LAGOON 620

User's guide

LAGOON

catamarans since 1984

www.cata-lagoon.com

We share a common passion for the sea ; we, LAGOON, as catamaran builders and you who want to live your passion on the seven seas.

We are delighted to welcome you to the family of LAGOON catamaran owners and we congratulate you on it.

This instruction guide is intended to help you to enjoy your boat in comfort and safety. It includes the boat specifications, the equipment provided or installed, the systems on board and tips on her use and maintenance. Read this guide carefully before you put out to sea so that you can make the most of her and avoid any damage and above all any further problem. Read it and get to know your boat before using her.

In order to share with you as much new technology, new equipment or materials and company experience, our boats are constantly improved. This is why the specifications and information given are not contractual and may be modified without notice and without obligation of updating.

This instruction guide has a general purpose and may sometimes mention some equipment or accessories or deal with some points that are not relevant to your own boat ; if in doubt, refer to the inventory you were given on delivery of your boat.

Our network of LAGOON authorized dealers will be at your disposal to help you get acquainted with your boat and will be the most qualified to take care of her maintenance.

If this is your first boat, or if you change to a new type of boat which you are not used to, get some training in boat control and sailing to ensure your safety and comfort. Your dealer, your international sailing association or your yacht club will be very happy to recommend local sailing schools or profesional instructors.

Although everything possible has been planned and designed with the safety of the boat and her users in mind, remember that sailing is highly dependent on the weather conditions and the sea state, and that only an experienced and very fit crew, handling a well-maintained boat, can sail satisfactorily.

The sea and wind conditions that correspond to design categories A, B, C and D are changeable and are still susceptible to the risk of unusually large waves or strong gusts of wind. Total safety cannot therefore be guaranteed, even if your boat meets the requirements of a category.

Always read and listen to the weather forecast before you put out to sea.
Make sure that the forecast sea and wind conditions will correspond to the category of your boat and that you and your crew are able to handle the boat in these conditions.

The sea and the water are not the natural environment of Man and he must respect their laws and strength.

Adapt the use of your boat to her condition that wears out with time and use. Any boat, however solid she may be, may be severely damaged if badly used. This is not compatible with a secure navigation. Always adapt the speed and direction of your boat to the conditions of the sea.

The "COLREG", international regulations for preventing collisions at sea, published by the International Maritime Organization, specify the rules relative to steering and courses, navigation lights, etc. throughout the world. Make sure you know these regulations and you have on board a manual that explains them.

In numerous countries, a licence, an authorization or a training course is requested.
Make sure you have this legal authorization before you use your boat.

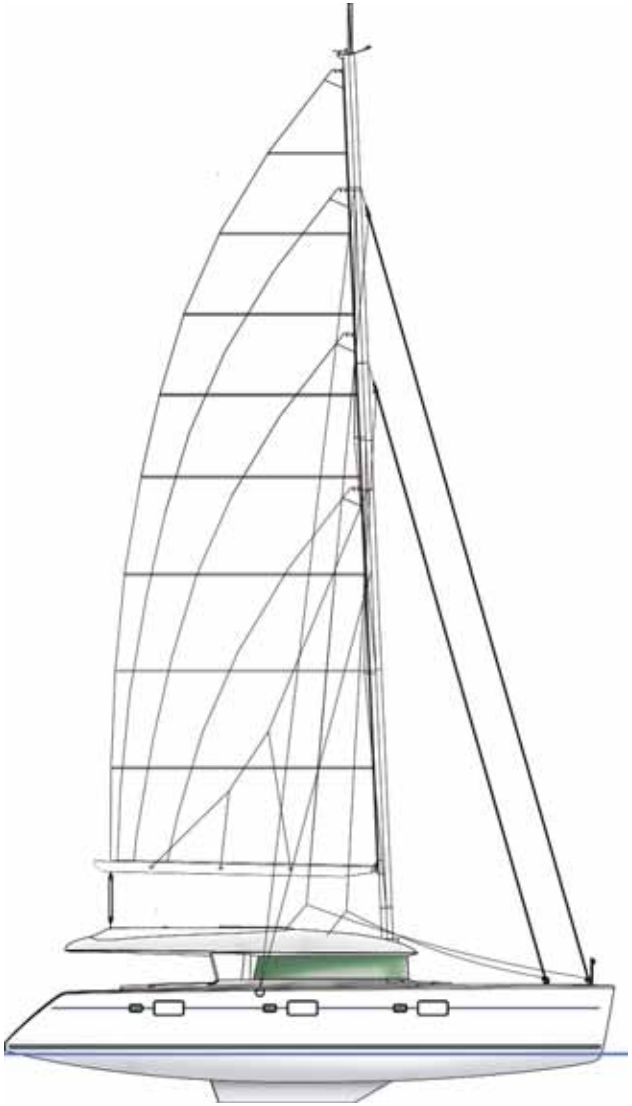
Always ensure an experienced professional carries out the maintenance of your boat, installs any accessories and makes any small modifications. The written authorization of the builder or his legal representative is compulsory for modifications that alter the specifications of the boat, in particular the vertical layout of the weights (installing a radar, modifying the mast, changing the engine, etc.).

For essential or optional equipment (engine, electronics, etc.) refer to their respective manuals supplied with your boat.

The users of the boat are informed of the following :

- The entire crew must be properly trained.
- The boat must not carry a load heavier that the maximum load recommended by the builder, in particular the combined weight of food supplies, equipment not supplied by the builder and people on board. The load carried by the boat must be properly distributed.
- The water in the bilges must be maintained at a minimum.
- Stability is reduced when you add weight in the upper sections.
- In the event of heavy weather, the hatches, lockers and doors must be closed in order to minimize the risk of water coming in.
- Stability may be reduced when you tow a boat or lift heavy weights using the davits or the boom.
- Breaking waves are a serious danger to stability.
- If your boat is equipped with a life raft, read the instructions carefully. All the proper safety equipment must be carried on board (harness, flares, life raft, etc.) according to the type of boat, the country in which she is used, the weather conditions, etc.
- The crew must be familiar with the use of all the safety equipment and all emergency safety procedures (MOB, towing, etc.).
- Anyone on deck must wear a life jacket or a buoyancy aid. Please note that in some countries it is compulsory to wear an approved buoyancy aid permanently.

Keep this manual in a safe place and hand it on to the new owner if you sell your boat.



Main specifications

L.O.A. .....18,90 m / 62’
L.W.L ..... 18,20 m / 59’9”
Main beam .....10,00 m / 32’10”
Clearance height.....31,00 m / 101’9”
Draft .....1,55 m / 5’1”
Theoritical light displacement.....27000 kg / 59535 lbs
Theoritical maximum load displacement .....35000 kg / 77175 lbs
Theoritical authorized maximum load.....8000 kg / 17640 lbs
Bottom surface (appendages included) .....110 m^2

Water capacity .....4x240 l / 4x63,5 US gal
Fuel capacity.....2x650 l / 2x171,5 US gal
Negative refrig. unit cap. / Galley-saloon version .....178 l / 47 US gal
Positive refrig. unit cap. / Galley-saloon version.....60 l / 15,5 US gal
Negative refrig. unit cap. / Hull-saloon version....400 l / 105,5 US gal
Positive refrig. unit cap. / Hull-saloon version .....204 l / 54 US gal
Battery capacity (standard) .....420 Ah (24 V)
Battery capacity (with optional extra) .....840 Ah (24 V)
Starting battery (per engine) .....50 Ah (12 V)
Generator starting battery .....50 Ah (12 V)
Maxi engine power .....2x150 CV

CE Certification category	Number of persons
A	14
B	14
C	16
D	30

CONTENTS

SECTION 1
SAFETY

SAFETY EQUIPMENT ON DECK

1 - Location for life buoy.

2 - Deck eye for life line fastening.

3 - Emergency tiller.

4 - Emergency tiller cover.

5 - Location for life raft.

6 - Manual bilge pump.

7 - Extinguisher.

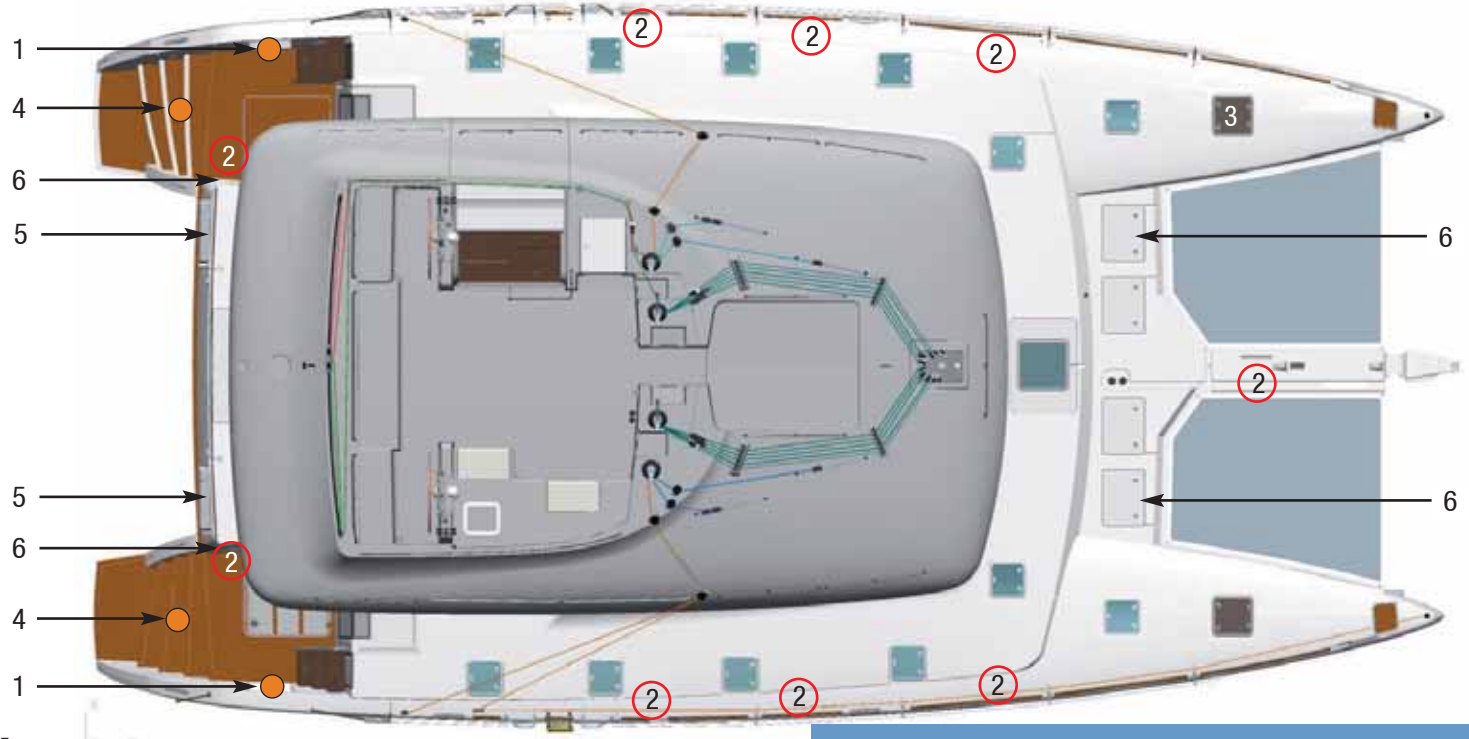
8 - .....

9 - .....

10 - .....

11 - .....

12 - .....



13 - .....

14 - .....

15 - .....

16 - .....

RECOMMENDATION

Some components do not have a pre-determined place for them.

Fill-in this drawing according to your own boat safety equipments.

■ 1.1 Safety equipments

Before you sail, list the compulsory safety equipments.

WARNING
The list of the compulsory safety equipement corresponds to a certification category, a design category as well as to the regulations in the country where the boat is registered.

Do not exceed the number of persons indicated in the "SPECIFICATIONS" Chapter.

The combined weight of the persons and equipment should never exceed the maximum load recommended by the builder.

RECOMMENDATION
Close the deck hatches and portholes before each trip.

• LIFE LINES
- Fasten the life lines on the deck and under the bridgedeck (close to the manhole).

• LIFE RAFT
You shall use the life raft only as a last resort.

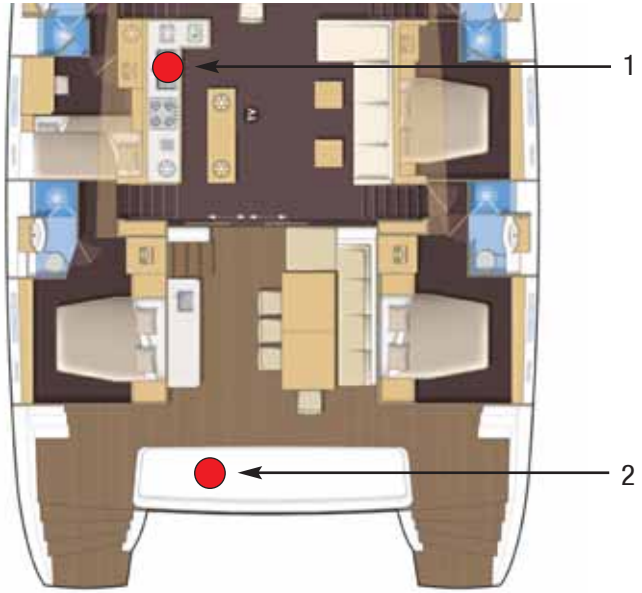
RECOMMENDATION
Before you sail to sea, carefully read the launching instructions on the life raft.

WARNING
Regularly check the safety equipements is in good working order.
Follow the service programme without fail.
Generally speaking, take particular care of all the safety equipment of your boat.

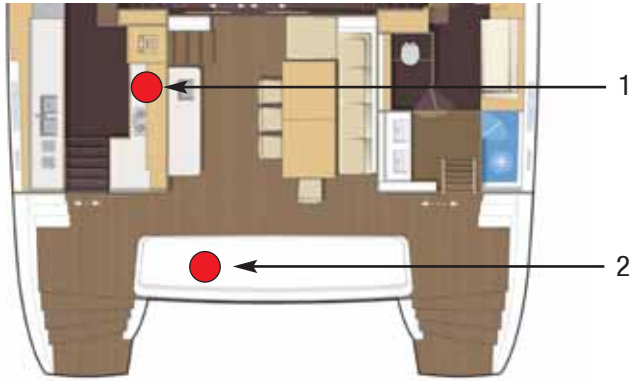
The locations for the life rafts are situated in the rear beam.

Fit your boat with life rafts in pursuance of the regulations of the country where the boat is registered.

GAS VALVES - LIFE RAFT CASE MEASUREMENTS

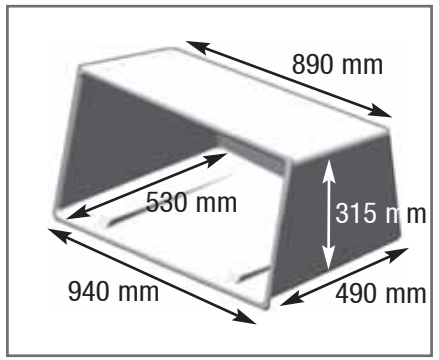


Galley / saloon version

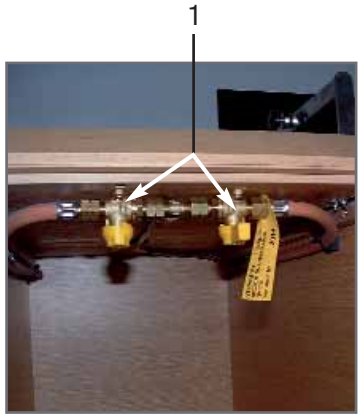


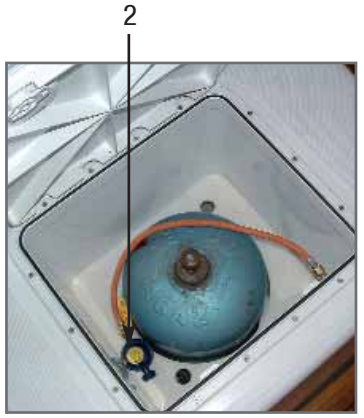
Galley / hull version

LIFE RAFT MEASUREMENTS



1 - Gas valves.
(access in the cupboard on the left under the hob - Galley / hull version)
(access in the cupboard on the right under the hob - Galley / saloon version)
2 - Regulator.
(access in the portside locker of the cockpit settee)





■ 1.2 Gas system safety instructions

The gas cylinder is located in a locker of the cockpit settee.
Type of cylinder 13 kg (butane), or according to current standards of your country.

Close the valves on the system and on the cylinder when the appliances are not used.
Close the valves before you change cylinders and immediately in case of emergency.
Never leave unattended an appliance that is working.
Do not install flammable materials above or over the stove (curtains, papers, napkins etc.).

Do not use the oven or stove as back up heaters.
Never obstruct the fast access to the components of the gas system.
Make sure that the valves of the appliances are closed before you open the cylinder or pipe valve.

In case you smell gas or find that the burners have gone out (although appliance models cut off automatically if the flames go out), turn off the valves of the appliances. Do ventilate the boat in order to get rid of any residual gas. Find the cause of the problem.

Regularly test the gas system in order to detect any gas leak.
Check all the connections using water and soap or detergent, closing the valves of the appliances and opening the valve on the cylinder.
If you detect a leak, close the valve of the cylinder and repair before you use it again.

WARNING
- Never use a flame to detect leaks.
- Do not smoke, do not use a naked flame when you change the gas cylinder.

The appliances use the oxygen of the cabin and release combustible gases. Ventilate your boat when using appliances.
Do not obstruct the air vents and at least leave the door open.

Keep the taps of the empty cylinders turned off and the cylinders disconnected.
Keep the protections, lids, covers and taps in their places.
Store the empty and spare cylinders on the deck or in a locker with a ventilation to the open air.
Do not use the gas cylinder storage place to store other equipment.
Only use the proper locker to store the gas cylinders.

Regularly check and replace the rubber tubings that link the cylinder to one end of the circuit and the stove to the other one, depending on the standards and regulations in force in your country.
Pay particular attention to keep in good condition the screw thread of the cylinder on which the regulator is. Check the condition of the regulator every year and change it if necessary. Use regulators identical to the ones that are fitted.

Have the repairs carried out by someone skilled.

INDOOR SAFETY EQUIPMENT

1 - Emergency exit.

2 - Extinguisher.

3 - Release pull handle of engine extinguisher.

4 - Engine extinguisher.

5 - Distress flares.

6 - First aid kit.

7 - VHF (optional extra).

8 - .....

9 - .....

10 - .....

11 - .....

12 - .....

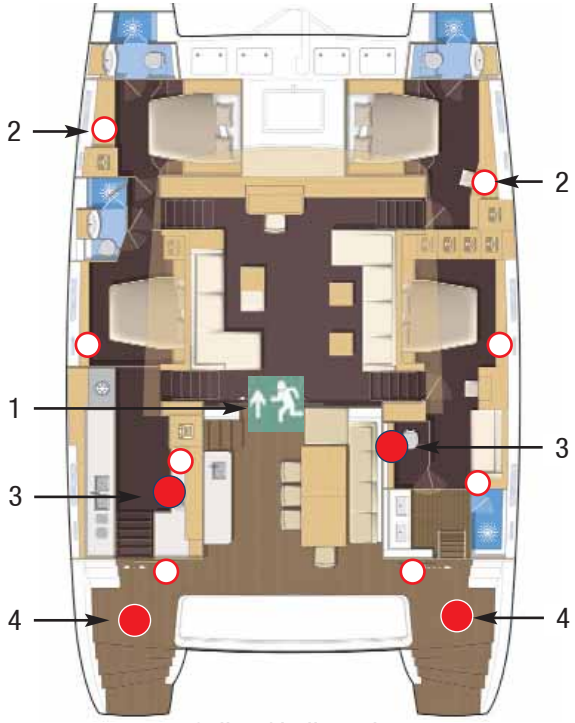
13 - .....

14 - .....

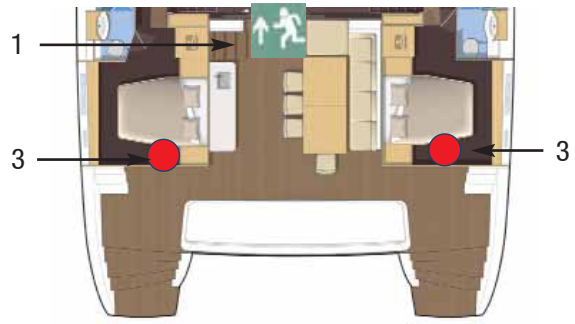
15 - .....

RECOMMENDATION
Some elements do not have a pre-determined place for them.
Fill-in this drawing according to your own boat safety equipments.

Fixed extinguishing system for the engine bilge (access in the engine bilges).



Galley / hull version



Galley / saloon version

■ 1.3 Fire extinction

The boat has a fixed extinguishing system meant only for the engine bilges as standard equipment.
Check that mounted fire extinguishers have their pins removed before unberthing.
Nota : replacing the pins in mounted fire extinguishers is recommended during prolonged work in the engine holds in order to avoid any untimely activation.

Be sure :
- To equip the boat with extinguishers in pursuance of the regulations of the country where your boat is registered.
- To have the extinguishers checked according to the instructions given.
- To refill or replace the extinguishers by similar equipment if the extinguishers have been used or are out of date.
- To ensure the extinguishers are accessible when people are on board.
- To fill-in the drawing opposite, indicating the locations for the extinguishers.

Before each trip to sea, tell the crew :
. where the extinguishers are and how they work,
. where the release pull handles of the extinguishers in the engine bilges are,
. where the emergency exits are.

• ESSENTIAL PRUDENCE RULES
Never :
- Obstruct access to the emergency exits.
- Obstruct safety controls (fuel valves, gas valves, power switches).
- Obstruct the access to the extinguishers placed in cupboards or lockers.
- Leave the boat unattended when a stove or heater is in use.
- Use gas lamps in the boat.
- Alter any of the boat's systems (electricity, gas or fuel).
- Fill up a tank or change a gas cylinder when an engine is running or a stove or heater is on.
- Smoke while handling fuels or gas.

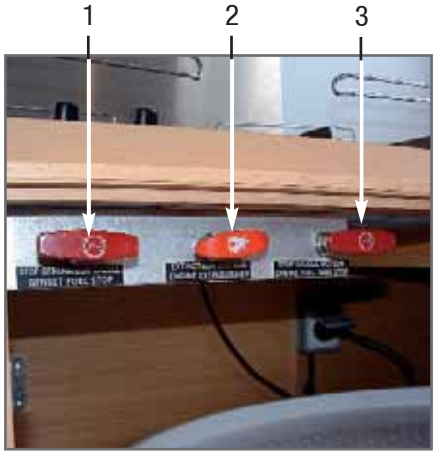
Do not install free hanging curtains or other fabrics near to or above cooking appliances or other naked flame devices.

Make sure that holds are clean at all times and regularly check that there are no fumes or fuel and gas leaks.
Flammable products should not be stored in the engine bilge. Non-flammable products stored in the engine bilges should be fastened to prevent them from falling on the machine and obstructing access.

WARNING
Should you replace components of the fire extinction system, only proper components with the same designation or with equivalent technical capacities and fire resistance should be used.

WARNING
Use only CO2 extinguishers to fight electrical fires.
Evacuate the area immediately after discharging the product to prevent asphyxia.
Ventilate before entrering.

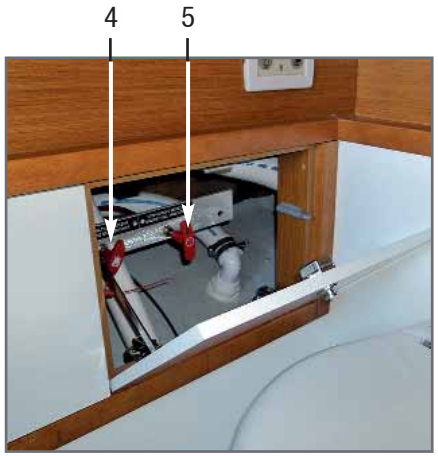
PULL HANDLES OF FUEL VALVES - ENGINE BILGE EXTINGUISHER



Galley / hull version

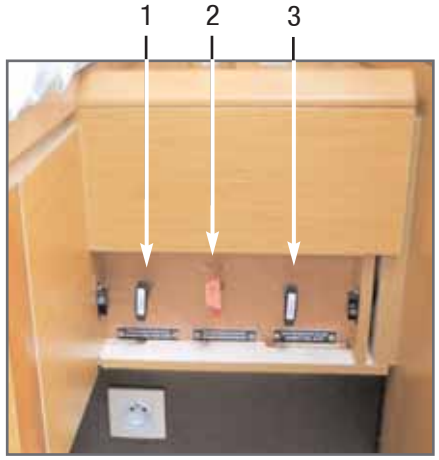
1 - Cut off device of generator tank fuel supply (portside).
2 - Release mechanism of portside engine bilge extinguisher.
3 - Cut off device of portside tank fuel supply.

Access by the pull handles under the hob in the galley in the portside hull aft.



4 - Release mechanism of starboard engine bilge extinguisher.
5 - Cut off device of starboard tank fuel supply.

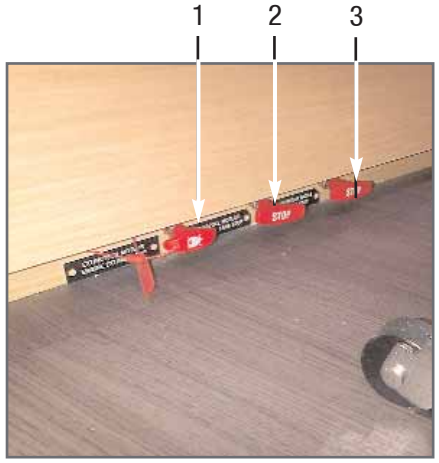
Access through the hole behind the WC in the starboard hull aft.



Galley / saloon version

1 - Cut off device of portside tank fuel supply.
2 - Release mechanism of portside engine bilge extinguisher.
3 - Cut off device of generator tank fuel supply (portside).

Access by the pull handles behind the hatch under the bedside storage at the aft end of the port hull.



6 cabins version

1 - Release mechanism of engine bilge extinguisher.
2 - Cut off device of tank fuel supply.
3 - Cut off device of generator tank fuel supply.

Access in the port and starboard rear cabins under the berths.

• PROCEDURE TO FOLLOW IN THE EVENT OF FIRE
- Stop the engine if it is running.
- Cut off the power supply, the fuel supply and the gas supply if necessary.
- Cut off all sources of air (smother the fire using blankets).
- Hold the extinguisher upright and aim at the heart of the fire.

If fire has broken out in an engine bilge :
- Stop the engine if it is running.
- Cut off the power supply, the fuel supply and the gas supply if necessary.
- Shut off the air supply using towels to block off the engine air inlets, intakes and outlets.
- Set off the extinguishing product using the engine extinguisher release pull handle (access by the pull handle under the hob in the galley (portside hull aft), and the one in the hole at the bottom of the stairs to the owner's study (starboard hull aft).
- Make sure that the fire is completely under control.
- Open the bilge access hatch to make any necessary repairs.

RECOMMENDATION
Always keep an extinguisher handy in case the fire should start again.

■ 1.4 Bilge pump system

• ELECTRIC BILGE PUMPS
The Lagoon 620 is fitted with one automatic start electric bilge pump per hull and one per engine compartment.
These electric pumps work on 24 V electricity, even when the general battery switch is turned to OFF.

These four bilge pumps may be switched to manual operation from the 24 V electrical panel.

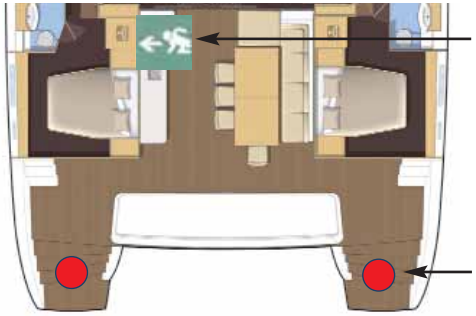
• MANUAL BILGE PUMPS
In case of electric bilge pump slowdown or failure, it is possible to use the manual bilge pumps.
They are located on the sides of the aft setteee in the cockpit.
They suck up water from the hull sump wells.
Two manual bilge pumps are located in the front lockers.
They suck up water from the front compartments.

• PROCEDURE TO FOLLOW IN THE EVENT OF HULL BREACH
Make sure that the electric bilge pumps are on.
If it is not enough to reduce the water level, get a crew member to work one of the manual pumps.

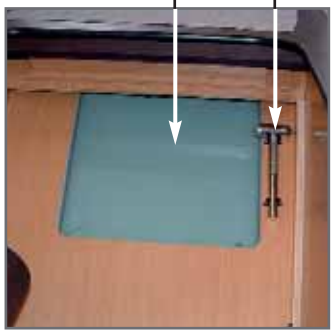
EMERGENCY TILLER - "MANHOLE" HATCHES

1 - "Manhole" hatch.
2 - Steering ram.

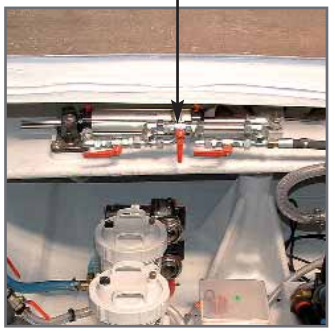
Galley / hull version



Galley / saloon version



3 - "Manhole" hatch.
4 - Hammer to break the glass in the event of capsizing.
5 - Valve of the steering ram.



6 - Emergency tiller.
7 - Screw + fastening nut of tiller.
8 - Valve of the ram in by-pass position.

■ 1.5 Emergency tiller

The emergency tiller is stored in a locker.
It shall be kept easily accessible.

To operate the tiller :
- Use a winch handle and unscrew one of the tiller covers situated on one of the aft transom extensions.
- Insert the tiller into the rudder stock, making sure it is well fitted into the tiller head block.
- Insert the fastening screw across the stock and tighten the nut (access by the engine bilge).
- Turn to the by-pass position the ram valve situated in the engine bilge of the concerned side.

The rudder is then isolated from the steering system.

■ 1.6 Engines

Stop the engines before diving or swimming around the boat.
The blades of a propeller are sharp and may cause very important damages when spinning.
Do not try to remove a fishing net or line caught in the propeller when the lattter is rotating.

Before weighing anchor or leaving a dock, check that the propeller is working in both positions forward and backward (presence of a shaft line brake).
In the event of unusual noise or vibrations from the propeller, stop the engine immediately.
If the problem persists, contact the builder or your nearest supplier.

In the event of the use of a folding propeller, read carefull the manufacturer's instructions for use and maintenance.

■ 1.7 Towing

Tow another boat at a reduced speed and as smoothly as you can.
Be particularly careful when throwing or catching the towing line (it may catch on the propellers).

■ 1.8 Capsizing

IN THE EVENT OF CAPSIZING :
Four "Manhole" hatches are provided for under the companionway stairs in the hulls - and in the fore parts of the hull if lay-out done this way.
Remove the stairs to accede to them.
There is a hammer to break the glass near each hatch and at the bottom of the life raft lockers.

You can have access to the life rafts on the rear beam (refer to the beginning of the chapter).

■ 1.9 General points

Know where your crew members are and inform them before any handling on the boat.
Handle the boat with caution and always wearing shoes.

SECTION 2
HULL
DECK

OPENING ENTRANCE DOOR

LOCKING ENTRANCE DOOR

HAND OPENING OF THE 'ACCESS HATCH TO THE FLY

SWITCH (IN COCKPIT) TO OPEN THE ACCESS HATCH TO THE FLY

SWITCH (IN FLY) TO OPEN THE ACCESS HATCH TO THE FLY

■ 2.1 Construction

The LAGOON 620 is made of balsa cored sandwich and made under vacuum using quadraxial glass roving and resin-impregnated marine plywood.

The deck is made of balsa cored sandwich with plywood inserts where deck fittings are installed. The deck to hull joint is glued and screwed.

AVERTISSEMENT
Do not let the hull's large plexiglass windscreens come into contact with fenders or hawsers: surface damage would be irreparable.

■ 2.2 Companionway door

The sliding door can be locked in three different positions : closed, ajar (airing position) and open.
You can lock it from the inside of the saloon with a latch on the jamb of the door.

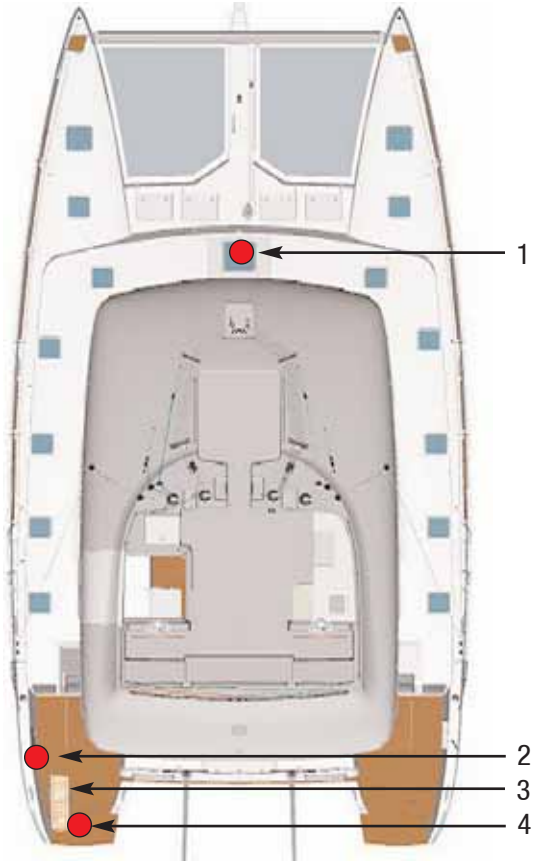
RECOMMENDATION
While sailing, block the sliding door locking it.

■ 2.3 Access to the fly helm stations

You will have access to the fly helm stations with stairs from the cockpit.
You can slide shut this access.
The opening of the access hatch to the fly can be electrically-operated (optional extra).
The electric opening operates on 24 V (the 24 V / 12 V inverter switch being on).

Regularly rinse the slide rails with fresh water.

GANGWAY (OPTIONAL EXTRA) - CAPSTAN (OPTIONAL EXTRA)



1 - Gangway fuse + capstan circuit breaker.

2 - Gangway control.

3 - Gangway.

4 - Electric engine of the gangway.

FUSE OF HYDRAULIC SYSTEM (GANGWAY)

CAPSTANS CIRCUIT BREAKER

GANGWAY CONTROLS

CAPSTAN

■ 2.4 Gangway (optional extra)

The gangway is operated by a hydraulic ram.
It is automatically energized as soon as the board general battery switch is on the ON position.
The gangway control is on the side of the portside aft transom extension.
Press simultaneously both buttons to operate it. Press OFF to stop it.
A remote control is available on board as well.

If it does not work, check CF8 fuse situated in the service room of the foredeck.

■ 2.5 Capstans (optional extra)

They are automatically energized as soon as the board general battery switch is on the ON position.
The capstan controls are at the bottom of the side of the portside and starboard aft transom extension.

If they do not work, check their circuit breakers situated in the service room of the foredeck.

For the sake of safety, a switch at the portside helm station makes possible to switch off the capstans as well as the windlass and all the electric winches.

■ 2.6 Steering gear

The steering system consists of two steering wheels, a hydraulic drive system with manual pumps on the helms and hydraulic rams for the rudders.

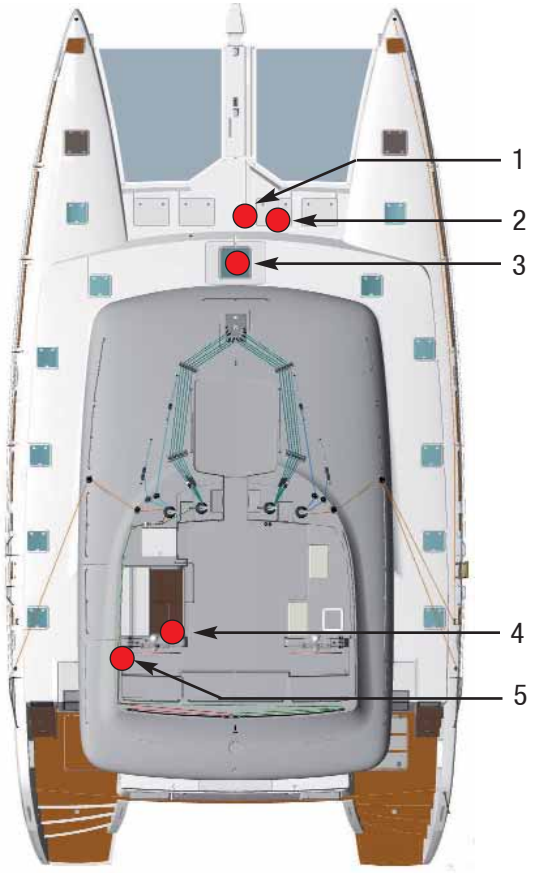
The suspended rudders are fitted with stainless steel stocks.
Each steering wheel works independently.

You have access to the helm and rams through the engine bilges.

Only WD 40 should be used to maintain nylon ertalon or teflon bushings.

Refer to section 1.5 for operating the emergency tiller.

ANCHORING

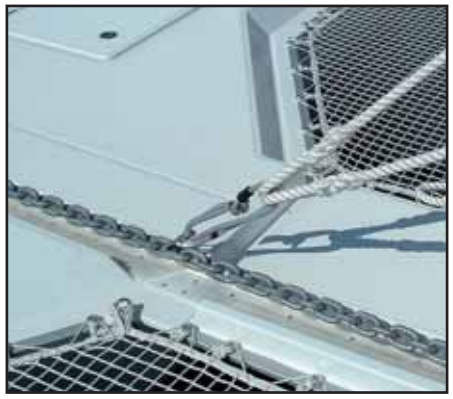


1 - Electric windlass.
2 - Electric windlass remote control.
3 - Electric windlass circuit breaker.
4 - Electric windlass control + chain counter.
5 - Electric windlass switching-off device.

STROP FASTENING TO THE FORE BEAM

STROP INSIDE THE ANCHOR ROLLER

STROP MADE FAST ONTO THE CHAIN



WINDLASS CONTROL

WINDLASS CIRCUIT BREAKER

■ 2.7 Windlass, anchoring

RECOMMENDATION
The electric windlass should be used with one or two engines running.

The electric windlass works with the 24 V domestic batteries.
Operate the windlass from the helm station or with the control in a locker to starboard on the foredeck.

In the event of the electric windlass failure to operate, check its circuit breaker in the service room on the foredeck.
For the sake of safety, a switch at the portside helm station makes possible to switch off the electric windlass as well as the capstans and all the electric winches.

Refer to the manufacturer's instructions for windlass maintenance.

• PREPARING ANCHORING
Set the strop fastening it to the chainplates at the ends of the main beam.
Insert the strop inside the stem anchor roller.
Make fast the strop to the central cleat when lowering the chain.

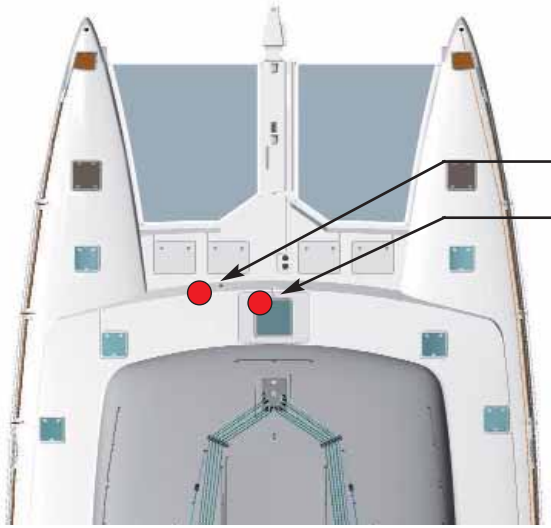
RECOMMENDATION
Before anchoring, check the depth of water, the power of the current and the quality of the bottom.

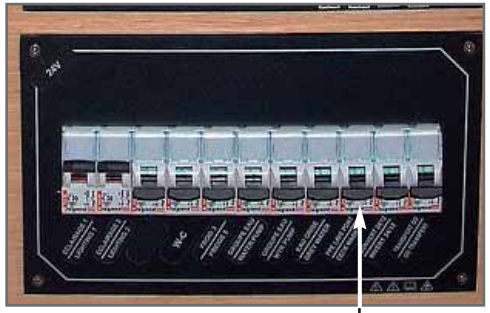
• ANCHORING
Have your boat head wind and without speed.
Pay out the chain while moving back slowly.
Secure the chain on the strop.
Release the chain until the strop is taut.

• LIFTING THE ANCHOR
Ensure that the chain is properly set on the gypsy.
Activate the windlass in the upward position.
Slowly go near the anchor using the engine (do not use the windlass force to winch up the boat).
Visually check the final metres until the anchor makes contact with the anchor roller.
Check the position of the anchor on the stemhead fitting.
In the event of electrical failure, use the winch handle on the windlass to lift the anchor.
Nota : the boat is fitted with a chain counter.
The standard measurement "Zero" corresponds to the position of the anchor ready to be dropped.
Refer to instructions for its use and maintenance.

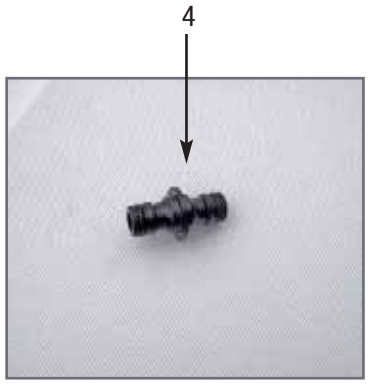
WARNING
Windlass operations are dangerous :
- Always keep the ground takle clear and free.
- Always proceed with care, wearing gloves and always wearing shoes.
- Make sure that nobody leans on the windlass when operating the control.

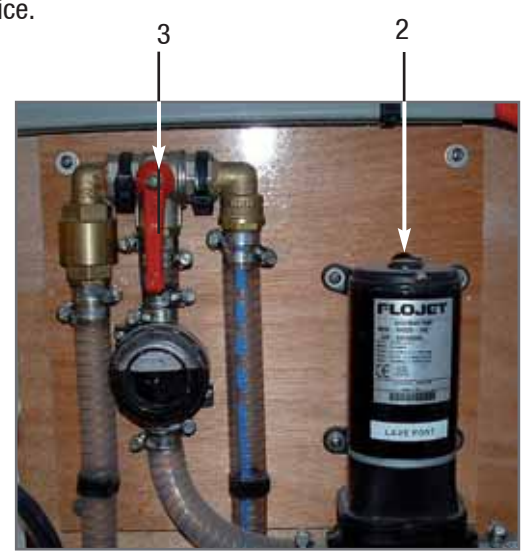
DECK WASH PUMP (OPTIONAL EXTRA)





1 - Intake to connect hose.
2 - Deck wash pump (24 V).
3 - Valve to select fresh water / sea water.
4 - "Gardena" type connector (not provided).
5 - Circuit breaker / switching on device.





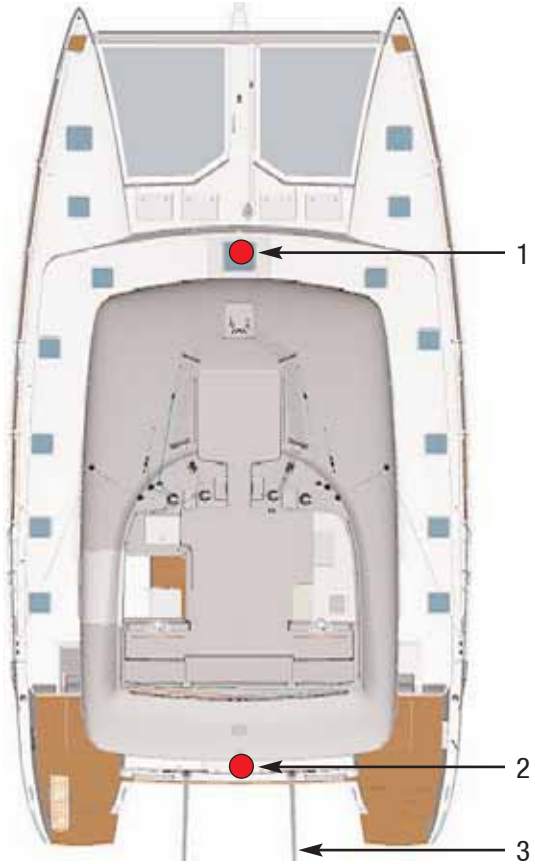
■ 2.8 Deck wash pump (optional extra)

The deck wash pump is located in the service room of the foredeck. It provides sea water or fresh water from portside tanks (access to the selection valve through service room).

You start it on the 24 V electrical panel.

Push the plastic rim of the intake to connect or disconnect the "Gardena" type connector (not provided).

DAVITS (OPTIONAL EXTRA) - TENDERLIFT (OPTIONAL EXTRA)



1 - Fuse.

2 - Ram + control.

3 - Davits.

FUSE OF THE SYSTEM (DAVITS)

RADIOCONTROL + CONTROL OF THE DAVITS OR THE TENDERLIFT

DAVITS

TURNBUCKLE OF THE TENDERLIFT

■ 2.9 Davits (optional extra)

The davits are operated by an electric ram.
They are automatically energized as soon as the domestic general battery switch is set to ON.
If it does not work, check CF8 fuse situated in the service room of the fore deck.

WARNING
Nobody should be on board or under the tender during manoeuvres carried out with the davits.
Tie up the tender during manoeuvres.

• INSTALLING A TENDER ONTO THE DAVITS
Fix the davit rope hooks to the front and rear parts of the tender.
Remove the equipment from the tender and remove the water drain plug.
Operate the control in the aft locker in the cockpit.

• LAUNCHING A TENDER FROM THE DAVITS
Put the water drain plug back into position in the tender.
Tie up the tender.
Operate the control in the aft locker in the cockpit.

When sailing, remove the tender engine and store it on board the boat.
Install onboard the tender all the safety equipment in pursuance of the regulations of the country where your boat is registered.

WARNING
The davits are designed to support a maximum load of 400 kg and a tender which is maximum 4,50 metres long.

■ 2.10 Tenderlift (optional extra)

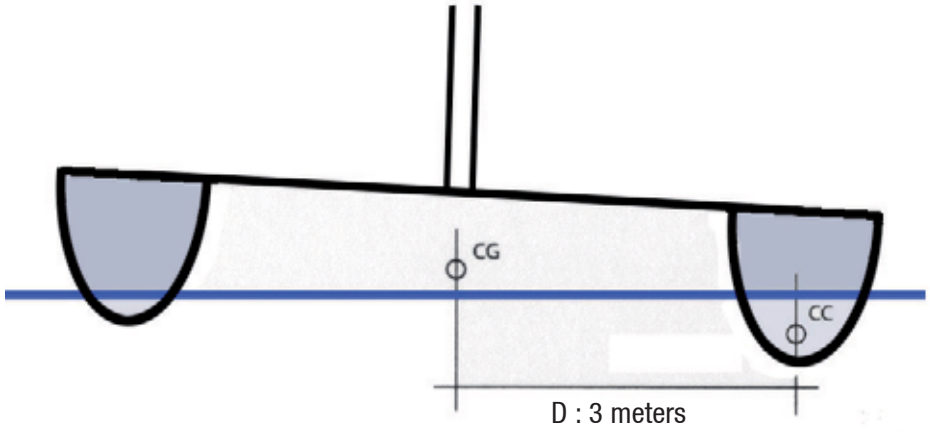
The tenderlift is operated by a electric strut.
It is automatically energized as soon as the domestic general battery switch is set to ON.
Its control is in the cockpit aft locker.
An optional radiocontrol is delivered with the boat. Switch off the radiocontrol after using it.
If it does not work, check the fuse located in the fore deck service room.

When sailing, secure the tender resting on the cradles.

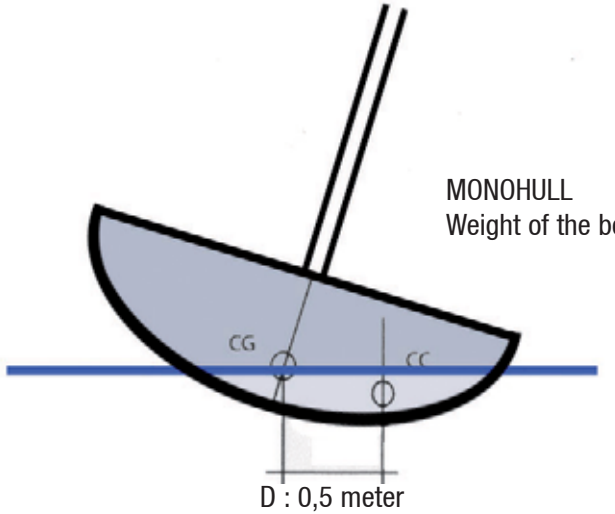
WARNING
The tenderlift is designed to support a maximum load of 350 kg and a tender which is maximum 4.60 metres long.

DANGER
It is strictly prohibited to sail when the tenderlift is in a position other than the utmost raised one.
When sailing, the tenderlift shall imperatively be fastened in the up position with the turnbuckles .

SECTION 3
RIGGING
SAILS



CATAMARAN
Weight of the boat : 10 tons



MONOHULL
Weight of the boat : 10 tons

Illustration of the difference of the righting moment existing between a 10 m monohull and catamaran.

d: distance between centre of the bottom and centre of gravity.

RMmax : Weight of the boat x d
(RMmax : moment of maximum uprighting)

RMmax monohull : 10 tons x 0,5 meter
: 5 tons.meter

RMmax catamaran : 10 tons x 3 meters
: 30 tons.meter

■ 3.1 Sailing

• BEWARE
A catamaran is about 6 times more resistant to heeling than a monohull.
In naval architecture, it is referred to as uprighting moment (multiplication of the weight of the boat by the transversal distance between the centre of gravity and the centre of flotation (or bottom).
See the illustration on the opposite page.

This fact has real consequences as for the sailing and sail trimming of a catamaran.

The fact that the boat does not heel may mask overcanvassing, which may be very dangerous for the crew and the boat. Therefore you MUST permanently keep a close eye on the speed of the true wind, and trim the sail surface according to the latter as a matter of priority. The below-mentioned trims apply in a calm sea. When the sea is brown, you shall reduce earlier by 10% as far as the speed of true wind is concerned. And as a general rule, it is absolutely imperative to permanently try to ease up the boat rather than to stress her.

You will always try to have the forward edges of the sails facing the apparent wind, and to have the sail not sheeted home, so that the airflow behind the sail may be laminar, that is to say so that it may go off the aft part of the sail without any disruption.

In case you shouldn't follow the recommendations below, it might be dangerous for the boat and the crew, and, in case of an accident, the manufacturer's responsibility would not be involved.

• TRIMMING WHEN CLOSE HAULED (between 75 and 50° of true wind)

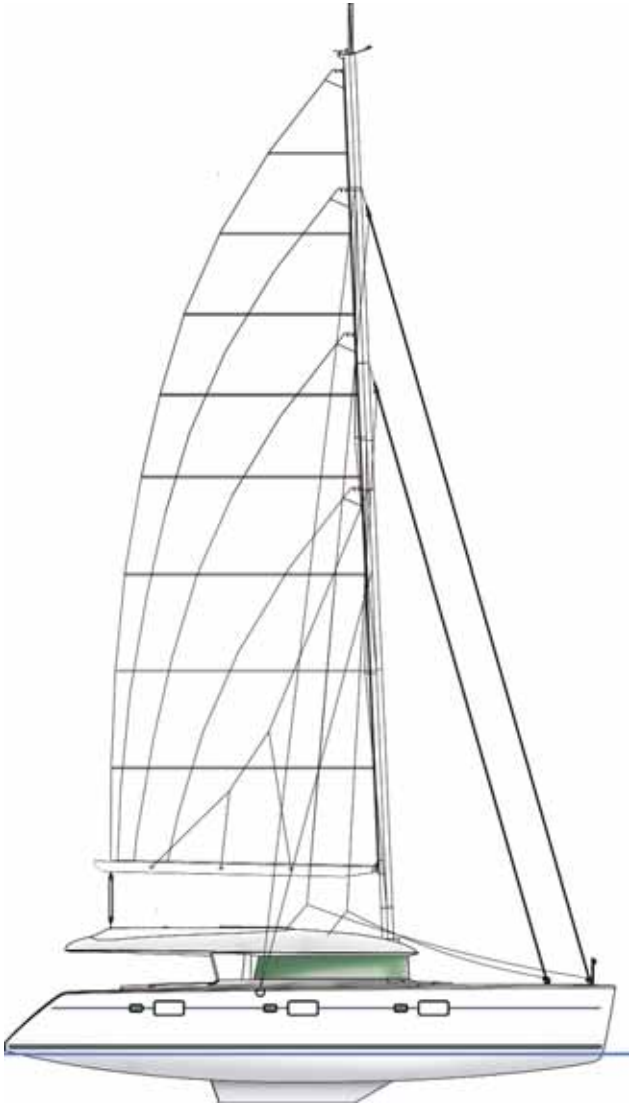
Wind force given in apparent wind
- **From 0 to 16 knots** : Full sail ; sheet traveller 30 cm above the centre line of the boat, mainsail sheeted with a slightly open leech (boom on the centre line of the boat).
The genoa is trimmed so that it skims the spreader, the genoa traveller is set so that the angle of the genoa sheet is the continuation of a straight line that goes through the sheet clew and the luff, at 40% of its height.

- **From 16 to 20 knots** : Full sail ; the sheet traveller goes up 60 cm above the centre line of the boat, mainsail sheeted with a leech a little more open (boom always in line : therefore you must ease off the sheet). The genoa traveller remains at the same place but the sheet is adjusted so that the leech is 10 cm far from the spreader.

- **From 20 to 26 knots** : 1 reef, full genoa ; the sheet traveller goes back to 30 cm above the centre line of the boat.
The genoa traveller remains at the same place but the sheet is eased off so that the leech is 20 cm far from the spreader.

- **From 26 to 30 knots** : 1 reef, 75% of the genoa ; the sheet traveller goes up 60 cm above the centre line of the boat.
The genoa traveller remains at the same place or slightly goes forward but it is adjusted so that the leech makes a propeller shape where the upper part let some air go off in increases of wind.

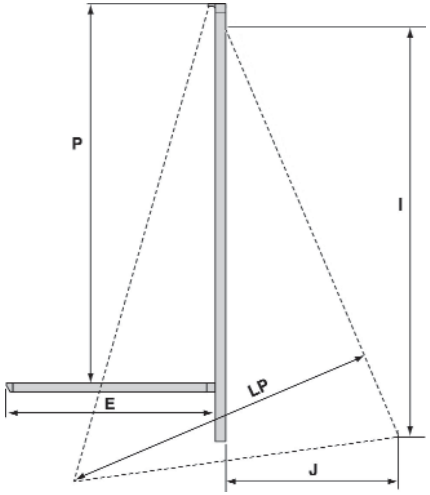
- **From 30 to 36 knots** : 2 reefs, staysail ; the sheet traveller is back 30 cm above the centre line of the boat, the sheet is 50 cm eased off and the boom is leeward.



Sails

Sail surface close hauled	243 m² / 2615 sq.ft²
Fully battened mainsail	139 m² / 1496 sq.ft²
Cruising square top mainsail	146 m² / 1571 sq.ft²
Furling genoa	91 m² / 980 sq.ft²
Spinnaker (optional extra)	300 m² / 3229 sq.ft²
Gennaker (optional extra)	190 m² / 2045 sq.ft²
Furling staysail (optional extra)	48 m² / 517 sq.ft²

I	23,320 m / 76’49”
J	6,289 m / 20’63”
P	24,700 m / 80’01”
E	8,260 m / 27’09”



- **From 36 to 45 knots** : 3 reefs, staysail to be shortened. The sheet traveller is on the centre line of the boat, the sheet is 1 metre eased off and the boom is leeward.

- **From 45 to 55 knots** : 3 reefs only (or try sail, or lying to), the traveller is on the centre line of the boat, the sheet is 1 metre eased off and the boom is leeward.
The boat would be more at ease scudding in such a weather.

- **Over 55 knots** : lying to, sea anchor, or preferably scudding.

• TRIMMING WHEN DOWN WIND (between 75 and 130° of true wind)

- **From 0 to 23 knots** : Full sail ; the traveller can be set at different places ranging from 1 metre off the centre line of the boat to the end of the track, depending on the angle of the wind, the sheet is eased off so that the boom may be leeward and 50 cm far from the traveller in dead calm then up to 2 metres when the wind strengthens.

In all the cases, you will avoid having more than one batten chafing against the upper shroud, in the fairest points of saling.
The genoa is eased off in order to have its average front edge facing the apparent wind.

- **From 23 to 28 knots** : 1 reef, full genoa. The trimmings are similar.

- **From 28 to 33 knots** : 2 reefs, staysail. The trimmings remain similar.

- **From 33 to 38 knots** : 2 reefs, staysail shortened. The trimmings remain similar.

- **From 38 to 45 knots** : 3 reefs (or mainsail lowered and a little more staysail), staysail shortened. The trimmings remain similar.

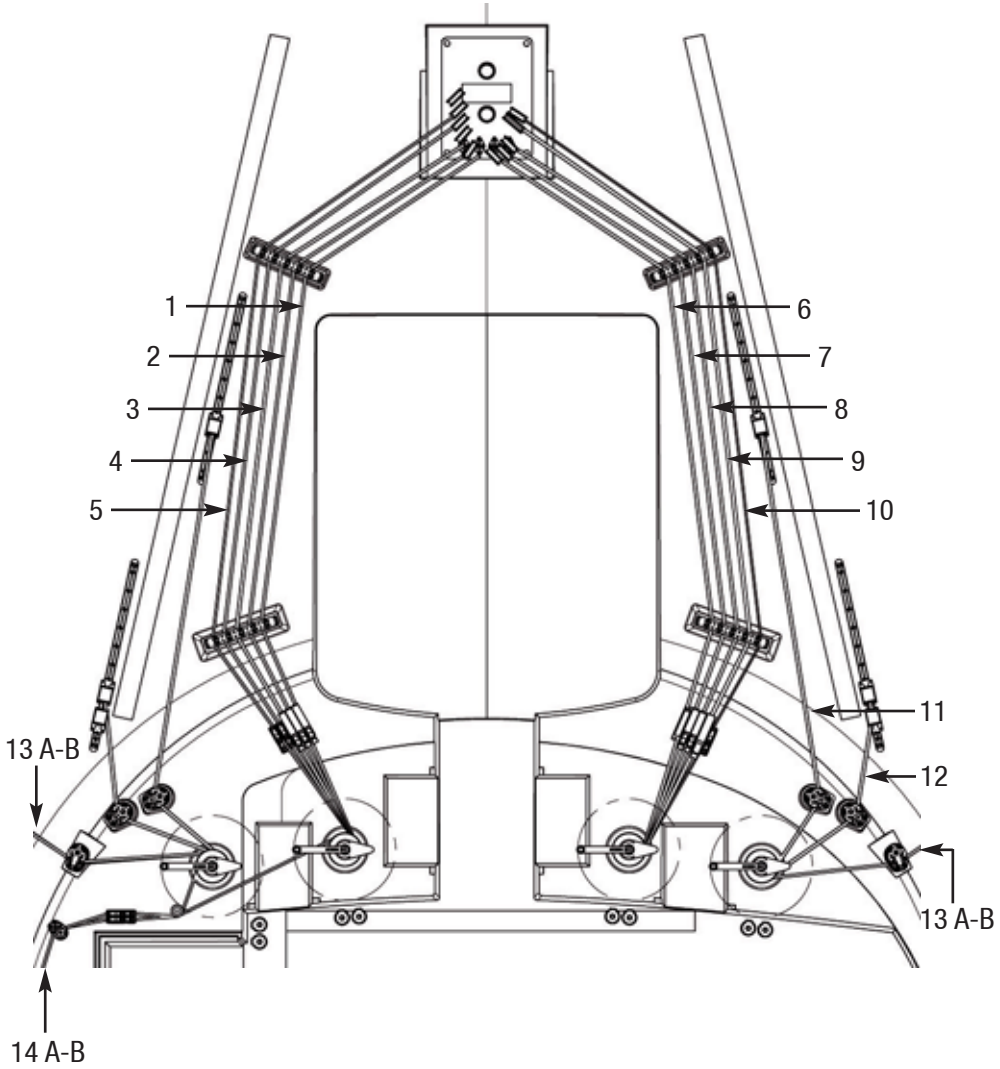
- **Fom 45 to 55 knots** : mainsail lowered, staysail shortened, sheeted enough in order not to flap.

- **Over 55 knots** : scudding, depending on the sea, you will set mooring ropes from one transom extension to the other one in order to reduce the speed of the boat.

WARNING
If there is a radar aerial on the mast, keep an eye on the genoa when you put about or gybe in order to avoid any risk of damage.

• CRUISING SQUARE TOP MAINSAIL

WARNING
A cruising square top mainsail is more powerful than a standard mainsail.
Shorten the sails earlier, depending on the wind conditions (about 5 knots before).



1 - Spinnaker / gennaker halyard (optional extra).

2 - Mainsheet.

3 - Reef pendant 3.

4 - Luff pendant - reef 3.

5 - Mainsail topping lift.

6 - Reef pendant 1.

7 - Reef pendant 2.

8 - Main halyard.

9 - Luff pendant - reef 1.

10 - Luff pendant - reef 2.

11 - Staysail sheet.

12 - Genoa sheet.

13A-B - Spinnaker / gennaker sheet + spinnaker guy.

14A - Portside control lines for mainsheet traveller.

14B - Starboard control lines for mainsheet traveller.

WARNING
The main traveller control lines shall not be used with the first winch: there exists a risk for the sheave to break (reason: too important an angle.)
Do use the second winch only.

■ 3.2 Standing rigging

The LAGOON 620 is fitted with a mast with swept back spreaders ; it was adjusted by the shipyard and the mast manufacturer when it was first stepped.
The cables stretch a little during the first sailings. Therefore it is advisable to have the mast inspected and adjusted by a specialist.

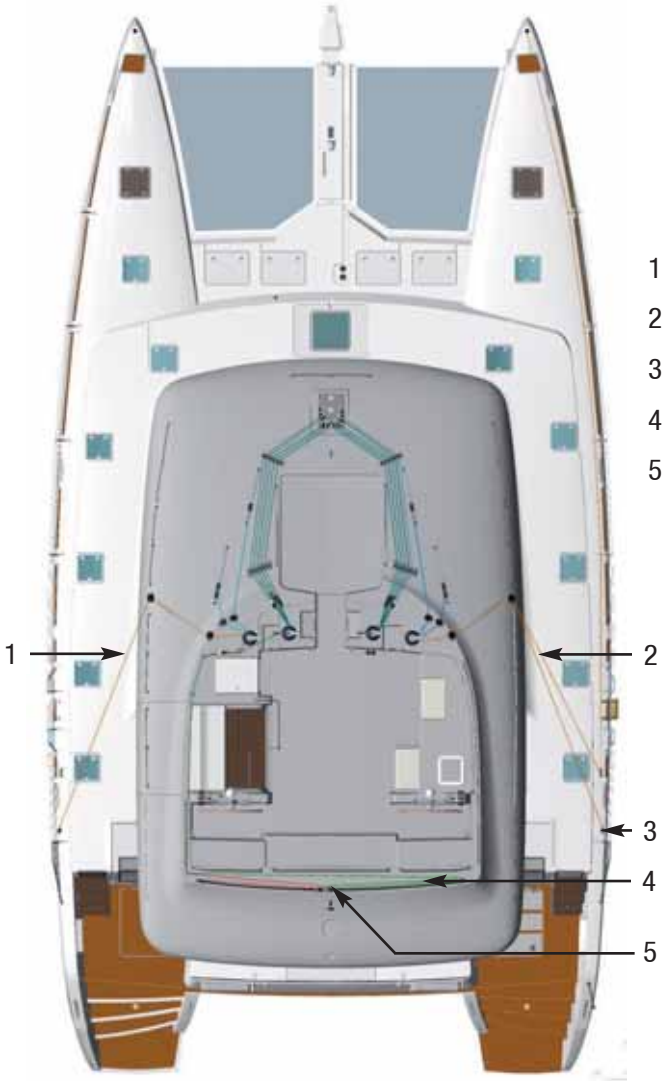
Before you put out to sea, it is essential to make sure that the standing rigging is in good condition : inspect the gooseneck, turnbuckles, and check the condition of the shrouds.

RECOMMENDATION
Any intervention on the standing rigging comes within a specialist remit.

To hoist a crew member up to the top of the mast, use the man hoisting halyard.
Belay the crew member with a bowline on the bosun's chair ring (do not use snap shackle or shackle).

WARNING
The man hoisting halyard which is the only one to be authorized for this purpose, is only meant to hoist a crew member up to the top of the mast.

Description of the ropes	length (m)	diametre (mm)
Genoa halyard on jammer	25	10
Genoa sheet	20 x 2	16
Staysail halyard on jammer	18	10
Staysail sheet	12 x 2	14
Main halyard	90	16
Mainsail topping lift	62	14
Main sheet	50	14
Main traveller adjusting rope	2 x 22	12
Reef 1	26	14
Reef 2	35	14
Reef 3	45	14
Cunningham 1	13	12
Cunningham 2	18	12
Cunningham 3	20	12
Lazy jack	2 x 30	10
Spinnaker guy	25 x 2	12
Spinnaker / gennaker sheet	42 x 2	14
Spinnaker / gennaker halyard	100	14



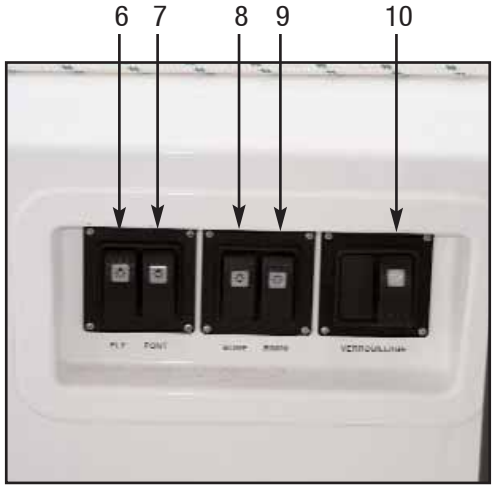
1 - Spinnaker guy.

2 - Gennaker / spinnaker sheet.

3 - Gennaker / spinnaker block.

4 - Main traveller control lines.

5 - Main traveller.



6 - Spreader lighting (fly lights).

7 - Deck floodlights.

8 - Boom lighting.

9 - Bimini lighting.

10 - Switch to switch off the windlass, electric winches, genoa and fore staysail furling systems.

■ 3.3 Running rigging

The mainsail, genoa and staysail sheets, the topping lift, the reefing lines, the mainsail and spinnaker halyards, the control lines for the main traveller are led back to the manoeuvre station.

The headsail roller furlers are switched on, switched off from the helm stations.
In case of problem, refer to the instructions given in APPENDIX.

• SHEET WINCHES AND MANOEUVRE WINCHES (MANUAL OR ELECTRIC) (OPTIONAL EXTRA)

The circuit breakers of the electric winches are in the service room of the foredeck.
Out of a concern for safety, all the electric winches can be switched off with a switch on the portside helm station (the capstans and windlass can also be switched off).

RECOMMENDATION
Have at least 3 turns on the winch.
Electrical winches generate an extremely powerful force and you should use them with much care.
Never force when you find a jamming point.
When using the winches, keep your hands away.
After use, shut the switch covers.

WARNING
Refer to the manufacturer's instructions to remove the winches and put them back.
Improper refitting may result in accidents (for example : kick of the crank handle).

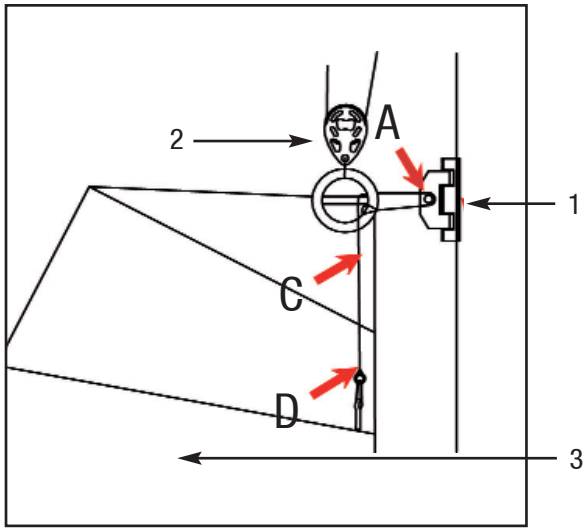
■ 3.4 Sails

• STANDARD MAINSAIL
To hoist the standard mainsail :
- Point your boat into wind with engine in gear.
- Make sure that the mainsheet is eased off and the reefs are free.
- Open the jammer.
- Hoist the sail being careful for the battens not to get jammed in the lazy-jacks.
- Make fast the halyard with the jammer.
- Trim the mainsail according to the wind and sea conditions.

To lower the standard mainsail :
- Haul up.
- Tighten the topping lift.
- Slacken off the halyard, lower the mainsail then furl it.
- Tighten the sheet.

REEFING A SAIL
For each of the three reefs, there is a pendant on the leech and one on the tack.
- Make the mainsail closer to the eye of the wind, either steering the boat or using the traveller.
- Ease off the mainsheet.

CRUISING SQUARE TOP MAINSAIL - MAINSHEET FUSE



1 - Headboard traveller.

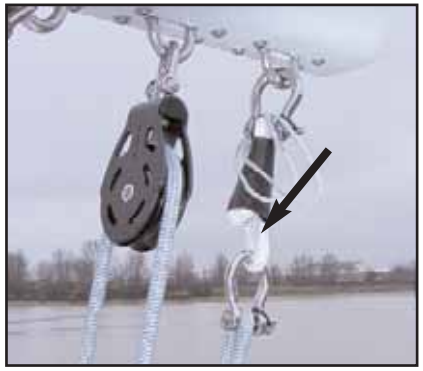
2 - Halyard block.

(to be fastened onto the headboard eye)

3 - Cruising square top mainsail.

FASTENING OF THE CRUISING SQUARE TOP MAINSAIL

MAINSHEET FUSE



- Tighten the topping lift.
- Slacken off the halyard.
- Tighten the tack pendant of the reef concerned till the lowest possible point, then close the jammer.
- Do the same for leech pendant of the concerned reef.
- Sway up the mainsail, then close the jammer.
- Slacken off the topping lift.

REEF SHAKING OUT
- Make the mainsail closer to the eye of the wind, either steering the boat or using the traveller.
- Ease off the mainsheet.
- Tighten the topping lift.
- Ease off the tack and leech reef pendants.
- Hoist the mainsail, then close the jammer.
- Slacken off the topping lift.

• CRUISING SQUARE TOP MAINSAIL
The cruising square top mainsail halyard is lashed on the eyelet of the sail, not on the headboard traveller.
The square top will be properly set automatically once the sail is hoisted up.

FITTING OF THE MAINSAIL CRUISING SQUARE TOP SYSTEM
Refer to the drawing on the opposite page.

- Remove the pin of the headboard car (mark A).
- Make the 2 strand tackle as per the drawing on the opposite page.
- Put back the headboard car pin (Mark A), adding the sheave.

The length of the headboard line is adjusted to the right dimension for a new sail at the sailmaker's.
The lashing (Mark D) makes possible to make up for the possible lengthening of the rope due to ageing.

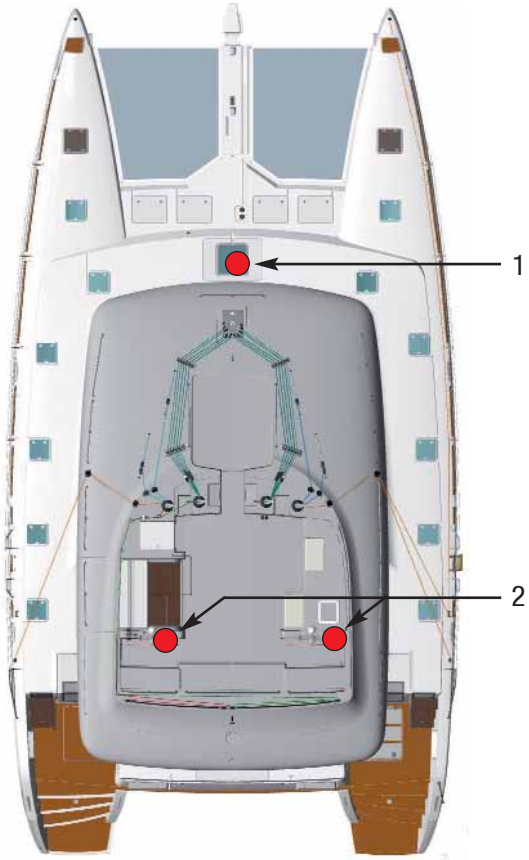
Nota : this system is patented by the INCIDENCES sailmaker.

WARNING
A cruising square top mainsail has a more important power than a standard mainsail.
Shorten the sail earlier depending on the wind conditions (about 5 knots before).

• FUSE OF THE MAINSHEET
The mainsheet is fitted with a "fuse" in fabric which ''informs'' you of overcanvassing.
In case the "fuse" breaks, immediately reduce the surface of the mainsail.

Two spare "fuses" are supplied with the boat.
Replace the fuse that is used as soon as possible, the sail being lowered.

GENOA - STAYSAIL ELECTRIC FURLERS



1 - Circuit breaker for genoa + staysail electric furlers.

2 - Control of genoa and staysail electric furlers.

FURLER BREAKER

CONTROLS OF THE GENOA AND STAYSAIL FURLERS

GENOA TIGHTENING TRAVELLER

• GENOA AND STAYSAIL
SAIL SETTING
Pay attention to the way the drum winds up : the genoa UV protection must be outside.

The genoa halyard has an extension linked to it through a whipping (figures on page 44).
- Hoist the genoa until the halyard whipping appears level with the tension adjustment track.
- Furl the genoa.
The halyard can then be slackened.
- Separate the halyard from its extension.
- Have both of them fixed on each side of the tension adjustment traveller.
- Block the locker.
- Harden moderately the halyard until the traveller locks automatically one or two notches lower.
Once the genoa is completely unwounded, you will be able to adjust its definitive tension using a tightening rope, more important than the halyard extension.

If the genoa is kept wound when the boat is not used, slip the halyard one notch tighter on the track in order to release the tension of the halyard on the masthead sheave.

GENOA AND STAYSAIL USE
Once the sheet is home, unfurl the genoa or staysail using the switch at the helm station.

RECOMMENDATION
To furl or unfurl the headsails, be preferably down wind.

The domestic batteries supply power to the genoa and staysail furlers.
Their circuit breakers are in the service room of the foredeck.

WARNING
When the mainsail is shortened and reefed down twice, you must replace the genoa by the staysail.

RECOMMENDATION
When you shift the tack and depending on the sailing trim of the boat, use the electric furler and set the tack in line with the headsail.

GENOA LOWERING
the genoa must absolutely be furled.
- Have the genoa halyard extension fixed in the lower hook of the tension adjustment traveller then pass it in the available mast foot block with a direct return to a winch on the wheelhouse.
- Hoist the halyard (about 5 cm) before letting the traveller go down.
- Release the traveller locker doing a ninety-degree turn.
- Slip the halyard to the winch.
- This group of elements is no longer under tension.
- Release the halyard and its extension from the tension adjustment traveller and tighten them together with a solid whipping (in order to get one single halyard).
- Harden moderately the halyard using the winch.
- Unwind the genoa to haul down.

WHIPPING LINKING THE HALYARD TO ITS EXTENSION

The whipping must resist to the tension when hoisting.

TRAVELLER LOCKER OPEN

GENNAKER FURLING SYSTEM

GENOA - STAYSAIL Manual emergency instructions

- Remove the protective cover on the rear side of the furling system.
- Insert the furler handle and turn to furl or unfurl the sail.

• GENNAKER

Remove the forward lifelines when using the gennaker (risk of damage).

Before getting under the way, take advantage of a windless period of time and hoist the gennaker.

- Secure the swivel to the gennaker headboard.
- Secure the furling system to the tack clew.
- Put the furling system to the boomsprit with a snap shackle.
- Secure the halyard to the headboard swivel.
- Hoist the gennaker.

Use the furling system line to furl or unfurl the gennaker.

Gennaker sheets

- Secure the sheets to the gennaker clew.
- Have the sheets go on the outside of the stay and shrouds and above the guardrails.
- Make fast the sheet leading blocks to the chainplates.
- Reroute the sheets to the genoa sheet winches.

WARNING
In some sailing trims, the gennaker may hide the fore navigation lights.

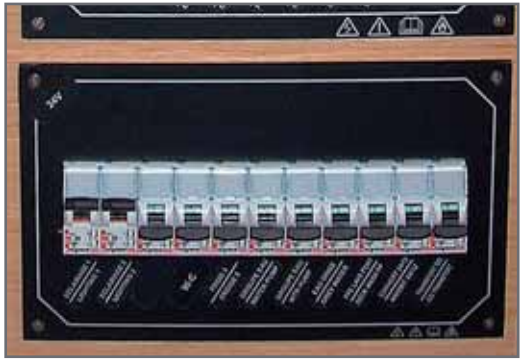
WARNING
Unrig the gennaker when not in use (risk of being UV damaged and inadvertently unfurled).

SECTION 4
ELECTRICITY

24 V ELECTRICAL PANELS - BOARD CUT OUT - ALTERNATORS

MULTIFUNCTION SCREEN

24 V PANEL



GENERAL BOARD CUT OUT

1 - Coupled alternator (24 V).

2 - Engine alternator (12 V).

BILGE PUMP PANELS

■ 4.1 24 V system

• BATTERIES
The battery bank supplies the boat with 24 V and is located in the service room of the foredeck.
The whole 24 V circuit is energized when you turn to the ON position the manual cut-out under the chart table.

• BATTERY RECHARGING
You recharge the battery bank with a coupled alternator (110 Ah / 24 V) or a battery charger (220 Ah / 24 V).

BATTERY CHARGERS (OPTIONAL EXTRA)
The battery chargers are located in the service room of the foredeck.
The 110 V - 220 V / 24 V chargers recharge the domestic batteries.

OPERATION
The battery chargers can be used with the shore power socket #1 or the operating generator.
Turn the HIGH LOAD selector to SHORE or GENERATOR.
Make sure their circuit breakers on the electrical panel are properly set.

Nota : the battery chargers can remain in operation even when the boat is not energized in 24 V.

• CONTROL OF THE 24 V CONSUMING APPLIANCES
The control of the 24 V consuming appliances is distributed between three areas :

24 V PANEL
It groups the different 24 V functions onboard: lighting, grey water pumps, electric heads, deck wash pump (optional extra), refrigeration units, pressure water pumps, inverters, diesel oil transfer pump.

BILGE PUMP PANELS
The four small panels situated near the 110 V - 220 V panel control the bilge pumps.
The switch on the left makes three positions possible: automatic start, OFF and manual operation. The switch on the right makes possible to stop the alarm.

RECOMMENDATION
We recommend that you keep the bilge pumps in the automatic start position with alarm.
We advise you to carry out a test of the bilge pumps each time before you put out to sea.

MULTIFUNCTION SCREEN
A touch screen on the chart table gives access to :
- The jauges of the fresh water and fuel tanks.
- The consumption (amperes) and voltage (volts) of the batteries.
- The control of the navigation lights, anchor lights, deck lights...
- The switching on of the electronics.
- The switching on of all the lightings on board.
- The start of the fuel transfer pump.

EQUIPMENT UNDER CHART TABLE

MULTIPLEXING SYSTEM MONITOR SCREEN (CPU MONITOR SCREEN)

Figure 1

Figure 2

TROUBLESHOOTING USING THE TOUCH SCREEN

If a problem arises with an appliance, consult the touch screen page.

When the function key is accompanied by a blue flashing light (tripped fuse):
- Disconnect the appliance from the power supply, and then reconnect it.
If the flashing light has disappeared, the equipment is operating correctly again.
If the flashing light persists, there is a problem with the equipment itself or with the power supply.

When the function key is inoperative:
- On the touch screen, go to the Eplex Status page and find its Busbar (Figure1).
The defective Busbars are identified by their red colour (Figure 2).
.
- Follow the red busbar to the module concerned, then to the module's location in the boat.
- Intervene on the module.

TROUBLESHOOTING FROM THE CPU SCREEN

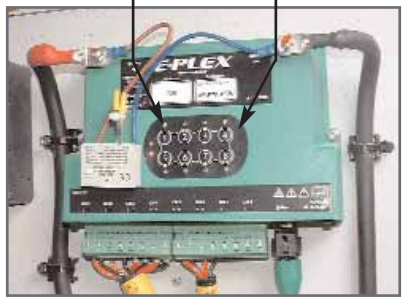
If it is not possible to use the touch screen to access the different electric components on board, use the CPU screen found on the front façade under the chart table (Figure 3).

- Press the Eplex Status key, and follow the procedure - which is similar to that of the touch screen - to identify the module concerned.
- Intervene on the module..

EPLEX MODULES

1

2 3



2 - Diodes.
3 - Switches.

Spare module.

4

MODULE INTERVENTION

If it is not possible to use the touch screen or CPU screen to access the different electric components on board, you will have to intervene directly on the module concerned.

- Shunt the screen by removing the 6 Ah fuse (# 1).

The switches (#3) allow you to select then control the eight components matching the diodes (#2).

- Press the switch matching the desired component to turn it on (diode will light up).

Press the switch again to turn off the component.

- Identify the component to be repaired with the module output number as listed in appendices 7 and 8.
- Intervene manually on the module to activate or inhibit the powering of the desired component.

MODULE 94		
OUTPUT 1	Interior courtesy light	3 A
OUTPUT 2	Underwater spotlights	7,5 A
OUTPUT 3	Navigation electronics 24 V	15 A
OUTPUT 4	Navigation electronics 12 V	15 A
OUTPUT 5	Radar power supply	5 A
OUTPUT 6	Radar power supply	5 A
OUTPUT 7	Exterior courtesy light	3 A
OUTPUT 8	Tri-coloured light	3 A
MODULE 329		
OUTPUT 1	Port navigation light	2 A
OUTPUT 2	starboard navigation light	2 A
OUTPUT 3	Stern light	3 A
OUTPUT 4	Top light	3 A
OUTPUT 5	Anchor light	3 A
OUTPUT 6	Deck searchlight	5 A
OUTPUT 7	Spreader lights	8 A
OUTPUT 8	Aft beam lights	4 A

IN THE EVENT OF A MODULE PROBLEM

- Determine the location of the defective module using the touch screen or the CPU screen.
- Disconnect the boat from the power supply.
- Replace the defective module by the spare module provided in the boat, connecting the power supply and the negative to the upper part, and the les different pins to the lower part.
- Leave only the desired fuses on the spare module depending on the appliances that you wish to operate.
- Reconnect the boat to the power supply.

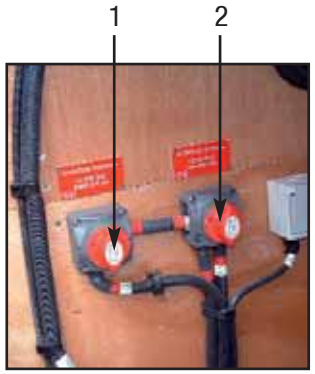
WARNING
The replaced module will appear as missing on the touch screen.

WARNING
The use of the spare module is only a troubleshooting solution.
Contact your dealer as quickly as possible to have the temporary module changed.

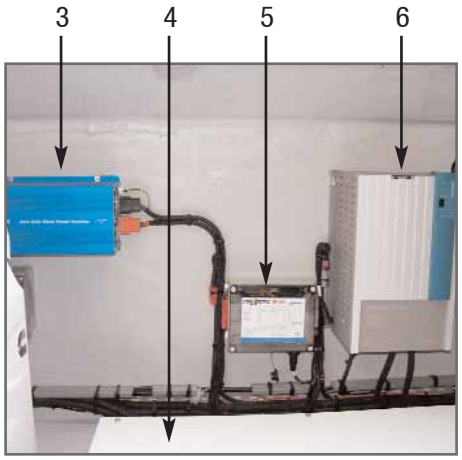
Nota: to access the "manual override" function of the automatic pilot, its relay must be shunted.

In order to do this, disconnect the two blue terminals (mark 6) and then connect them to each other.

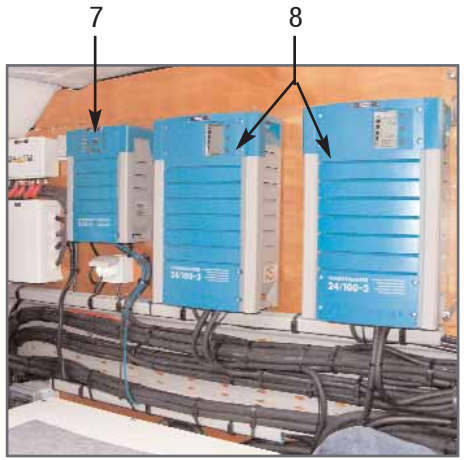
12 V CUTOUT - SERVICE ROOM - 24 V CONNECTING STRIP



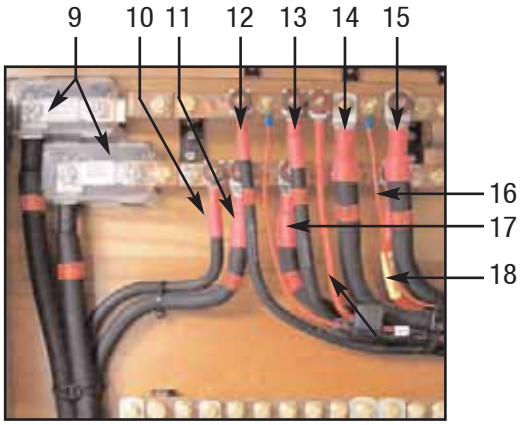
1 - Cut out - battery coupling (12 V).
2 - Cut out - portside engine (12 V).



3 - 24 V / 220 V - 1500 Va inverter as standard.
4 - Battery bank.
5 - Electronic box for furler control.
6 - 24 V / 220 V - 5000 Va inverter (optional extra).



7 - 220 V / 12 V - 35 Ah charger.
8 - 220 V / 12 V - 100 Ah chargers.



9 - Bow thruster.
10 - 24 V / 220 V - 5000 Va inverter (optional extra).
11 - 24 V / 220 V - 1500 Va inverter as standard.
12 - Multiplexage.
13 - DC panel supply.
14 - Supply for battery switch of the battery bank.
15 - 24 V power box.
16 - Bow thruster relay.
17 - Electric system (gangway, davits, tenderlift).
18 - Generator dividing box.
19 - Automatic pilot.
20 - Gas electrovalve (US 110 V version).

■ 4.2 12 V system

• BATTERIES
The 12 V batteries supplying the two engines and the generator respectively are in each engine bilge and the service room of the foredeck.
Each one has its own cut-out at its side.
A voltage alarm is set on the master shunt.

For safety reasons, a system of coupling the engine batteries (cut-out located in the portside engine compartment) makes possible the start of the engine the battery of which is failing.

• BATTERY RECHARGING
The battery bank is recharged with the engine alternators or a battery charger.

BATTERY CHARGERS
The battery chargers are located in the service room of the foredeck.
The 110 V - 220 V / 12 V charger recharges the engine and generator batteries.

OPERATION
The battery chargers can be used with the shore power # 1 or the working generator.
Set the HIGH LOAD selector to SHORE or GENERATOR.
Make sure their circuit breakers on the electrical panel are properly positioned.

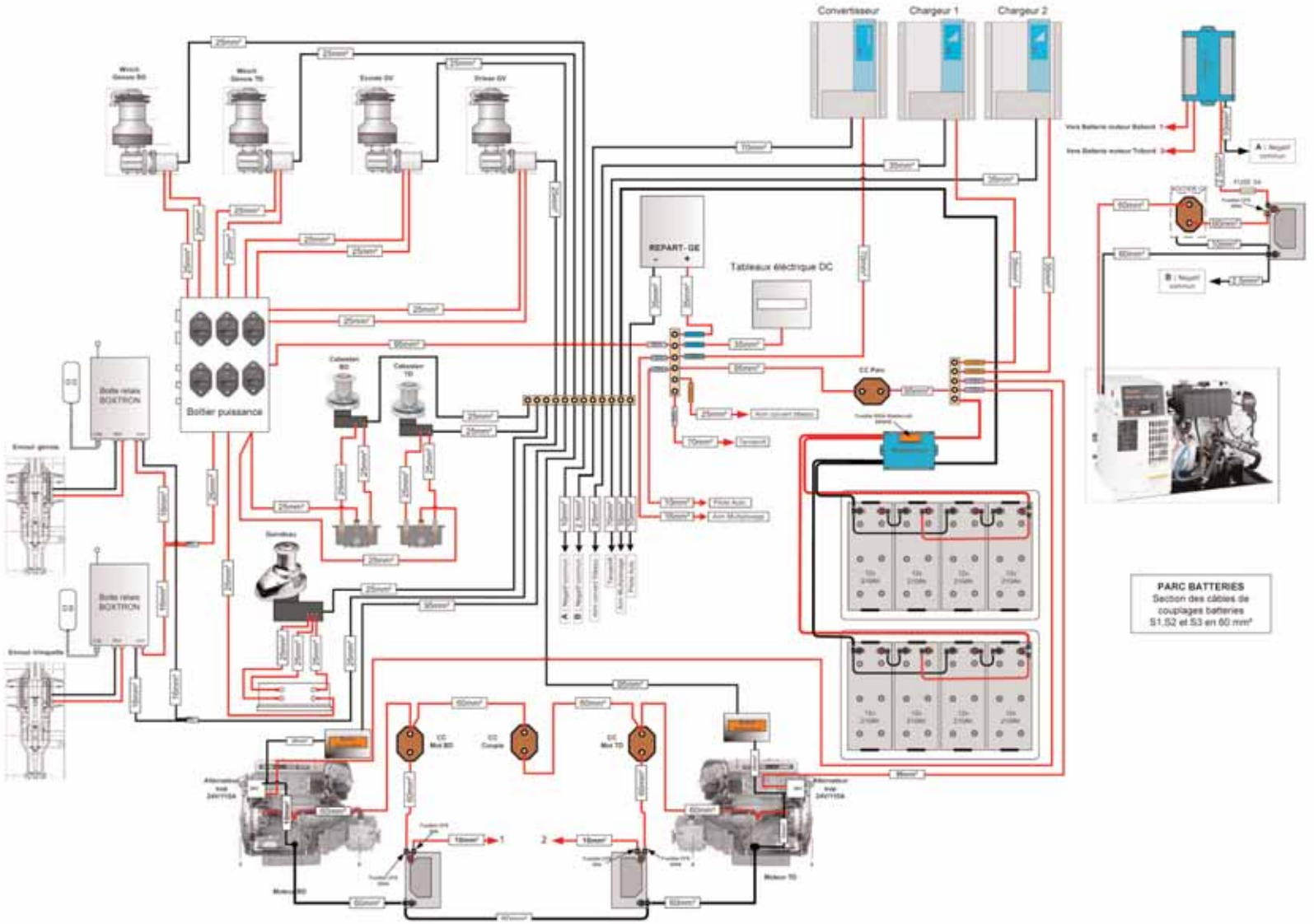
• CONTROL OF THE 12 V CONSUMING APPLIANCES
You can control the 12 V consuming appliances on the multifunction screen on the chart table.
These consuming appliances (camera, VHF, radio...) work in 12 V via a 24 V / 12 V inverter.

■ 4.3 Inverters

The boat is standard fitted with a 24 V / 220 V - 1500 Va inverter for the galley electrical appliances.
As optional extra, she can be fitted with a 5000 Va inverter.
The inverters are located in the service room.
They supply the UTILITY bus.

OPERATION
They are operated from the electrical panel.
Make sure their circuit breakers on the 24 V electrical panel are properly positioned.

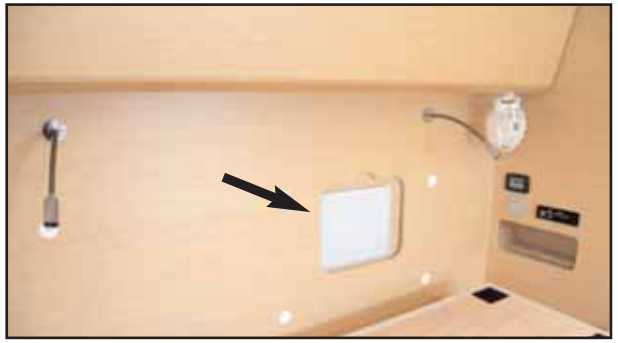
24 V SYSTEM


Convertisseur
Chargeur 1
Chargeur 2
REPART-GE
Tableaux électrique DC
Boîtier puissance
PARC BATTERIES
Section des câbles de
couplages batteries
S1,S2 et S3 en 60 mm²

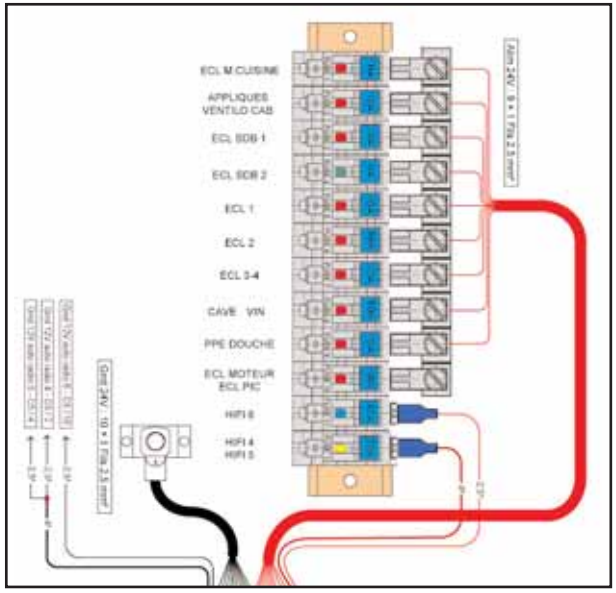
24 V AUTOMATIC FUSES

The fuses of some elements are in electric boxes located behind the headboards in the aft cabin to starboard and in the admiships cabin to port (double bed version) or at the back of the cabinet between the two beds (bunk bed version).
These elements are energized using the 24 V general cutout.

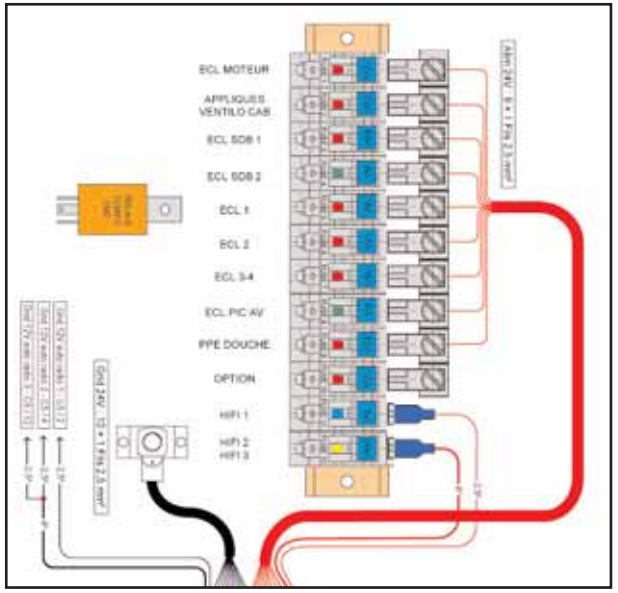
Nota : the LIGHTING fuses on the electrical panel are only for a part of the saloon lighting and outside lightings (bimini, spreaders, etc.).

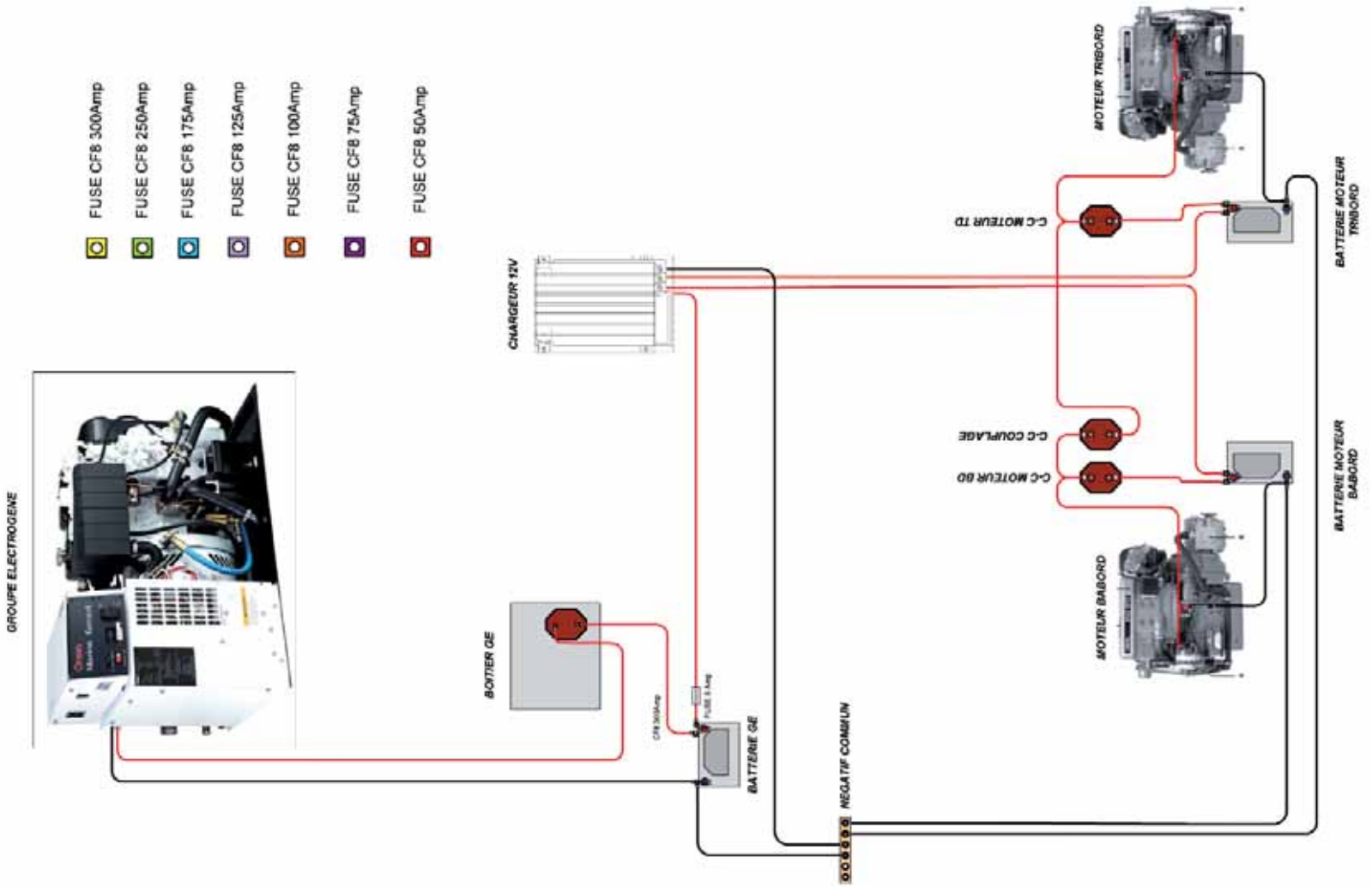


24 V FUSES - ELECTRIC BOX IN ADMISHIPS CABIN TO PORT



24 V FUSES - ELECTRIC BOX IN ADMISHIPS CABIN TO STARBOARD




FUSE CF8 300Amp
FUSE CF8 250Amp
FUSE CF8 175Amp
FUSE CF8 125Amp
FUSE CF8 100Amp
FUSE CF8 75Amp
FUSE CF8 50Amp
CHARGEUR 12V
GROUPE ELECTROGENE
BOITIER GE
BATTERIE GE
NEGATIF COMMUN
C.C MOTEUR TD
C.C COUPLAGE
C.C MOTEUR BD
MOTEUR TRIBORD
MOTEUR BABORD
BATTERIE MOTEUR TRIBORD
BATTERIE MOTEUR BABORD

RECAPITULATION OF THE 12 V AND 24 V COMPONENTS

CHARGE AND ELECTRIC CONVERSION

220 V or 110 V / 24 V - 100 Ah Charger	As optional extra : recharge of the 24 V service battery bank (refer to 110 V / 220 V recapitulation)
220 V / 12 V charger (3 connections)	With the optional generator to recharge the 12 V generator battery and the two 12 V engine batteries
24 V - 110 Ah coupled alternator	Recharge in 24 V of the service battery bank
24 V / 12 V electronic inverter	With the electronics
24 V / 12 V car-radio inverter	With the car-radio optional extra

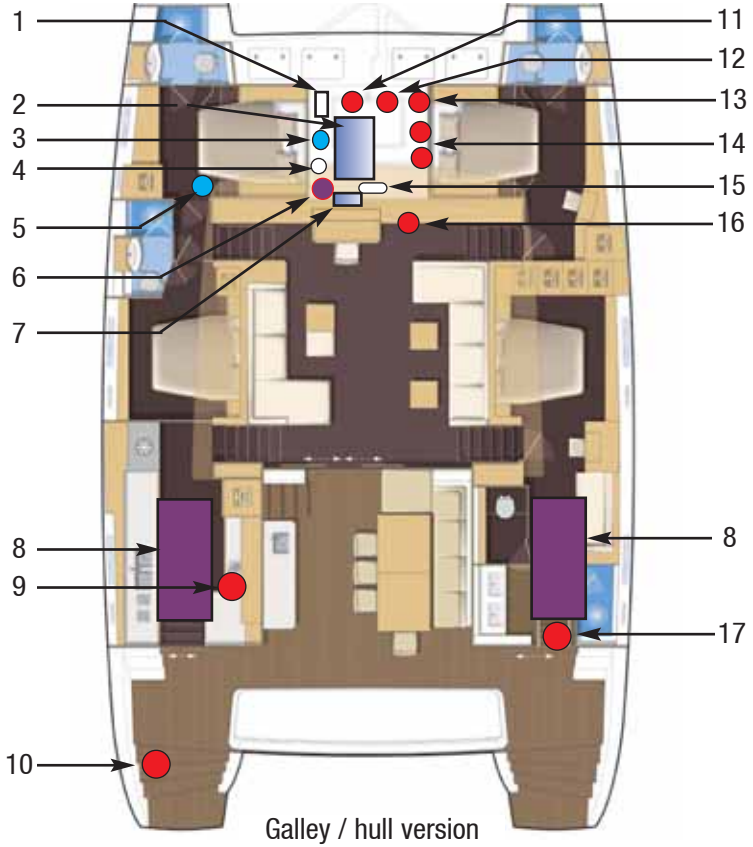
BATTERIES / CONSUMING APPLIANCES

24 V direct current	**Voltage**	**Starting up**	**Protection**
Service batteries	24 V (420 Ah as standard, 840 Ah as optional extra)		
Recharge of the service batteries by a coupled alternator (24 V) per engine + 220 V / 24 V - 100 Ah chargers (optional extra)			
Navigation electronics	24 V	Multifunction screen	
Utility lighting	24 V	Multifunction screen	
Navigation light	24 V	Multifunction screen	
Lighting	24 V	Multifunction screen	
Fridge in cockpit	24 V	24 V Electrical panel	24 V Electrical panel
Fridge on fly	24 V	24 V Electrical panel	24 V Electrical panel
Electric heads	24 V	24 V Electrical panel	24 V Electrical panel
Deck wash pump	24 V	24 V Electrical panel	24 V Electrical panel
Winches	24 V	24 V Domestic	Electricity room
Windlass (directly on the batteries)	24 V	24 V Domestic	Electricity room
Capstans	24 V	24 V Domestic	Electricity room
Davits / Tenderlift	24 V		
Gangway	24 V : hydraulic pump		
Bow thruster	24 V : hydraulic pump		

12 V direct current	**Voltage**
Engine start batteries	(12 V - 50 Ah) x 2
Recharge of engine battery by engine alternator + 220 V / 12 V charger	
Generator start battery	(12 V - 50 Ah) x 1
Recharge of generator battery by generator alternator + 220 V / 12 V charger	

Electronic control of engine	12 V connected on engine start battery once "on"
Cameras Hub (network terminal) VHF Car-radio	12 V powered by a 24 V / 12 V inverter

GENERATOR - SHORE POWER SUPPLY - CHARGERS - INVERTERS



Galley / hull version

Galley / saloon version

1 - Generator start battery.

2 - Generator.

3 - Separator drain valve.

4 - Air extractor of service room.

5A - Generator sea water filter.

5B - Generator sea water inlet valve.

6 - Generator fuel filter.

7 - Water / gas separator.

8 - Fuel tanks.

9 - Fuel / generator stop pull handle.

10 - Circuit breakers of the shore power sockets + shore power sockets.

11 - 24 V / 220 V inverter.

12 - 12 V / 220 V inverter.

13 - 220 V / 12 V battery charger.

14 - 220 V / 24 V battery chargers.

15 - Generator exhaust pipe.

16 - 24 V - 12 V inverter (access behind bilge pump panel).

17 - Diesel oil transfer pump (Starboard tank to port tank).

■ 4.4 110 V - 220 V system

• SHORE POWER
A shore power socket is located in the portside aft transom of cockpit.
It supplies power to the 110 V - 220 V system and the battery chargers.
A second shore power socket, dedicated to air conditioning, is fitted nearby if the boat is fitted with the air conditioning optional extra.

Before you plug in or unplug the boat/shore power supply cable, switch off the shut off device connected to the shore supply.
Connect the boat/shore power supply cable in the boat before connecting it to the shore supply socket. Unplug the boat/shore supply cable on shore first.
Close the protecting cover of the shore supply socket when the plug is not in use.
The shore power socket is protected by a circuit breaker located in the portside engine bilge.

DANGER
Never let the end of the boat/shore supply cable hang in the water ; the result may be an electric field liable to hurt or kill the swimmers nearby.

	220 V
SHORE POWER SOCKET N°1	50A
SHORE POWER SOCKET N°2	50A

• GENERATOR
The generator is located in the service room of the foredeck.
Its function is to re-supply the batteries via the charger and supply 110 V - 220 V electricity on board.

On the boats fitted with 110 V - 60 HZ, 75% of the generator power are for the equipments remaining in 220 V - 60 Hz and 25% for the equipments working in 110 V - 60 Hz.

The generator is supplied by the port fuel tank.

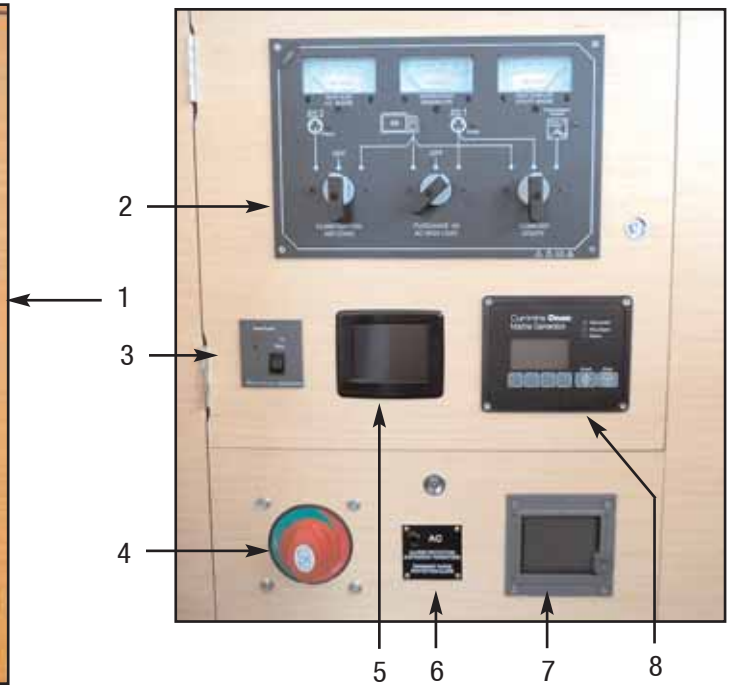
OPERATION
You can start the generator either on the generator or by its control on the electrical panel.
Make sure its fuel pull handle (access under the hob in the galley - galley / hull version - and by the pull handles behind the hatch under the bedside storage at the aft end of the port hull - galley / saloon version) and its sea water cooling valve (access under the floor of the port forward cabin) are open.

For the generator use and maintenance, refer to the instruction guide.

DIESEL OIL TRANSFER PUMP
In case of intensive use of the generator supplied by the port tanks, use the transfer pump that makes possible the fuel circulation from the starboard to the port tank.

Read information about its operation in chapter PROPULSION.

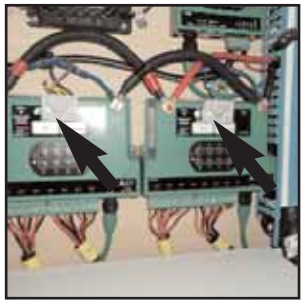
110 V - 220 V ELECTRICAL PANELS



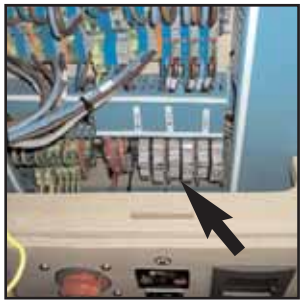
Galley / saloon version

Galley / hull version

1 - 110 V - 220 V protection panel.
2 - 110 V - 220 V selection panel.
3 - Starting / stop control of the inverter.
4 - Genera board cut out.
5 - Starting / stop control of the watermaker (optional extra).
6 - Power surge indicator (optional).
7 - Starting / stop control of the inverter (optional extra).
8 - Starting / stop control of the generator.
9 - Circuit breakers of household appliances.



Sacrificial diodes



Surge fuses

• CONTROL OF THE 110 V - 220 V CONSUMING APPLIANCES

110 V - 220 V SELECTION PANEL

This panel has 3 switches which enable you to choose the supply source for the different 110 V - 220 V consuming appliances on board.

CONFORT - UTILITY SELECTOR :
- Allows the use of the appliances grouped together on the CONFORT - UTILITY bus using 110 V - 220 V current coming from the generator, shore or inverter (automatic start of the inverter when it is selected).

PUISSANCE AC - AC HIGH LOAD SELECTOR :
- Allows the use of the appliances grouped together on the PUISSANCE AC - AC HIGH LOAD bus of the 110 V - 220 V protection electrical panel, using 110 V - 220 V current coming from the generator or shore.

CLIMATISATION - AIR COND SELECTOR :
- Allows the use of air conditioning, on the CLIMATISATION - AIR COND bus, using 110 V - 220 V current coming from the shore power socket # 2 or generator.

POWER SURGE PROTECTION (OPTIONAL)

The system comprises a disperser at the masthead, sacrificial diodes protecting the modules from possible parasite power surges and an indicator located under the chart table.
It also has power surge fuses located behind the source selector.

110 V - 220 V PROTECTION PANEL

This area groups together 3 buses of circuit-breakers of the 110 V - 220 V appliances and equipments. Each of these buses has a major circuit breaker and several individual circuit breakers. This panel allows you to choose the supply source of the consuming appliances.

CONFORT - UTILITY :
- Groups together the 110 V - 220 V consuming appliances that are likely to be supplied by the inverter.

PUISSANCE AC - AC HIGH LOAD :
- Groups the heavy 110 V- 220 V consuming appliances that need the generator start up or shore power suply.

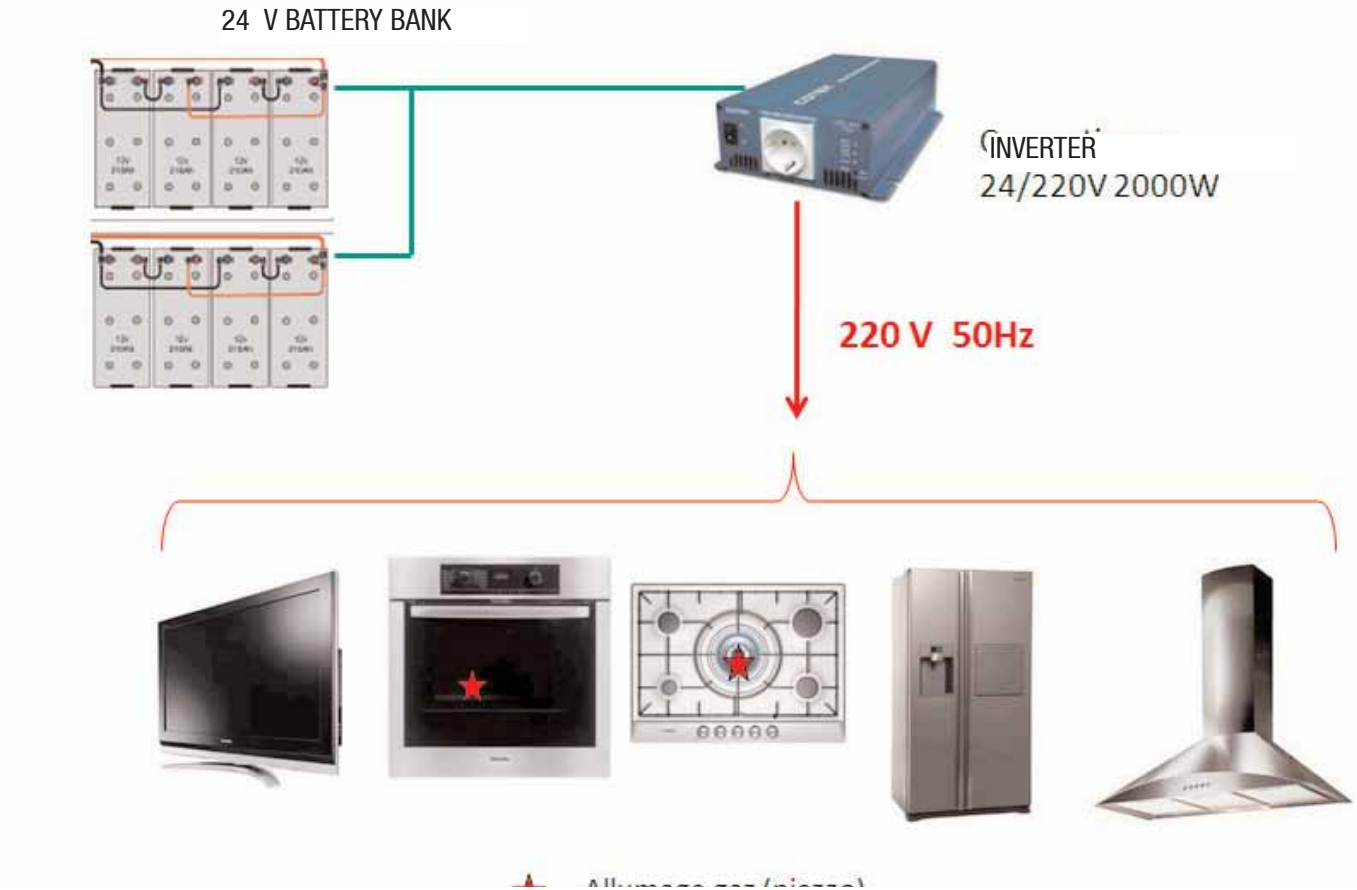
CLIMATISATION - AIR COND :
- Attributed to air conditioning for the starting up of the system.

PANEL OF THE CIRCUIT BREAKERS OF THE HOUSEHOLD APPLIANCES

The 110 V - 220 V kitchen appliances have a dedicated circuit breaker panel.
This panel is located under the cockpit companionway in the galley (version with the galley at the aft of the port hull), and behind a hatch at the back of the aft cabinet between the two berths of the central cabin in the port hull (version with galley in the saloon).

Nota : all the circuit breakers of the 110 V - 220 V system are differential circuit breakers. Therefore you do not need fuses for this system on board.

220 VOLT - 50HZ ELECTRICAL SYSTEM - STANDARD EQUIPMENT



• USE OF THE 110 V - 220 V POWERED APPLIANCES

TO SWITCH ON THE APPLIANCES

In order to be able to use the 110 V - 220 V powered appliances (washing machine, watermaker, etc), it is advisable :

- To make sure that the circuit breakers are turned to OFF on the 110 V - 220 V selection panel.
- Switch on the 110 V - 220 V source (start the generator or connect the shore power socket # 1 to shore).
- Select this source on the electrical panel so that this source can supply the boat (110 V - 220 V Selection electrical panel).
- Push the circuit breaker of the appliance to be used (washing machine, watermaker, etc.) on the electrical panel.

After this, start the appliance with its own controls.

To start 110 V - 220 V elements, wait for 10 to 15 seconds between the start up of each new component (in order to allow the generator to become stabilized and be able to give the power necessary for the starting up).

TO STOP THE 110 V - 220 V POWERED APPLIANCES

To stop the 110 V - 220 V powered appliances (washing machine, watermaker,etc) it is advisable to do as follows :

- Stop the appliance with its own controls.

To stop 110 V - 220 V elements, wait for 10 to 15 seconds between the stop of each new component (in order to allow the generator to become stabilized).

- On the electrical panel, turn off the circuit breaker of the appliance that is used.
- Turn to OFF the 110 V - 220 V source selector (generator or shore power socket # 1).
- Stop the generator or disconnect the shore power socket.

WARNING

Before turning the 100 V - 220 V source selector to OFF, make sure no other appliance is working (danger of an electric arc that would destroy the commutator and risk of damaging the generator).

RECAPITULATION # 1 / 110 V - 220 V COMPONENTS

GENERATOR

Generator power 17,5 kva European Version	The generator gives 100% of its power in 220 V - 50 Hz (AIR CONDITIONING, UTILITY and 220 V HIGH LOAD buses)
Generator power 17,5 kva US Version	The generator gives 75% of its power in 220 V (AIR COND and 220 V HIGH LOAD buses) The generator gives 25% of its power in 110 V (UTILITY and 110 V HIGH LOAD buses)

SHORE POWER SOCKET

HIGH LOAD Shore power socket *European Version*	A 50 Ah simple shore power socket - connection in the port aft transom extension (220 V - 50 Hz)
AIR COND Shore power socket *European Version*	A 50 Ah simple shore power socket - connection in the port aft transom extension (220 V - 50 Hz)
HIGH LOAD shore power socket *US Version*	Utilisation of the two 110 V phases to supply 220 V power on board.

ELECTRIC DISTRIBUTION

UTILITY BUS	110 V or 220 V	Supplied by generator, shore or inverter (optional extra 1 or 2)
HIGH LOAD BUS	110 V or 220 V	Supplied by generator or shore
AIR COND BUS	110 V or 220 V	Supplied by generator or shore

CHARGE AND ELECTRIC CONVERSION

220 V or 110 V / 24 V - 100 Ah charger	Optional : recharge of the service bank by generator or shore
220 V / 12 V charger (3 connexions)	Automatically comes with the optional generator to recharge the 12 V battery, the generator and the two 12 V engine batteries
Standard inverter	24 V / 220 V - 1500 Va
Utility inverter OPTIONAL EXTRA	24 V / 220 V - 5000 Va

RECAPITULATION # 2 / 110 V - 220 V COMPONENTS

CONSUMING APPLIANCES	Operating voltage	220 V boat	110 V boat
Galley fridge	220 V	Standard inverter	-----
Hood	220 V	Standard inverter	-----
Piezzo hob and oven	220 V	Standard inverter	-----
Wine cellar	220 V	Standard inverter	-----
Icemaker	220 V or 110 V	UTILITY Bus	UTILITY Bus
Microwave oven - Grill	220 V or 110 V (without grill)	UTILITY Bus	UTILITY Bus
HIFI Bose	220 V or 110 V	UTILITY Bus	UTILITY Bus
TV	220 V or 110 V	UTILITY Bus	UTILITY Bus
Dishwasher	220 V or 110 V	UTILITY Bus	HIGH LOAD Bus
Cockpit grill	220 V or 110 V	HICH LOAD Bus	HIGH LOAD Bus
Washing machine	220 V or 110 V	HIGH LOAD Bus	HIGH LOAD Bus
Water heater	220 V	HIGH LOAD Bus	HIGH LOAD Bus in 220 V (double phase)
Watermaker	220 V	HIGH LOAD Bus	HIGH LOAD Bus in 220 V (double phase)
Diving compressor	220 V	HIGH LOAD Bus	HIGH LOAD Bus in 220 V (double phase)
Air cond.	220 V	AIR COND.Bus	AIR COND Bus in 220 V (double phase)

PRINCIPLE FOR THE 50 Ah - 250 V CONNECTION TO THE SHORE POWER FOR A US VERSION BOAT

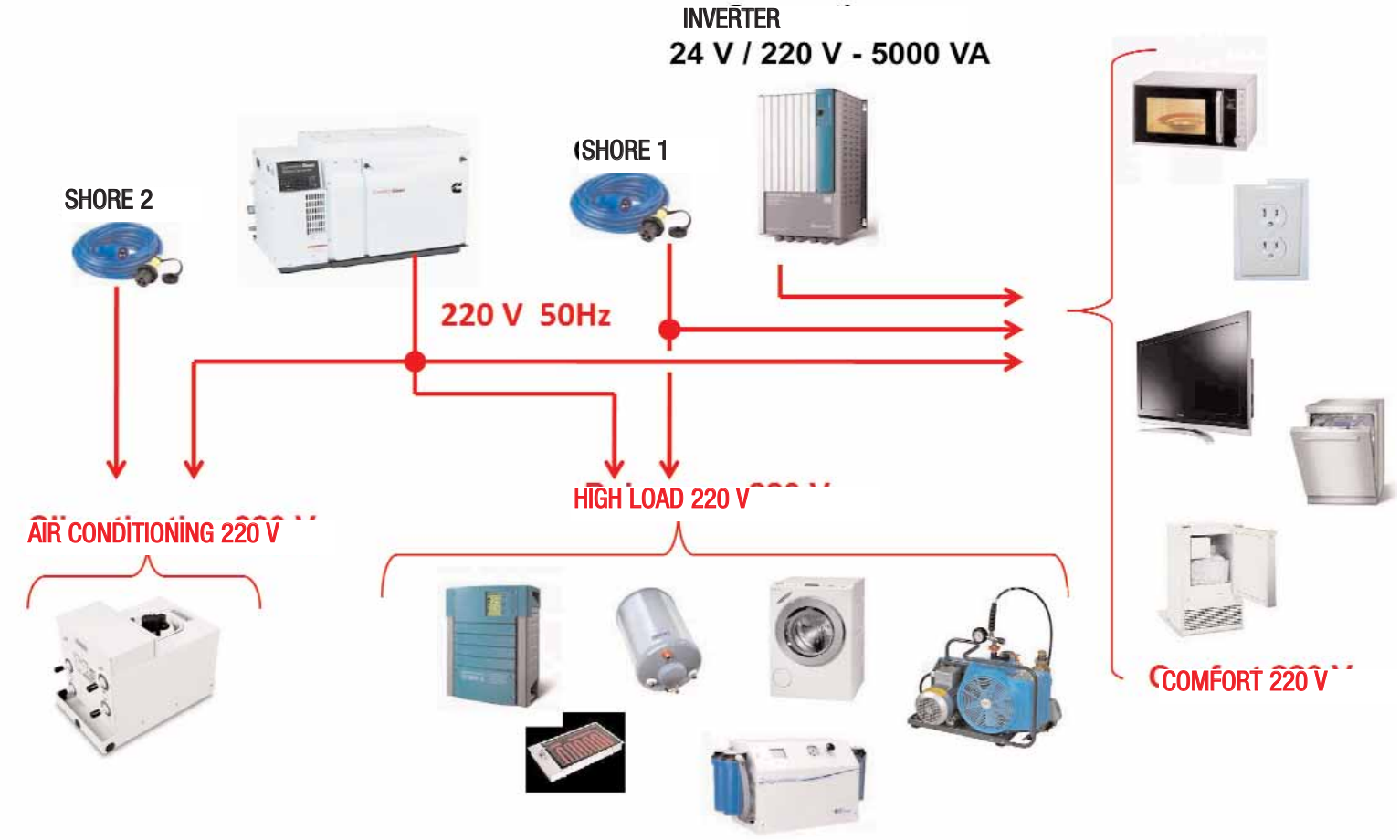
The boat is fitted with a 50 Ah plug socket for the air conditioning system (L1 + L2 + N + E).

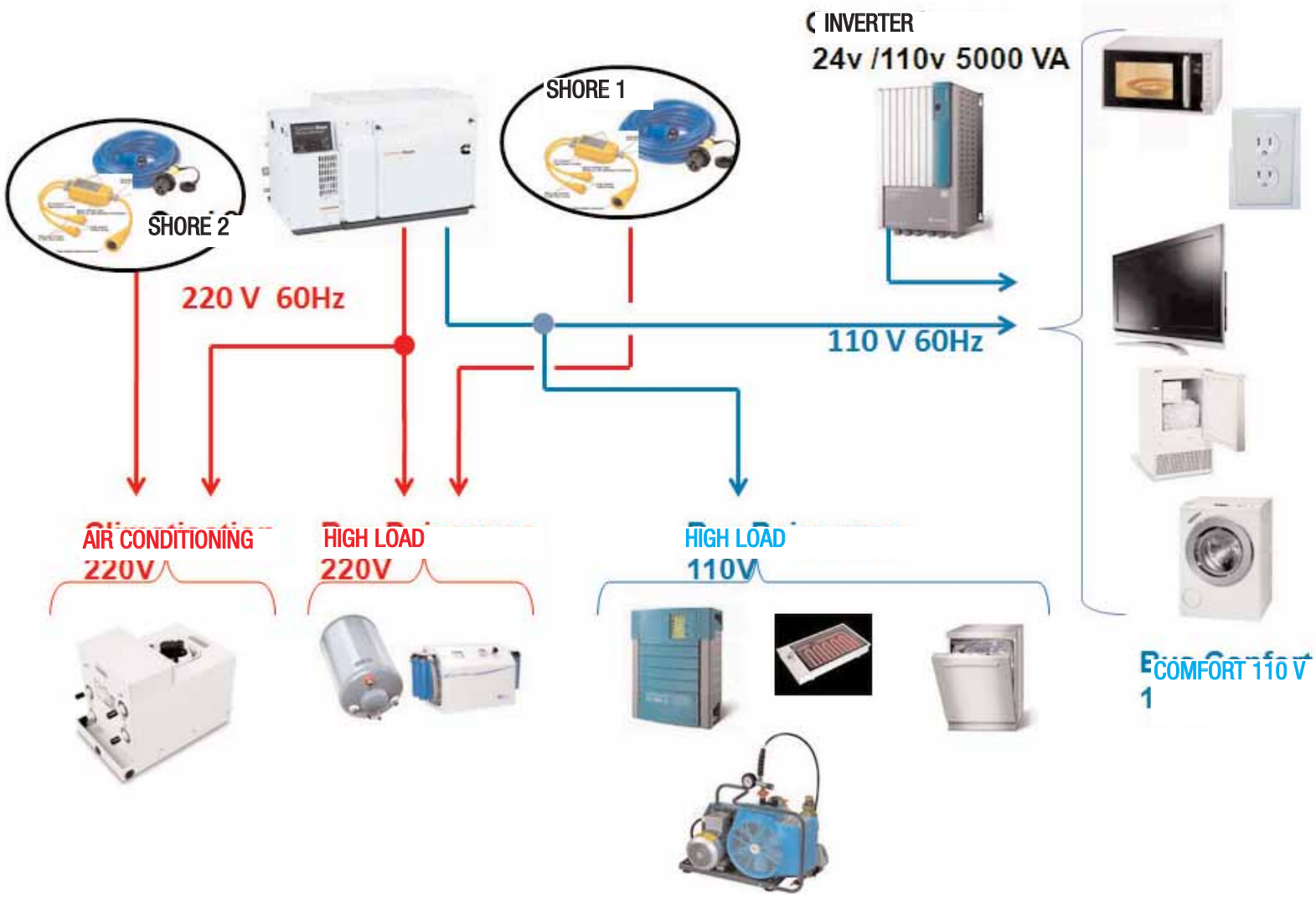
The power cable that is provided is a 3G 10mm² with :
On the boat side : a 50 Ah socket (3 L + E).
On the shore side : a 50 Ah plug (3L + E).

A 50 Ah four-pole residual current device is located on the line in the existing box.
At the end of the 50 Ah residual current device the domestic system is connected to both Live wires.
The 'Neutral' on the plug socket is connected to the residual currrent device, not to the domestic system.
The 'Earth' on the plug socket is connected to the domestic 'Earth' via a simple connector.

If the marina has no 50 Ah – 3L + E socket, it would be proper to use the Marinco 167 RYN - Y Adapter, connecting it to two 30 Ah - 125 V sockets.

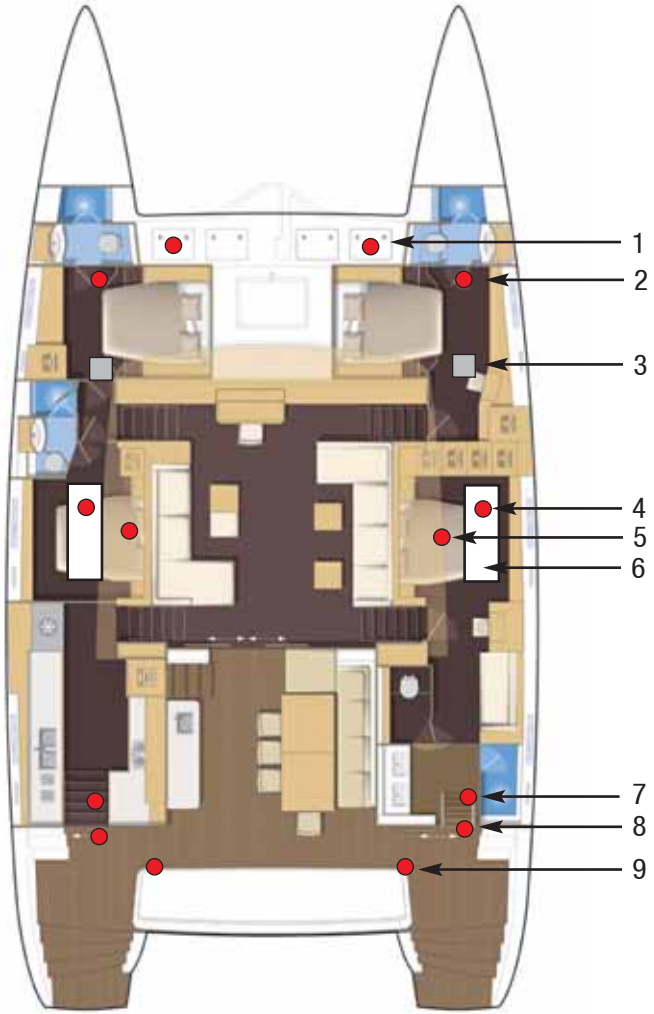
220 V SYSTEM


INVERTER
24 V / 220 V - 5000 VA
SHORE 2
SHORE 1
220 V 50Hz
AIR CONDITIONING 220 V
HIGH LOAD 220 V
COMFORT 220 V


INVERTER
24v /110v 5000 VA
SHORE 1
SHORE 2
220 V 60Hz
110 V 60Hz
AIR CONDITIONING
220V
HIGH LOAD
220V
HIGH LOAD
110V
COMFORT 110 V
1

SECTION 5
PLUMBING

BILGE PUMP SYSTEM



Nota: the same layout can be observed in the other versions.

SEA-COCK OPEN

SEA-COCK CLOSED

1 - Forward compartment manual bilge pump.
2 - Outlet valve of forward compartment towards the sump.
3 - Grey water tank.
4 - Automatic start mechanisms of the electric bilge pump.
5 - Electric bilge pump / sump.
6 - Hull sump.
7 - Drain valve of engine bilge towards the sump.
8 - Electric bilge pump / engine bilge.
9 - Rear manual bilge pump.
Each hull has the same components.
Nota : each valve in the boat is identified.

■ 5.1 Bilge pump system

A main sump is under the floorboard of each hull.
The fore and aft compartments are linked to these sumps by a bilge pipe and a valve (access under the floorboards).

RECOMMENDATION
The drain pipe valves in the forward and engine compartments shall be in normal closed position.

Each fore compartment is drained by a manual pump.
Each sump is drained by :
- A cockpit manual pump.
- An electric pump with a manual or automatic start (on the electrical panel).

An automatic start for a low level starts the pump but not the alarm (draining of the bilge pipes).
An automatic start for a higher level starts the alarm then.
Nota : the electric bilge pump automatically works even if the 24 V system has been switched off.

Each of the engine bilges has an electric pump with a manual or automatic start.

WARNING
The bilge pump system is not designed to provide buoyancy to the boat in case of damage.
The bilge pump system is designed to drive out the water being either sea spray or leaks but absolutely not the water coming through a hole in the hull, this hole being the result of a damage.

RECOMMENDATION
Regularly check the valves and sea-cocks for proper operation and watertightness.
Regularly make sure the strumboxes and bilges are perfectly clean.

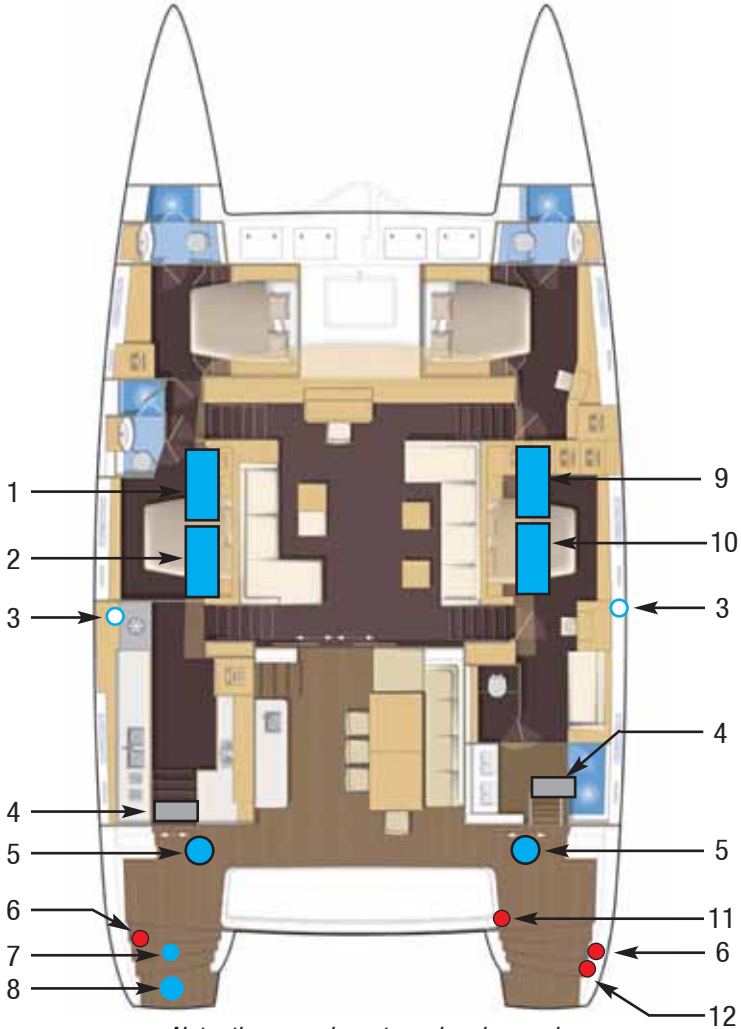
■ 5.2 Grey water system

The grey waters are grouped together in a collecting tank in each hull. They collect the waste waters of the basins and showers of the shower rooms.

The grey water tanks are emptied by automatic start pumps (switching on from the 24 V panel).

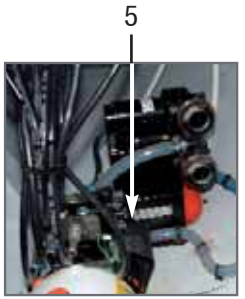
We advise you should regularly clean the filters (access to them by removing the clips of the covers).

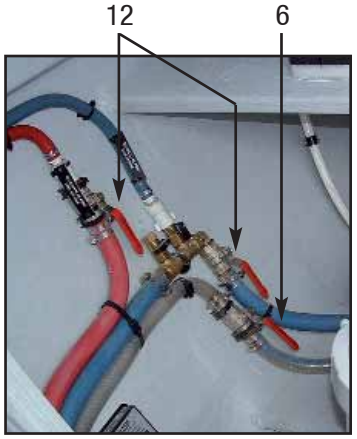
FRESH WATER SYSTEM

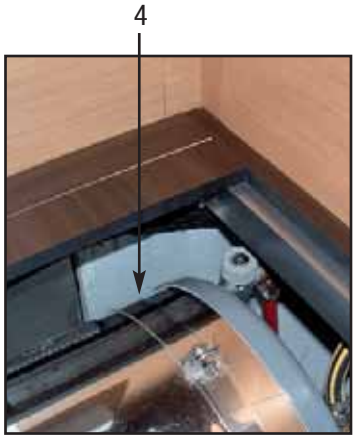


Nota: the same layout can be observed in the other versions.

1 - Port forward tank.
2 - Port aft tank.
3 - Deck filler.
4 - Water heater.
5 - Pressure water pump.
6 - Water unit stop valve.
7 - Valve for shore fresh water supply.
8 - Shore fresh water supply.
9 - Starboard forward tank.
10 - Starboard aft tank.
11 - Transfer valve.
12 - Deck shower valves.







■ 5.3 Fresh water

• TANKS
Each hull has a pressure water pump and two tanks linked together, but independent between the port and starboard hulls.
To prevent any handling mistake, never fill the water and fuel tanks at the same time.
During filling, avoid handling contaminants near the fillers.
Open and close the filler caps with the suitable key.
Check the filler cap seals for condition during filling.
The tanks are fitted with overflow outlets and vents.
Never insert the water filling hose deep down into the system in order to prevent any over-pressure in the systems.

The tanks are fitted with inspection hatches therefore it is possible to clean the inside.

RECOMMENDATION
- Pay attention to the quality of the water for the filling up.
- Check if it is drinking water.
- If the boat is not used for long, purify the tanks and pipes with proper treatment.

Nota : the capacity of the fresh water tank(s) indicated on the page 'SPECIFICATIONS' may be not completely usable depending on the trim and load of the boat.

• SYSTEM
The pressure water pumps get to work via their breakers on the electrical panel.
In case of failure of the pressure water pump, set its breaker to OFF and open the transfer valve situated in the starboard engine bilge so that the tank and working pressure water pump can take over.

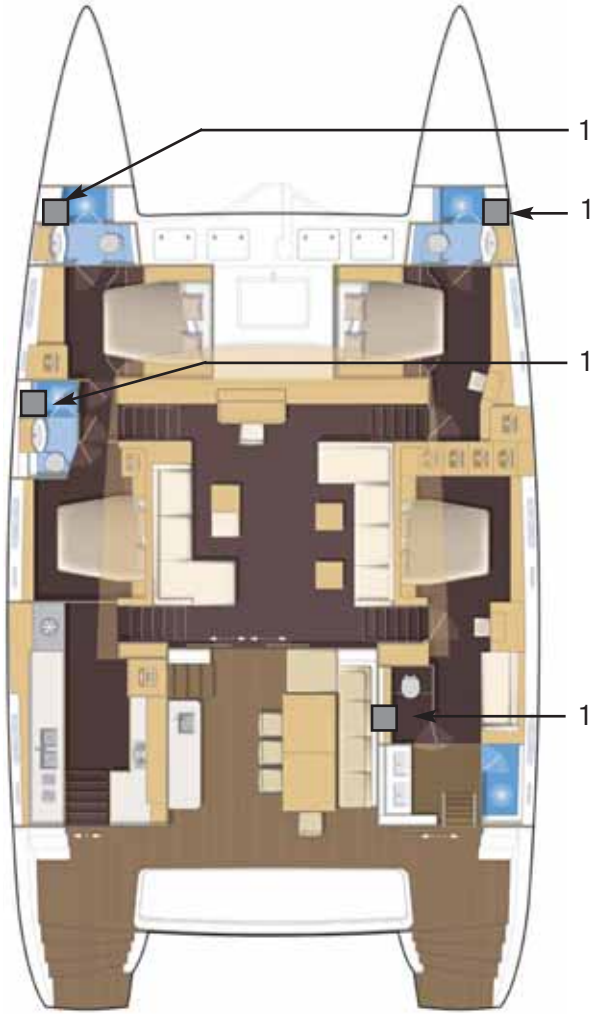
RECOMMENDATION
- Never operate water system equipment when the valves are closed or when the tanks are empty (the electrical equipment may be damaged).
- Check the different water filters for condition.

• WATER GAUGE
Check the gauges via the multifunction touch screen.

• SHORE FRESH WATER SUPPLY
The shore fresh water supply is located in the port aft transom extension.
To use the marina fresh water :
- Connect the shore supply.
- Set the breakers of the pressure water pumps to OFF.
- Open the shore supply valve (access by port engine bilge).
- Open the transfer valve (access by starboard engine bilge).

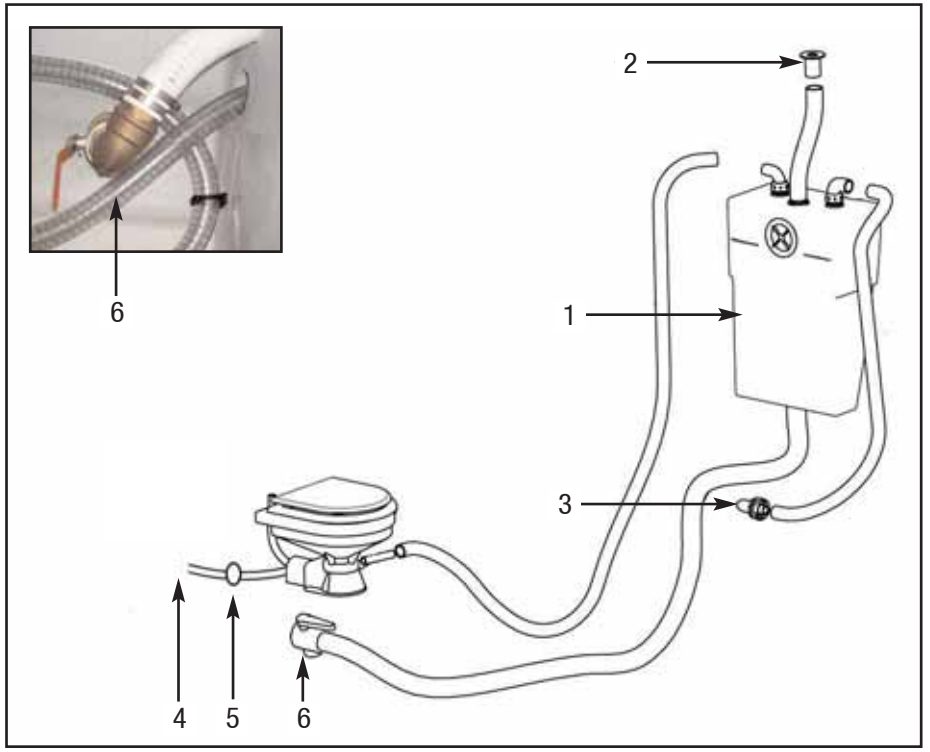
• WATER-HEATER
Each water heater (one per hull) has a capacity of 60 litres.
The water heaters automatically work once their respective engines are running, or on 220 V supply after the shore power supply is plugged or after the generator started.

BACK WATER TANKS



Nota: the same layout can be observed in the other versions.

BLACK WATER TANK SYSTEM



1 - Black water tank.
2 - Drain bung hole on deck.
3 - Vent.
4 - Fresh water tank inlet.
5 - Electrovalve / fresh water inlet.
6 - Drain valve on hull.

Make sure the GALLEY breaker on the HIGH LOAD bus of the electrical panel and WATER HEATER breaker on the "household appliances" panel (situated under the companionay stairs in the galley) are switched on.

The hot water temperature is pre-set using the thermostatic tap situated on the water heaters (access under the aft floorboards of the galley to portside and the owner's study to starboard).

■ 5.4 Use of the marine heads

ELECTRIC MARINE HEADS
You rinse them using the fresh water in the port tanks for the heads in the port hull and the starboard tanks for the heads in the starboard hull.
Make sure the breakers of the water pressure pump and heads are on (24 V electrical panel).

In order to avoid clogging the heads, use absorbent paper only.

For the use and maintenance of the electric heads, refer to the instruction guide.

■ 5.5 Black water tanks

The heads are fitted with black water tanks.
To use them, make sure the drain valve on the bowl is closed in order to avoid any inadvertent discharge (the valve is closed when the handle is perpendicular with the pipe).

You have access to the tanks by the showers and by the WC (behind the mirror) in the starboard rear hull.

To empty a black water tank :
- In an authorized area, open the drain valve to empty the tank through gravity.
- In a marina equipped with an organic waste suction system, put the suction hose into the tank through the deck filler. Start the pump of the suction system.

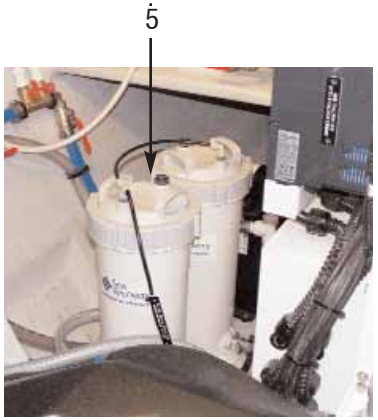
The filler cap is opened and closed with an appropriate key.
When the tank has been emptied, check the cap seal for condition then close the filler.

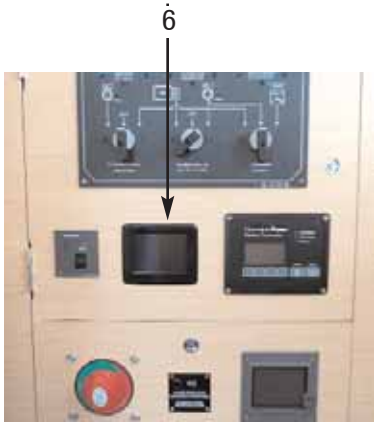
Regularly rinse the black water tanks.

RECOMMENDATION
Use the suction systems in marinas to empty your holding tanks.
In order to respect environment, do not discharge your holding tanks near the shore.

WARNING
Ask for information about the laws in force in your country or your marina about discharging your waste waters from heads into the sea.

1 - Watermaker.
2 - Valve to select port / starboard tank.
3 - Watermaker low pressure pump.
4 - Sea water supply valve of watermaker.
5 - Watermaker pre-filters.
6 - Starting / stop control of the watermaker.





■ 5.6 110 V / 220 V watermaker (optional extra)

The boat may be fitted with a water maker as an optional extra. It is situated in the engine bilge of the starboard hull.

RECOMMENDATION
The watermaker shall be used exclusively in clear waters, when moored or sailing.

OPERATION
The watermaker works when the generator is on.
Open the sea water supply valve (access under the owner's cabin floor, to starboard).

To switch on the watermaker:
- Check the switching on of the GALLEY breaker situated on the HIGH LOAD bus of the 110 V - 220 V electrical panel.
- Check the switching on of the WATERMAKER breaker situated on the "household appliances" panel, under the cockpit companionway stairs in the galley.
- Start the watermaker using its control unit next to the electrical panels in the saloon.

The watermaker system is fitted with a 3 way valve to supply fresh water to the port or starboard tanks. This valve is in the engine bilge in the starboard hull.

Check the level of fresh water in the tanks when the watermaker is working.

For the use and maintenance of the watermaker, refer to the instruction guide.

SECTION 6
ACCOMMODATION

DECK HATCH LOCKING

(Knob of left handle in open position.)
(Knob of right handle in closed position.)

SUCTION PADS FOR THE FLOORBOARDS

ACCESS TO THE BINS

SLOT-IN TV SET

■ 6.1 Saloon tables

The heights of the two saloon tables can be adjusted independently using the switches behind the starboard settee backrest.

■ 6.2 Portholes and deck hatches

The deck hatches have locking systems to keep them closed.
At anchor, intermediate opening positions make possible to ventilate the boat.
The deck hatches are fitted with a blind and mosquito net system to be used event when the hatch is open.
They must be handled with care.
The portholes are fitted with blinds.

■ 6.3 Floorboards

The floorboards can be lifted up to have access to the different technical components on board.
Use the suction pad provided for this purpose.

■ 6.4 Access to the bins

Lift the cockpit companionway stairs to galley in order to open the cupboard giving access to the bins.

■ 6.5 Slot-in television set (optional extra)

The saloon is equipped with a an optional television set slot-in the backrest of the portside settee.
The saloon is fitted with an optional TV.
The slot-in TV can be fitted into the port settee back for the version with the galley in the port hull.

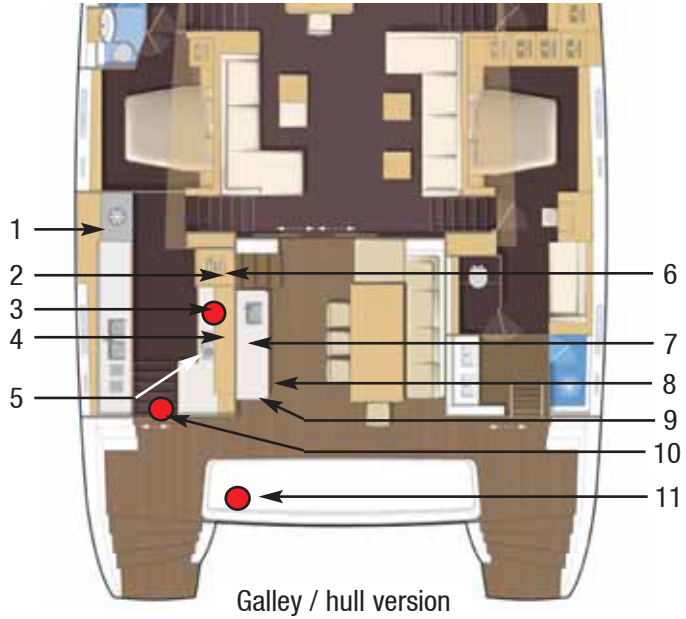
Steadily press the switch behind the backrest of the portside settee in order to have the television set out, then make it turn.

USE
Select the supply source (Inverter, Generator or shore power socket # 1 from the UTILITY selector of the 110 V - 220 V selection panel.

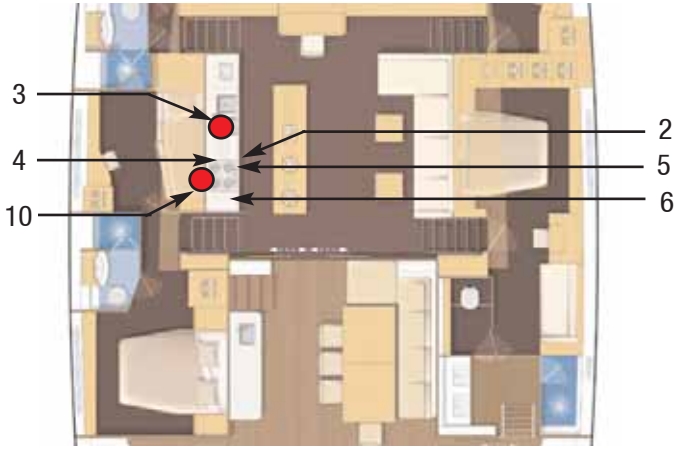
For the use and maintenance of the television set, refer to the instruction guide.

SECTION 7
ONBOARD UTILITY

LAYOUT OF THE GALLEY COMPONENTS



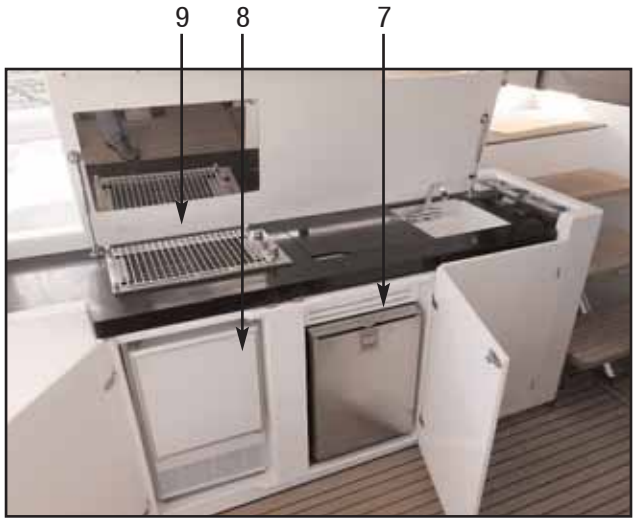
Galley / hull version



Galley / saloon version

1 - Refrigerator / freezer.
2 - Traditional oven.
3 - Gas valves.
4 - Hood.
5 - Hob.
6 - Microwave oven.
7 - Cockpit refrigerator.
8 - Icemaker.
9 - Electric grill in cockpit.
10 - Breakers for "household appliances".
11 - Gas bottle and regulator.

GAS VALVES



■ 7.1 Outside refrigerators

The boat is fitted with a cockpit refrigerator and a fly refrigerator as an optional extra.

Switch ON the FRIGO breaker situated on the 24 V electrical panel.

For the use and maintenance of the fly and cockpit refrigerators, refer to the instruction guide.

■ 7.2 Microwave oven (optional extra)

The boat is fitted with a microwave oven as an optional extra.

Check the GALLEY breaker situated on the UTILITY bus of the 110 V - 220 V electrical panel is set to "ON".
Check the MICROWAVE breaker situated on the "Household appliances" panel (see chapter ELECTRICITY, page 63) are set to "ON".

SUPPLY
Select the source of supply (5000 Va Inverter, Generator or shore power socket # 1) from the UTILITY selector of the 110 V - 220 V selecting panel.

For the use and maintenance of the oven, refer to its instruction guide.

■ 7.3 Hob

The boat is standard fitted with a gas cooking hob.
The gas valves are situated in the cupboard on the left under the hob - Galley / hull version and in the cupboard on the right under the hob - Galley / saloon version.
The gas bottles are situated in the end lockers of the cockpit seat.

RECOMMENDATION
Shut the gas valves and the regulator tap when you do not use the hob.

The hob has an electric ignition.
The inverter that supplies ignition is automatically operated when the 24 V system on board is switched on.

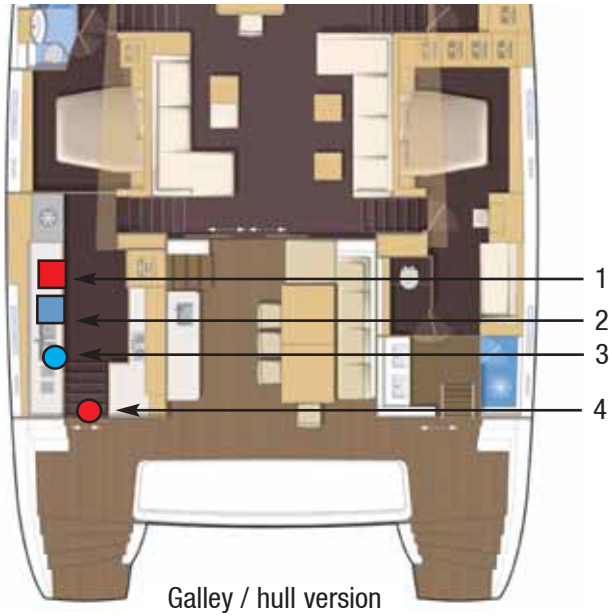
■ 7.4 Galley refrigerator, oven, hood

The boat is standard fitted with an oven, a refrigerator / freezer and a hood as an optional extra.

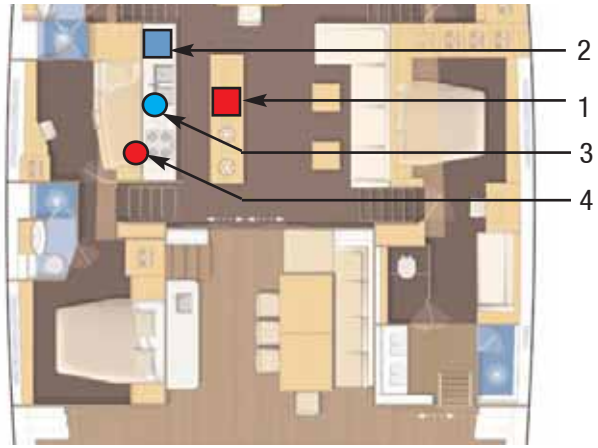
Their inverters are automatically operated when the 24 V system on board is switched on.
Check their breakers situated on the "Household appliances" panel (see chapter ELECTRICITY, page 63) are set to "ON".
Defrost then drain the refrigerator / freezer before the 24 V system on board is off.

For the use and maintenance of the refrigerator / freezer, oven and hood, refer to the relevant instruction guide.

WASHING MACHINE - DISHWASHER



Galley / hull version



Galley / saloon version

1 - Washing machine.
2 - Dishwasher.
3 - Water supply manifold.
4 - Washing machine / dishwasher breakers.

WASHING MASCHINE / DISHWASHER BREAKERS

Galley / hull version

Galley / saloon version

MANIFOLD DISTRIBUTES HOT / COLD WATER

Nota : the manifold is located under the sink and distributes water to sink, refrigerator, dishwasher and washing machine.

■ 7.5 Washing machine (optional extra)

The boat may be fitted as an optional extra with a washing machine.
The washing machine is located in a cabinet on the outer side of the galley (galley / hull version) or in a cabinet in front of the hob (hull / saloon version).

The port tanks supply fresh water to the washing machine.
Check its valve on the manifold under the sink is open.
The washing machine and the sink have a common draining system (galley / hull version) or under the floor in the port aft cabin (galley / saloon version).

Check the GALLEY breaker on the HIGH LOAD bus of the 110 V - 220 V electrical panel is set to "ON".
Check its breaker located on the "household appliances" panel (see chapter ELECTRICITY, page 63) is set to "ON".

POWER SUPPLY
Select the power source (Inverter, Generator or shore power socket # 1) from the HIGH LOAD selector on the 110 V - 220 V selection panel.
Start the washing machine.

For the use and maintenance of the washing machine, refer to its instruction guide.

RECOMMENDATION
Do not use the washing machine when sailing.

■ 7.6 Dishwasher (optional extra)

The boat may be fitted as an optional extra with a dishwasher.
The dishwasher is located in a cabinet on the outer side of the galley (galley / hull version) or in the cupboard on the left of the companionway (galley / saloon version).

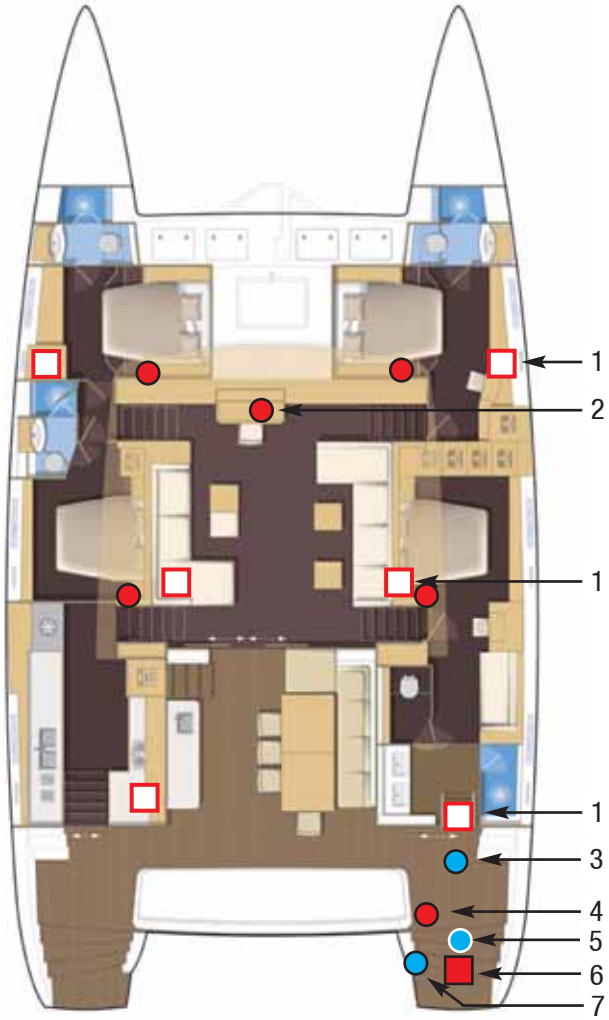
The port tanks supply fresh water to the washing machine.
Check its valve on the manifold under the sink is open.
The dishwasher and the sink have a common draining system (galley / hull version) or under the floor in the port aft cabin (galley / saloon version).

Check the GALLEY breaker on the HIGH LOAD bus of the 110 V - 220 V electrical panel, or the GALLEY breaker on the UTILITY bus of the 110 V - 220 V electrical panel with the 5000 Va inverter optional extra is set to "ON".
Check its breaker located on the "household appliances" panel (see chapter ELECTRICITY, page 63) is set to "ON".

POWER SUPPLY
Select the power source (Inverter, Generator or shore power socket # 1 from the UTILITY or HIGH LOAD selector - depending on the inverter optional extra - on the 110 V - 220 V selection panel.
Start the dishwasher.

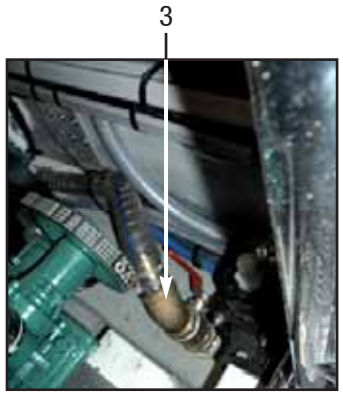
For the use and maintenance of the dishwasher, refer to its instruction guide.

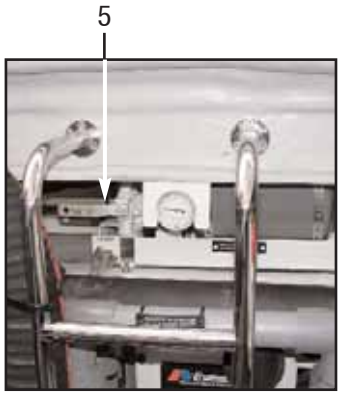
RECOMMENDATION
Do not use the dishwasher when sailing.



Nota: the same layout can be observed in the other versions.

1 - Unit heater.
2 - Starting control.
3 - Sea water intake valve.
4 - Air conditioning component breakers.
5 - Valve to have the glycol system under pressure again.
6 - Air conditioning unit.
7 - Air conditioning evacuation.





■ 7.7 Air conditioning (optional extra)

The boat may be fitted with air conditioning as an optional extra.
The air conditioning unit consists of two compressors located in the starboard engine bilge. It is an ice water circulation system.
There are unit heaters in every cabin and in the saloon ceiling.

Before you start the system :
- Open the sea water circulation system (suction valve) in the starboard engine bilge.

Check the cooling pump and circulation pump breakers and the electronical management breakers (access in the engine bilge, under the watermaker location) are set to "ON".
Check the breakers of the different components on the AIR CONDITIONING bus of the 110 V - 220 V electrical panel are set to "ON".

POWER SUPPLY
Select the supply source (Generator or shore power socket # 2 using the AIR CONDITIONING selector on the 110 V - 220 V selection panel.

Start the air conditioning unit and set the temperature and ventilation desired on the air conditioning controls in the areas concerned.

Please note: in case the pressure should drop, open the filling valve located before the manometer in the starboard engine bay, so as to have some additional pressure in the system (one bar maximum).

Caution: this system conveys water, not glycol.
- First make sure the water unit works.
- In case the pressure should drop again and again, seek advice from a specialist.

For the draining, use and maintenance of the air conditioning system, refer to its instruction guide.

■ 7.8 Icemaker (optional extra)

The boat may be fitted as an optional extra with an icemaker located in the cockpit.
The port tank supplies it with water.

Open the fresh water valve located behind the icemaker.
Turn the switch at the bottom of the icemaker on “ON”.

Check the GALLEY breaker located on the UTILITY bus of the 110 V - 220 V electrical panel is set to "ON".
Check its breaker located on the "Household appliances" panel (see chapter ELECTRICITY, page 63) is set to "ON".

POWER SUPPLY
Select the supply source (Inverter, Generator or shore power socket # 1 using the UTILITY selector on the 110 V - 220 V selection panel.

For the use and maintenance of the icemaker, refer to its instruction guide.

■ 7.9 Grill (optional extra)

The boat may be fitted with a grill, as an optional extra, in the cockpit.

Check the GALLEY breaker located on the HIGH LOAD bus of the 110 V - 220 V electrical panel is set to "ON".
Check its breaker located on the "Household appliances" panel (see chapter ELECTRICITY, page 63) is set to "ON".

POWER SUPPLY
Select the supply source (Inverter, Generator or shore power socket # 1 using the A.C. HIGH LOAD selector on the 110 V - 220 V selection panel.

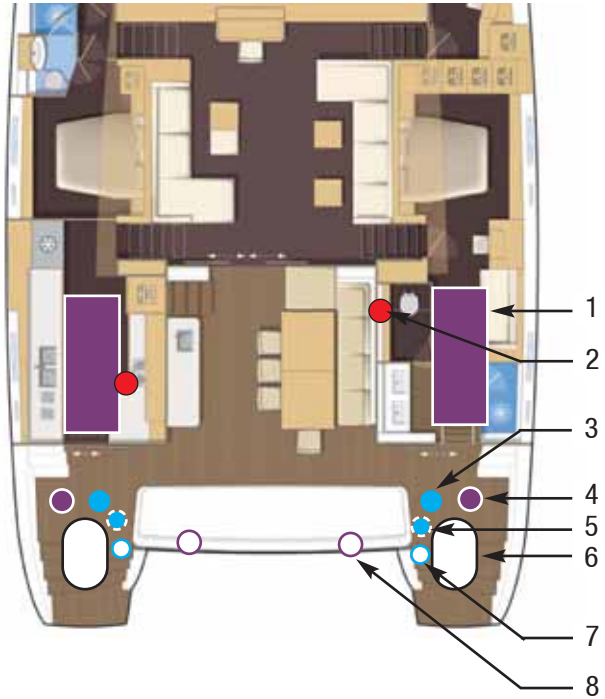
Before using it, pour water into the grease tray under the grate.

For the use and maintenance of the grill, refer to its instruction guide.

SECTION 8
PROPULSION

8.1 ENGINES
8.2 FUEL
8.3 PROPELLERS, ANODES, SHAFT LINE BRAKE
8.4 BOW THRUSTER

PLACE OF THE ENGINES



Nota: the same layout can be observed in the other versions.

1 - Fuel tanks.

2 - Fuel closing pull handle.

3 - Sea water filter.

4 - Fuel filter.

5 - Engine water inlet valve .

6 - Engine.

7 - Expansion tank.

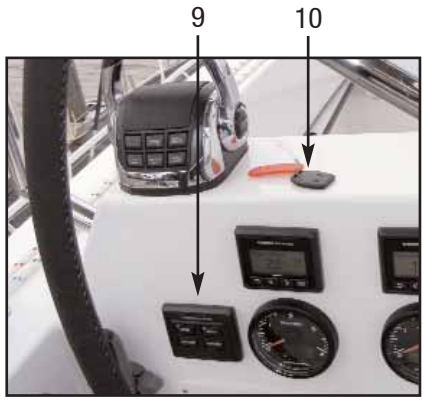
8 - Diesel oil tank fillers.

9 - Engine starting panel.

10 - E-key.

Each hull has the same components.

Nota : each valve in the boat is identified.



COUPLING CIRCUIT BREAKER

■ 8.1 Engines

• ACCESS
You have access to the engines through the transom extension hatches.

RECOMMENDATION
Stop the engine before opening the hatches.
In case you have to intervene when the engine is running :
- Stay away from belts and mobile parts.
- Be careful with full clothes, long hair, rings, etc.. (they may be caught).
- Wear appropriate clothes (gloves, caps, etc.).

• STARTING
Before starting the engines :
- Check the fuel valves are open (see place following version page 14).
- Open the valves of the engine cooling systems.

- Switch on the electric system turning their engine cutouts to ON (access in the engine bilges).
- Sweep the e-key in front of the engine starting panel at the port helm station. The warning lights on the panel and controls turn green.
- Start the port or starboard engines pressing the “START/STOP” button on the starting panel.
Please note: When “IGNITION” is 'on', it means the ignition was switched on.
To shift from the port to the starboard helm station, change the port station controls to neutral position, then shift to the starboard station and press the “STATION” button under the controls.

It is possible to lock the helm station you wish , keeping the “STATION” button pressed.

RECOMMENDATION
At anchor, lock the start of the engines using the e-key.

Carefully read the engine instruction guide supplied with the boat ; it gives you detailed explanations as to the best use of the engines and relative operations.

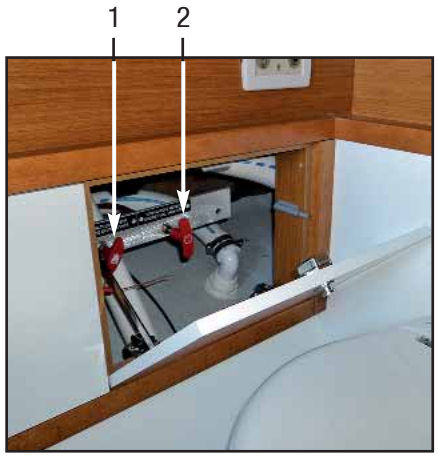
• ENGINE START WITH BATTERY COUPLING
In case one of the start battteries is not available :
- Turn to the ON position the coupling cutout (port engine bilge).
- Start the engine concerned.
- Turn the coupling cutout back to the OFF position.

Nota: in the standard configuration, the engine batteries are recharged by their respective engines.

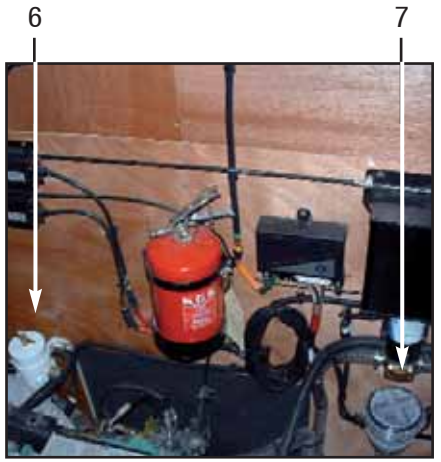
• MAINTENANCE OF THE ENGINES
Follow the instructions for maintenance appearing in the guide supplied with the engines.

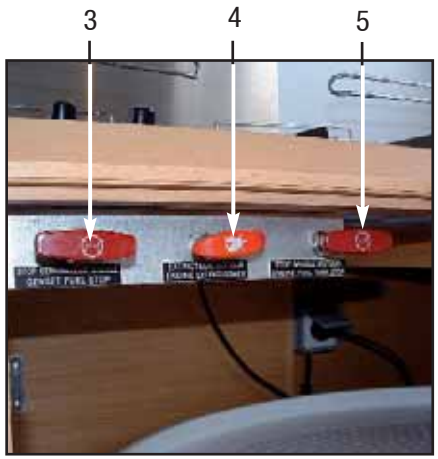
• ENGINE WATER SUCTION VALVES
The engine water suction valves (access in the engine bilges) shall absolutely be open before starting the engine.

Keep the strainers of both engine in the best possible state of cleanliness.
Brush the stainers when the boat is carenned.

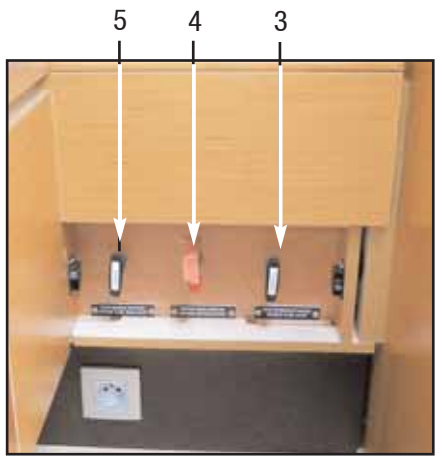


1 - Release mechanism of the starboard engine bilge extinguisher.
2 - Cut off device of the starboard tank supply.
3 - Cut off device of the generator tank supply (portside).
4 - Release mechanism of the port engine bilge extinguisher.
5 - Cut off device of the port tank supply.
6 - Fuel filter.
7 - Sea water filter.
8 - Engine water suction valve.

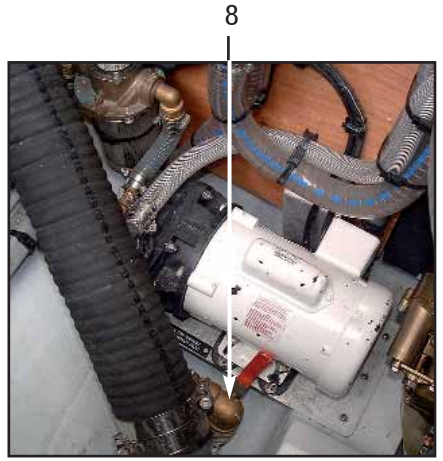




Galley / hull version



Galley / saloon version
(see 6 cabins version page 14)



Be careful : do not cover the strainers with antifouling paint.
Get into the habit of checking immediately after starting an engine that water is expelled with the exhaust gases.
If water does not flow out :
- Stop the engine immediately.
- Check that the valve is open.

Close the water inlet valve if the boat is left unattended for long.
Inspect and clean the water strainers regularly (access in the engine bilges).

• VENTILATION OF THE ENGINE BILGES
The engine bilge ventilators start up automatically as soon as the engines start.

■ 8.2 Fuel

• FUEL TANKS
The boat is fitted with two tanks.
Each of them is filled separately.
Each of them has its own gauge on the multifunction screen.

• FILLING
To prevent any handling mistake, never fill the water and fuel tanks at the same time.
During filling, avoid handling contaminants near the fillers.
Open and close the filler caps with the suitable key.

Use both fillers to fill the tanks with fuel.

DANGER
Stop the engine and put out your cigarettes during fuel tank filling.

• MAINTENANCE OF THE TANKS
Regularly check the O ring of the fillers for good condition (in order to prevent water entering the tanks).
Do not turn off the fuel taps after each use (except in case the boat is unattended for long).
Keep the fuel tanks as full as possible (to avoid condensation).
Every year check the fuel system for condition (hose, valves, etc.).

Have a professional carry out the works on the damaged parts of the fuel system.

Nota : the capacity of the tanks indicated in the page 'SPECIFICATIONS' may be not completely useable according to the trim and load of the boat.
Always keep 20% fuel as a reserve.

FUEL TRANSFER PUMP

• FUEL FILTER
In order to prevent any water infiltration, the fuel runs through two filters : the first one is on the pipe that links the tank to the engine (designed as a water decanter and pre-filter), the second one is an integral part of the engine (designed to filter fuel finely).
To know when you have to intervene and how frequently you have to change it, refer to the engine instructions for use.

Drain it by undoing the knurled screw on the base of the decantation bowl (but not removing it).
Allow to flow into a box till the fuel looks clean.
Do it several times a year.

Change the pre-filter at least once a year (access to it when you remove the bowl).

• DIESEL OIL TRANSFER PUMP
The diesel oil transfer pump makes possible to circulate the fuel from the starboard tank to the port tank.
It is situated in front of the water heater under the owner's study floor, at the starboard aft.

USE
Check its breaker on the 24 V electrical panel is set to "ON".
From the multifunction screen at the chart table, each pulse transfers 50 litres of fuel from starboard tank to port tank, at the rate of 18 litres per minute.
It is possible to stop the transfer at any time.

■ 8.3 Propeller, anodes, shaft line brake

• PROPELLERS
The propellers supplied with your boat are the result of tests carried out jointly with the engine manufacturer.
Do not change them without consulting a specialist.

• FOLDING PROPELLERS (OPTIONAL EXTRA)
Remove the folding propellers at the end of each season, dismantle them and clean them carefully.
Grease the thrust bearing surfaces and teeth.
Check that the blades move easily.

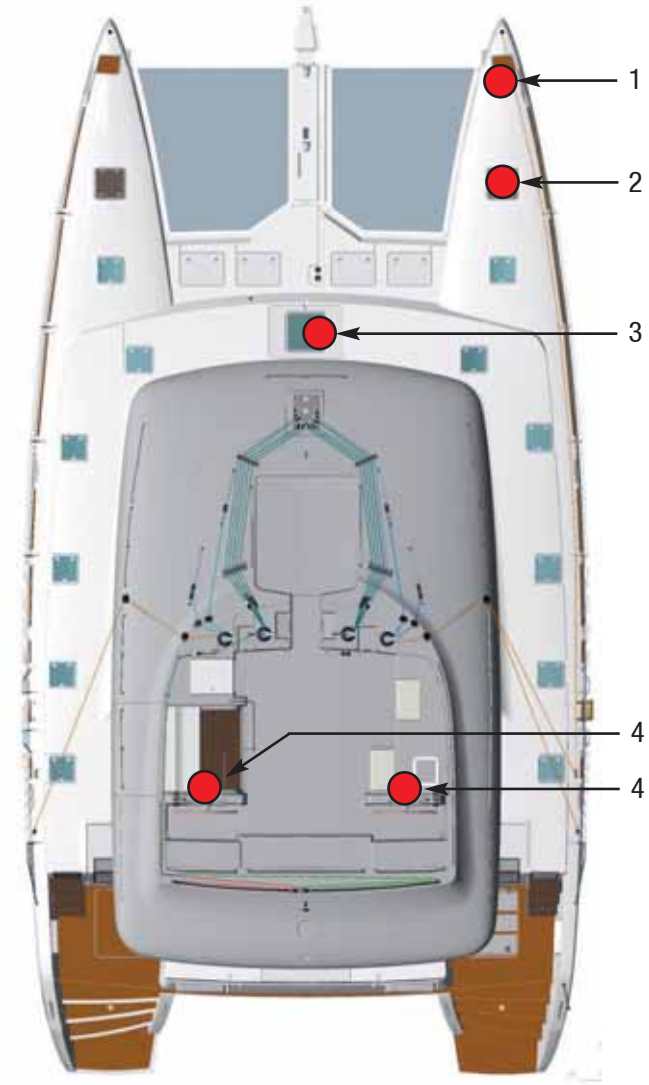
• ANODES
Make sure that the anodes of the shaft lines have a good metal contact.
Replace the anodes before they are 50 % corroded .

Never paint the anodes.

• SHAFT LINE BRAKE
A hydraulic brake prevents tthe propeller and shaft line from spinning around when sailing.
It automatically engages when the engine stops and is released as soon as the engine starts.

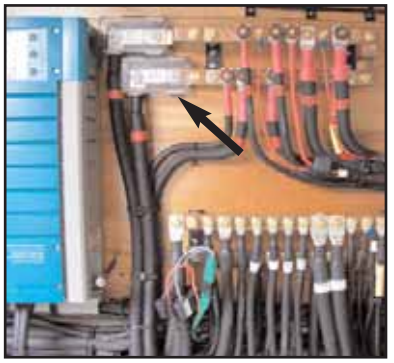
Periodically check the reverse gear oil level.

BOW THRUSTER



1 - Bow thruster.
2 - Fuse.
3 - Unit of the bow thruster system.
4 - Bow thruster control.

BOW THRUSTER FUSE



UNIT OF THE BOW THRUSTER SYSTEM

BOW THRUSTER CONTROL

■ 8.4 Bow thruster (optional extra)

The bow thruster (access in the fore peak, to starboard) operates on 24 V using the service batteries, when the engines are running.

The bow thruster is controlled from the two helm stations.
After switching on the 'board' battery switch and after starting the engines, press simultaneously on the two ON buttons located on the control.

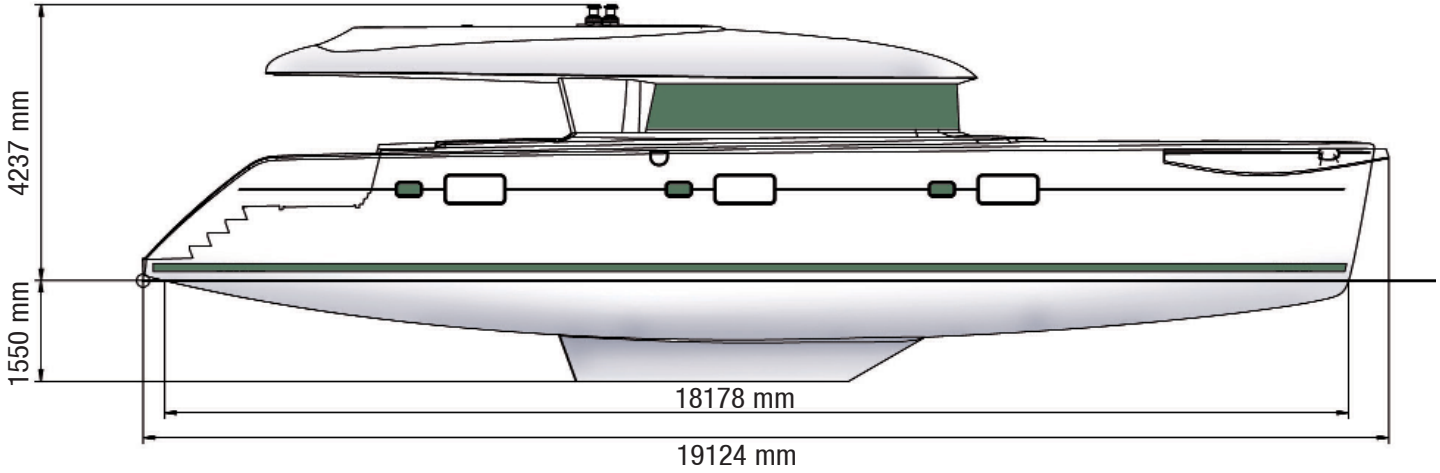
To lock the control, follow the same procedure until the indicator lights are out.

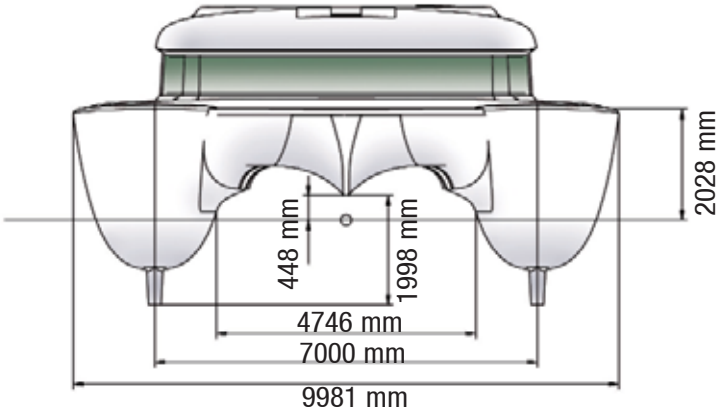
In the event of operation failure, check the fuse located in the service room of the foredeck.

For use and maintenance of the bow thruster, refer to its instruction guide.

SECTION 9
WINTER STORAGE HANDLING

9.1 LAYING UP
9.2 PROTECTION
9.3 HANDLING
9.4 MAST STEPPING, MAST UNSTEPPING


4237 mm
1550 mm
18178 mm
19124 mm


2028 mm
448 mm
1998 mm
4746 mm
7000 mm
9981 mm

■ 9.1 Laying up

Take ashore all the ship's log, the ropes that are not used for mooring, the galley equipment, supplies, clothes, the safety equipment, domestic batteries, the gas cylinders.
Check the expiry dates of the safety equipment.
Have the liferaft overhauled.

Take advantage of this laying up to draw up a complete inventory of the equipment.

■ 9.2 Protection

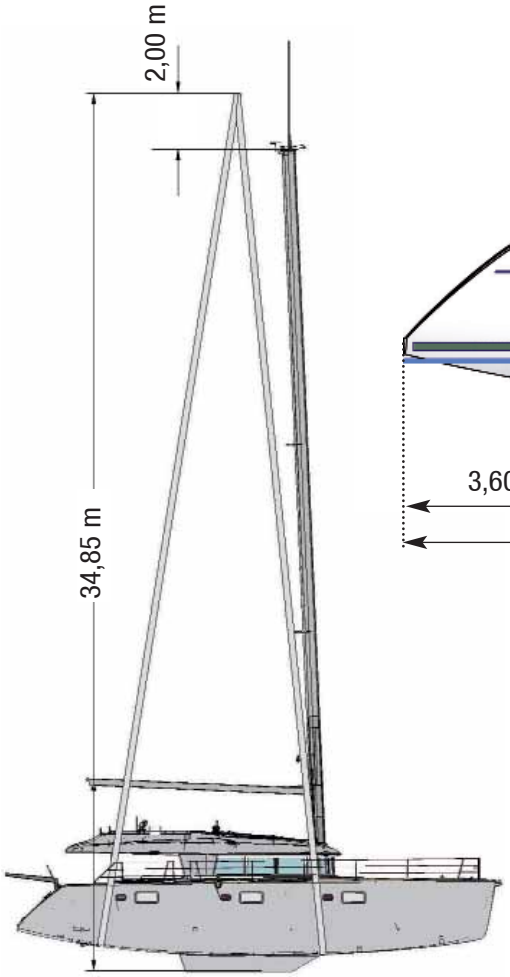
• INSIDE
Drain all the fresh water pipes and rinse them (do not use a chlorine based product).
Lubricate and close all the water inlet valves and sea cock fittings.
Rinse and completely drain the heads bowls and pumps.
Retract the sounder and speedometer sensors.
Seal air inlets as much as you can.
Install an air dehumidifier in the saloon and leave the cabin and storage unit doors open (lockers, ice boxes).
Leave the cushions outside for long before putting them back into the boat in the upright and side position in order to have minimum contact surfaces.

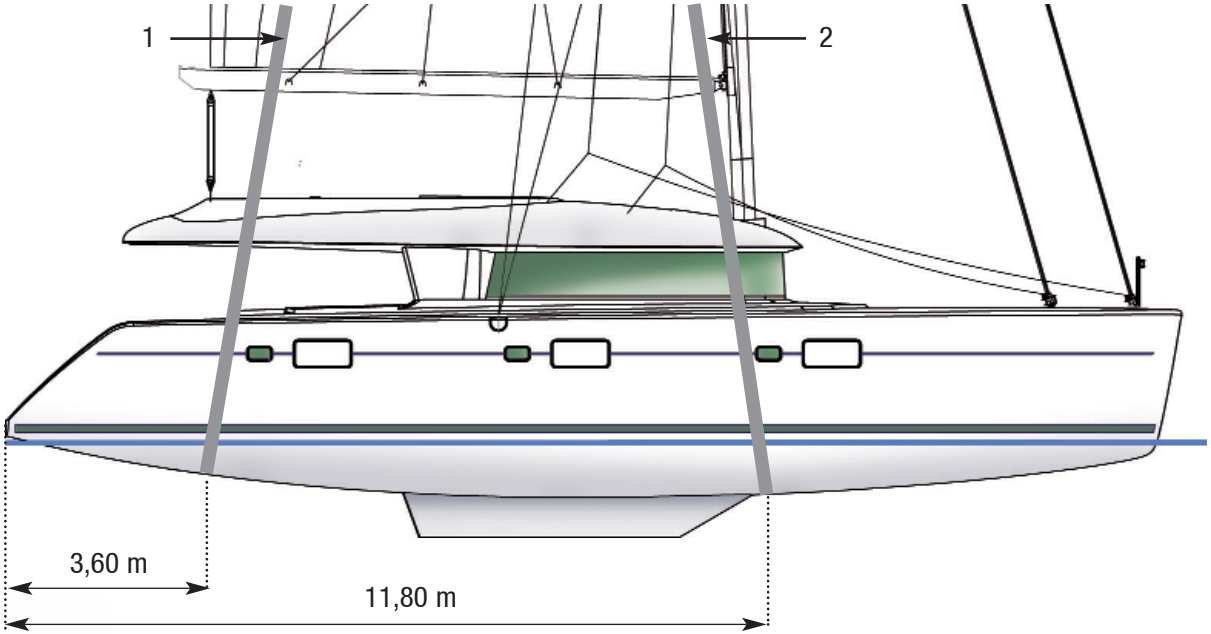
• OUTSIDE
Thoroughly rinse the hull and deck.
Lubricate all the mechanical and mobile parts with vaseline (bolts, hinges, locks, etc.).
Protect all ropes and mooring lines against chafing.
Protect the boat to the highest degree with fenders.
Make sure the boat is properly moored.

RECOMMENDATION
All these recommendations do not make up an exhaustive list. Your dealer will give you the advice you need and will carry out the technical maintenance of your boat.

• ENGINES
The engines winterization shall be carried out by a professional.
Depending on the boat location, afloat or ashore, winterization is different.

CRANING INSTRUCTIONS





1 - CMU Strap 16 tons / 17,30 m.

2 - CMU Strap 16 tons / 16,86 m.

RECOMMENDATION
Get a diver intervene for the strainers and sea cock fittings.

■ 9.3 Handling

The initial launching and the first tests of the different equipments shall be carried out by your dealer so you can expect to enjoy the warranty in case of some equipment failure.

All further handling shall be carried out with the highest care by professionals.
If the Lagoon boatyard is not involved in handling operations, they cannot cover under garantee any possible accidents linked to handling.

If later you have to launch your boat yourself, you should take the following precautions :
- Retract the sensors under the hull into their housings (they may be damaged by the handling straps).
- Check the water intake strainboxes for cleanliness.
- Turn off all the water inlet and drain valves (sink, washbasin, heads, engine).
- Check the anodes are in good condition and properly installed. An anode shall never be painted.

- Install a fore mooring rope, a rear mooring rope and fenders.
When lifting with the crane, check that the straps are not over any device (sounder, speedometer, etc.) or over the propeller.

The crane hook will be fitted with a gantry or a spreader system with two straps.
The straps shall not be connected directly onto the hook, as it would result in unusual compressive stresses on the hull.

- Crane lifting should be carried out slowly.
- Control the movement of the boat using mooring ropes.

DANGER
Do not stay on board or under the boat during craning.

■ 9.4 Mast stepping, mast unstepping

Mast stepping and mast unstepping shall be carried out by a specialist.

SECTION 10
UPKEEP MAINTENANCE

10.1 MAINTENANCE SCHEDULE

■ 10.1 Maintenance schedule

The information given hereafter are only examples and it is not an exhaustive list.
They must be adapted, according to the use of your boat.

WARNING
Follow without fail the recommendations given in the instruction guides by the manufacturers of the components added to the boat.

HULL / DECK FITTING / HULL

Clean the hull with appropriate products	QUATERLY
Clean s/s parts	QUATERLY
Dismount, clean and grease winches	ANNUAL
Check the watertightness of the sea-cock fittings	BI-ANNUAL
Clean the sea cock fittings and strainers from the outside	BI-ANNUAL

MOORING / WINDLASS

Rinse ground tackle and anchor locker with fresh water	WHEN USED
Check the gypsy and anchor/chain fastening device	BI-ANNUAL
Check windlass brake system	QUATERLY
Check mooring lines and fenders	BI- ANNUAL
Check the electric connections (remote control, relay, etc.)	QUATERLY

RUNNING / STANDING RIGGING / SAILS

Lubrificate the different travellers with teflon	QUATERLY
Check and tighten the different shackles	QUATERLY
Check the running rigging tightening	QUATERLY
Check the halyard and sheet for wear points	QUATERLY
Rinse the whole running rigging and sails	QUATERLY
Check the mainsail battens and main seams	QUATERLY

UPHOLSTERY AND COVERS

Rinse / clean the different covers	QUATERLY
Dry the outside upholstery before its storage	WHEN USED

REFRIGERATION UNIT

Defrost the refrigerator and freezer	QUATERLY
Check the door joints	QUATERLY

AIR CONDITIONING

Check the sea cock and clean / change the different sea water filters	QUATERLY
Dust off the unit heater fans	ANNUAL

ELECTRICITY

Check and tighten the battery terminal connections and main switch connections	BI-ANNUAL
Check and tighten the main relay terminals (winches, windlass, etc.)	BI-ANNUAL

ENGINE AND GENERATOR

Check oil level	QUATERLY
Check belt tension	QUATERLY
Clean the sea water strainer	QUATERLY
Check for leaks (oil, water, fuel) and smokes	QUATERLY
Check and drain the decanter filters (fuel)	QUATERLY
General overhaul	ANNUAL

WATERMAKER

Check and clean the sea water suction strainers	MONTHLY
General inspection by the manufacturer	ANNUAL

PLUMBING

Ccheck the automatic bilge pumps and alarms	QUATERLY
Clean grey water collecting boxes	QUATERLY
Rinse the black water tanks	QUATERLY
Check the manual bilge pumps	QUATERLY
Check the pressure water pumps	QUATERLY
Check the different drains and scuppers	QUATERLY
Open and close the different valves on board + grease if necessary	BI-ANNUAL

YOUR LAGOON 620

NAME OF THE BOAT : . . . . . .

VERSION : . . . . . .

DATE OF DELIVERY : . . . . . .

REGISTRATION NUMBER : . . . . . .

DOOR KEY NUMBER : . . . . . .

HULL NUMBER : . . . . . .

MAKE OF THE ENGINE : . . . . . .

NUMBERS OF THE ENGINE KEYS : . . . . . .

STARBOARD ENGINE SERIAL NUMBER : . . . . . .

STARBOARD GEAR BOX SERIAL NUMBER : . . . . . .

PORT ENGINE SERIAL NUMBER : . . . . . .

PORT GEAR BOX SERIAL NUMBER : . . . . . .

OWNER'S NAME : . . . . . .

ADDRESS : . . . . . .

. . . . . .

. . . . . .

Phone N° / Address to contact in case of emergency

LAGOON
catamarans since 1984

www.cata-lagoon.com

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PERSONAL NOTES

Your dealer's stamp

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