air circulation. This can result in matt white/greyish stains (known as white rust). However, these changes only affect the appearance, and are of no importance as regards corrosion resistance.

THE MOST COMMON CAUSES OF WHITE RUST ARE:

- Road salt
- Condensation, poor ventilation
- Pitching in tall grass or snow/snow banks
- Strong detergents
- Snow lying on metal components
- Sea transport

TO PREVENT THE OCCURRENCE OF WHITE RUST, THE FOLLOWING ARE RECOMMENDED

- When pitching: ensure good air circulation. Water must be able to run off and not remain lying on the metal (wipe off immediately if necessary).
- After travelling on winter roads, the galvanised parts must be washed with clean water and then wiped dry.
- Temporary protection can be obtained with a thin layer of oil.

According to DIN 50 976 and SS-EN ISO 1461, the formation of white rust does not normally constitute grounds for a complaint.

REMOVING WHITE RUST:

- White rust can be removed through careful brushing with a stainless steel brush, or through careful rubbing with a sponge with a coarse surface.
- In certain cases, chemical agents such as Poligrat CSG Zinc cleaner can be used.

The white rust is most visible when the caravan is new, and above all on shiny surfaces. The white rust is worn away in time by the wind and weather, and the surface is covered by a stable layer with a matt, grey shade.

Your Cabby is equipped with two different electrical systems – 230 V and 12 V.

THE 230 V SYSTEM

The central electrical unit is located on the outer wall of the cupboard, and the ALDE central heating boiler is on the floor. The majority of the service equipment, such as the battery and charger, is gathered in an "Electrical block" located in the right-hand front sofa.

The 16/10 Amp fuses for 230 V and the residual current device are located in the central electrical unit. The fuses are located in the relay box in the cupboard. **NB. Two 20 Amp main fuses are located adjacent to the battery box.**

The maximum connection current is 16 Amp, which means that it is theoretically possible to produce 3,680 Watts for the caravan's power supply. The power outlets at campsites are normally only 10 Amp, which reduces the theoretical produced output to 2,300 Watts. If you are unsure – ascertain the situation for the outlet in question, so that the fuses in the post are not overloaded and do not trip.

To connect the caravan to the 230 V mains, a connection cable with a maximum length of 20 metres is required (RDO-type rubber cable). The conductor area must not be less than 2.5 mm² in order to avoid overloading the cable, with resulting voltage drop, short-circuit, fire or other damage. Position the cable in such a way that the risk of damage to the cable is avoided and so that there is no risk of the cable freezing to the ground in the winter.

The connection to the caravan should be a type CEE-19 "Industrial outlet". At many sites, similar connectors are also required at the power outlet/post. The caravan's central electrical unit contains miniature circuit breakers that trip in the event of a short-circuit or overload. If the circuit breakers have tripped, you must always investigate the cause and rectify the fault before the circuit breakers are reset.

There are also several functions that are powered with 230 V. It is important for users not to overload the system, which would result in the circuit breakers being tripped if the load monitor is not activated. For activation of the load monitor, see page 15.

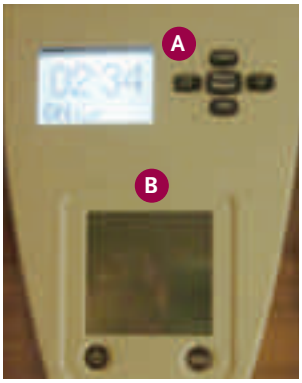
THE 12 V SYSTEM

Your Cabby is equipped with a control panel, located together with the panel for the boiler in the left-hand cupboard above the kitchenette. The control panel is the caravan's master switch, and the caravan's 12 V functions are controlled from there. It is possible to regulate on the control panel where the voltage is to be supplied from: the caravan's or the car's battery. Remember only to use the "power supply from car" mode as a backup – when there is no current in the caravan battery.

However, note that in many modern cars it is not possible to make contact with the car's battery when the ignition key is in the off position. If you want to use the car's battery in this position, you have to contact your car workshop for possible conversion. NB. In the event of significant or prolonged drawing from the car's battery, this can endanger the car's ability to start.

When using battery operation only, the available capacity is limited to the battery's current charge level. It is therefore important to pay attention to the caravan's power consumption, particularly when it is not connected to the 230 V mains.

CONTROL PANEL



The control panel comprises two displays:
A. Cabby display
B. Alde display
The Cabby display is divided into two main systems:
C. The main menu contains 14 menus and controls those functions that the Cabby display can perform.
D. The service menu is adapted for calibration and settings. You can browse between the menus using the buttons with the arrow symbols as shown. All menus usually have an On and an Off position.

MAIN MENU (C)

Menu 1 – Clock and electrical connection
OFF position:
- The caravan's master switch is turned off
- 12 V is turned off
- Clock is active
- If external heating connection is active, a mountain top is displayed as well as the type of external heating connection that has been selected
- If 230 V is connected, a flash is displayed.

ON position:
- The caravan's master switch is active.
- Shows that 12 V is connected, i.e. that the caravan's battery is connected to the electrical system.
- Clock is active
- 230 V is connected and can be used for heating.
- If water On is activated, a tap is displayed.
- If water External (fixed water) is activated, a tap plus the text EXT will be displayed.

Read more about fixed water on page 18.

Menu 2 – Fresh water
OFF position: Water pump switched off.

Level 1. ON position: The fresh water level 0-100% is symbolised with a water container with or without a tap. The water pump in the caravan is activated and the volume of the tank is shown in the display.

Level 2. ON position: External water is activated. If water External (fixed water) is activated, a tap plus the text EXT will be displayed.

Menu 3 – Grey water/drainage tank
The grey water level is between 0-100% and is symbolised with a container without a tap.

Menu 4 – Battery voltage
The current battery voltage is symbolised with a battery.

Menu 5 – Heating at 12 V
The setting must always be in the ON position.
NB. The Alde display is only lit in the ON position when the caravan is not connected to 230 V.
You control the caravan's heating from the Alde display.

Menu 6 – Activate refrigerator with 12 V
OFF position: During normal use of the caravan.
ON position: Only in combination with charge booster. NB. Limited operation.

Menu 7 – External heating connection
OFF position: If external heating connection is activated, a mountain top appears in the first menu.

ON position: Here you can set the required mode for external heating connection.

Level 1 Heating: If external heating connection is set to heating, the caravan will automatically provide access to heating as soon as the caravan has access to 230 V, even if the control panel is in the OFF position.

Level 2 Cooling: If external heating connection is set to cooling, the caravan's refrigerator will automatically be activated when 230 V is connected to the caravan, even if the control panel is in the OFF position.

Level 3 Heating + cooling: This setting provides the caravan both with access to heating and an activated refrigerator. Before disconnecting the current, the following selections must be made:

1. Selection of energy type, such as gas, electricity or a combination of the two, as well as the selection of output, e.g. 2 kW.
2. Adjust the refrigerator and select 230 V as well as the desired temperature.

NB. The Alde display must be in the ON position when the current is disconnected.

Menu 8 – Hazard indicators on the caravan
Setting OFF position or ON position.
The caravan's hazard indicators can be activated from the Cabby display, provided the vehicle lights on the car are turned off.

Menu 9 – Road lights on the caravan
Setting OFF position or ON position
Like the hazard indicators, the caravan's road lights can also be activated from the Cabby display. This can be useful if the caravan has to be left in the dark, e.g. in the event of a puncture.

Menu 10 – Choice of battery between caravan and car.
The battery choice is made with the ON/OFF button, depending on whether you want to use the car battery or the caravan battery.

Menu 11 – Charge booster (option)
Auto mode: Here, the Cabby display detects whether the booster is connected or not.
OFF position: The booster is turned off
The booster makes it possible to charge the caravan battery using the car.
NB. To achieve proper functionality from the booster, a 13-pin, correctly connected plug on the car must be used.

Menu 12 – Extra
This menu is not activated.

Menu 13 – Fuse overview
If all the fuses on the relay board are working, only one fuse symbol is displayed with the word OK.
If any of the fourteen fuses on the relay board is out of operation, the display shows a cross over the fuse symbol as well as indicating which of the fourteen fuses is out of operation.

Menu 14 – Shows active level alarm
This menu shows a list of active alarms. Alarms are indicated in the form of sound and light signals. The menu for active alarms includes alarms for fresh water, grey water and battery voltage. The alarm levels for fresh water, grey water and battery voltage are set on the Cabby display under the service menu. The preset value for battery alarm is 10 V, and for the water levels the preset values are 10% and 80% respectively.
The alarms can be acknowledged in the main menu (store/reset) and can be reset by rectifying the alarms, e.g. filling with water, emptying grey water and charging the battery.

NB. If you reset the alarms for fresh and grey water on the Cabby display, the alarms are not repeated. If the battery voltage in the caravan has dropped below the alarm level that is set in the service menu, the current battery voltage is displayed in Active alarms.

Time control: The sound alarm is turned off between 22.00–08.00. The light alarm is active 24 hours a day.

TIMER AND ALARM CLOCK

Symbol for alarm clock:

Alarm clock

Symbol for Timer:

Timer

In order to activate the timer or the alarm clock, the upper display in the control panel must be in the main menu. By pressing briefly on the Store/Reset button, a new menu appears regarding the selection of timer or alarm clock. This selection is made using the arrow keys, and the setting is saved by pressing the Store/Reset button. The Timer can be set between 1-99 minutes, and it is also possible to set seconds. Set the desired time with +/- and shift between minutes and seconds using the arrow keys. The value that can be set is darkened. Start the timer using the Store/Reset button. When the timer has counted down from the set time, the buzzer emits a short beep, which is deactivated on the control panel. If the buzzer is not deactivated, it will go silent after one minute and the display will revert to the first menu. The alarm clock is set in the same way as the timer, i.e. the desired time is set with +/- and you can shift between hours and minutes with the arrow keys. When the alarm clock is activated, a small clock will be visible in the main menu. The alarm clock is activated by pressing Store/Reset and by pressing the +/- key so that the alarm clock it set to On. Press the Store/Reset button to return to the main menu.
The buzzer emits the same short beep as with the timer, but the signal is repeated after 2 minutes if the alarm has not been deactivated.

THE SERVICE MENU (D)

BASIC SETTINGS

The service menu (the upper display – the Cabby display) is activated by pressing and holding the Store/Reset button. All the alarm levels for fresh water, grey water and battery voltage are set in the service menu. The contrast and the background lighting for the display can also be set in the service menu.

The service menu contains the following:

- Setting the clock.
- Setting alarm level for fresh water.
- Setting the grey water.
- Setting the alarm limit for battery voltage, caravan battery.
- Calibration of level sensors for fresh water and grey water, max. and min. levels. The value in brackets shows the current value for the sensor.
- Background lighting on the display when active.
- Background lighting on the display when inactive.
- Calibrating the clock. Specify how many seconds/days the clock is to be adjusted.
- Contrast for the display.
- Choice of language.
- Level alarm On/Off.
- Time control of Level alarm.

In order to return to the first main menu, press the Store/Reset button. After 5 minutes of inactivity in the service menu, the display reverts to the first main menu.

RESTORE FACTORY SETTINGS

In order to access the factory settings on the control panel, press and hold the + and - buttons until the buzzer emits a beep (approx. 10 sec.).

FACTORY-SET DATA ON THE CONTROL PANEL

Clock	00:00:00
Fresh water alarm level	10%
Grey water alarm level	80%
Battery alarm level	10 V
Calibration, fresh water	Min. 70, Max. 130
Calibration, grey water	Min. 70, Max. 120
Calibration, LCD MIN	40%
Calibration, LCD MAX	100%
Calibration, clock	0 S/24H
Calibration, LCD contrast	0
Choice of language	Swedish

CHARGING THE BATTERY

The caravan's battery is located in a battery compartment. It is important for the ventilation hose from the battery to be correctly connected, and for the free end to emerge under the floor. There are normally two options for charging the caravan's battery. Using the caravan's battery charger or using the car's alternator if a charge booster is connected.

USING THE CARAVAN'S BATTERY CHARGER

By connecting the caravan to the 230 V mains, the caravan's battery charger starts up automatically and the battery is charged. Remember that poorly charged batteries will easily sustain freezing damage in cold conditions, whereas a fully charged battery can withstand cold conditions significantly better.

In the event of prolonged stoppages, store the battery in a cool location and, if possible, with a small trickle charge.

When the caravan is not in use, it is also important to turn off the caravan's master switch by selecting Off in the above display, as even a very low level of consumption will drain the battery.

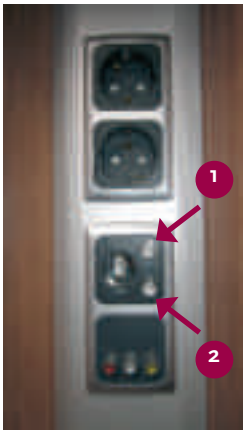
INTERIOR LIGHTING

All lighting is powered by the 12 V battery voltage. When replacing bulbs, it is important to install the right type of bulb with the correct output. Installing the wrong type of bulb or too high an output can result in overheating, with a risk of fire or burns as a result.

TV AERIAL (OPTION)

Cabby's caravans can be equipped with an electronic TV antenna for internal TV, i.e. you receive the signal via the aerial from the roof. This type of aerial requires a 12 V voltage in order to work. At all the points in the caravan where aerial outputs are located, there is also a connection for external TV (1), e.g. cable TV on the campsite. Connection to external TV is achieved via the external outlet on the caravan's door side, marked EXT.

At the TV outlets in the caravan, the cable for external TV must be inserted in the upper outlet. The lower outlet is for internal TV (2), i.e. the aerial from the roof. Where the outlets are horizontal, external TV must be connected to the right-hand outlet. Internal TV must be connected to the left-hand outlet.

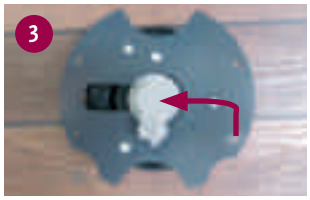


ROAD LIGHTS

Cabby's caravans are equipped with road lights according to the 13-pin system. The glass for the rear lights is glued in place and cannot be removed from the lamp housings. When replacing bulbs:

1. Unscrew the decorative plastic with two screws.
2. Unscrew the light with two screws at the same time as holding the light with your hand.
3. Rear side of the light. The bulb is secured with a bayonet mount. Screw one quarter of a turn anti-clockwise and lift out of the bulb holder.
4. Unscrew the bulb 2 mm anti-clockwise.

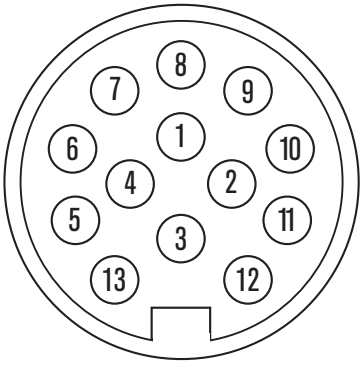
BULB TABLE	Output
Brake light, LED	negligible output
Indicators	21 W
Front position light, LED	negligible output
Rear position light, LED	negligible output
Number plate light	5 W
Side marker light, LED	negligible output
Width indication light	5 W
Reversing light	21 W
Rear fog light	21 W



THE CAR'S 13-PIN PLUG

(DIN 72570)

viewed from the outside (connection side towards the caravan) must be connected according to the table.



Pin no.	DIN categ.	Connected consumer	Cable area, mm²
1	L	Left-hand indicator	1.5
2	54 g	Rear fog light	1.5
3	31	Earth	2.5
4	R	Right-hand indicator	1.5
5	58R	Tail light, right	1.5
6	54	Brake lights	1.5
7	58L	Tail light, left	1.5
8		Reversing lamp (reversing light)	1.5
9	30	Constant power supply (ATC in caravan)	2.5
10		Power supply when alternator charging (charging + refrigerator in caravan)	2.5
11		Earth	2.5
12		Free	
13	31	Earth	2.5

HEATING SYSTEM

Cabby's caravans are equipped as standard with waterborne central heating. On delivery from the factory, this system contains a mixture of water and glycol in proportions that can cope with ambient temperatures down to -35°C. **NB. Check the glycol mixture before each winter. Always use ETHYLENE glycol.**

Take care when filling with water, and never use water of unknown origin due to the risk of salt corrosion in the aluminium system.

The heating system is based on a coil of piping with radiators right around the caravan, which warm up the cold air at floor level. The warm air rises up through special air gaps along the walls, before circulating around the caravan. Be sure not to cover the air gaps, as this significantly lowers the heating capacity. Fresh air is taken in at floor level through separate valves. The cold fresh air is preheated by being routed through a special, densely finned part of the radiators.

Cabby is equipped with waterborne underfloor heating as standard. Three pipe coils are laid in the floor and heat up the floor.
Warning: Never screw into the floor.

BLEEDING THE HEATING SYSTEM

The expansion tank is wall mounted and located on the outer wall of the cupboard, and allows regular bleeding and inspection of the system's water level. Extra air nipples are present and can be opened for bleeding in the event of disruptions to the system's circulation.

For bleeding: twist the valve anti-clockwise. You need to have paper to hand, as liquid can squirt out during bleeding. When a thin jet of glycol emerges, you can close the air nipple.

LOCATIONS OF AIR NIPPLES

Entrance
The air nipple is located directly to the left when you enter the caravan.

Located in the following models according to the table:

Air nipples

All lengths	Certain lengths		
F3, F4 and FT	740 M	740 M2C	800 F3F
	800 FTM	800 FTM2C	
	740 LTD/LTF	800 LTD/LTF	
	740 F2C	800 F2C	

Toilet
F3, F4, M, M2C, F3F
Air nipple located to the left in the cupboard with the straight hatch.

Middle toilet
In the models: L, F2B, F2C, FM.
The air nipple is located inside the commode on the right-hand side.

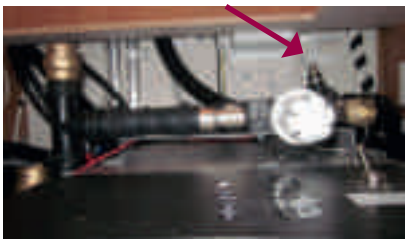
Toilet & shower
In the models FT, LTD, LTF, FTM and FTM2C.
The air nipple is located behind the toilet and is accessed via the adjacent cupboard.

Sofa on the door side
Two air nipples are located behind the sofa.
Lift the sofa lid as shown.
In the models:
F3, L, F2B, F2C,
F3F, M, M2C, FM.
The air nipple in the corner is not visible (1). You can access it from the outside via the ski hatch. On other models there is only one air nipple (2).

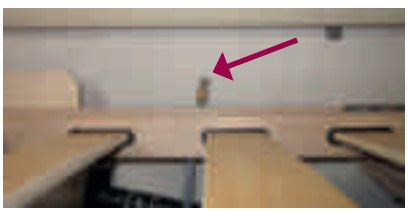
Rear end
This picture shows bleeding under the bunk bed. Bleeding for the underfloor heating can be performed at various locations in the caravan depending on the model, but is always located towards the rear end. The bleeding point is located under the bed, bunk bed, dinette or wardrobe.

800 F3F under double bed.

Boiler
An air nipple is located by the boiler in all models. This picture shows an air nipple in the model for underfloor heating with shunt (option). In models without shunt, the air nipple is located to the side of the boiler.



Behind the bed on the window side
Found in: F4, FT, LTD, LTF, FTM, FTM2C.



CIRCULATION PUMPS

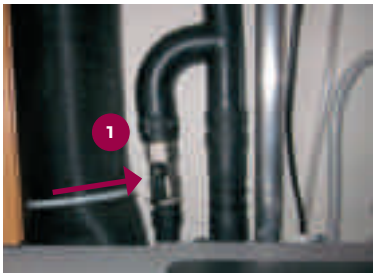
Cabby caravans are equipped as standard with one integrated 230 V and one 12 V circulation pump. The choice of circulation pump, i.e. 12 V or 230 V, is made in the Cabby display.

SAFETY VENTILATION

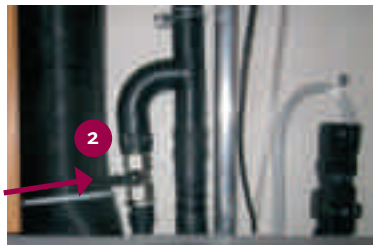
All Cabby caravans are equipped with safety ventilation that is designed in such a way that when all the windows, skylights and outer doors are closed, the carbon dioxide content in the caravan will not exceed harmful levels. This is on the condition that the number people in the caravan does not exceed the number for which the caravan's ventilation has been designed.

- Existing ventilation openings must not be covered.
- Keep skylights and valves free from snow.

UNDERFLOOR HEATING OFF/ON



There is a ball valve on the wall in the boiler cupboard. Lift away the wooden board to access it.
The ball valve has two positions. The underfloor heating is in operation when the ball valve is vertical in relation to the floor. (1)



You can turn off the underfloor heating by turning the ball valve horizontal in relation to the floor. (2)

UNDERFLOOR HEATING WITH SHUNT (OPTION)

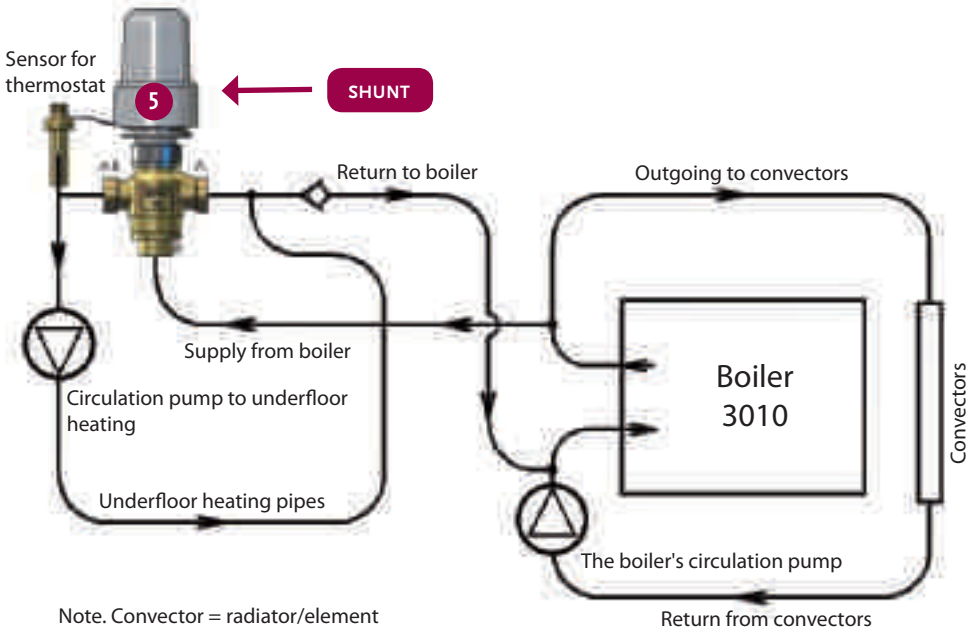
INDIVIDUALLY ADJUSTABLE FLOOR AND RADIATOR HEATING

CONNECTING THE UNDERFLOOR HEATING SYSTEM

The shunt can be set on a scale of 1–9. In the picture, the shunt is set to 5, which is the basic setting. This means that 50% of the water that circulates in the underfloor heating coils goes back to the boiler. Here the water is heated up before going out to the heating coils again. If you want to increase the underfloor heating, you can e.g. set the shunt to 8. This means that 80% of the water that circulates in the underfloor heating coils goes back to the boiler for heating. If you want a cooler floor instead, you can e.g. set the shunt to 2. This means that 20% of the water in the underfloor heating coils goes back to the boiler for heating.

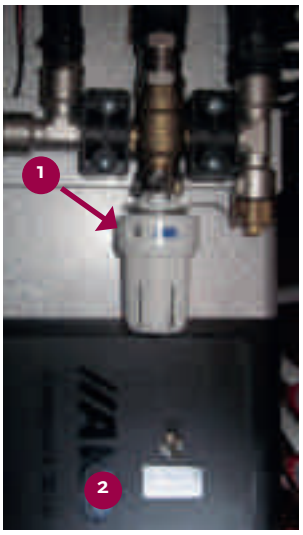
GENERAL:

The circulation pump for the underfloor heating works at intervals of 5 minutes, which means that it will not work for the next 5 minutes. This reduces power consumption, which can be important when you are only using the 12 V system. The circulation pump for the underfloor heating always works at these intervals, irrespective of which mode is activated. The pump can be set in three different modes. Connection of the underfloor heating system can be seen in the picture below.



Note. Convector = radiator/element

AUTO MODE:



In this position, the underfloor heating and radiators work to heat up the caravan. When the desired temperature has been reached, the underfloor heating continues for a further 30 minutes before being turned off. When heating is required, the underfloor heating is permanently in operation.

1. Set the shunt to 5 and select Auto mode, which is the basic setting. The shunt is a valve that regulates the amount of hot water going from the boiler to the underfloor coils. The max. shunt position is 9.
2. Always select Auto mode in the winter. You will then receive a combination of heat from radiators and underfloor heating. If you want to increase the heat to the radiators, you can reduce the setting for the underfloor heating shunt in order to avoid any condensation on the window panes.

CONTINUOUS MODE:

In this mode, the floor is only heated on the condition that the boiler is set to a given output, e.g. 2 kW.

TIME MODE:

Another way of "force-starting" the underfloor heating for a limited period is to use Time mode.

NB. The switch has a spring action and does not remain in Time mode. If you select Time mode, the underfloor heating will operate for 30 minutes. The underfloor heating is then turned off.

Example: In the morning when the system has been turned off, and you only want underfloor heating for a short period: move the control to the spring-action "Time" mode and allow it to spring back.

BELOW IS A EXAMPLE OF USEFUL INFORMATION FOR HEATING THE CARAVAN

Conditions: The caravan is pitched at a campsite. Inside the caravan, the temperature is below 0°C. An effective way of heating up the caravan is to combine electricity and Calor gas. In this example, we are using 2 kW electricity and 5 kW Calor gas. The caravan will not be warmed up with underfloor heating alone. Underfloor heating should only be viewed as a way of increasing comfort. Walking on the floor should feel warm and comfortable.

At the campsite: Check which fuse is used in the power outlet. If it is a 10 Amp fuse, set the output to 1 or 2 kW.
In order to use 3 kW output, a 16 Amp fuse is required in the power outlet.

Load monitor: A load monitor checks the power consumption in the caravan. If the load is too high, the boiler reduces its output instead of allowing a fuse to trip (e.g. when using the microwave oven).

When you know which fuse is available, you can go in and activate the load monitor. This is done by unlocking the panel and pressing the AMP symbol, and then selecting the same amperage as that of the fuse in the post. In this example, 10 A is selected. Finish by pressing OK to activate the setting.

Example. **Proceed as follows:**

Alde display

1. Turn on the display by pressing the button.
2. Set the desired temperature in the caravan.
3. Select 2 kW output for 10 Amp fuse.
4. Calor gas. Select the On position.
5. Press the Menu button to see the temperature indoors and outdoors.
   Press once more to return to the original menu.
6. Unlock the menu to access the load monitor function.

Load monitor

Set the load monitor according to the fuse found in the post. In this example with 2 kW, the setting will be 10 A. Finish with OK to activate the setting.

Note. If the load monitor is set to 10 A and the Alde display is set to 3 kW, no fuse will be tripped as the load monitor will govern and reduce the boiler's output to 2 kW, which is the maximum power output for a 10 A fuse.

ROOM SENSOR (OPTION)

The room sensor is located under the control panel and can be set in two positions. The sensor detects the temperature and works to maintain the set temperature. The sensor is used to achieve the desired temperature when you are in the caravan.

The aim of this solution is for the temperature to be measured where you are. Because everyone who is in the caravan, along with the output from e.g. cooking, the coffee maker, etc., all supply heat, this affects the regulation of the boiler. When you move to the rear part of the caravan, the sensor switches over so that detection is moved to the rear sensor. This makes the temperature more even, as the sensor is located where the influence is currently situated.

NB. The room sensor for the front sofa section is located on the underside of the upper cupboards.
The room sensor for the sleeping section is located above the bed's head end.

SKYLIGHTS

Skylights have ventilation openings in the frame that are always open. Most skylights are fitted with mosquito nets and roller-blinds as standard.

The front skylight is opened by turning the lock fittings at one end and releasing them from the locking lug. The skylight is then pressed upwards, after which it can be pushed in the caravan's longitudinal direction to the desired opening position.

If there is a risk of rain, push the skylight back over the opening so that rainwater cannot enter the caravan.

Ensure good ventilation when there is a risk of condensation.

COOKER HOOD FAN

The fan is powered by 12 V, and if necessary the ventilation ducts and the filter must be cleaned. The fan is fitted with a grease filter than can easily be removed and cleaned.

NB.
Floor valves, ceiling valves or skylights must not be covered over or restricted. Winter – do not shovel up snow around the caravan, thereby blocking the fresh air supply. Clean the insect guard and the dust guard if necessary. In the winter, ice and snow must be removed from valves and skylights.

HEATING REMOTE CONTROL – CABBY GSM START (OPTION)

IMPORTANT TO KNOW

- When the supply voltage is connected, Cabby GSM Start begins with start-up and the LED flashes. Takes 1-2 minutes to complete start-up, at which point the LED stops flashing and calls are connected.
- The SIM card must be active. Check with the card supplier to avoid problems with this function.

DEACTIVATE THE PIN CODE FOR THE SIM CARD FOR CABBY GSM START.

1. Insert a SIM card in a mobile phone.
2. Go to Settings/Tools. The path then is Security-Lock-SIM protection-Protection Then select the Off position. If you have a different path, refer to the manual for your mobile.
3. Disconnect the green plug. The power should not be on when you are inserting the SIM card.
4. Insert the SIM card in Cabby GSM Start as shown.
5. Insert the green plug. The LED will now start to flash.
6. Check that an output has been selected for the boiler, e.g. 2 kW.
7. Set the Alde boiler to external mode. (See Alde's instruction manual.) **External ON position shows that the Cabby GSM Start system is activated.** The text "External start heater on" appears in the display.

The GSM system always works in relation to the set temperature for the Alde boiler.

SWITCH POSITION WHEN YOU LEAVE THE CARAVAN

The rocker switch (A) installed on top of the fusebox in the boiler cupboard is in GSM mode for refrigerator. This mode must be selected when you leave the caravan.

READ THROUGH...

which commands (0-9) you can choose between when you dial the telephone number for your Cabby GSM Start.
Key in PIN code 0000 and finish with #.
Listen to the various commands that are read out, and select one of them.

COMMANDS

There are 10 commands to choose between (0–9) that correspond to the telephone's number buttons. You can specify any command, and you do not need to go in numerical order. For example, you can go directly to command 4 by pressing 4.

Command 0 – Turns off output 1 for boiler/heater and output 2 for refrigerator.

Command 1 – Activates output 1 for boiler/heater.

Command 2 – Delayed start time, can be set max. 24 hours in advance.
The LED (B) is located above the Cabby display. The LED flashes while waiting for the command to be executed, and then adopts a steady glow or a double flash.

Command 3 – Activates output 2 for refrigerator. The precondition for this command working is that the user has set the rocker switch (A) as shown.

Command 4 – Status. Here you receive answers to the questions:

- Is the boiler on, output 1?
- What is the boiler's operating time?
- Is the refrigerator on, output 2?

- Is temperature control active?
- What is the temperature in the caravan?
- What is the battery's voltage?
- How strong is the GSM signal?

Command 5 – Setting the operating time for the boiler. Select constant, which is infinite time.

Command 6 – Activation of temperature control. The LED (B) lights with double flashes when temperature control is activated. Temperature control works in relation to the set temperature on the Alde display.
Before you travel home, set as a minimum the number of degrees you want to control up to, e.g. 20°C. Then set the Alde display to 22°C or higher. When you are sitting in the car or at home, you can select the temperature you want in the caravan. For example, you can set 10°C to avoid condensation and to heat up the caravan more rapidly.
Before travelling to your caravan, go into command 6 again and raise the temperature to the level you want when you arrive at the caravan. **In this example, remember that the Alde display must be set to 22°C before you leave the caravan.** When the temperature has been reached in the caravan, External mode switches to the Off position. When the temperature has fallen below the Alde display's set value, the boiler is turned on and External mode switches to the On position.

Command 7 – Activation of text message alarm

110#

1. Activate text message alarm by pressing 1.
2. Key in the telephone number to which text message alarms are to be sent.
3. Activate alarms with three figures, 110 #

The first figure activates the set temperature alarm. A text message is sent to your telephone if the temperature drops below +5°C.
The second figure activates the voltage alarm. A text message is sent to your telephone if the voltage drops below 11 V.
The third figure activates the unit/outer alarm. This function cannot be activated as no sensor is connected.
You can turn off the modes by specifying 000, which is the Off position.
Text messages are sent three times for each activated alarm. They are sent at 5 minute intervals.

Each alarm function is deactivated after three alarms have been sent. You then have to reactivate each alarm again.

Command 8 – Changing date and time settings, as well as choice of language.

Date example
11#03#24#

Command 9 – Changing your PIN code.
Press * if you want to go to the main menu, or if you are already in the main menu, the call will be ended.

These settings that you have made will remain. Press and hold the LED above the Cabby display for 10 seconds. Your settings will be reset and you can start again from the beginning.

IN THE CARAVAN

When you arrive at the caravan:

- Turn off the GSM system by pressing the LED or call your Cabby GSM Start and press **Command 0.**
- Switch over the rocker switch for the refrigerator in the boiler cupboard. Otherwise the refrigerator will not work.

MALFUNCTIONS

Malfunctions can arise if:

- The mobile phone is in the vicinity of Cabby GSM Start.
- Other electronic equipment such as a computer is in the vicinity and generates interference.
- The voltage level temporarily drops below 8 V (can occur when starting up with a poorly charged battery).
- The vehicle is located by a powerful transmitter antenna.
- The vehicle is outside of the GSM network's coverage area.
- The temperature in the caravan is below -30°C.

TROUBLESHOOTING

If Cabby GSM Start (subsequently referred to as C GSM S) does not work when calling over the telephone, the following measures should be implemented before contacting a service centre.

1. Check that the SIM card is active.
2. Send a text message and check whether it goes through.
3. Check that there is voltage to C GSM S.
4. Check that the temperature is not below -30°C. Uncertain operation below -30°C.
5. Test whether C GSM S is working by pressing the push button.
6. Check that there is a GSM signal with your own mobile phone.
7. Check that the aerial connector is screwed together, that the aerial is located so that it is reached by the signal and that the aerial cable is intact.
8. Disconnect the power to C GSM S for 5 minutes.
9. Connect the supply voltage.
10. Dial up C GSM S.
11. Check whether the selected function is activated.
12. If no function is obtained, move the vehicle to a position where it worked before and repeat the call.
13. C GSM S communicates regularly with the transmitter, and at high loads there can be waiting times and C GSM S cannot respond. Try dialling again.
14. If there is still no function, contact a service centre.

FRESH WATER

The fresh water system comprises a fixed tank that is normally located in the caravan's front sofa. This tank holds around 40 litres, and is filled from outside through the external water intake.

Fresh water tank

When filling, it is easiest to use a normal watering can with a spout or to use a hose pipe. The tank has overfill protection in the form of a waste pipe that emerges under the caravan.

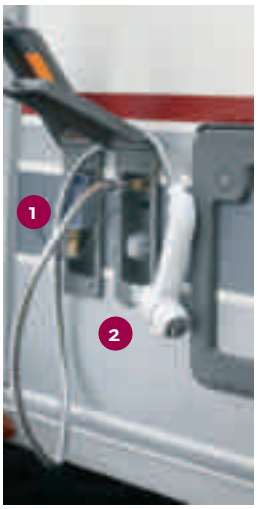
The fresh water tank's emptying valve in the open position

For cleaning the water tank, there is an inspection hatch in the upper part of the tank. Deposits should ideally be washed away with warm water and a neutral detergent that does not leave a taste. Rinse several times. If disinfection is required, see the instructions on the disinfectants available on the market.

CONNECTION FOR FIXED WATER SUPPLY (OPTION)

The connection for fixed water supply (1) can be used where it is possible to connect to the municipal water supply.

OUTLET FOR SHOWER (OPTION) (2)



EMPTYING GREY WATER TANK

When emptying the grey water tank, place a container below the drainage outlet under the caravan. Open the drainage valve under the caravan, allow the water to run out and then close the valve. The drainage system is heated to prevent the formation of ice.

The grey water tank's external drainage valve

There is a lid on the water trap that can be opened for:

- Cleaning away dirt
- Emptying when pitching the caravan for the winter.

Water trap for the grey water tank

WATER PUMP

The submersible water pump is located inside the fresh water tank. Its design means that it is not possible to draw up all the water, as there is always a little left in the bottom that has to be emptied through the evacuation valve.

WARNING – Never operate the pump "dry", without water.

NB.
When there is a risk of frost and the boiler is turned off.
See separate winter shutdown instructions on page 25.

THE CALOR GAS SYSTEM

Calor gas is one of the energy sources for the caravan's central heating. It is also the usual energy for the stove, oven and refrigerator. Calor gas is an environmentally friendly petroleum product that primarily comprises the gases propane or butane, or alternatively a mixture of the two. Calor gas is a clean, practical energy source with a high heat value. When Calor gas burns, it emits carbon dioxide and water vapour – the same as people do when we exhale.

An odorant is added to the Calor gas to provide a warning in the event of leaks. The Calor gas normally burns with a clear blue flame. In the event of incomplete combustion, there is a yellowish flame. Contact an authorised service workshop as soon as possible to ascertain the cause if you are uncertain. In addition, carefully study the separate "Operating instructions" for each gas appliance.

NB. It is important to ensure good ventilation to ensure complete combustion.

THE CALOR GAS CENTRAL UNIT IN THE CARAVAN

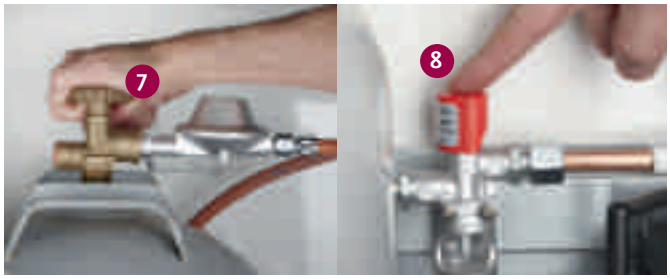
The shut-off valves for the internally mounted Calor gas appliances are located in a Calor gas central unit located in the same cupboard as the boiler. Study the supplied decal by the valve to ascertain which position is open and which is closed.

INSTRUCTIONS FOR CHANGING THE BOTTLE

Proceed as follows:

1. Turn off all consumers of Calor gas in the caravan.
2. Then close the Calor gas bottle's main valve.
3. Unscrew the relief valve.
   NB. This valve has a left-hand thread.

4. Undo the buckle holding the bottle and replace the empty Calor gas bottle.
5. Secure the new, filled Calor gas bottle.
6. Unscrew the red dust cap and connect the relief valve.
   Tighten securely.



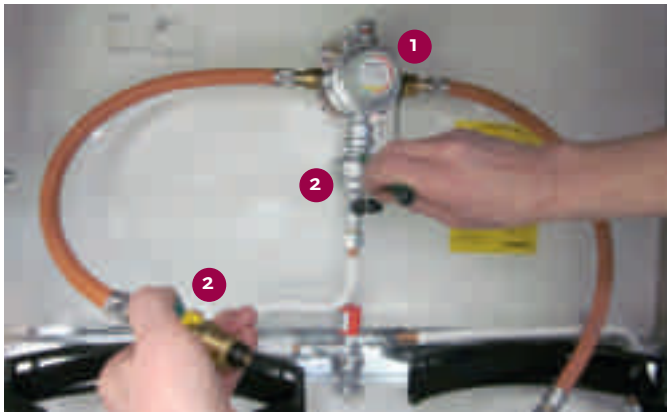
7. Open the Calor gas bottle's main valve. Check for leaks.
8. Press down the button as shown.
   If all consumers of Calor gas are turned off, no bubbles should be visible in the glass.
9. After changing the bottle, there may be a little air in the pipes, which means that it may take a little while for the Calor gas to come through.

AUTOMATIC CALOR GAS CHANGE-OVER SWITCH (OPTION)

This setting must be adjusted manually the first time. After that, the change-over to the other Calor gas bottle takes place automatically.

1. The knob is divided into a green and a red scale. Turn the knob so that the arrow in the green scale is pointing towards the Calor gas bottle that will be used first.
2. Using a screwdriver, press the button located above the Calor gas pipe at the same time as pressing the button to start the flow from the Calor gas bottle that it to be used.

Read more in the Duo Control CS operating instructions.



EXTERNAL CALOR GAS OUTLET (OPTION)

Used for e.g. connecting a Calor gas barbecue.

OWN CHECKS

The Calor gas system has been pressure-tested and function-tested at the factory.
See the enclosed, separate Calor gas report.

To safeguard the function in the system, pressure testing should be performed at least once a year at an authorised service workshop, and a general review is also recommended. If the Calor gas appliances are used continually, leak checks should be performed more frequently. Also check the condition of the Calor gas appliances, Calor gas lines, hoses and couplings regularly each season. If you are in any doubt, contact an authorised service workshop for an assessment and possible action.

A Calor gas leak tester comes as standard in Cabby caravans, and is located at the front end in the Calor gas storage compartment. Using this tester, you can check the airtightness of the system frequently yourself. Small "bubbles" will be visible immediately in the sight glass in the event of a leak. This is naturally on the assumption that all Calor gas appliances are completely turned off.

STORING CALOR GAS BOTTLES

When storing Calor gas bottles, there are certain regulations.

- Never store a Calor gas bottle inside the caravan.
- Never store a Calor gas bottle lying horizontally.
- Makesurethatthemainvalveatthetopofthebottleisalwaysclosedwhen the bottle is not in use.
- In the event of a fire, filled Calor gas bottles constitute an additional fire risk and can result in an explosion if significantly heated.
- In the event of a fire, make sure that the bottle's main valve is closed and that the bottle(s) is removed immediately from the seat of the fire.
- Do not experiment with filling Calor gas or otherwise handling or connecting the Calor gas bottle to the caravan in a way that is not intended.

ACTIONS IN EVENT OF SUSPECTED CALOR GAS LEAK

If you have established that Calor gas is leaking in the caravan, proceed as follows:

1. Extinguish all naked flames
2. Extinguish candles and cigarettes
3. Do not touch any switches
4. Close the valves on the Calor gas central unit
5. Close the main valve on the Calor gas bottle.
6. Ventilate the caravan thoroughly
7. Contact your nearest authorised service workshop
8. Check that the fault has been rectified before using the system

CALOR GAS STOVE

Press and hold the spring-action push button to the left at the same time as twisting and holding the knob for the relevant burner. When the flame has been lit, release the spring-action button to the left. Keep pressing the knob for a short while after the flame has lit. The stove is always equipped with a safety device that prevents gas from flowing out in the event of the flame accidently being extinguished. When cleaning the stove, the stove grille can easily be removed. Use washing-up liquid, water and a brush. Also see the operating instructions for the stove.

NB. The stove must never be used for heating the caravan.

SAFETY DEVICE

If a gas flame should be extinguished for any reason, there is a safety device for each Calor gas flame, which turns off the gas supply if the flame has gone out. The safety device is a thermoelectric element that is heated by the Calor gas flame. With this, a small electrical current is generated that holds a solenoid valve open. If the flame stops burning, the safety device cools very rapidly, whereupon the solenoid valve closes the gas supply. Take care to ensure that the safety devices is protected against mechanical damage and soiling.

REFRIGERATOR

The refrigerator is powered by Calor gas, 12 V or 230 V, which can be set on the refrigerator's panel.

NB.
If 12 V is used on a journey, it must be supplemented with a charge booster (option) – otherwise the battery will discharge quickly. However, the battery will be discharged in the long term, even if a charge booster is used. Study the separate instructions for the refrigerator.

TOILET AREA

Cassette toilet. See separate instructions from Thetford.
Take care with the water jets when showering (LTD, LTF, FTM, FT). Close the shower door properly and be sparing with the water. Ventilate thoroughly after finishing your shower to prevent moisture and mould damage. Check regularly that no water penetrates under the shower floor or elsewhere in the toilet area.

NB.
The shower floor is made of plastic. You must therefore take care as regards standing on the shower floor with hard shoes, such as ski-boots.

CONVERTING SOFA INTO A BED

The freestanding table is lowered to the lower position by releasing the catch on the leg. Press the table sideways in a zigzag movement. The table will then reach the same height as the sofa lid.

When converting into a bed, push the seat cushions together and lay down the backrest cushions. Depending on the width of the caravan, you have to fill out the width with an additional filler piece.

NB.
- Lay the bed mattress for optimum sleeping comfort.
- We recommend dry-cleaning for all fabrics in the caravan. Alternatively follow the supplied washing instructions.
- Leather upholstery. Clean with luke-warm water and possibly a mild detergent. Avoid strong chemicals that dry out the leather. The leather occasionally needs to be re-oiled. Contact a specialist retailer.

CONVERTING DINETTE INTO A BED

1. Dinette before conversion.

2. Disconnect the table from the gap, fold the leg and position the table with the rounded corners facing the outer wall as illustrated.

3. Lay the cushions with the underside facing up. Lay the narrow backrest cushions at the outside and the wide seat cushions in the middle.

PITCHING FOR AN EXTENDED PERIOD

Pitching for an extended period when the caravan is not in use.

- Ensure good ventilation.
- Find a good, flat pitching site. Use chocks for the wheels and do not apply the parking brake.
- Empty the fresh and grey water systems (see separate instruction "Winter shutdown").
- Empty the toilet's cassette.
- Winter – keep the roof free of accumulations of snow.
- Set the refrigerator in ventilation mode.
- Close the main valve on the Calor gas bottle.

BATTERY MAINTENANCE
FOR BETTER FUNCTION AND A LONGER LIFE

STORAGE

- When storing for an extended period, the battery must be disconnected from the electrical system. Even very small currents (connected clocks, alarms, etc.) will discharge the battery and result in it being damaged in the long term.
- Ensure that the battery is fully charged when it is stored away.
- Store the battery in a cool (frost-free) and dry location, as self-discharging is halved with every 10°C that the temperature drops.
- All batteries experience some self-discharge, which can be seen from the drop in the open-circuit voltage. If the voltage drops below 12.4 V, the battery must be charged. Batteries that are not kept fully charged are at risk of sulphating and losing capacity.
- Remember that a discharged battery can sustain freezing damage at normal winter temperatures.

MAINTENANCE AND OPERATION

- Batteries must be securely installed and have good ventilation.
- Batteries work best at room temperature. Heat and cold conditions impair the function of the battery.
- Keep terminals and cable terminals clean of deposits.
- Keep batteries clean and dry, as moisture and dirt can result small currents (creep currents) in the lid and increase self-discharge.
- For batteries that can be opened, the electrolyte level (the acid) should be checked regularly and if necessary adjusted with battery water.
- Batteries should not be deeply discharged. Repeated deep discharges significantly shorten the life of the batteries.

CHARGING

- Self-discharging in modern batteries is low, although batteries at rest will nevertheless always slowly lose charge. This must be compensated for, either by charging the battery at certain intervals or with continuous trickle charging.

A fully charged battery has open-circuit voltage:	approx. 12.7 V
A half-charged battery has open-circuit voltage:	approx. 12.2 V
A discharged battery has open-circuit voltage:	approx. 11.7 V

CLEANING – INSIDE

Wipe the interior with a slightly damp cloth supplied with a gentle detergent. The detergent must not be too strong or contain ammonia. Wipe off carefully with a dry cloth.

CLEANING – WINDOWS

All the windows are made of acrylic, a strong, tough material that, despite this, requires extremely careful cleaning to avoid being scratched.

Acrylic window may only come into contact with and be washed with approved detergents. Seitz Acrylic Cleaner is recommended for washing acrylic windows.

All detergent residue must be washed away after cleaning. Rinse the windows carefully with water and feel free to finish by washing off with Seitz Acrylic Cleaner.

The windows must not be exposed to strong sunlight during cleaning.

The following detergents have been tested with approved results:		
Seitz Acrylic Cleaner	Burnus	Conc.
Autosmart Duet 104	Smartab	Conc.
Autosmart GlassCleaner	Smartab	Conc.
Effekt Glasklar		Conc.
Fast Glass GlasFix	Autoglym	Conc.
Zalo Ultra 299311	Lilleborg as	Conc.

NB. Never use detergents, scouring powder and dirty cloths. Never scrape ice from the windows in the winter. Considerable risk of scratches.

CLEANING – FLOOR

Tarkett vinyl/plastic floors, which are found in all Cabby caravans, are very easy to look after. The strong surface layer means that the dirt never gains a firm foothold. It is usually sufficient to sweep or vacuum if the floor is only slightly soiled. When you wipe the floor, you should use a damp, well wrung-out scouring cloth or mop, ideally a micro-mop. Mix the water with all-purpose cleaner (pH 7-8 in working solution) according to the relevant manufacturer's dosing instructions. Wipe off with clean water so that there are no detergent residues.

VINYL FLOORS CAN WITHSTAND MOST THINGS – BUT NOT EVERYTHING

NB. Vinyl floors will be damaged by benzene, toluene, acetone, hydrogen chlorides ("tri" and "tetra"), cellulose thinner, oil wax and strong scouring powder. Rubber wheels on e.g. toys can make marks. Stainless steel metal feet are preferable. Colouring substances from certain types of plastic and textile floor mat, print on plastic bags, awnings, etc., can produce stains that cannot be removed.

NB. Remember that pieces of gravel can often scratch and damage the floor. Doormats by the entrance reduce soiling and the risk of scratching the floor.

TO REMOVE STAINS FROM THE FLOOR, PROCEED AS FOLLOWS

Basic rule: Remove the stain immediately. Wipe off the floor with clean water.

Stains from:	Removed with:
Fruit, berries, juice, milk, cream, soft drinks, beer, wine	Synthetic detergents, possible with added ammonia.
Chocolate, coffee, tea, asphalt, grease, oil	Synthetic detergent or cleaner's naphtha.
Shoe heels, shoe polish	Sponge with white scouring nylon can be used.
Typewriter ribbon, stencil, ball-point pen, ink, lipstick	Denatured alcohol.
Urine, vomit, excrement	Synthetic detergent.
Blood	Cold water + ammonia
Rust	Synthetic detergent.

MIST AND CONDENSATION

The acrylic material in the double window is not entirely diffusion resistant. This means that the acrylic allows through a very small amount of water vapour, which is found in the surrounding air. A double window is affected by two different temperatures – one inside the caravan and one outside. There is also a third temperature in the window – the temperature between the two panes.

The warm indoor air, which normally contains significantly more water vapour than the air outside, is cooled by the inner window in cold weather conditions, and a small amount of moisture is precipitated on the inside in the form of mist/condensation. This is consequently not a fault in the window itself, although you can affect the risk of condensation by:

1. Increasing the ventilation by opening the skylight more, or by opening one or more windows.
2. Raising the temperature in the caravan. The temperature of the radiators increases, and with that the speed of the rising air.
3. Never cover over air gaps or ventilation gaps with clothing, blankets or similar.
4. Set the circulation pump to continuous operation.

CLEANING – OUTSIDE

Use plenty of water, a gentle detergent and a soft brush Never use strong detergents, which can damage or dissolve the body's putty bonds, e.g. between window frames and aluminium panels. You must also be careful with hose pipes and be restrictive in the use of high-pressure washers, particularly in the vicinity of valves – so that water does not enter the caravan from the outside. In most cases, black lines of soot can be removed with a cloth, dampened with normal window cleaner or equivalent. Do not spray water onto valves and skylights.

Clean soiled surfaces immediately, particularly salt in coastal areas during the winter. Certain types of berry and bird droppings can also cause damage. In salty environments, it is necessary to rinse and wash the caravan regularly, both in summer and winter. Cleaning caravans is fundamentally no different from the washing programme we apply to our cars.

When shampooing – use a PH neutral shampoo (pH 6-8). It will be easier to keep the caravan clean if you wax it in the spring and autumn. The wax must not contain abrasives.

TYRE CARE AND AIR PRESSURE

Caravan tyres are exposed to a greater load than car tyres. For this reason, it is important to check the caravan tyres frequently. The tyres are affected by the ravages of time, and their properties gradually deteriorate.

Check the condition of the tyres at regular intervals, and particularly before long journeys. Reduced tread produces a greater danger of aquaplaning and impaired stability. If transverse ribs become visible at the bottom of the tread, this is a sign that it is time to change the tyres.

Uneven wear can indicate overloading or incorrect tyre pressure.

Replacement tyres must be of the same type as the original tyres. The tyres are filled with nitrogen in the factory, which means that the tyre pressure remains more constant compared to normal air.

WHEEL BOLTS

Wheel bolts for aluminium rims must be tightened to 120 Nm (12 Kpm). Wheel bolts for steel rims must be tightened to 80 Nm (8 Kpm).

NB.
When changing wheels, we recommend that the bolts should be checked after the first 50 km and if necessary tightened to the above torques.
When using steel rims for e.g. winter wheels, contact your tyre workshop regarding the correct choice of wheel bolt.

AIR PRESSURE

The following air pressures are recommended

Model	Tyre	Air pressure kPa
570	195/70R15	450
620	”	450
650	”	450
700	”	450
740	205/70R 15C	375
800	185/65R14 N90	375

TECHNICAL DATA

Technical data such as dimensions and weights etc. can be found in our brochure. If you are in any doubt, consult your Cabby dealer.

ACTIONS IN THE EVENT OF FIRE

In the event of a fire, personal safety must be the top priority. Depending on the underlying causes, a fire in a caravan can progress quickly, which is why you have to act immediately.

- Bearing in mind the circumstances and the spread and intensity of the fire – make an initial assessment of whether the fire can be easily extinguished or smothered.
- If this is not possible, leave the caravan immediately via the outer door or side window.
- Check that everyone has left the caravan.
- The interior of the caravan comprises mainly plastic-related materials, which means that toxic gases can be formed. Ensure therefore that everyone gets into the fresh air immediately.
- If possible, close the main valve on the Calor gas bottles. If the Calor gas bottles can be removed from the caravan without risk, this is naturally a major advantage.
- Call for help. Contact the emergency services.

WINTER STORAGE AND RISK OF TEMPERATURES BELOW ZERO

CHECKLIST BATTERY

- ☑ Check the water/acid level.
- ☑ Charge the batter regularly. A discharged battery will freeze at just -5°C. If the caravan is being left for a week or more, turn off the master switch and if necessary activate the external heating connection. The caravan is now without power, and no significant consumers of power are connected. If additional equipment of an electrical nature has been installed, check that no current is passing from the battery in the Off position.
- ☑ If the caravan is not being used during the winter, remove the battery and store it in a cool location with a trickle charge.

CHECKLIST MISCELLANEOUS

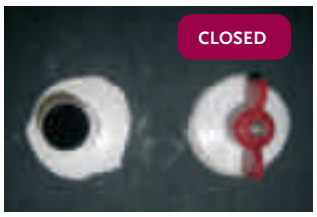
- ☑ Check that there is adequate ventilation and that skylights and ceiling valves are not covered in snow.
- ☑ Check that food or other personal items that could sustain freezing damage are not left in the caravan.
- ☑ Lubricate the locks of service hatches and outer doors with freeze protection. Feel free to cover these locks with a strip of tape as further prevention against the locks freezing solid.
- ☑ Pitch the caravan on a flat, suitable surface that prevents the caravan's wheels and corner steadies from freezing solid.
- ☑ When camping in the winter, it is a good idea to equip your caravan with a winter awning.

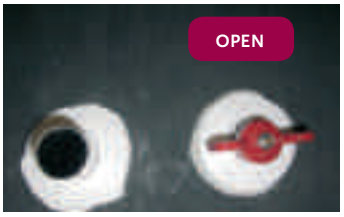
WATER SYSTEM – WINTER

IMPORTANT WHEN THERE IS A RISK OF FROST AND THE BOILER IS TURNED OFF

When the caravan is not being used and the boiler is turned off at outdoor temperatures of below 0°C, it is important to drain the fresh/waste water systems, as otherwise there is a risk of the system sustaining freezing damage.

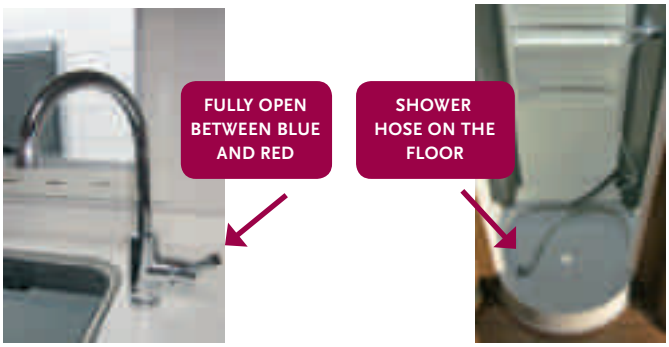
Open the drainage valve for the waste water tank that is located under the caravan:



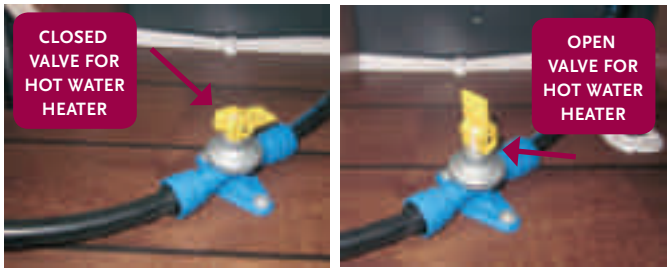


Turn off the main current for the fresh water pump on the Cabby display:

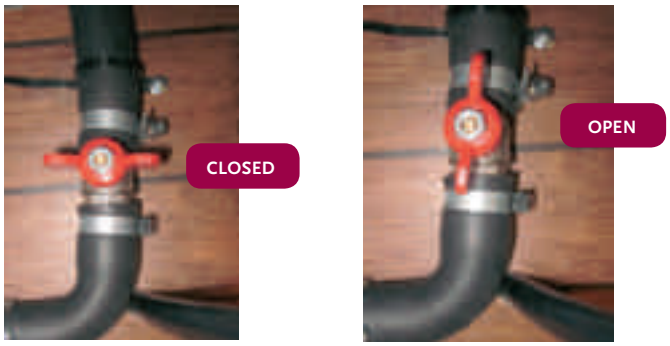
Open all water taps fully, including the shower mixer, with the temperature setting in the middle position (between blue and red); the shower hose must be pulled out completely to its full length and placed on the floor of the shower area:



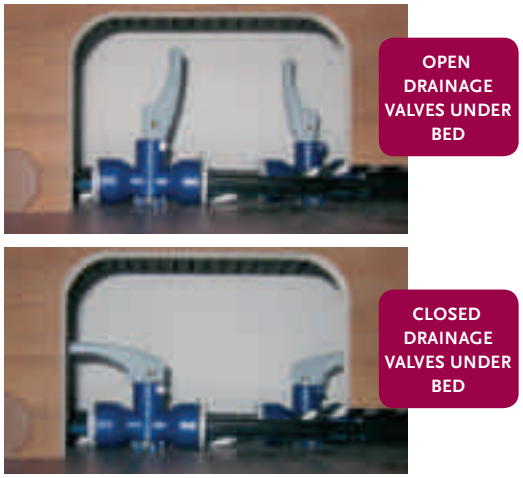
Open the drainage valve for the hot water heater, which is located in the same cupboard as the boiler:



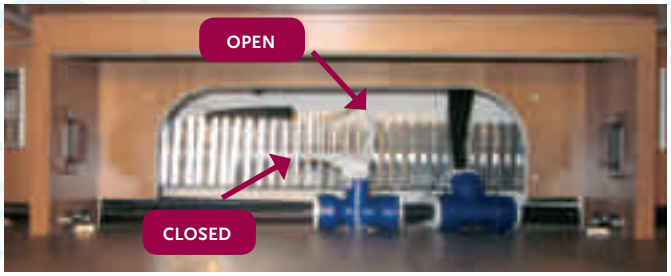
Open the drainage valve for the fresh water tank, as well as drainage valves in the following layouts, where appropriate.



Drainage valves in area under bed, rear for F2B, F2C, L and FM:



Drainage valves under bathroom cupboard for LTD, LTF, FT, FTM and FTM2C. The wooden hatch in front of the drainage valves has been removed. Press in the bottom of the hatch to access the drainage valves.



Press the flush button by the lavatory for approx. 10-15 seconds to open the solenoid valve in the flush mechanism:

- Check externally that the water really is running out from all the drainage points (may be frozen).
- Empty the tank for the cassette toilet.
- When all the water has been drained in accordance with these instructions, turn on the main current for the master pump in the menu on the Cabby display for approx. 10-15 seconds with all the taps still in the **open** position. Then turn off the current again.

Filling washer fluid.

Water trap.

- Finish by pouring approx. 2-3 decilitres of concentrated windscreen washer fluid into the washbasin/kitchen sink to prevent the water trap in connection with the waste water tank from sustaining freezing damage:

NB.
The guarantee does not apply to faults in components or secondary damage that arises as a result of freezing damage.

IMPORTANT! WHEN THE CARAVAN IS USED AGAIN.

1. Close all taps.
2. Fill the fresh water tank with water.
3. If the outside temperature is still below freezing point, there may be ice inside the pump. Wait for 15 minutes before using the fresh water pump or the flush function. Any frozen water droplets inside the pump will then have time to thaw.

Damage that has occurred due to freezing damage is not covered by the manufacturer's guarantee!

OWN CHECKS

We recommend the following checks:

BEFORE AND WHEN TRAVELLING:

- Coupling car and caravan
- Road lights
- Tow hitch pressure
- Brakes
- Air pressure in the tyres
- Wheel bolts
- Windows and skylight
- Aerial, dish
- Interior fittings and loading

WEEKLY DURING USE:

- Hose couplings
- Windows and skylight
- Water in expansion tank when operating boiler
- Amount of Calor gas in Calor gas bottle(s)
- Leak test Calor gas (leak tester in Calor gas compartment)
- Winter. Remove ice and snow accumulations from roof and ventilation openings

CARAVAN INSURANCE

Check and read the insurance conditions carefully, particular as regards theft, interruptions to holidays, caravan damage, leaks, etc. You may need to supplement your insurance depending on your travel destination and local conditions.
Do not leave your caravan in unknown and unsupervised locations.

INSPECTION STAMPS FOR COMPLETED SERVICE

A functional check and annual moisture inspection regarding the 5-year guarantee for water entering from outside must be stamped here by a Cabby-authorised service workshop.

ANNUAL MOISTURE TEST NO. 1

5-year guarantee for water entering from outside

/

Stamped and signed by Cabby-authorised service workshop

ANNUAL MOISTURE TEST NO. 2

5-year guarantee for water entering from outside

/

Stamped and signed by Cabby-authorised service workshop

ANNUAL MOISTURE TEST NO. 3

5-year guarantee for water entering from outside

/

Stamped and signed by Cabby-authorised service workshop

ANNUAL MOISTURE TEST NO. 4

5-year guarantee for water entering from outside

/

Stamped and signed by Cabby-authorised service workshop

ANNUAL MOISTURE TEST NO. 5

5-year guarantee for water entering from outside

/

Stamped and signed by Cabby-authorised service workshop

ANNUAL FUNCTIONAL CHECK NO. 1

/

Stamped and signed by Cabby-authorised service workshop

ANNUAL FUNCTIONAL CHECK NO. 2

/

Stamped and signed by Cabby-authorised service workshop

ANNUAL FUNCTIONAL CHECK NO. 3

/

Stamped and signed by Cabby-authorised service workshop

ANNUAL FUNCTIONAL CHECK NO. 4

/

Stamped and signed by Cabby-authorised service workshop

ANNUAL FUNCTIONAL CHECK NO. 5

/

Stamped and signed by Cabby-authorised service workshop

CABBY GUARANTEE CERTIFICATE

Cabby Caravan AB would like to congratulate you on your purchase of this product. You are now the proud owner of a Cabby caravan. The caravan is covered by guarantees that are valid when regular checks are conducted in accordance with the instructions, and when these are documented and submitted to Cabby Caravan. We hope you enjoy you Cabby, and would like to wish you many happy weekends and holidays. On behalf of all the employees at Cabby Caravan AB.

Name .....

Address .....

Postal address .....

.....

Telephone .....

Sold on ...../ ....

Make .....

Model .....

Ch. no. .....

Key no. .....

The undersigned Cabby dealer hereby accepts the Cabby caravan guarantee in accordance with the enclosed guarantee provisions

..... Owner's name

..... Cabby dealer's name

This guarantee is only valid on the condition that you maintain and look after your Cabby in accordance with the care, servicing and maintenance instructions specified in the manual. Annual functional checks and checks for water leaks performed by the seller increase the lifetime of the caravan.

1. Applicability and period of validity

The guarantee applies to the caravan and the equipment covered by the purchase agreement, with the exception of any equipment for which a separate guarantee or a separate repair undertaking applies. The company that sold the new caravan, subsequently referred to as the seller, is responsible for the guarantee.

The guarantee ceases to be valid two years after the date of delivery.

For faults caused by water entering from outside, however, a guarantee period of 5 years applies. One precondition is that the caravan undergoes a water leak inspection annually during the guarantee period. The checks must be carried out by a Cabby-authorised workshop, which must confirm that the checks have been performed with a stamp in the instruction and service manual and an inspection report to Cabby. The first checks must take place 12 months after the delivery date

(+/- 2 months), with subsequent checks every 12 months (+/- 2 months). These checks can ideally be performed in conjunction with the annual service. When taking the caravan for inspection, the body and chassis must be thoroughly washed and cleaned. The caravan must also be unpacked so that the leak check can be performed. Otherwise, the purchaser will be charged for this cost.

2. Scope of the guarantee

The seller is responsible for faults that are already present on delivery or that arise during the guarantee period.

However, the seller is not responsible if it can be demonstrated that the fault is probably due to:

That the caravan has not been maintained in accordance with the instructions in the service booklet or similar documentation, e.g. that servicing and inspections have not been performed at the right time,

that the caravan has been converted or modified,

that that caravan has been used during extreme driving or has been overloaded,

that the caravan has been involved in a road traffic accident or been subjected to other external mechanical damage,

that the caravan has been neglected,

that the caravan has been washed with inappropriate chemicals (see instruction manual),

that repairs, servicing, inspections or installation work have been performed by a party other than a workshop authorised or appointed by the manufacturer/seller,

that spare parts other than original spare parts have been installed,

or some similar situation on the purchaser's side.

The following are not deemed to be faults:

– the fine-tuning or adjustments that may be required before or in conjunction with the first service occasion,

– normal consumption of consumption parts,

– normal wear,

– normal changes to interior fittings, doors and other changes that can be attributable to temperature variations or changes in air humidity,

– normal condensation.

3. Complaints

If the purchaser wishes to make a complaint, the seller must be notified of this within a reasonable period of time, normally 14 days, after the fault has been discovered or ought to have been discovered.

4. Rectifying faults

The seller determines the most appropriate measures for rectifying faults. The rectifying of faults in accordance with the guarantee must be performed within a reasonable period after the complaint is made. When determining what is a reasonable period, consideration should be given to the purchaser's need for the caravan, the nature and extent of the fault, the difficulty in determining the fault, and the time when the purchaser placed the caravan at the disposal of the seller.

Faults that are not of significant importance and that do not affect the usability of the caravan will normally be rectified, after consultation with the purchaser, in conjunction with the regular service occasion.

5. The purchaser's rights in relation to the seller

A purchaser who has purchased the caravan primarily for personal use – a consumer – is entitled, in the event of faults that are covered by the guarantee, to apply to the seller those sanctions that are specified in the Consumer Sales Act. The terms specified in the Purchase Agreement also apply. The consumer is entitled, up to two years after the caravan's delivery date, to cite faults in the caravan in accordance with regulations set out in the Consumer Sales Act for the country in question.

For purchasers who have not purchased the caravan primarily for personal use, the following applies: He or she must assume liability for travel and transport costs in conjunction with faults arising in the caravan and for the caravan having being taken to the workshop for repair and having been collected from there, and is not entitled to compensation for loss of earnings and other costs. In the event of faults caused by water entering from outside, the purchaser must assume liability for the cost of transporting the caravan to the seller's workshop.

The purchaser is never entitled to compensation for commercial losses.

CABBY

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