NEEL TRIMARANS

OWNER'S MANUAL

NEEL 43

Architect: Marc Lombard
Builder: NEEL-TRIMARANS

INTRODUCTION

Madam, Sir, congratulations on taking possession of your NEEL 43.

This manual has been compiled to help you enjoy your boat and use it safely. It contains details about the vessel, the equipment supplied or installed, and its systems, as well as information on how to use them. Read the manual carefully and familiarise yourself with the boat before using it.

This owner's manual is not a class

in boating safety or seamanship. If this is your first boat, or if you have changed boats and this is a type of boat you are not familiar with, for your comfort and safety, be sure to build up experience in handling and using it before setting off. Your dealer, your national sailing or power boating federation, or your yacht club will be delighted to inform you about sailing schools or competent instructors in your area.

Make sure that the forecast wind and sea conditions are adequate for the design category of your boat, and that you and your crew are capable of handling the boat in these conditions.

Even when your boat is adequate for the forecast weather, the sea and wind conditions corresponding to design categories A, B, and C vary from severe gale for category A to strong breeze for the top of category C, exposing the boat to the dangers of waves or freak gusts. These are therefore dangerous conditions in which only an experienced, fit, and trained crew, handling a well-maintained boat, can be expected to sail adequately.

This owner's manual is not a detailed guide to servicing or repair. In case of difficulty, contact the boat builder or its representative. If a service manual is provided, use it.

Always use the services of an experienced professional for servicing, fitting of accessories, or modifications. Modifications that may affect the safety characteristics of the boat must be assessed, carried out, and documented by competent persons. The boat builder cannot be held responsible for modifications that it has not approved.

In some countries, a sailing license or authorisation is required, or specific regulations are in force.

Always maintain your boat properly and keep track of the deterioration that comes with the passage of time or results from intense or improper use.

Any boat (no matter how strong) can be severely damaged if misused. This affects the boat's seaworthiness, rendering it unsafe to sail.

Always adjust the speed and direction of the boat to the conditions at sea.

If your boat is equipped with a liferaft, carefully read the user's manual. The crew should have on board all the safety equipment (life jackets, harnesses,

etc.) corresponding to the type of boat, weather conditions, etc. This equipment is mandatory in some countries. The crew should be familiar with the use of all safety equipment and with emergency safety procedures (recovery of a man overboard, towing, etc.); sailing schools and clubs organise training sessions on a regular basis.

It is recommended that all persons wear appropriate buoyancy aids (life jackets, personal flotation devices) while on deck. Please note that in some countries it is mandatory to wear a buoyancy aid at all times in accordance with national regulations.

The helmsman's view from the helm station may be obstructed by one or more of the following factors: loading and distribution of the load, speed, sea conditions, reduced visibility (due to rain, darkness, fog, etc.), the interior lights of the boat, the position of the awnings or shrouds, people or movable equipment standing in the helmsman's field of view.

The helmsman's view from the helm station may also be obstructed due to sail set-up. This is the case especially if you use:

- Staysail
- Genoa
- Spinnaker

Be sure to take all of these into account to ensure optimum safety while sailing.

PLEASE KEEP THIS MANUAL IN A SAFE PLACE AND HAND IT OVER TO THE NEW OWNER IF YOU SELL THE BOAT.

ENVIRONMENTAL CONSIDERATIONS

We owe it to ourselves to protect the sea. We must stay aware of our impact and keep watch over all our dealings with this environment that is our source of life.

Here are a few guidelines:

- Do not throw waste into the sea such as: used oil, diesel fuel, detergents, any kind of rubbish, bins, bottles, etc.;
- Do not sail at the maximum authorised speeds in areas of heavy traffic, or in the event of reduced visibility, or in dangerous sailing conditions;
- Respect your neighbours by avoiding excessive noise, exhaust gas emissions, waves created by your wake in ports and coves, etc.;
- Respect the priority rules as defined in the COLREG
- Use only anti-fouling paints that comply with the regulations in force;
- Respect nature reserves (anchors can cause damage);
- Always stay informed about local regulations concerning the environment and follow codes of good practice;
- Do not discharge toilets or the contents of holding tanks near the shore or in prohibited areas and use pumping systems at ports or marinas to empty holding tanks before leaving port;
- Know the international regulations against pollution in the marine environment (Marpol) and respect them as much as possible.

GENERAL SPECIFICATIONS

Homologation / Certification:

The model has been certified in accordance with European regulations by: ICNN

The certified elements and regulations that this body bases its approval on are: CE standards for boats under 24m

Boat registered under hull number: **CIN: FR-NEL43023D222**

Signage:

Hazard levels are expressed according to three risk categories using the same typography of labels, designed to attract attention:

DANGER: Indicates the existence of an extreme intrinsic risk that could give a high probability of death or irreparable injury if precautions are not taken.

WARNING: Indicates the existence of a hazard that could result in injury or death if proper precautions are not taken.

CAUTION: **Indicates a reminder of safety practices or calls attention to unsafe practices that may cause injury to persons or damage to the vessel or its components, or to the environment.**

These indications appear in the sections concerning the related equipment.

General hazard

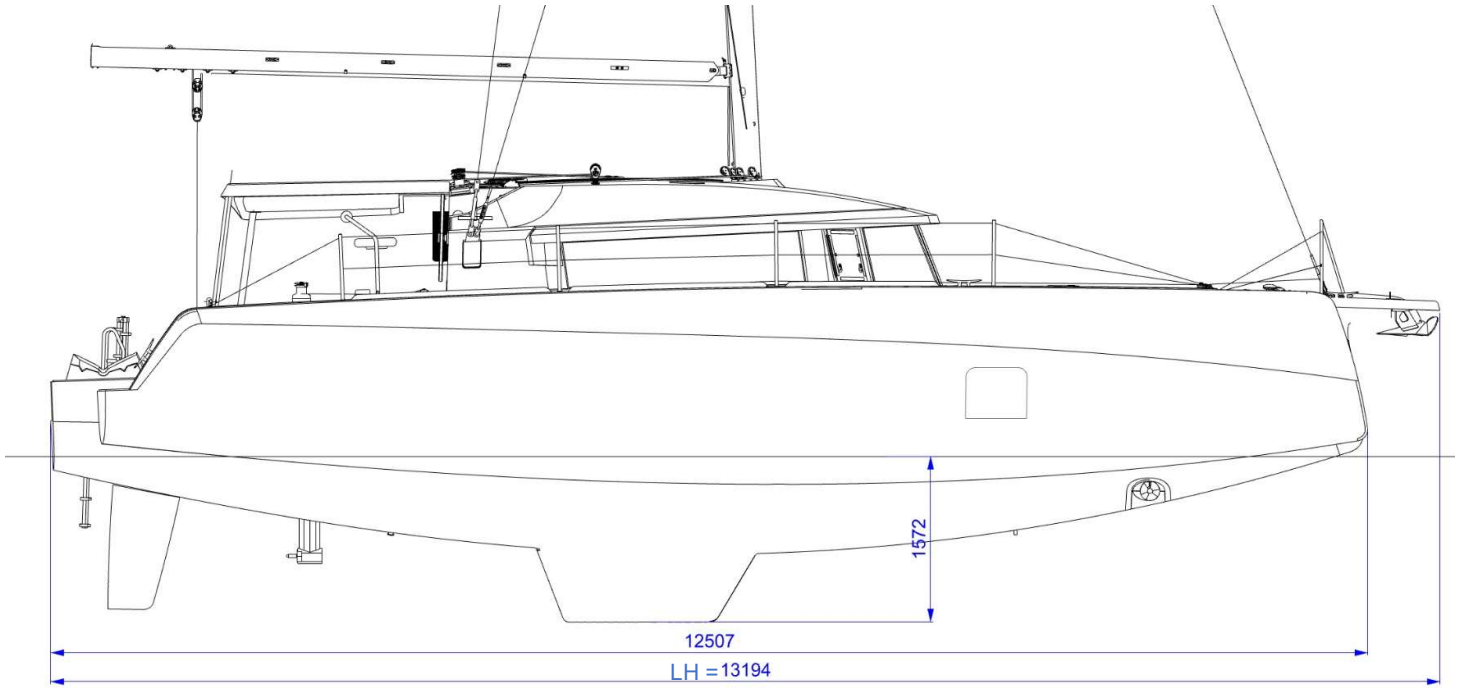
Electrical hazard

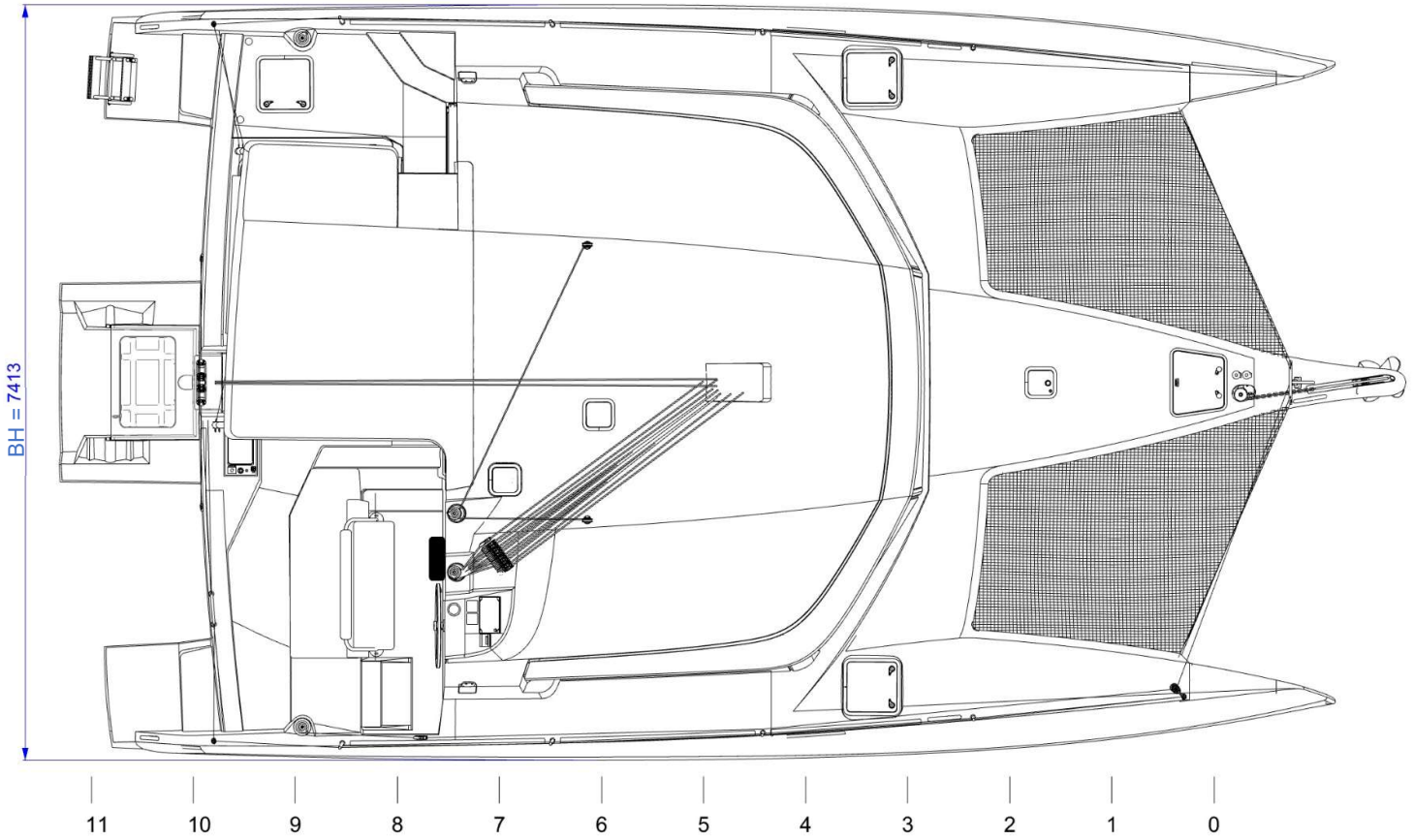
Fire hazard

CONTENTS

01. General information

A. General dimensions

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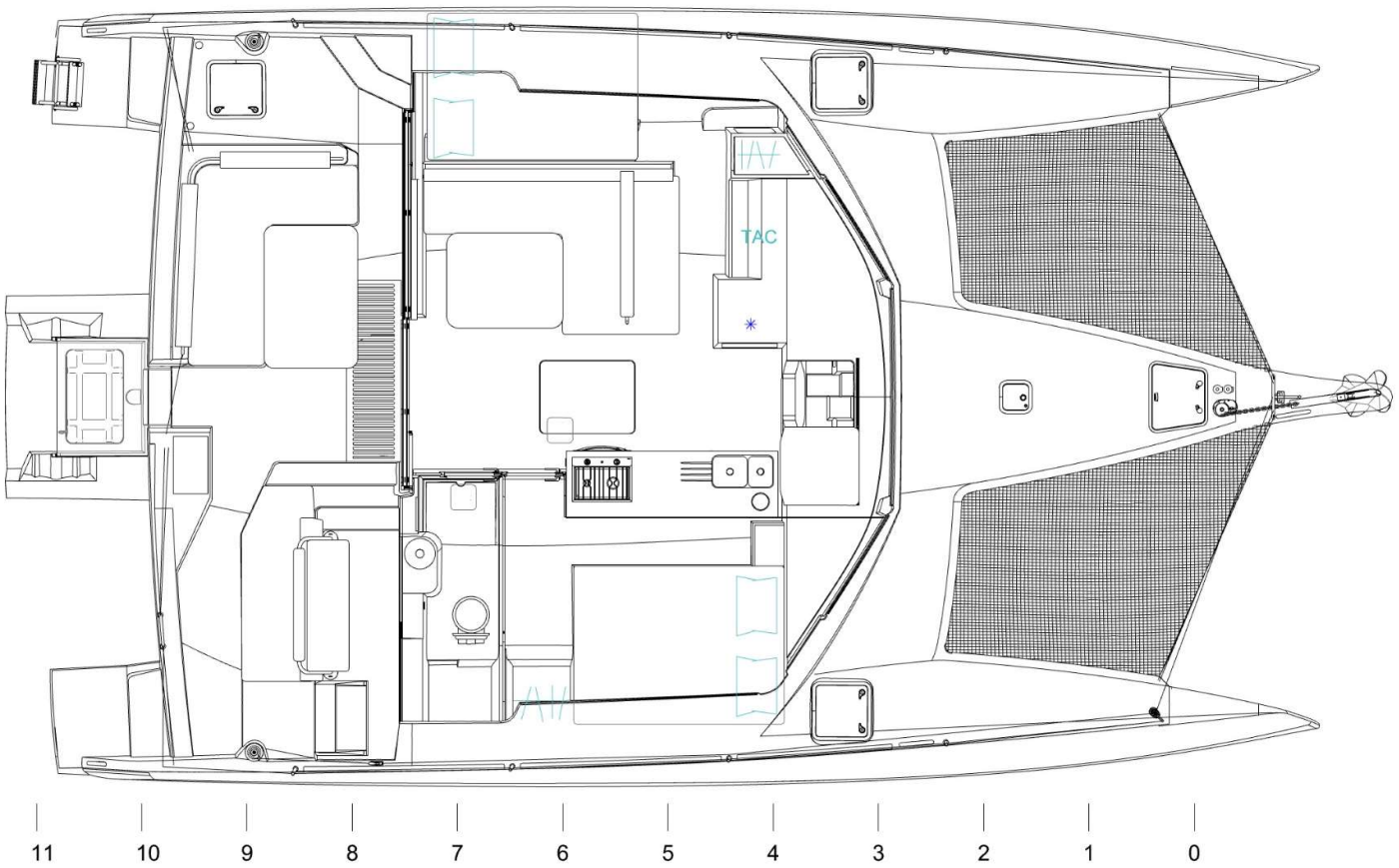
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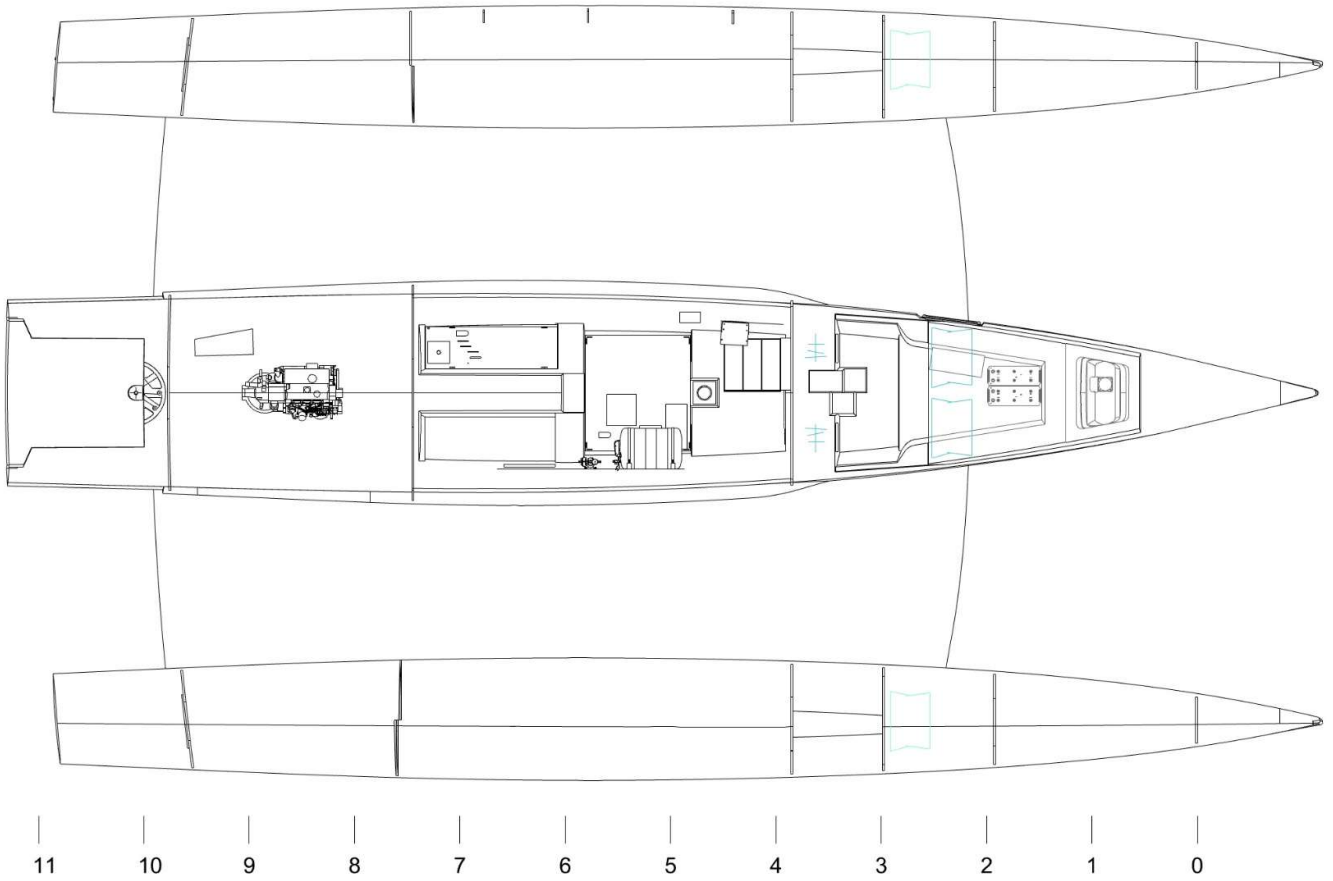
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B. Technical specifications of the vessel

Draught at maximum load condition:	1.57 m	
Lightship air draught:	19.1 m	
Lightship weight (LW):	8,138 kg (lightship weight defined in ISO 8666)	
Maximum Recommended Load (Plate):	2,220 kg in category A 2,080 kg in category B 2,820 kg in category C 2,730 kg in category D (In compliance with ISO 14945)	
Maximum load displacement (MLD)	11,043 kg in category A 10,903 kg in category B 11,649 kg in category C 11,558 kg in category D	
Main means of propulsion:	Sail	
Engine:	50 HP	
References for isophthalic gelcoats	Grey RAL 7047 and White RAL 9000 (note: gelcoats undergo alteration under UV light)	
Diesel tank capacity:	275 L *Depending on the trim and load of the vessel, it may not be possible to use the full capacity: It is therefore recommended to keep a reserve of 20%. The diesel is filled by a filler installed on the vertical side of the port cockpit seat, facing the boat's centerline. The air vent for the diesel tank is located on the stern end of the port bridge wing, just in front of the cockpit bulkhead, in the technical technical machine room that can be accessed from the saloon.*	
Water tank capacity:	430 L *Depending on the trim and load of the vessel, it may not be possible to use the full capacity. Fresh water is filled through a filler placed on the vertical face of the starboard cockpit seat. The water tank is located on the stern end of the starboard bridge wing, just in front of the cockpit bulkhead, in the technical machine room that can be accessed from the saloon.*	

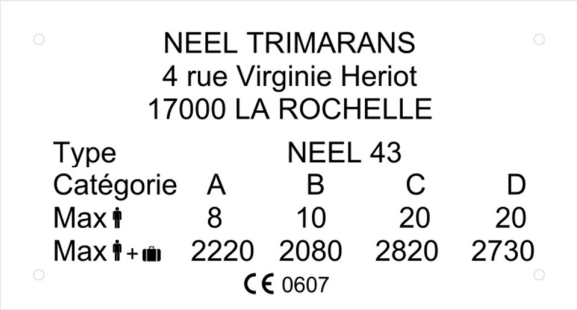
CAUTION Take care when filling the tanks: keep an eye on the tanks while this operation is going on.

Holding tank capacity: 1x 45 L - see chapter 4.G

C. Builder's plate

Some of the information is given on the builder's plate affixed to the boat at the helm.

The maximum recommended load includes:


NEEL TRIMARANS
4 rue Virginie Heriot
17000 LA ROCHELLE

Type	NEEL 43			
Catégorie	A	B	C	D
Max 🧍	8	10	20	20
Max 🧍+🧳	2220	2080	2820	2730

CE 0607

- Non-consumable provisions and equipment normally carried on board that are not included in the manufacturer's standard equipment list (additional bedding, books, extension cord, garden hose, bicycles, tools and spare parts, food, additional anchor, dinghy, dinghy engine)
- Total weight of persons
- Personal belongings
- Provisions and cargoes, dry food, liquids, and consumables
- Additional liferafts
- Additional sails
- Contents of permanently installed tanks holding non-consumable liquids (black water)
- Total options (additional fittings, additional sails, teak deck, electrical and electronic equipment with wiring, various options)
- Additional load

- Does not include: Contents of liquid tanks (water and diesel)

D. Maximum number of persons on board

The boat is CE certified for the following categories:

Category	Maximum number of persons on board
A	8
B	10
C	20
D	20

WARNING*: Do not exceed the maximum number of persons recommended. Regardless of the number of people on board, the total weight of people and equipment must never exceed the maximum recommended load*

Always use the seats or seating areas provided

Explanation of design categories:

Category A: A pleasure craft of design category A is considered to be designed for winds that may exceed force 8 (on the Beaufort scale) and for waves which may exceed a significant height of 4 metres, excluding however exceptional conditions such as thunderstorms, severe storms, tornadoes and extreme sea conditions, or rogue waves.
Category B: A recreational craft given design category B is considered to be designed for a wind force up to, and including, 8 and significant wave height up to, and including, 4 metres.
Category C: A watercraft given design category C is considered to be designed for a wind force up to, and including, 6 and significant wave height up to, and including, 2 metres.
Category D: A watercraft given design category D is considered to be designed for a wind force up to, and including, 4 and significant wave height up to and including 0.3 metres, with occasional waves of 0.5 metres maximum height.

Note: Significant wave height is the average height of the top third of the waves, which roughly corresponds to the wave height estimated by an experienced observer. Some waves will have a height of double this value.

E. Loading the vessel

The Maximum Recommended Load (ML) includes the weight of all persons on board, provisions and personal belongings, all equipment not included in the lightship weight of the boat, and all consumable liquids (water, fuel, etc.) :

	Category A	Category B	Category C	Category D
Maximum Recommended Load (ML)	2 904 kg	2 764 kg	3 510 kg	3 419 kg

This Recommended Maximum Load (ML) includes:

	Category A	Category B	Category C	Category D
Non-consumable provisions and equipment normally carried on board that are not included in the manufacturer's standard equipment list	275kg	275kg	275kg	275kg
Total weight of persons	600kg	600kg	1,350kg	1,350kg
Personal belongings	240kg	200kg	200kg	100kg
Provisions and cargo	200kg	150kg	100kg	100kg
Liferaft (categories C and D only)	-	-	46 to 55 kg	46 to 55 kg
Contents of permanently installed consumable liquid tanks	709kg	709kg	709kg	709kg
Contents of permanently installed non-consumable liquid tanks	45kg	45kg	45kg	45kg

***WARNING**: When loading the boat, never exceed the maximum recommended load;*

Always load the boat with care and distribute the loads appropriately to maintain the optimal trim (approximately horizontal);

Do not put heavy loads high up on the vessel.

Any changes in how the weights are laid out can significantly affect the stability, trim, and performance of the boat.
It is important to distribute all the weights on board as centrally as possible in order to maintain a good trim.

F. Engine information

The maximum authorized engine power is **37** kW (50 Hp).

It is imperative not to exceed this value when replacing the engine.
Doing so could affect the handling, stability, and buoyancy of the boat.

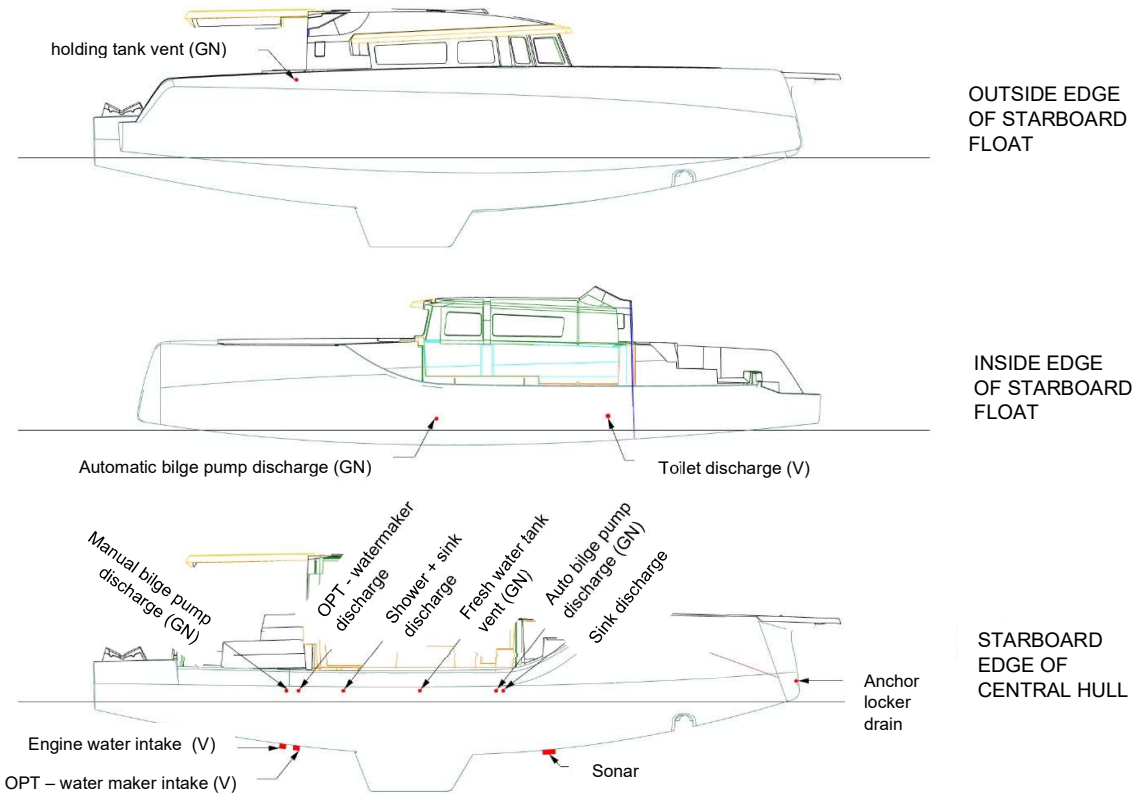
Before starting the engine, make sure:

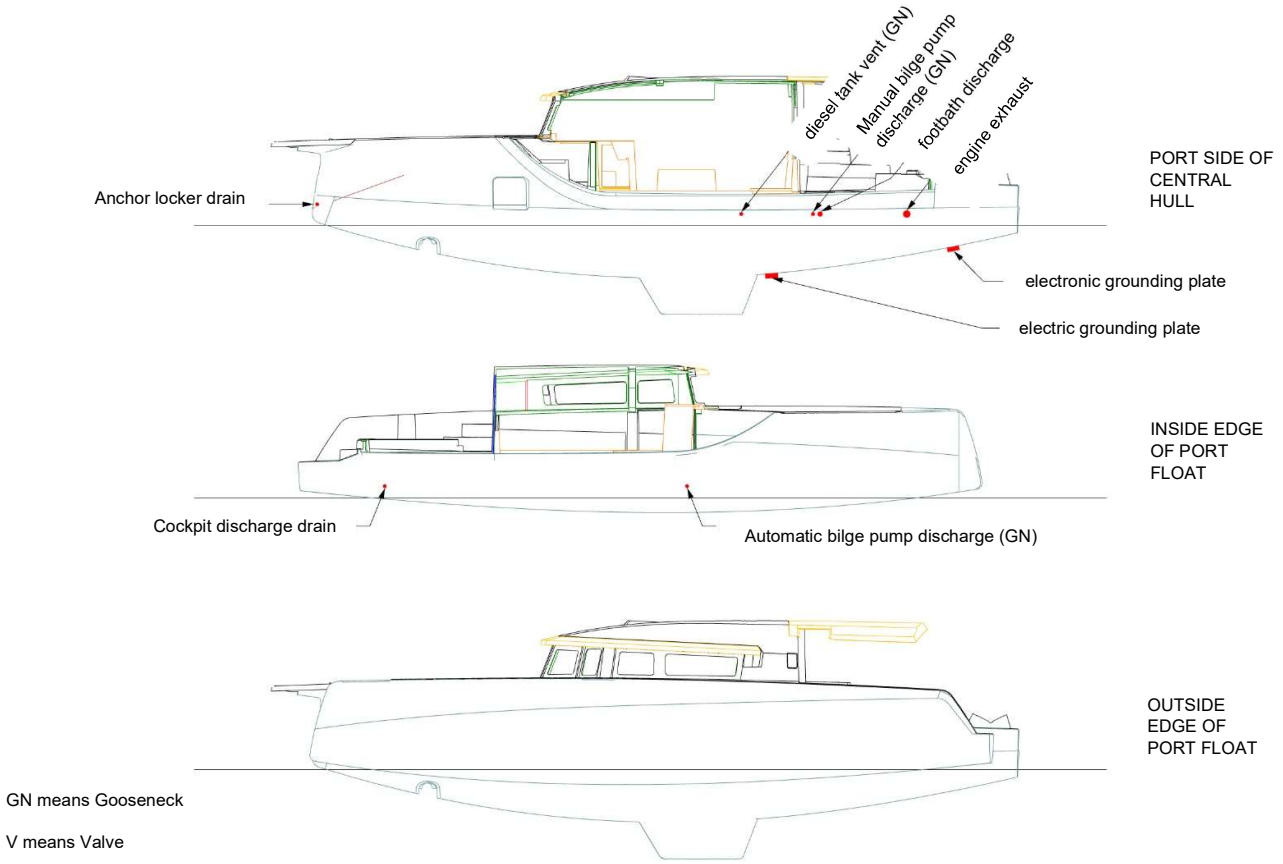
- The vent openings are clear
- The engine compartment is clean and dry, and nothing can interfere with its operation
- The engine is not in gear

Stop the engine and do not smoke while filling the fuel tank.
Do not interfere with mechanical parts when they are in movement or in their environment

02. Information about the risk of flooding and stability

A. Openings in the hull





You are advised to:

- Keep hull valves, cockpit drains, deck fillers, and other opening/closing devices in the closed or open position, as appropriate, to minimise the risk of flooding.
- Keep portholes, windows, removable hatches, doors, hatches, and ventilation openings closed in bad weather and when underway.

B. Bilge pumps and drainage (ISO 15083 standard)

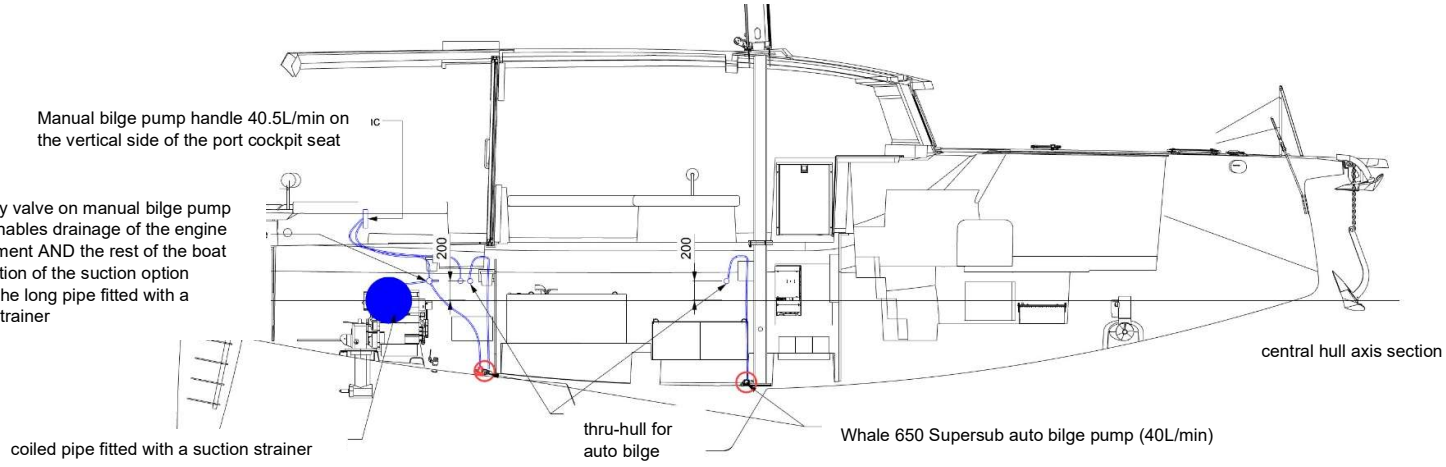
***WARNING**: The bilge pump system is not designed to deal with water flooding in from breaches in the hull.*

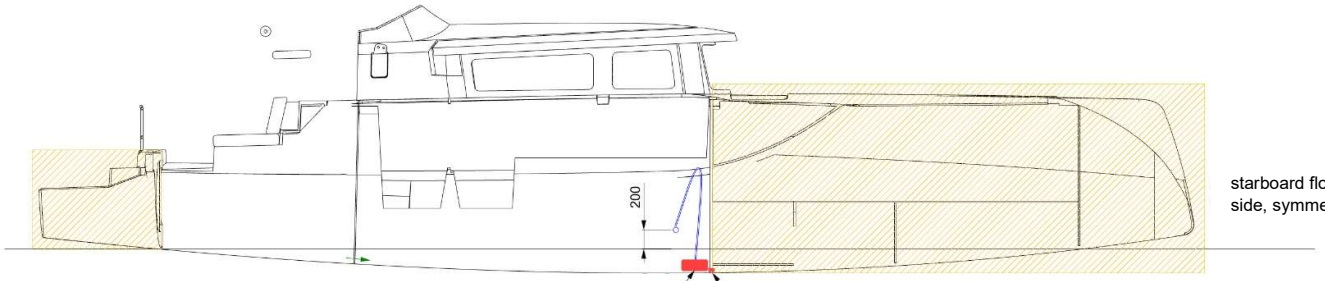
For further details, refer to the pump manufacturer's instruction manual

CAUTION:

- Regularly check that all bilge pumps are in good working order
- Clear out all debris that may have accumulated at the suction points

The manual bilge pump valve must be in the “engine strainer tray” position by default.





the bilge pump table is at the chart table

C. Stability and buoyancy (ISO 12217 standard)

A maximum total load was used to assess stability and buoyancy, including:

	Category A	Category B	Category C	Category D
The maximum load recommended by the manufacturer (ML)	2,904kg	2,764kg	3,510kg	3,419kg
Fuels, fresh water, other fluids at maximum tank capacity	709kg	709kg	709kg	709kg
In other words, a displacement under maximum load condition (M_{LDC}) - or deadweight displacement - of	11,043kg	10,903kg	11,649	11,558kg

Stability was assessed on the assumption that:

- The boat in light ship condition has a weight of: **8,138kg**
- All standard equipment is on board.

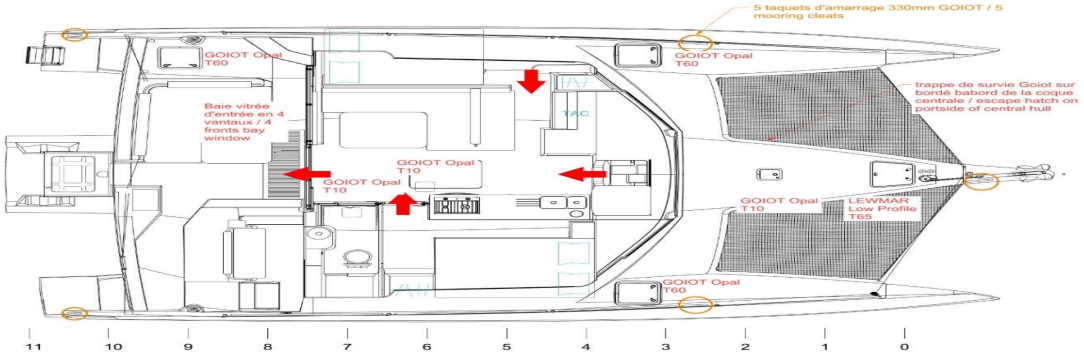
This boat has been assessed as capable of holding its crew, even in the event of flooding.

***WARNING**: The following openings are marked: "WATERPROOF HATCHES - MUST REMAIN CLOSED WHILE UNDERWAY" and care should be taken to heed this warning.*

List of corresponding openings (see ISO 12217 standard):

Type	Dimensions (clear opening)	Location
Goiot OPAL T10 hatch	260x260	Roof + deck
Goiot OPAL T60 hatch	507x507	Deck
Lewmar LOW PROFILE T65 hatch	608x486x490	Deck
Goiot OPAL FLUSH T44 hatch	442x442	Roof
Goiot Survival hatch	514x415	Port side of the central hull

CAUTION: Visibility may be reduced: Look around and ensure good visibility when communicating with crew members.



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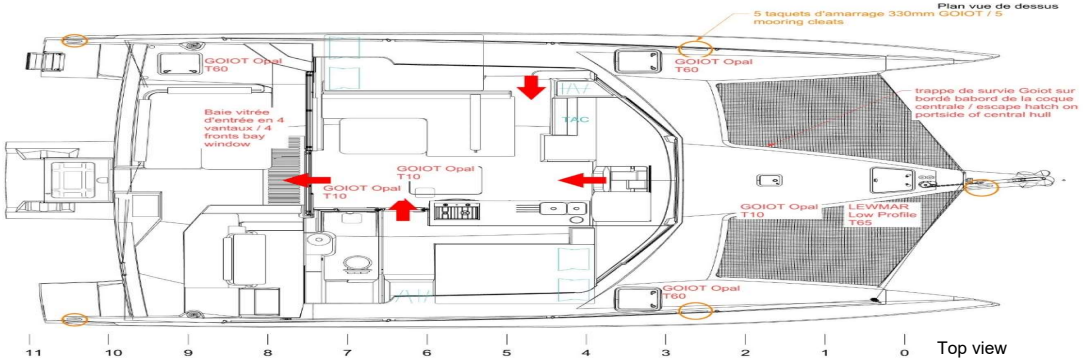
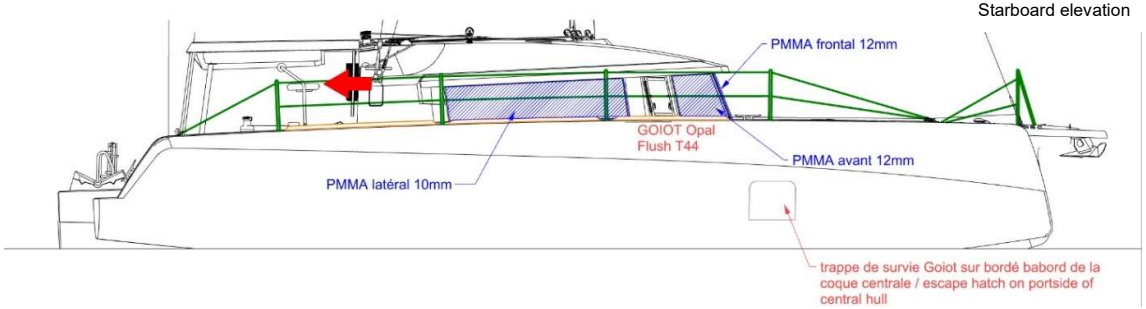


Top view

Starboard elevation



IN CASE OF CAPSIZE :

A survival hatch panel is installed on the port side of the centre hull cabin.
Use the hammer located under the panel (or in the survival raft compartment) to break the glass.

The liferaft is accessible on the aft side of the centre hull (see Chapter 4 Proper Use – Further Guidance and Information).

The survival hatch panel is routed to the survival raft compartment via a lifeline (not provided by the shipyard) taken from the survival hatch exit wire cadene and the portside pad eye of the main sail sheet on the aft beam (see Chapter 4.A Man overboard prevention).

Refer to Chapter 4.2 for use of the liferaft.

This boat is susceptible to capsize and stay inverted if there are excessive sails. It is designed not to sink in such circumstances. Sails should be reduced according to the sail reduction table.

D. Stability data

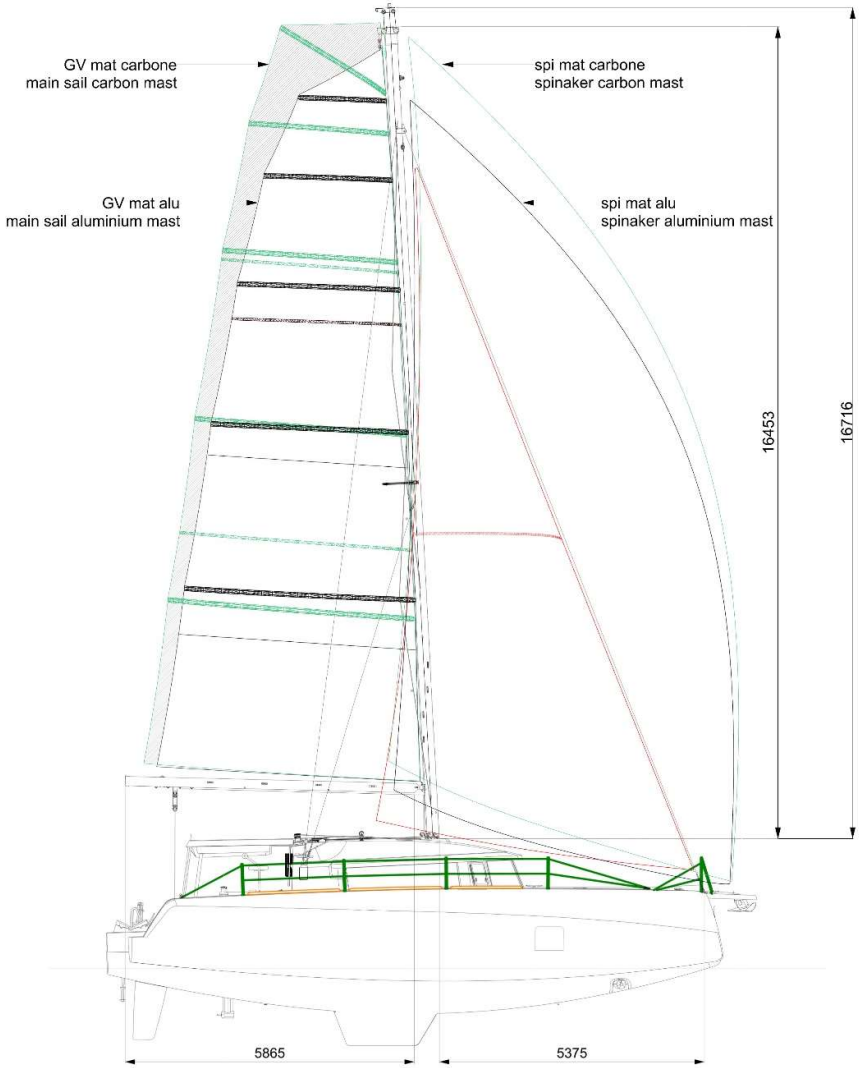
Sail table

Sail reduction table for upwind and crosswind sailing.

The NEEL 43 is fitted with a mainsail and a genoa as standard sails. You have the option of adding a spinnaker.

Apparent wind speed	Mainsail 2 reefs	Foresails
From 0 to 16 knots	100 %	100 %
From 16 to 20 knots	1 reef in the mainsail	80 %
From 20 to 23 knots	1 reef in the mainsail	50 %
From 23 to 26 knots	2 reefs in the mainsail	30 %
From 26 to 30 knots	2 reefs in the mainsail	20 %
Above 30 knots	Mainsail down	To be adjusted according to sea conditions

Apparent wind speed	Mainsail 3 reefs (carbon mast)	Foresails
From 0 to 16 knots	100 %	100 %
From 16 to 20 knots	1 reef in the mainsail	80 %
From 20 to 23 knots	1 reef in the mainsail	50 %
From 23 to 26 knots	2 reefs in the mainsail	30 %
From 26 to 30 knots	3 reefs in the mainsail	20 %
Above 30 knots	Mainsail down	To be adjusted according to sea conditions



NB: The above list of sail combinations may vary according to the rig. The following notes may be modified at the builder's discretion.
The above combination is given for upwind sailing.

NOTE 1:
The wind force stated above includes a margin to account for the effect of gusts. In the event of strong winds or confused or breaking seas, additional precautions should be taken.

NOTE 2

In case of strong gusts	EASE OUT THE SHEETS
Close-hauled	LUFF
Crosswind (beam reach)	EASE OUT THE SHEETS
Downwind	BEAR AWAY

NOTE 3:
Extra care should be taken when luffing from downwind to crosswind, as the apparent wind and the heel angle will increase. Such changes of pace should not be rushed into, and you should consider beforehand whether it is advisable to reduce sail area.

<u>Other recommendations to ensure good stability:</u>

- Bilge water should be kept to a minimum;
- Stability may be reduced when towing a boat or lifting heavy weights with the boom;
- Any modification in the distribution of weights on board (for instance the addition of a raised structure for fishing, a radar, a furling mast, a change of the engine, etc.) can significantly affect the stability, trim, and performance of the boat;
- Stability is affected by the addition of weight at high places;
- Compartments marked as air tanks must not be punctured;
- In heavy weather, hatches, lockers, and doors should be closed to minimise the risk of water ingress;
- Breaking waves pose a significant threat to stability;
- Breaking waves can present a risk of transverse or longitudinal capsizing.

03. Information about the risk of fire and explosion

A. Propulsion engine

Refer to the manufacturers' instructions for use.
The diesel tank, located in the technical machine room, is fitted with valves.

Before starting up:

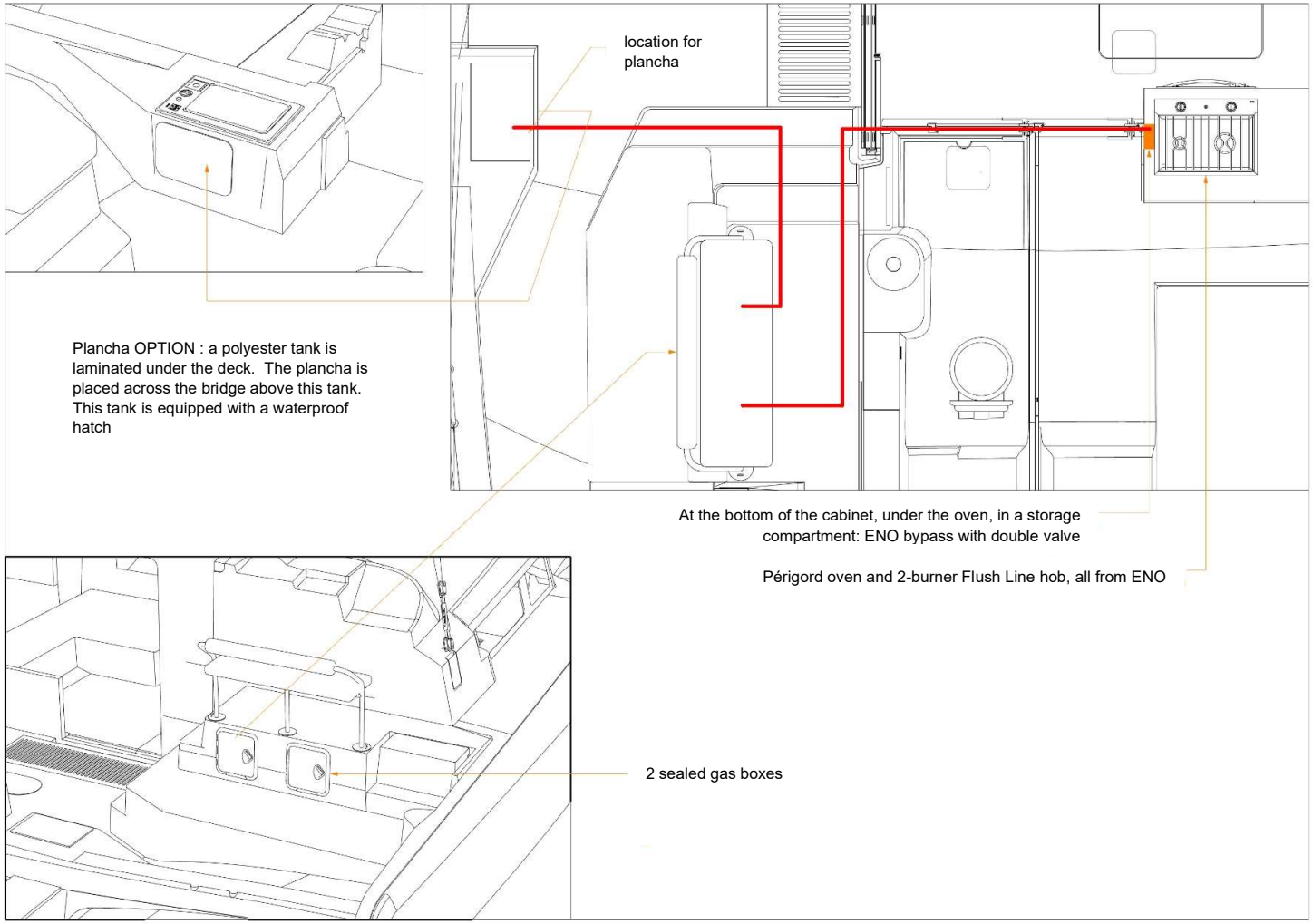
- Check that there are no vapours in the engine compartment.
- Check the GO levels, engine oil, reverse gear oil (weekly).
- Check that the valves of the diesel and water circuits are open.
- Make sure the vent openings are clear.

When starting up:

- Do not forget to preheat the engine.
- Check the oil pressure.
- Make sure that the engine cooling water is circulating by checking the water outlet on the exhaust when you start up and keeping an eye on it while motoring.
- When filling the tanks, do not smoke and take care the fuel does not overflow into the boat.
- Prevent damage to fuel lines.
-  Avoid any contact between flammable materials and hot parts of the engine.
- Do not stow equipment containing gasoline (outboard motor, tank, gasoline generator, etc.) in compartments not intended for this purpose.
- Do not block or modify the ventilation system.

Engine compartment ventilation
The air in the engine compartment is renewed by means of a fan connected to two circular vent openings affixed to the transom of the central hull.
The fan works in sync with the motor (+ a time delay).
WARNING: Take care never to block the air intakes, it is important that the air in the engine compartment is constantly renewed to avoid overheating in this area.

B. Gas system (ISO 10239 standard)



Each installation fuelled with LPG must be fitted with a pressure controller (operating pressure must not exceed 0.005MPa). This pressure controller must include a pressure reduction device in order to prevent any uncontrolled pressure increase on the low-pressure side.
Any gas evacuation from this device must be done inside the gas lockers or separately, outside the vessel. This device can be a pressure regulator, an expansion valve, or an automatic shut-off valve.
Regulators with external manual adjustment must not be used. If the regulator is not built into the cylinder connection, it must be attached onto the gas locker separately, to forestall any risk of damage or exposure to dirt and water. The regulator must either be made of corrosion-resistant metallic material or be covered with a coating that is effective against external corrosion, such as paint or plastic; the same goes for its fasteners.
Storage arrangements for unconnected LPG cylinders, full or empty, must be the same as for cylinders connected to the system.

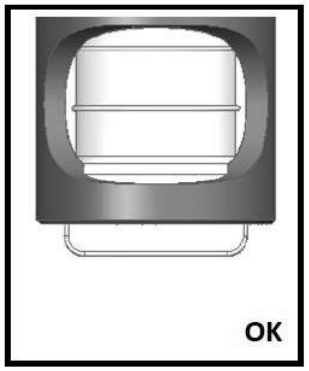
Each installation must be equipped with a leak detector:

<u>Procedure in the event of a detected or suspected leak:</u>
If an LPG leak is detected or suspected, take the following measures immediately:

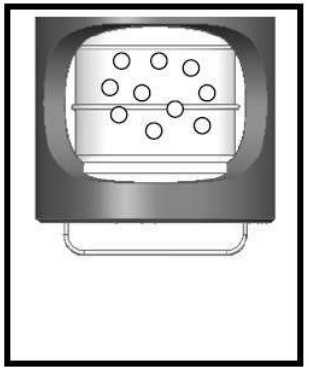
- Shut off the LPG supply at the supply valve
- Extinguish open flames and other sources of ignition (heaters, cooking appliances, pilot lights, etc.)
- Do not activate an electrical switch
- Evacuate the area, if possible.

<u>Principe de fonctionnement / procedure :</u>

Appuyer sur le bouton et tenir pendant 10 secondes.
Push the button down and hold it for about 10 seconds.



Si aucune bulle n'apparait dans le récipient, pas de fuite.
If no bubbles appear in the sight glass, no leakage.



Si des bulles apparaissent, le système a une fuite. Localiser et réparer la fuite.
If bubbles appear, the system has a leakage. Localize and fix the leak.

***WARNING**: Do not use a leaking installation until it has been inspected and repaired by a competent person.*

WARNING: *NEVER USE A FLAME TO CHECK FOR LEAKS.*

Regularly carry out leak tests on the LPG-fuelled installation, check all connections for leaks:

- Using manual means of detecting leaks, or
- Applying soapy water or a detergent solution (with the burner valves of the appliances closed and those of the installation and the bottle open)

Procedure for changing the gas cylinder:

- Shut off the gas valves
- Remove the connection between the bottle and the regulators
- Remove the protective cap, if present, on the new bottle
- Change the hose safety seal if necessary (over a year old)
- Screw the regulator onto the new bottle, locking the nut by hand
- Check the connection is functioning properly

Procedure before each use:

- Shut off the valves to the appliances
- Open the bottle valve
- Wait till the gauge pressure stabilises
- Shut off the bottle valve
- Watch the value shown on the manometer near the cylinder valve for 3 min
- (This value should remain constant to establish that there is no leakage. If the pressure gauge reading decreases, there is a leak. Do not use appliances powered by LPG. Find the leaks and repair them before use)

Avoid contact with open flames or other hot areas.

Shut off the valves of the LPG supply hoses and the cylinder valves when the devices are not in use. Always shut off the valves before changing the cylinder and immediately in an emergency.
Shut off cylinder valves in the event of an LPG leak or fire from an LPG tank.

Make sure that:

- The valves to the appliances have been shut off before opening the bottle valve;
- There is good ventilation in order to avoid asphyxia: leave the bay window open and, if possible, the hardtop hatch as well.
- The oven and the hobs can run on Butane or Propane.

CAUTION — Do not use solutions that contain ammonia. Ammonia, present in some soaps and detergents, attacks brass fittings. While damage is undetectable at first, cracks and leaks may appear a few months after contact with ammonia.

CAUTION — Open-flame appliances that burn fuel consume cabin oxygen and release combustion products into the vessel. Ventilation is required when such devices are in operation. Open the vent openings provided for this purpose when using the installations. Do not use the stove or oven to heat living areas. Never obstruct the openings provided for ventilation.

- Do not block access to parts of the LPG-fuelled installation in any way.
- Make sure that the valves of the empty bottles are closed and disconnected. Keep protective covers, caps, or plugs in place. Stow the reserve cylinders in ventilated housing on deck or in lockers provided for this purpose, gas-tight and ventilated to the outside.
- Do not use the LPG cylinder housings or lockers to stow other equipment.

CAUTION — Never leave the vessel unattended when appliances that use LPG are running.

CAUTION — Do not smoke or use an open flame when replacing LPG cylinders.

- The hoses of LPG-fuelled installations must be checked regularly, at least once a year, and replaced in case of deterioration.
- Inspect the drain lines at least once a year. Replace them in case of deterioration or cracks.
- Do not use a stove where there is a likelihood of large angles of roll or lasting angles of heel (unless you have a gimbaled stove).

WARNING: *Do not modify the boat's LPG system. Installation, modifications, and servicing must be carried out by a competent person. Have the system checked on a regular basis.*

C. Fire prevention and protection equipment (ISO 9094 standard)

When in service, this vessel must be fitted with portable fire extinguishers of the following capacities, installed at the following locations:

- 1 of 1kg in the kitchen cabinet, category 5A 34BC + 1 survival blanket
- 1 of 1kg in the wardrobe of the main deck cabin, category 5A 34BC
- 1 of 1kg under the bed of the central hull cabin, category 5A 34BC
- 1 of 1kg in the aft locker of the starboard hull, category 5A 34BC

This vessel is equiped with a fixed fire extinguishing system for the engine/technical compartment, having the following capacities and installed in the following locations :

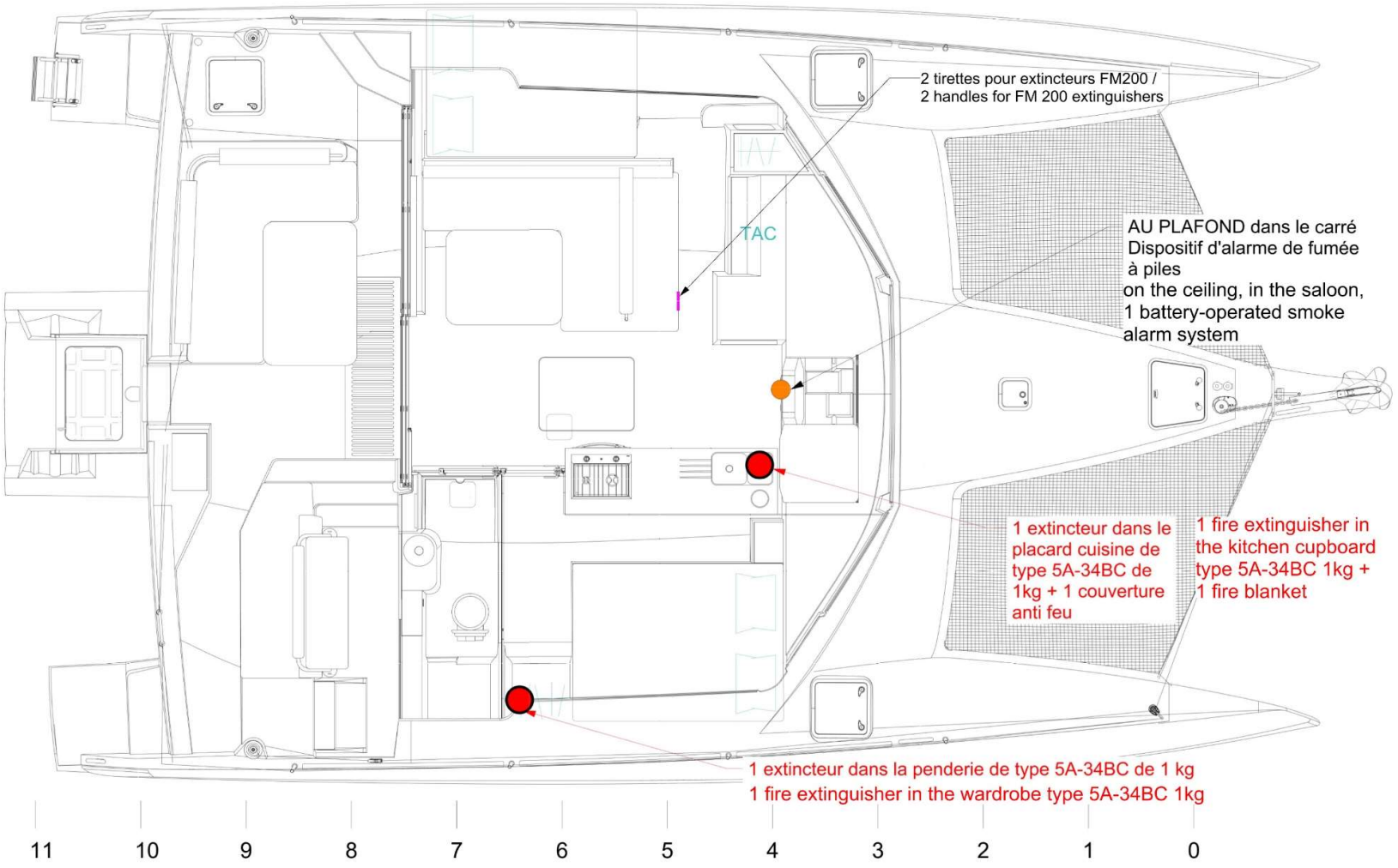
- 1 of 12L loaded with FM200, located on the starboard forward face of the bulkhead separating the engine compartment from the technical compartment
- 1 of 12L loaded with FM200, located on the starboard forward face of the bulkhead separating the engine compartment from the steering compartment

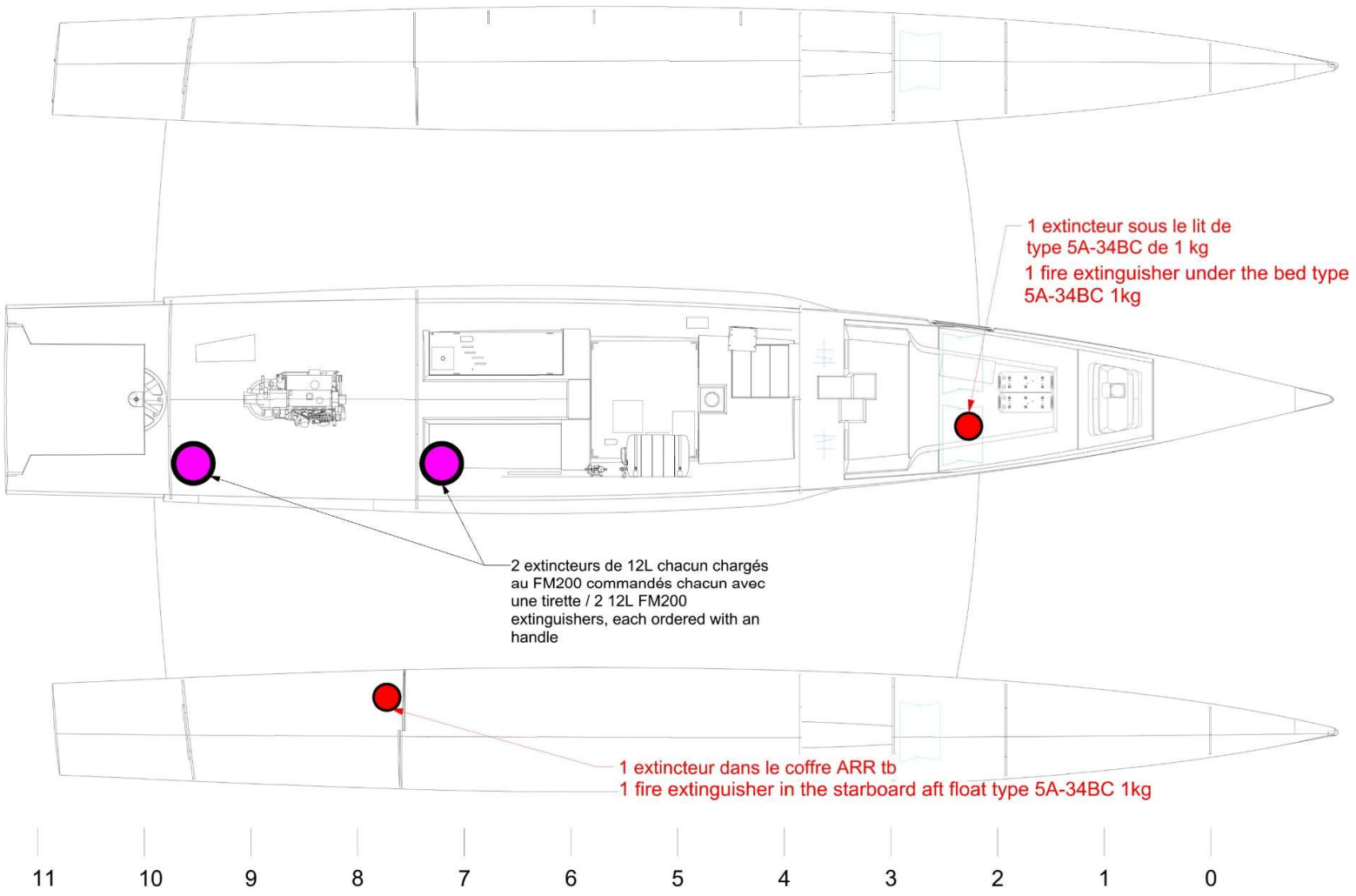
These 2 fire extinguishers are identical and can be manually switched off by means of 2 handles fixed to the seat seat of the monitoring station. Both handles must be operated **SIMULTANEOUSLY**.

This sticker is affixed next to the fixed engine extinguishing pull. The instructions must be followed before activating the pull.

It is strictly prohibited to use extinguishing agents that contain Halon 1211, 1301, and 2402 or perfluorocarbon.

A smoke alarm device is afffixed to the saloon ceiling.
This device is battery-operated.
It is the skipper's responsibility to maintain this equipment as often as possible and to check the condition of the batteries.


2 tirettes pour extincteurs FM200 /
2 handles for FM 200 extinguishers
TAC
AU PLAFOND dans le carré
Dispositif d'alarme de fumée
à piles
on the ceiling, in the saloon,
1 battery-operated smoke
alarm system
1 extincteur dans le
placard cuisine de
type 5A-34BC de
1kg + 1 couverture
anti feu
1 fire extinguisher in
the kitchen cupboard
type 5A-34BC 1kg +
1 fire blanket
1 extincteur dans la penderie de type 5A-34BC de 1 kg
1 fire extinguisher in the wardrobe type 5A-34BC 1kg
11
10
9
8
7
6
5
4
3
2
1
0

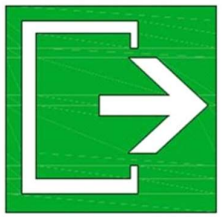

1 extincteur sous le lit de
type 5A-34BC de 1 kg
1 fire extinguisher under the bed type
5A-34BC 1kg
2 extincteurs de 12L chacun chargés
au FM200 commandés chacun avec
une tirette / 2 12L FM200
extinguishers, each ordered with an
handle
1 extincteur dans le coffre ARR tb
1 fire extinguisher in the starboard aft float type 5A-34BC 1kg
11
10
9
8
7
6
5
4
3
2
1
0

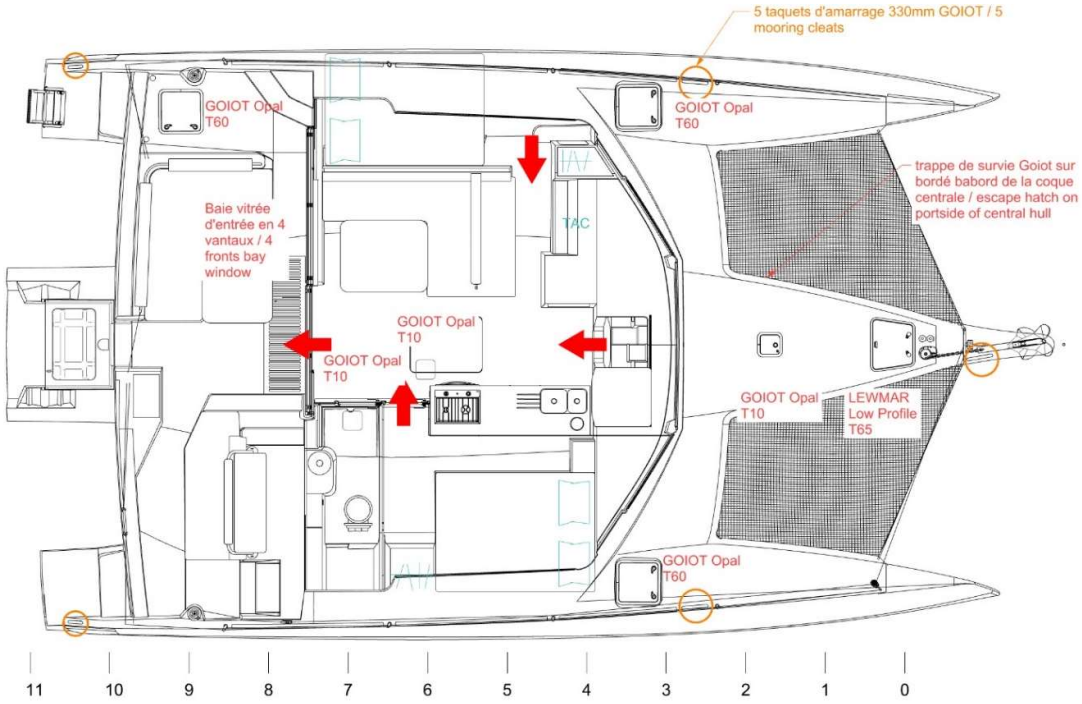
It is the responsibility of the shipowner or their skipper:

- To have the fire protection equipment checked at the intervals indicated on the equipment;
- To replace the fire protection equipment, if it is out of date or discharged, with devices of equal or greater extinguishing capacity;
- To have fixed extinguishing systems filled or replaced if they are discharged or expired;
- To indicate to the crew members:
    - The location and operation of fire protection equipment;
    - The location of the discharge outlets in the engine compartment;
    - The location of evacuation routes and exits;
- To ensure that fire protection equipment is easily accessible when the vessel is occupied.
- To equip the boat with a fire blanket in compliance with EN 1869, placed near any open flame cooking appliance, so as to be accessible in the event of a fire.

CAUTION:

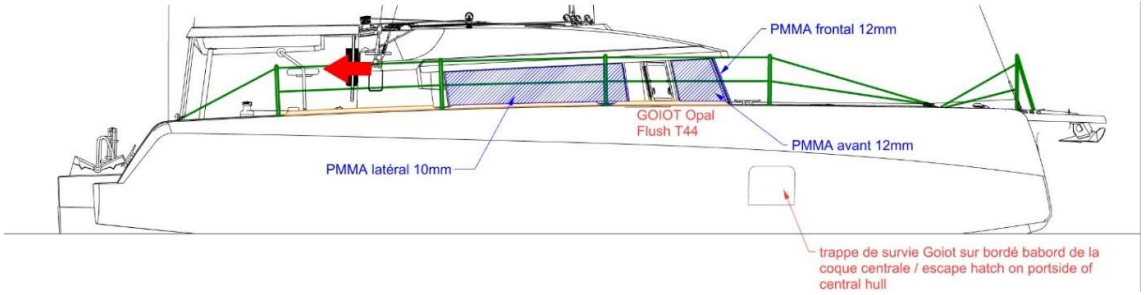
- Keep the holds clean and check for the presence of steam or fuel or gas leaks on a regular basis;
- When replacing components of the fire protection system, use only suitable components, bearing the same designation or having equivalent technical capacities and fire resistance;
- Do not install free-hanging curtains or other fabrics near or over cooking appliances or other open-flame appliances;
- Do not stow combustible materials in the engine compartment. If non-combustible materials are stowed in the engine compartment, they must be secured to prevent them from falling onto the engine or obstructing access to or exit from the engine compartment;
- Exits other than the main companionway doors or hatches fitted with permanently installed ladders must be marked with the symbol:





Top view

Starboard elevation



For the protection of the deck, the owner/user of the boat must provide at least one fire bucket equipped with its bridle and stowed in a directly accessible place.

WARNING: *Never:*

Obstruct the passage to exits and hatches;

Obstruct access to the safety controls (fuel valves, electrical system switches);

Leave the boat unattended when cooking and/or heating appliances are in use;

Use gas lamps in the boat;

Modify the ship's installations (more specifically, electrical or fuel installations) or allow unqualified staff to modify these installations;

Fill a fuel tank when an engine is running or when cooking or heating appliances are in use;

Smoke while handling fuels;

Stow equipment containing gasoline in engine compartments.

Stow the gasoline container for the outboard motor in the lockers holding the gas cylinders.

The following symbols are displayed at the appropriate places in the boat:

Symbol	Colour		Application	Source
	Symbol/text	Background		
	white	red	Designated location for a portable fire extinguisher or the cupboard where it is stored	ISO 6309:1987, signal n° 11
	white	green	Direction in which to escape	ISO 3864-1:2002, Figure 15
	white	green	Direction in which to escape	ISO 3864-1:2002. Figure 15
	white	green	Nearest exit, for example exit signs	ISO 7001:1990, feuille n° 27
	white	red	To signal manual control of a fixed extinguishing system	ISO 6309:1987, signal n° 1
	Red circular band Diagonal bar: red Match symbol: black	white	Near flammable liquids (caps, tanks, LPG cupboard)	ISO 3864:1984, signal n° B.1.2
NOTE Other symbols may be used as needed, preferably taken from ISO 6309:1987.				

D. Electrical Systems — Fire, Explosion, and Electric Shock Hazards

In general:



WARNING - *Never:*

Work on a live electrical installation;

Modify the vessel's electrical circuit or the corresponding layout: installation, modifications, and servicing should be carried out by a qualified marine electrical technician;

Change or modify the breaking capacity (maximum rated current) of overcurrent protection devices;

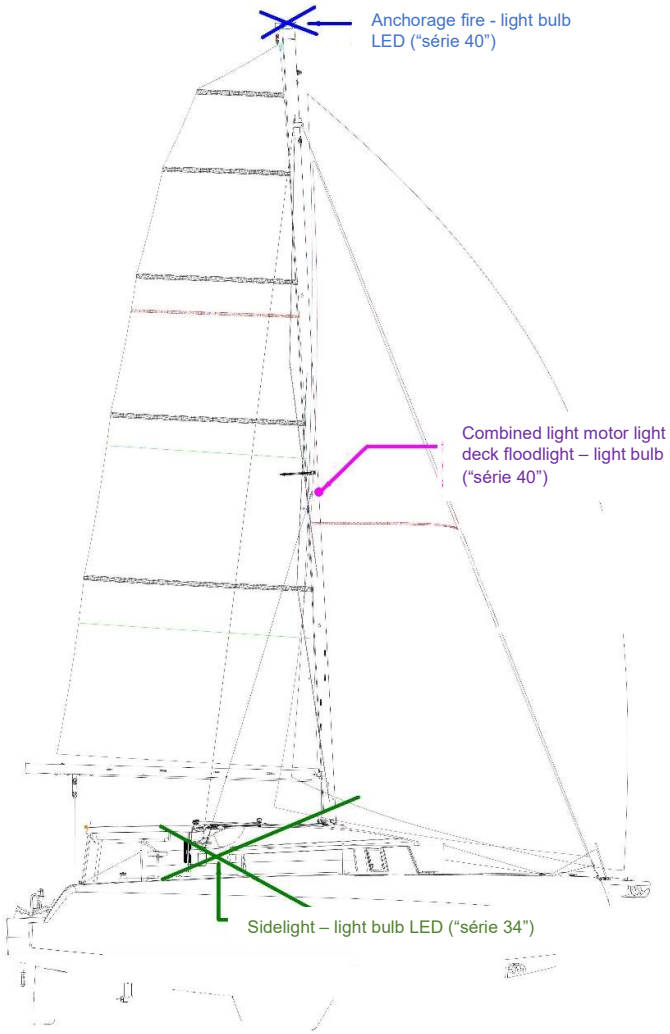
Install or replace electrical devices or materials with components exceeding the rated current of the circuit;

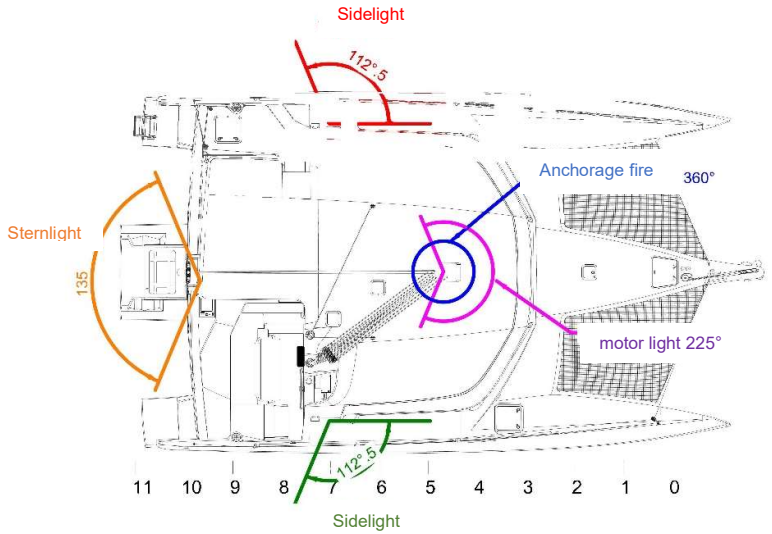
Leave the vessel unattended when the electrical system is powered up, with the exception of the automatic bilge pump and the fire or theft protection circuits.

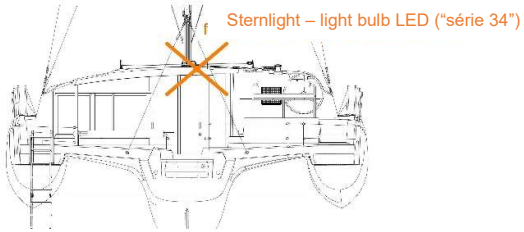
WARNING:

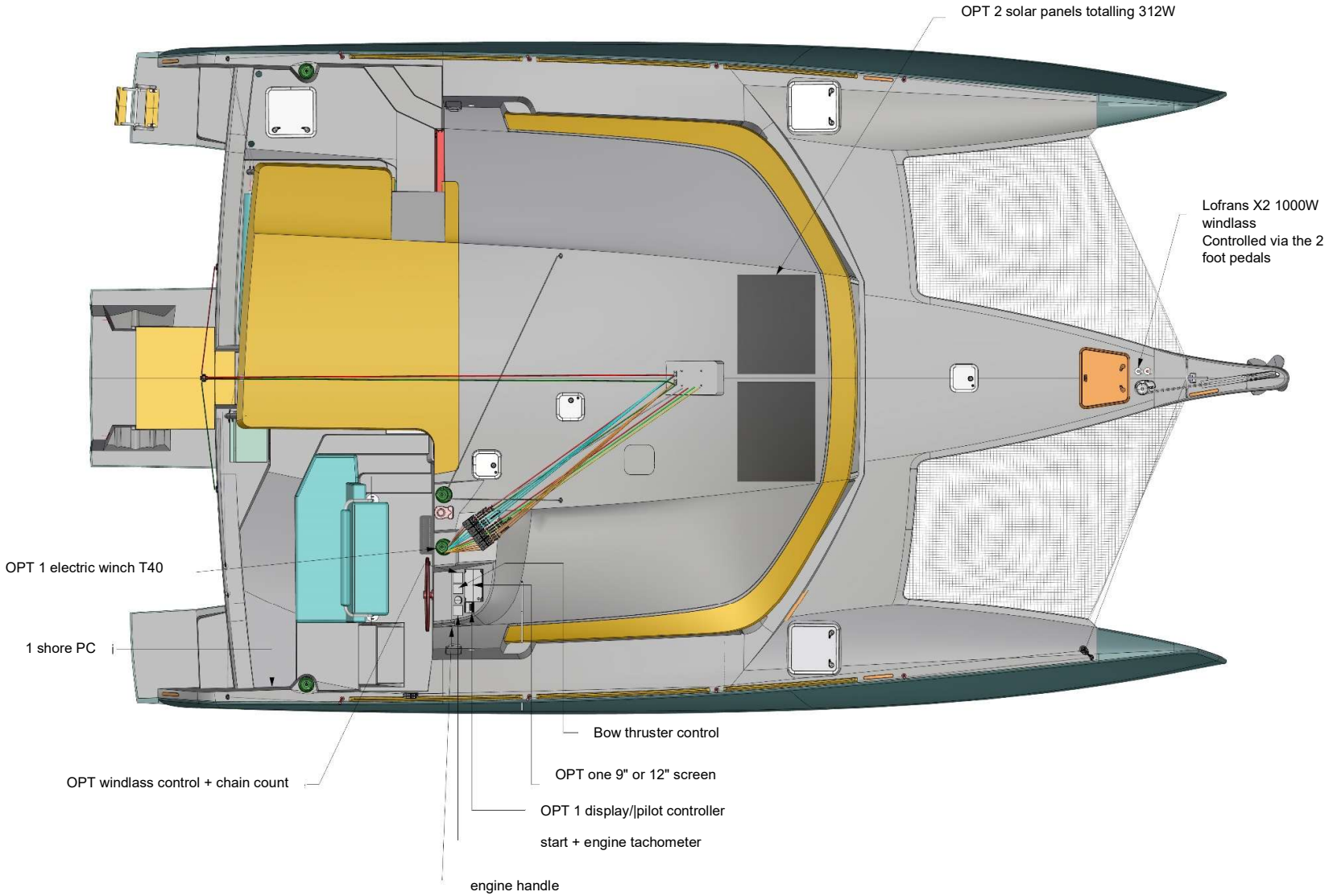
Always make sure the batteries are switched off before replacing a fuse.

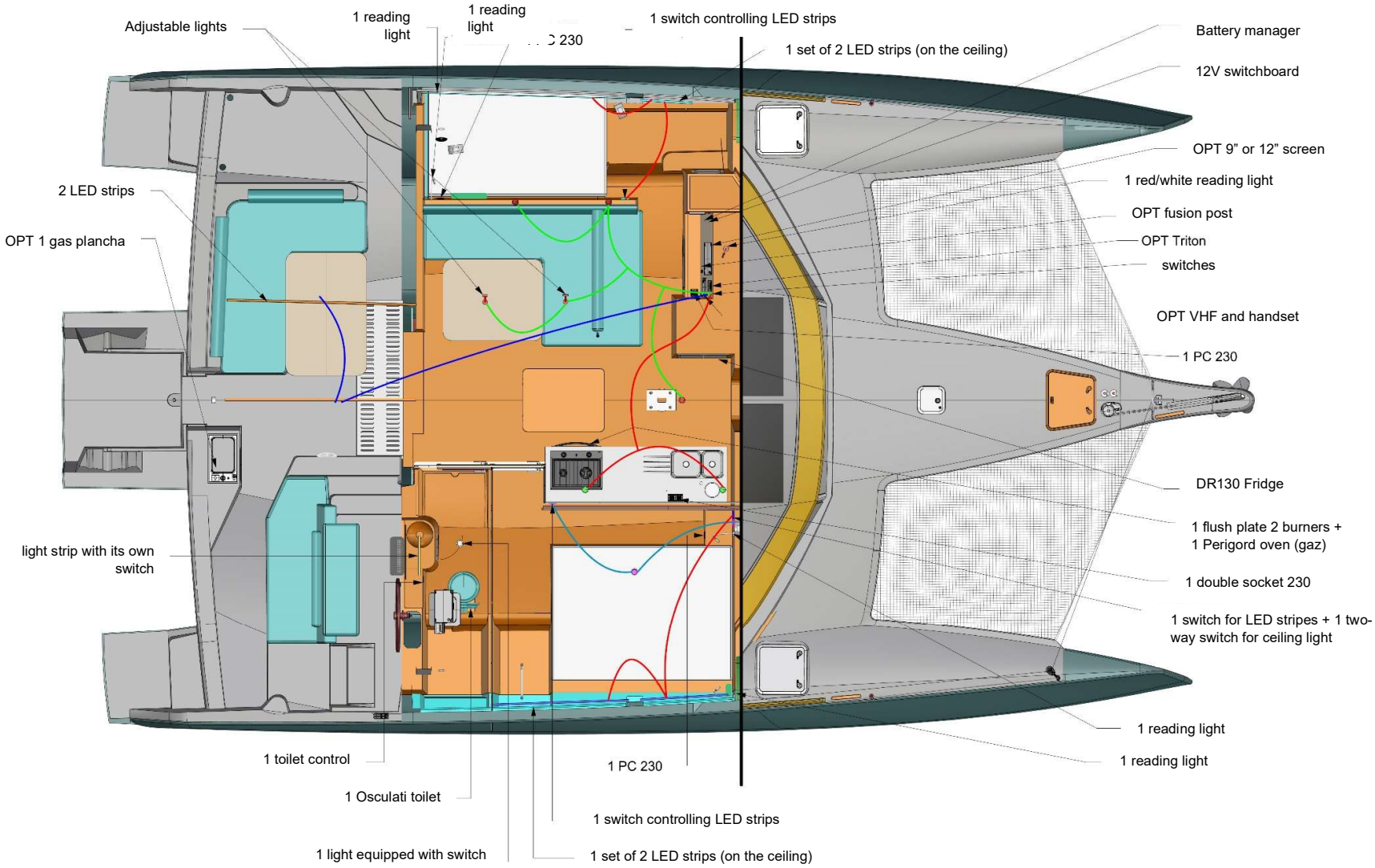
Procedure for changing the light bulbs in the masts: you must go up the mast to access the bulbs and change them. It is the owner's responsibility to make sure the person performing this task is safely equipped.

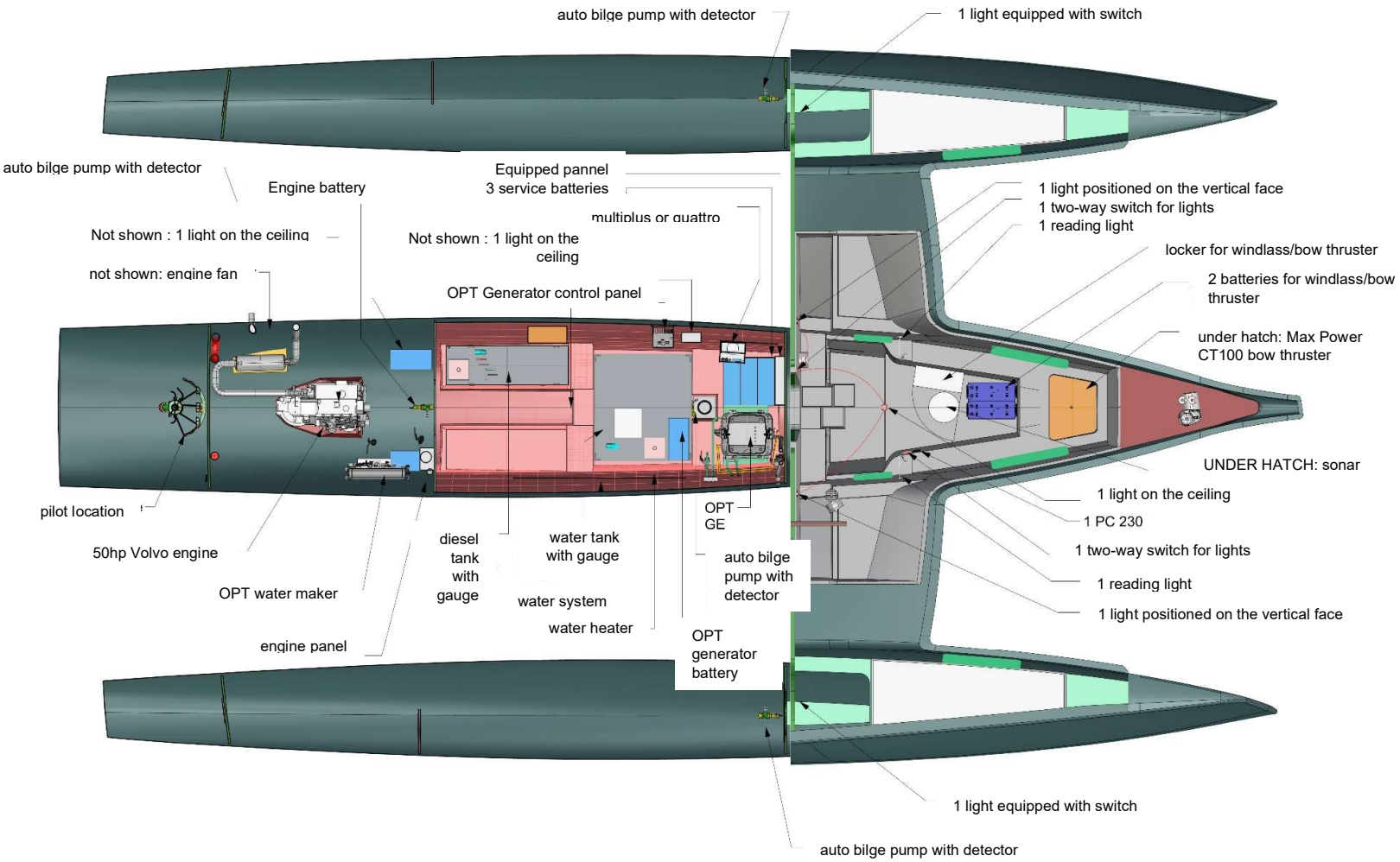

Anchorage fire - light bulb LED (“série 40”)
Combined light motor light + deck floodlight – light bulb LED (“série 40”)
Sidelight – light bulb LED (“série 34”)


Sidelight
112°5
Anchorage fire
360°
Sternlight
135
motor light 225°
112°5
11 10 9 8 7 6 5 4 3 2 1 0
Sidelight


Sternlight – light bulb LED (“série 34”)


OPT 2 solar panels totalling 312W
Lofrans X2 1000W
windlass
Controlled via the 2
foot pedals
OPT 1 electric winch T40
1 shore PC
Bow thruster control
OPT windlass control + chain count
OPT one 9" or 12" screen
OPT 1 display/|pilot controller
start + engine tachometer
engine handle


Adjustable lights
1 reading light
1 reading light
1 switch controlling LED strips
1 set of 2 LED strips (on the ceiling)
Battery manager
12V switchboard
OPT 9" or 12" screen
1 red/white reading light
OPT fusion post
OPT Triton
switches
OPT VHF and handset
1 PC 230
DR130 Fridge
1 flush plate 2 burners + 1 Perigord oven (gaz)
1 double socket 230
1 switch for LED stripes + 1 two-way switch for ceiling light
1 reading light
1 reading light
2 LED strips
OPT 1 gas plancha
light strip with its own switch
1 toilet control
1 Osculati toilet
1 light equipped with switch
1 PC 230
1 switch controlling LED strips
1 set of 2 LED strips (on the ceiling)


auto bilge pump with detector
1 light equipped with switch
auto bilge pump with detector
Engine battery
Equipped pannel
3 service batteries
multiplus or quattro
Not shown : 1 light on the ceiling
Not shown : 1 light on the ceiling
not shown: engine fan
OPT Generator control panel
1 light positioned on the vertical face
1 two-way switch for lights
1 reading light
locker for windlass/bow thruster
2 batteries for windlass/bow thruster
under hatch: Max Power CT100 bow thruster
UNDER HATCH: sonar
1 light on the ceiling
1 PC 230
1 two-way switch for lights
1 reading light
1 light positioned on the vertical face
pilot location
50hp Volvo engine
OPT water maker
engine panel
diesel tank with gauge
water tank with gauge
water system
water heater
OPT GE
auto bilge pump with detector
OPT generator battery
1 light equipped with switch
auto bilge pump with detector

E. 12V low voltage current

Batteries:

Service batteries:
The battery bank supplying a 12V current on board is located in the technical machine room, on port side. To turn on the general 12V circuit, activate the main power switch on the 12V switchboard at the chart table.
The battery bank is recharged by a 'Combi' (charger/inverter) or by a coupled alternator or by solar panels.
The battery bank is recharged by a 12V 110A alternator coupled via a charge controller.
Note: there is an emergency stop button on the top part of the battery switch on the service switchboard located on the port side of the technical machine room, above the service batteries. Press the yellow button down and turn it to the left.

Windlass/bow thruster battery:
The windlass/bow thruster battery bank is located at the very front of the central hull. The windlass/bow thruster circuit is powered by activating the switch on the windlass/bow thruster switchboard (located under the bed in the central hull cabin).
12V/12V charger: a battery charger is located in the technical machine room, it charges the bow thruster battery from the service bank.
Note: When docked, the negative general cut-off switch must always be in the off position to enable charging via the battery charger. The purpose of this switch is to completely isolate the "Windlass/Bow Thruster" battery bank from the electrical network in the event of a fault.

Engine battery:
The engine battery is situated in the engine room. To turn on the general 12V circuit, activate the main power switch on the 12V switchboard (service switchboard described above).
The engine battery is recharged by a battery charger or by a 12VDC/12VDC inverter (from the on-board network) or by an alternator coupled via a charge controller.
Note: there is an emergency stop button on the top part of the battery switch in the engine compartment (mounted on the cockpit bulkhead above the battery). Press the yellow button down and turn it to the left.

Charging systems:

Charge controller: A charge controller of 200 amps distributed across 2 battery banks:

- Main bus: facilities, WC, inverter, etc.
- Engine start bus

Chargers: the battery chargers are in the technical machine room.

- One 12V/60A charger recharges the on-board batteries
- One 12V/15A charger recharges the engine battery, the bow thruster battery, and the GE battery (OPT)

Operation: by default, the battery chargers automatically start up when the shore power is on or when the generator is running.

12VDC/12VDC inverter: a 12VDC/12VDC inverter is located in the technical machine room that charges the bow thruster battery from the service bank.

Starting the engine with battery coupling
If the engine cannot be started using the engine battery, activate ("ON" position) the coupling switch on the left at the top of the engine compartment:

> **Start the engine**
> **Flick the coupling switch back into the "OFF" position immediately after an emergency start**

Fuse replacement procedure (consult the appendices of the wiring diagrams to locate the fuses, on the 12V switchboard located in the engine compartment):
- Cut off all power
- Change the fuse
- Switch the switchboard power on again

The capacity and type of fuse and their location are indicated on the wiring diagrams.

Precautions to be taken when changing the battery:

- Wear the usual personal protective equipment (PPE)
- Start by disconnecting the negative terminal, then proceed to the positive terminal (risk of short-circuit with the removal tool if starting with the positive terminal)
- Clean the battery terminals before assembly
- Put the new battery in position
- Connect the positive terminal first, then the negative terminal

Basic precautions during any intervention:

- Do not smoke
- Do not put a tool on both terminals at the same time
- Follow the assembly/disassembly procedures
- Respect safety symbols

Switchboards for bilge pumps and 12V

F. Alternating current

There are 3 sources of current on board:

- On-board shore power socket
- The charger/inverter combi
- The generator (OPT)

The 220V circuit is split into 2 buses:

- Comfort bus: sockets
- Power bus: charger, water heater, watermaker (OPT)

Order of priority in power management:

- Generator
- Shore power
- Service batteries via the Combi inverter function.

Eg.: If the boat is connected to shore power, it is the generator that will generate the boat's power

Power sources are switched automatically according to the sources available on board, the 230VAC distribution box is situated in the technical machine room.

Comfort bus:
Allows the use of devices grouped together on the bus using 220V from the generator (OPT), shore power, or the service battery bank (automatic activation of the Combi inverter function when requested).

Power bus:
Allows the use of devices grouped together on the bus using 220V from the generator (OPT) and the dock.

Switch on the 220V power source (connect to shore power or start the generator)
Switch on the device you wish to use.
If the device does not work: Check the relevant switch on the switchboard
To start up high-powered devices, wait 10 to 15 seconds between starting each element (so as to give the generator time to stabilise and be able to deliver the power required for starting).

The capacity and type of fuse and their location are indicated on the wiring diagrams.

WARNING: *Never:*

Work on a live electrical installation;

Modify the electrical circuit or relevant diagrams: installation, modifications, and servicing should be carried out by a qualified marine electrical technician.

WARNING

Misuse of DC and AC systems may result in the risk of fire, explosion, or electric shock.

CAUTION:

- Check the system at least every two years;
- Disconnect the vessel's power supply connectors when the system is not in use;
- Connect the metal boxes or metal envelopes of the electrical devices installed on board to the vessel's protective conductor (green conductor, or green with yellow stripe);
- Use double-insulated or grounded electrical devices.

WARNING: *Do not let the end of the shore power cord dangle in the water. This may generate an electric field that could injure or kill nearby swimmers.*

WARNING — *To reduce the risk of electric shock and fire:*

Cut off the shore power at the disconnecting device installed on board before connecting or disconnecting the shore power cord.

Connect the shore power cord to the vessel before connecting it to the shore power socket on the dock. (Not necessary if the shore power cord is permanently connected)

Disconnect the shore power cord at the dock end of the shore power cord first.

Make sure you close the cover for the shore power socket properly.

Do not modify the shore-to-vessel power cord connections; use compatible connections only.

WARNING — *Never:*

Change or modify the breaking capacity (maximum rated current) of overcurrent protection devices;

Install or replace electrical devices with components exceeding the rated current of the circuit;

Leave the vessel unattended when the electrical system is powered up, with the exception of the automatic bilge pump and the fire or theft protection circuits.

G. Shore power socket

A shore power socket is located on the aft starboard bulwark: it supplies the 220V circuit.
The shore power socket is protected by a circuit breaker on the aft switchbox on the starboard hull.
If the reverse polarity indicator light is on, unplug the cord and contact an electrician.

WARNINGS:

- Turn off the shore power switch before connecting or disconnecting the shore power cord
- Connect the shore power cord to the boat's power inlet before connecting it to the shore power socket on the dock
- Disconnect the shore power cord from the boat before disconnecting from the shore socket
- Make sure you close the cover for the shore power inlet on the boat properly
- Do not modify the shore power cord connections; use compatible connections only.
- Perform monthly multimeter test
- Do not open the shore power socket box when the power is on
- Never let the end of the shore power cord dangle in the water (hazard for swimmers)

H. Combi inverter function (12V-220V)

The boat is equipped with a Combi 12V/220V (2000 or 3000 watts). It is situated in the technical machine room. The Combi supplies the comfort bus.
It is important to set it to "Charger Only" position before leaving the board.

I. Generator (OPTION)

The generator is situated in the technical machine room on the starboard side.
Its purpose is to charge the batteries via the Combi or the shore power charger, and to supply 220V on board.
To switch on the generator, use either the switch on the generator itself or the one on the electrical switchboard (specific remote control).
Make sure the fuel supply, cooling valve, and wet exhaust reject valve are open.

Generally, apply the same instructions as for starting the bow thruster engine.

04. Correct use — Other recommendations and information

A few tips about the main manoeuvres used in sailing a NEEL trimaran:

> **Furling the Genoa:**

The sail plans of NEEL trimarans feature ample genoa sail areas.

Consequently, you will need to perform manoeuvres to reduce the genoa sail area or furl it in, taking into account the following recommendations:

- Furl in while running downwind so that the genoa is shielded by the mainsail.
- Plan ahead before furling in the sail, making sure there is enough space on the water to be able to run downwind for the time it takes to perform the manoeuvre.
- Once you are heading downwind, ease out the genoa sheet as much as you need to in order to furl it in without forcing on the sail. Pause now and then to make sure the sheet is properly furled; tightly wrapped around the reel.
- It is advisable not to give extra turns to the reel once the genoa is fully furled.
- Throughout the manoeuvre, keep a careful watch on the water because a manoeuvring boat does not have priority.

> **Hoisting the mainsail:**

Two main precautions to take:

For NEEL trimarans fitted with an electric winch, watch out for the high power they provide. It is essential to carefully monitor the progress of the sail as it goes up and stop the manoeuvre straightaway if you hear a suspect noise, which may be caused by any of the following:

- Tension due to a reef line not released or passing under the boom,
- Sail head passing on the wrong side of the lazyjacks,
- Topping lift passing on the wrong side of the sail or not released,

Recommended order when hoisting the mainsail:

- Make sure you can perform the manoeuvre on an open body of water and keep a constant watch on other boats throughout the manoeuvre because you do not have priority.
- Steer the boat into the wind, engine in slow advance at 1500 rpm,
- Ease out the mainsail sheets about 1 m,
- Hoist the mainsail by hand or using a winch, making sure that the sail head (upper part of the sail between the lazyjacks) is correctly routed.

'Lazyjacks' is the name of the cloth guiding system affixed to the mast and boom, that gathers the sail into the lazy-bag (anti-UV protective cover affixed to the boom) as it comes down

When getting to grips with the boat, it is advisable to perform this manoeuvre with 3 people: one person at the helm, one person manning the halyard with the help of the winch, and one person on the hardtop to guide the mainsail head down between the lazyjacks. With training, the manoeuvre can later be carried out by two people and eventually singlehandedly with the help of the autopilot.

> **Setting the lazyjacks:**

The cloth lazyjacks are attached to the mainsail cover (lazybag)
There is an optimum setting so that you do not have to worry about tweaking them.
To do set it, adjust the topping lift tension so that the boom passes 10 cm above the helmsman's bimini.
At this height, tension the lazyjacks out to the maximum. With the mainsail hoisted if possible.
In this arrangement, the lazyjacks will slightly loosen when underway with the mainsail up, while keeping the boom at the right height when the mainsail is furled in the lazy-bag.

> **Handling the anchor:**

In general, care must be taken not to exert unnecessary force on the mooring gear.
Beware, the windlasses are powerful and it is important to stop any manoeuvre as soon as you hear a suspect noise.
It is recommended that someone is stationed on the bow to monitor the manoeuvre and give the helmsman visual information such as:

- Visibility of the bottom and, if possible, the type of bottom encountered: sand, rocks, or algal mats
- Angle of the chain in relation to the boat's centerline
- Anchor landing or coming off the seabed

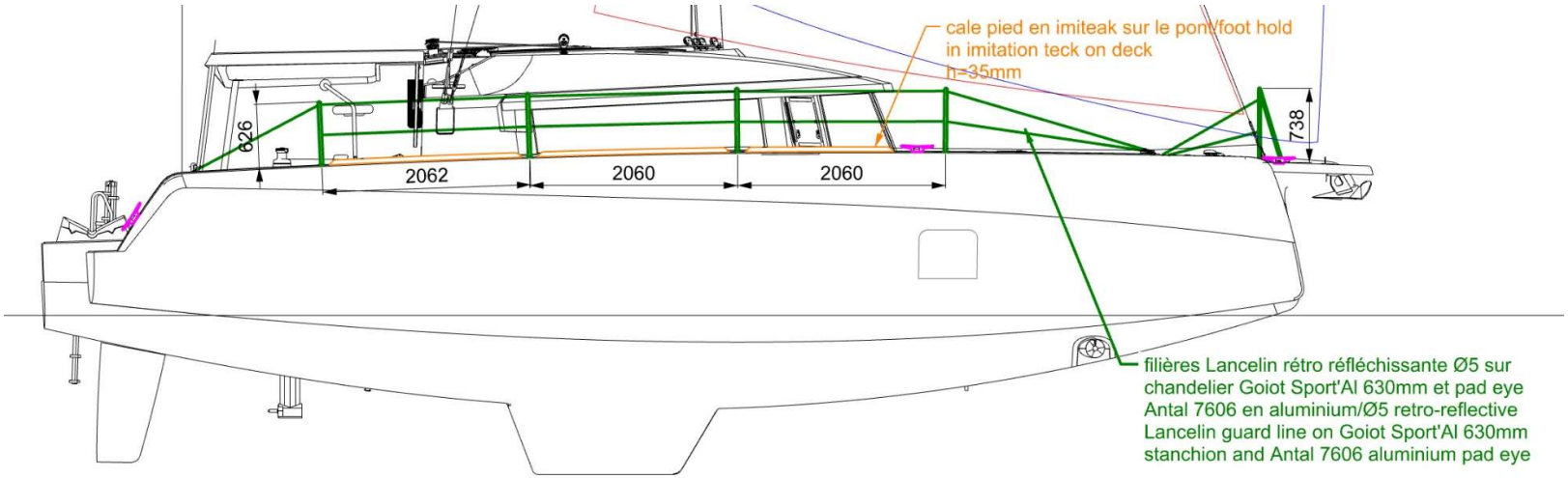
Anchorage:
Pick a location in harmony with the boats already at anchor.
A sandy or rocky bottom will hold up better than seaweed or soft mud bottoms.
When the bottom is rocky, it is advisable to use an anchor buoy.
If the anchorage is crowded, it is often a good idea to drop your anchor near the stern of a boat. This should set you far enough apart if the wind direction changes.
It is recommended to deploy a length of chain equivalent to about 3 times the water depth.
Once the length of chain has been deployed, put the engine in reverse order to drive the anchor into the ground, and then check that the anchor holds properly.
If you are in any doubt, it is better to repeat the manoeuvre.
Once you are properly anchored, do not forget to release the tension on the windlass using the snubbing line provided for this purpose.

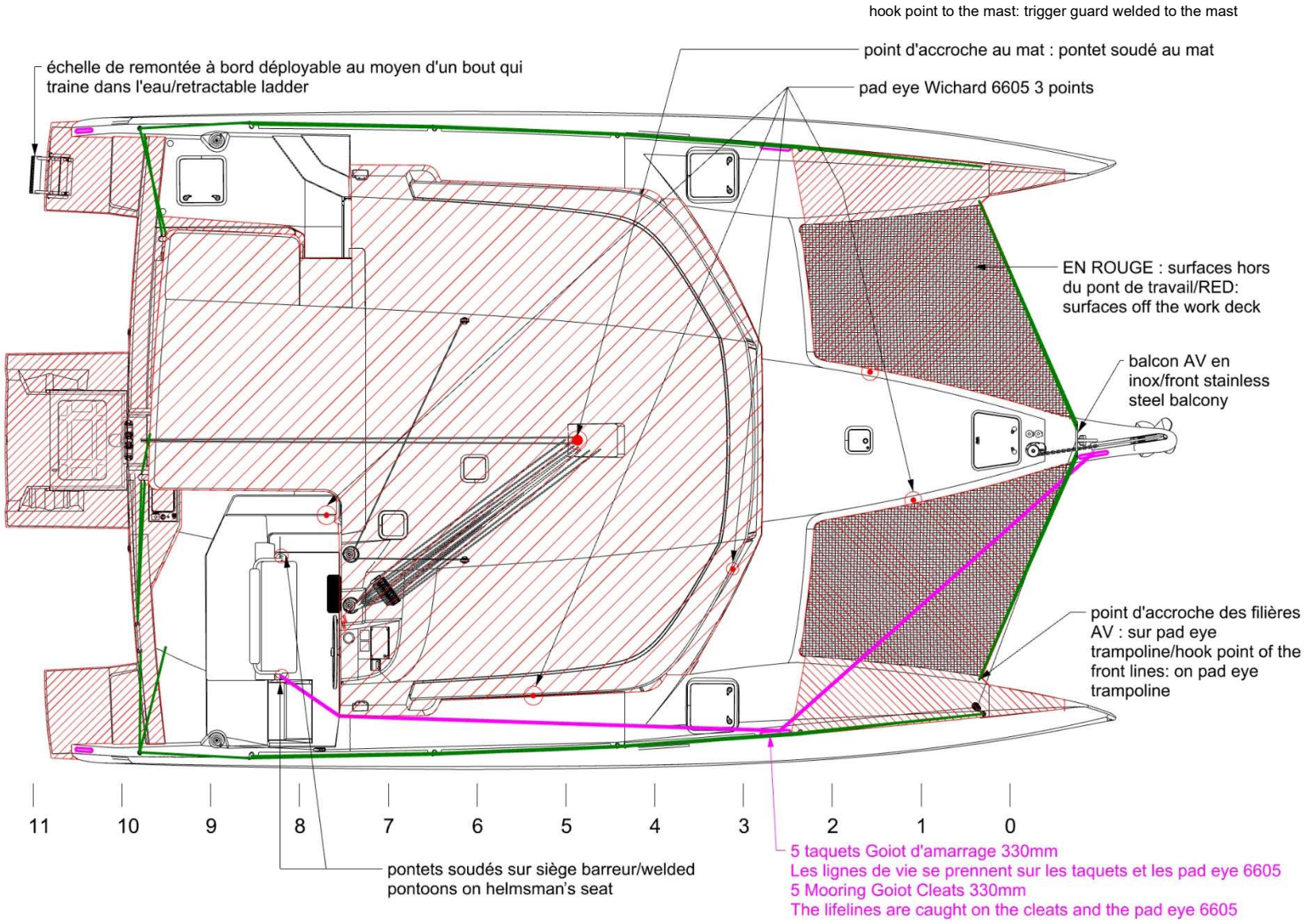
Lifting the anchor:
Take care: It is the boat that must motor into position above the anchor, not the windlass that pulls the boat to the anchor.

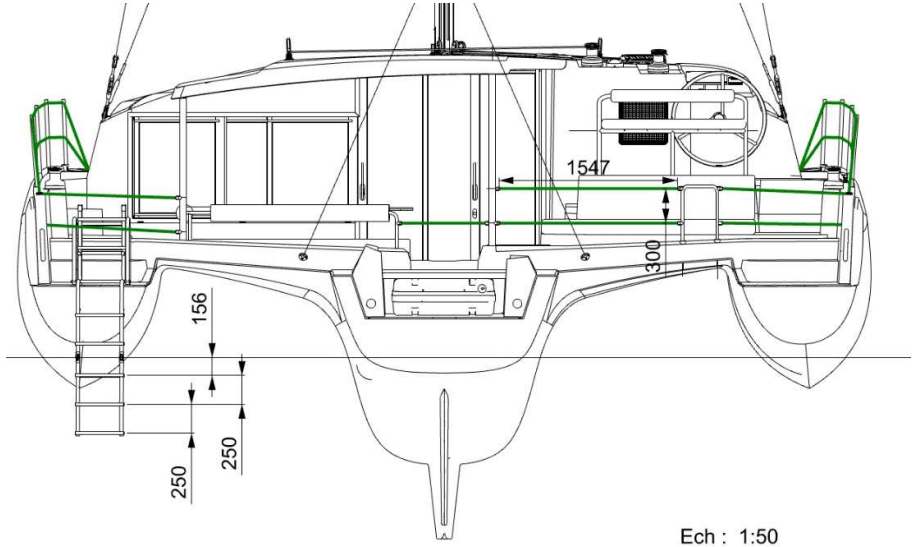
- Station a crew member on the bow to guide the helmsman in the right direction.
- The helmsman steers the motor towards the anchor on engine; all the windlass should do is catch up the chain slack and ultimately pull the anchor up on its davit.
- When the anchor is coming back into its place, take care not to overdo the pulling as this would exert violent tension on the bowsprit. The chain should be no more than just taut.
- Throughout the manoeuvre, keep a careful watch on the water because a manoeuvring boat does not have priority.

In the event of bottoming out/grounding:
In the event of bottoming out or grounding, inspect the boat to check for the presence of water.
If there is a substantial amount of water, use the pumping systems, bail out, and inform the neighbouring boats or the emergency services by making a PANPAN call on the VHF radio.

A. Man overboard prevention and recovery (ISO 15085 standard)




hook point to the mast: trigger guard welded to the mast
point d'accroche au mat : pontet soudé au mat
pad eye Wichard 6605 3 points
échelle de remontée à bord déployable au moyen d'un bout qui traine dans l'eau/retractable ladder
EN ROUGE : surfaces hors du pont de travail/RED: surfaces off the work deck
balcon AV en inox/front stainless steel balcony
point d'accroche des filières AV : sur pad eye trampoline/hook point of the front lines: on pad eye trampoline
11
10
9
8
7
6
5
4
3
2
1
0
pontets soudés sur siège barreur/welded pontoons on helmsman's seat
5 taquets Goiot d'amarrage 330mm
Les lignes de vie se prennent sur les taquets et les pad eye 6605
5 Mooring Goiot Cleats 330mm
The lifelines are caught on the cleats and the pad eye 6605


1547
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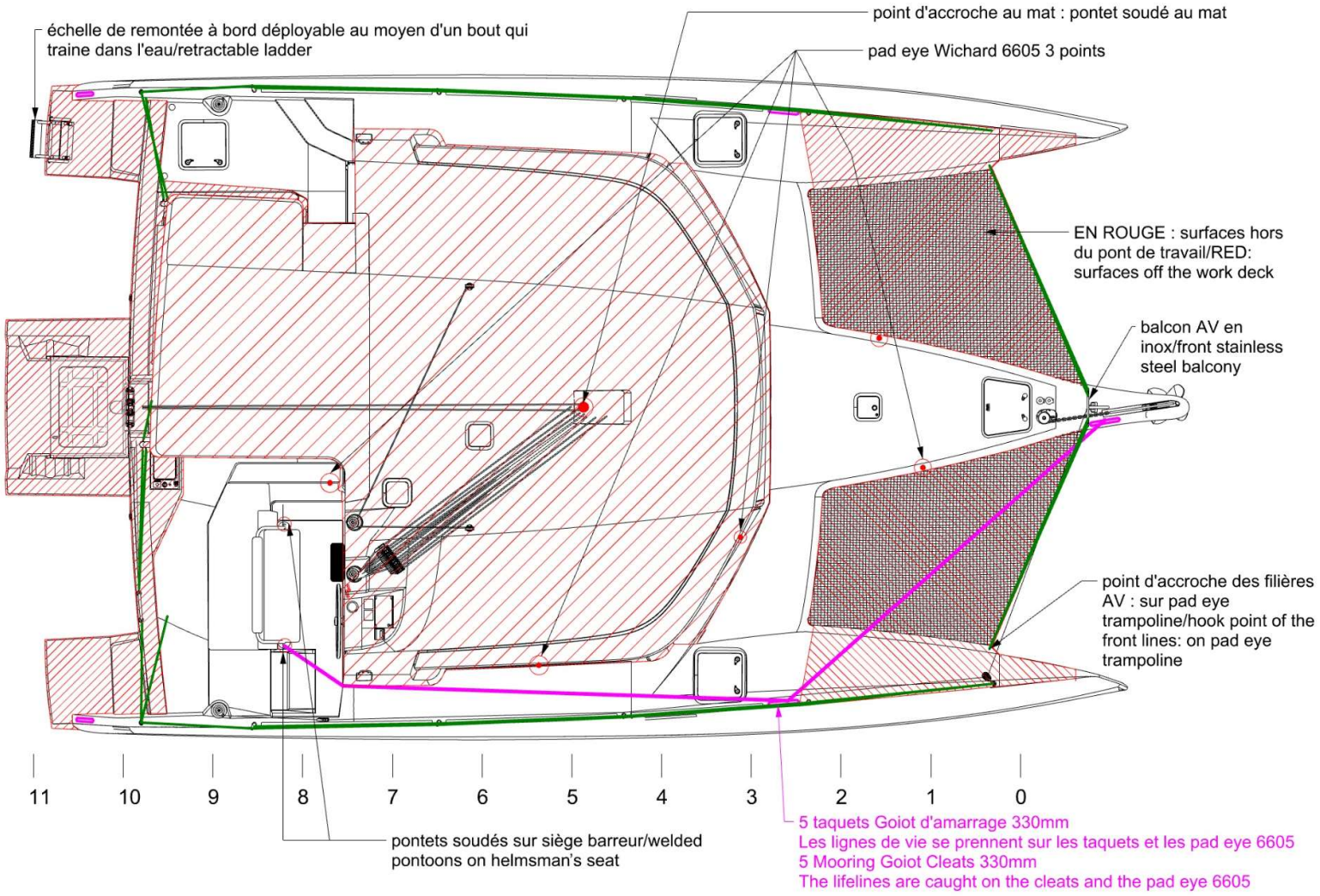
Ech : 1:50


échelle de remontée à bord déployable au moyen d'un bout qui traine dans l'eau/retractable ladder
point d'accroche au mat : pontet soudé au mat
pad eye Wichard 6605 3 points
EN ROUGE : surfaces hors du pont de travail/RED: surfaces off the work deck
balcon AV en inox/front stainless steel balcony
point d'accroche des filières AV : sur pad eye trampoline/hook point of the front lines: on pad eye trampoline
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pontets soudés sur siège barreur/welded pontoons on helmsman's seat
5 taquets Goiot d'amarrage 330mm
Les lignes de vie se prennent sur les taquets et les pad eye 6605
5 Mooring Goiot Cleats 330mm
The lifelines are caught on the cleats and the pad eye 6605

The NEEL 43 is equipped with Dyneema® guard lines, which are rot-proof, UV-resistant and highly resistant to chemicals.
It is the skipper's responsibility to check the condition of the guard lines on a regular basis.

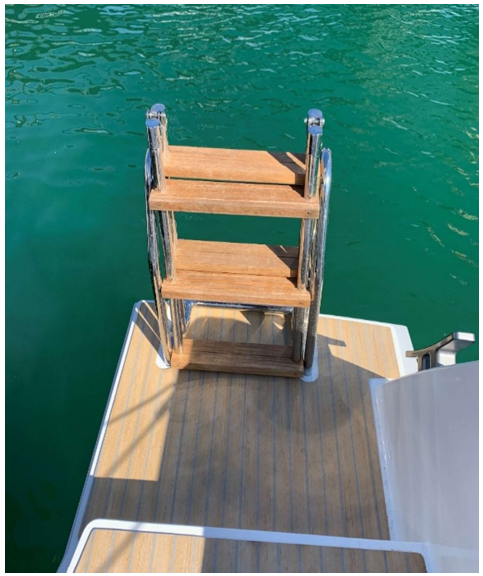
CAUTION: Check the anchor points regularly: Anchor points that show visible signs of deterioration must be replaced.

Important: Each net is designed to hold 4 people.

Important:

- Before sailing, always put the life straps in position: The shipyard does not provide the life straps, but the anchor points for the lifelines are shown on the diagrams above. Avoid discontinuities in the lifelines: Each section should be as long as possible. A lifeline must not have knots and if there are any seams, they must be tested and calibrated.
- Lanyard lifelines are preferable, as they are flat underfoot (rather than round). As with all fibres, these age over time (UV, salt water, temperature), even if this occurs imperceptibly. Ideally, of course, you should winter your lifelines. In any case, they must be changed regularly.
- Polyester strap are preferable, 30mm in width, resistance of 2000 DaN.
- Harnesses on board must be fitted with a lanyard at least 4m long.

Means of getting back on board: there is a swim ladder on the transom of the port hull. To deploy this ladder, pull the cord that dangles in the water.



B. Liferaft

This vessel is fitted with an ISO 9650-1 liferaft of Type I, Group A, 8 persons in a container.

Before departure, carefully read the launching procedure on the raft.

The liferaft's strapping and launching system is designed to operate independently of whether or not the dinghy is present above the pannel that covers the liferaft.

- To release the liferaft to the "normal" position of the boat: loosen the strap that holds it to the boat and throw it into the water, having taken care to attach it to the wire cadene located at the rear of the aft skirt, at the centre line.
- To release the raft if the vessel is turned over, refer to Chapter 02.C Stability and Buoyancy and Chapter 04.A Man Overboard. Once the liferaft has reached its location, untie the strap that holds the liferaft to the boat and attach the liferaft to the wire cadene located aft of the aft skirt on the centreline.

This photo shows a liferaft in a bag and not in a container

C. Danger from moving mechanical parts

Caution: keep away from moving mechanical parts of engines while they are running.

D. Ventilation when using combustion devices

WARNING *Open-flame appliances that burn fuel consume cabin oxygen and release combustion products in the boat. Ventilation is required when these appliances are in use. Open the designated vents when these appliances are on. Never obstruct the vent openings and check that flue appliances are working properly.*

WARNING — *CO exhaust fumes from gasoline engines pose a risk of falling asleep.*

The safety label below is displayed near cooking appliances and ovens:
DANGER — TO PREVENT ANY RISK OF ASPHYXIA, VENTILATE SUFFICIENTLY WHEN THE COOKER IS ON. DO NOT USE IT AS A HEATING APPLIANCE.

E. Securing movable objects

It is recommended that movable objects be carefully secured when the boat is underway.

F. Dinghy

The dinghy is lowered into the water using the boom topping lift.
WARNING: it is forbidden to stow the dinghy and its engine inside the boat.

G. Using the holding tanks

The capacity of the holding tank is 45L.

Servicing:

- The best way to control odours is to clean your tank and all circuits at minimum every year at the end of the season. To carry out this cleaning, simply fill the tank via the toilet using a strong detergent.
- Chemical additives can reduce bad odours in the tank, as they contain enzymes that purify waste. They are biodegradable and thus do not pollute during discharge even though is advisable not to discharge additives into the sea.
- The toilets are supplied and cleaned with fresh water which helps stave off unpleasant smells.
- There is no pump provided on board for emptying this tank.
- The discharge valve is positioned at the level of the thru-hull and can be locked by putting a padlock on the handle
- It is best to use toilet paper designed for marine toilets

Use:

- The evacuation valve can remain open while underway or in port, except in areas where regulations prohibit it. In this case, the black water discharge valve into the sea can be sealed off.
- To empty the holding tank in port, use the pumping stations, via the filler located on deck.

CAUTION:

- Always leave the system empty when leaving the boat in places where temperatures may go below freezing.

H. Mooring, berthing, and towing (ISO 15084 standard)

CAUTION:

- **Always tow or be towed at low speed. Never exceed the speed limit of a displacement hull when towing.**
- **A tow line should always be secured such that it can be released under load.**

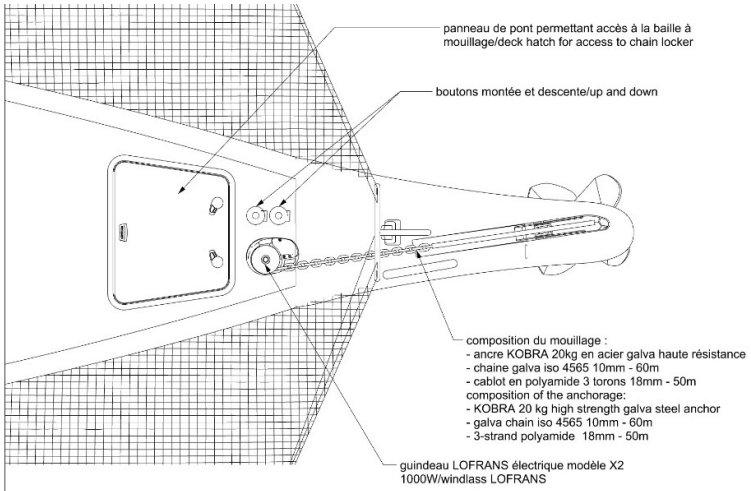
It is the responsibility of the owner/operator to ensure that mooring lines, tow lines, chains and docking lines, and anchors are adequate for the intended use of the boat: In other words, to make sure that the lines or chains do not exceed 80% of the breaking strength of the corresponding anchor point.

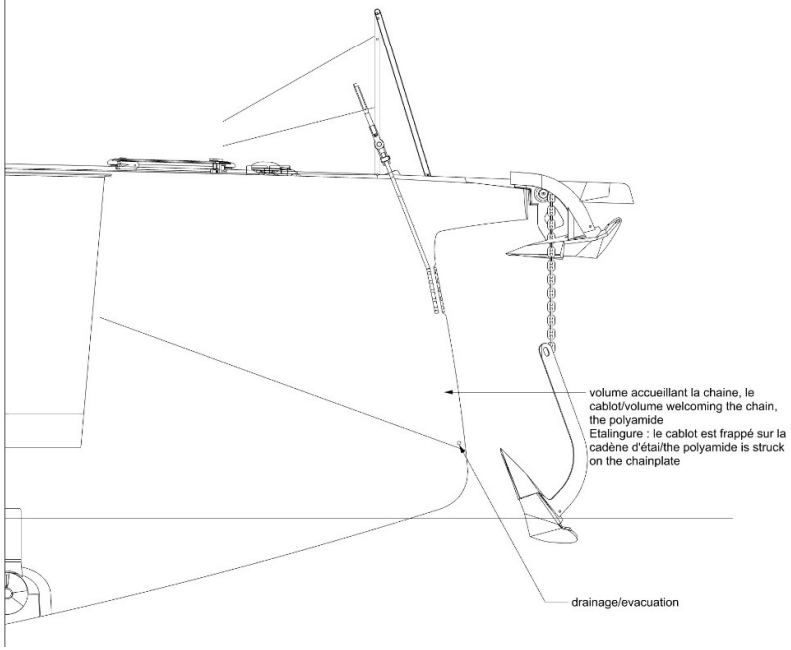
The cleat located on the central hull at the bow, which can be used for anchoring, has a resistance of 49 KN.

The owner must also take into consideration the actions required to secure a tow rope on board.

If non-metallic anchor points are installed on the boat, bear in mind that they have a limited lifespan. They should be replaced as soon as they show signs of deterioration, visible surface cracks, or permanent deformation.

NOTE: Black elements are less UV sensitive than light-coloured ones.


panneau de pont permettant accès à la baille à mouillage/deck hatch for access to chain locker
boutons montée et descente/up and down
composition du mouillage :
- ancre KOBRA 20kg en acier galva haute résistance
- chaine galva iso 4565 10mm - 60m
- cablot en polyamide 3 torons 18mm - 50m
composition of the anchorage:
- KOBRA 20 kg high strength galva steel anchor
- galva chain iso 4565 10mm - 60m
- 3-strand polyamide 18mm - 50m
guindeau LOFRANS électrique modèle X2
1000W/windlass LOFRANS


volume accueillant la chaine, le cablot/volume welcoming the chain, the polyamide
Etalingure : le cablot est frappé sur la cadène d'étai/the polyamide is struck on the chainplate
drainage/evacuation

I. Steering gear

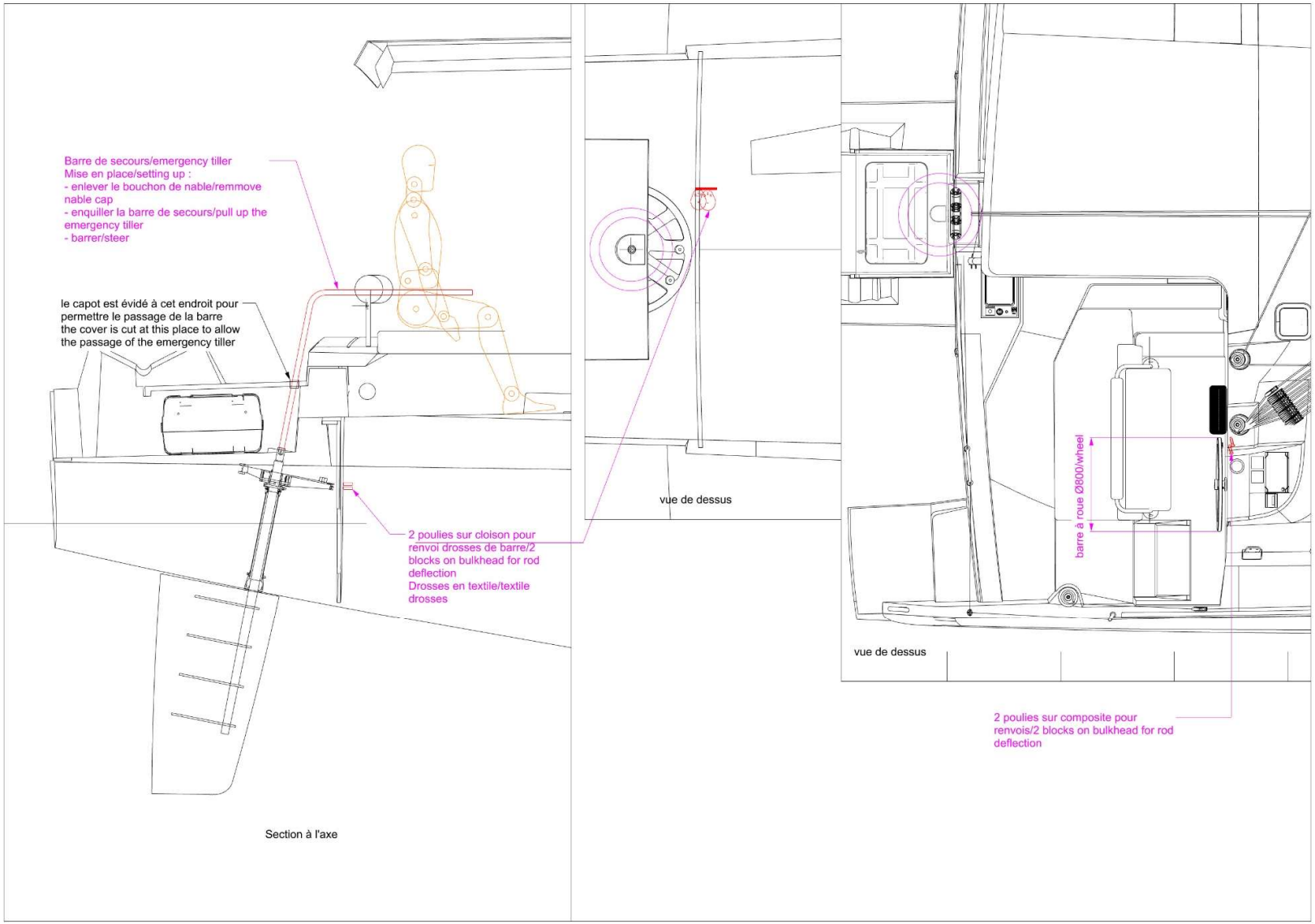
The steering assembly is made up of a steering wheel (helm) and a line and sector transmission system. The maximum diameter for the steering wheel is 800mm.
The suspended rudder is fitted with a stainless-steel shaft.

Maintain nylon, Ertalon, or Teflon bushings with WD40 only.

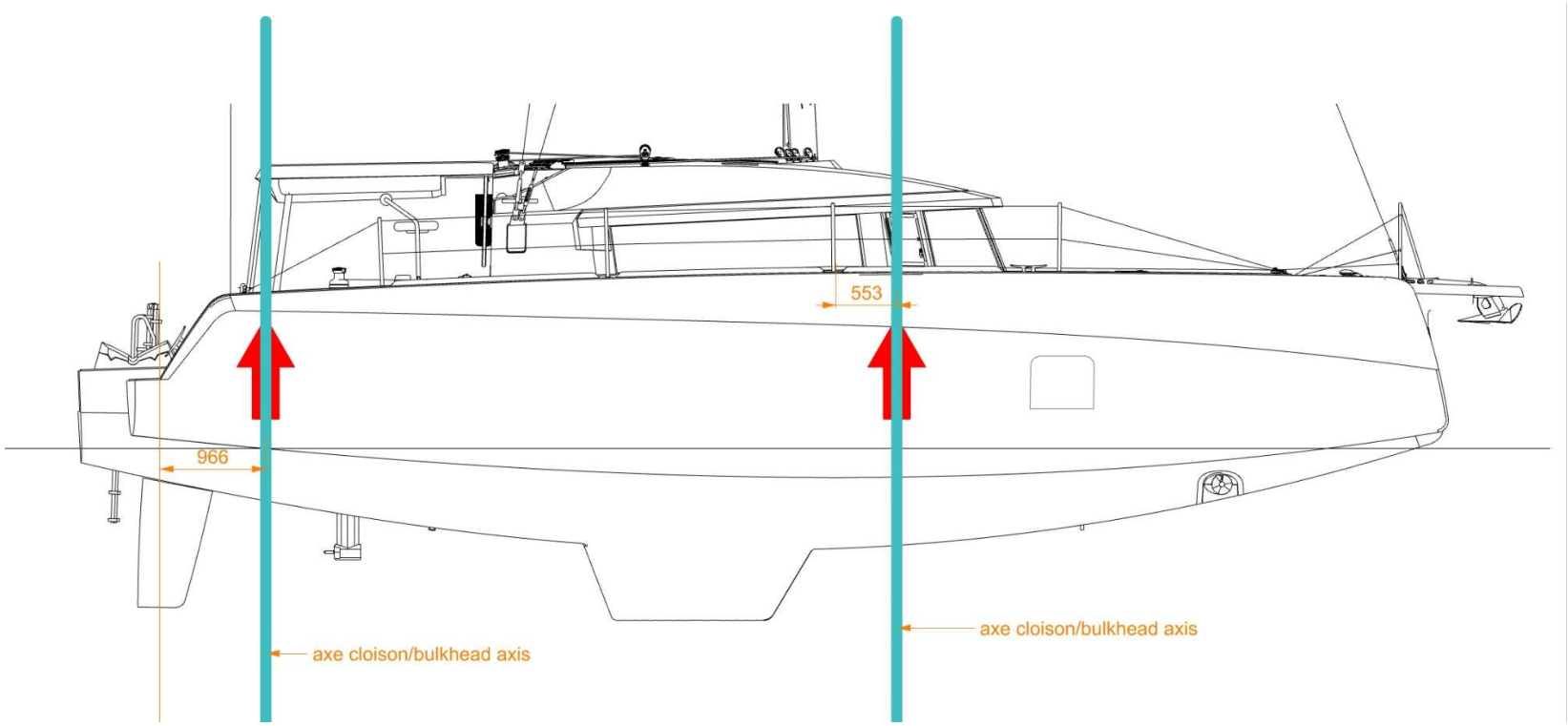
J. Emergency tiller

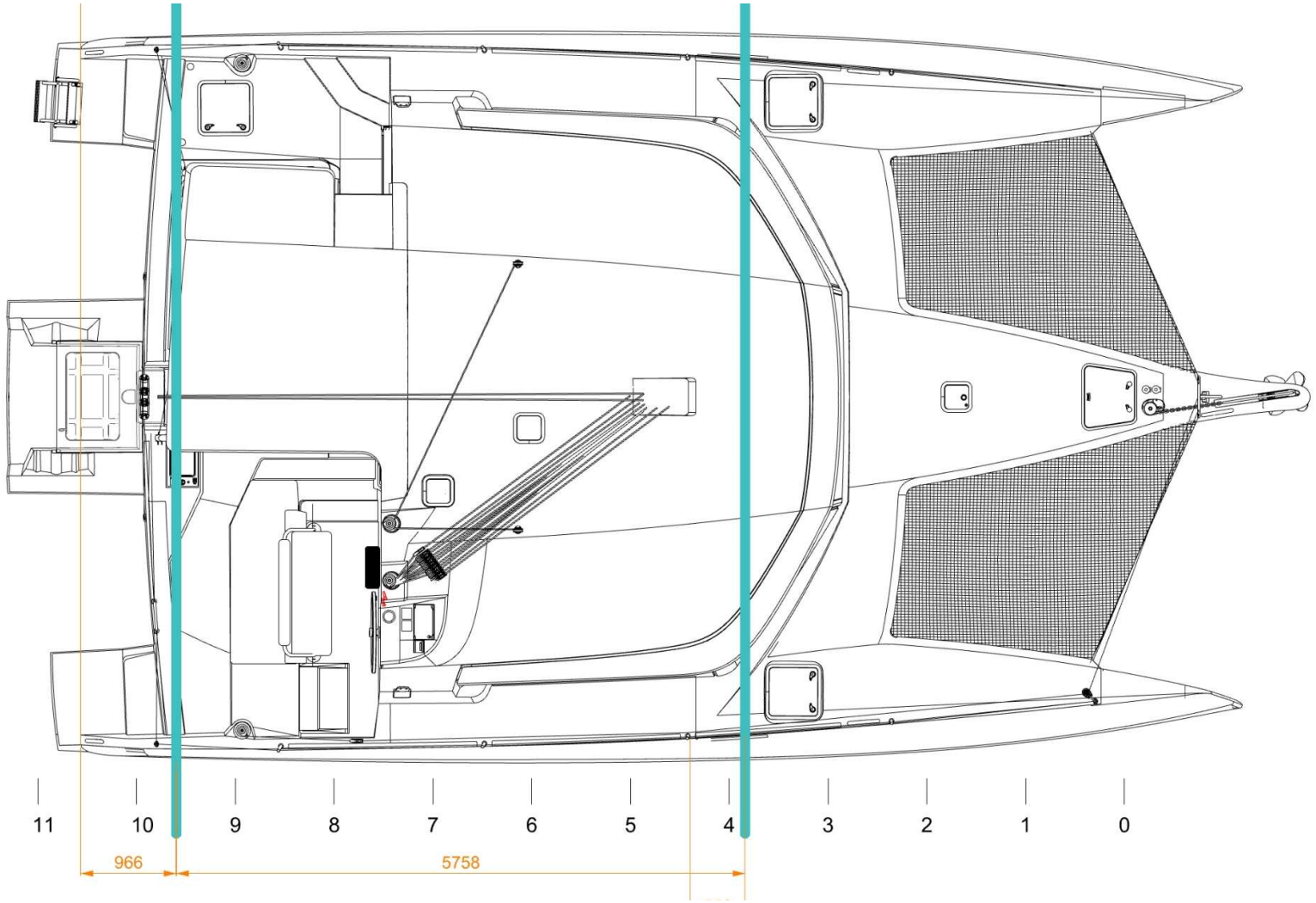
The emergency tiller is stowed in the port aft locker.
This tiller must be kept within easy reach.

Location of hatch to change over to emergency tiller: Boat centerline, central hull transom, in front of the liferaft.


Barre de secours/emergency tiller
Mise en place/setting up :
- enlever le bouchon de nable/remmove nable cap
- enquiller la barre de secours/pull up the emergency tiller
- barrer/steer
le capot est évidé à cet endroit pour permettre le passage de la barre
the cover is cut at this place to allow the passage of the emergency tiller
2 poulies sur cloison pour renvoi drosses de barre/2 blocks on bulkhead for rod deflection
Drosses en textile/textile drosses
Section à l'axe
vue de dessus
barre à roue Ø800/wheel
vue de dessus
2 poulies sur composite pour renvois/2 blocks on bulkhead for rod deflection

K. Lifting


553
966
axe cloison/bulkhead axis
axe cloison/bulkhead axis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05. Appendices

A. Servicing of stainless-steel parts

Stainless steel must never be in contact with pure hydrochloric acid, or even diluted in other products, otherwise it will undergo instant corrosion. In this case, it must immediately be rinsed with plenty of water.

When to clean stainless steel

Stainless steel parts exposed to a saline environment should frequently be rinsed and cleaned.

In practice, this is a simple operation due to the surface qualities of stainless steel, the many products available for the task, and their effectiveness.

Suitable products for cleaning stainless steel installations

The products used to clean stainless steel systematically need to be rinsed off with clear water to maintain the qualities of the stainless steel:

- ✓ Detergents and cleansers: Soap, window cleaning products
- ✓ Non-abrasive calcium carbonate scouring powders or creams (beware of the risk of scratches from certain particularly abrasive products)
- ✓ Solvents for cleaning the kind of grime that is not removed by detergents and cleansers (paints, mineral greases, etc.). The solvent residues must then be removed with a detergent
- ✓ Acid products to remove scale for example. These products must be handled by informed staff: they must be used according to the instructions recommended by the manufacturer
- ✓ Solutions based on soda or potash can be used
- ✓ Bleach can be used, diluted in COLD water, with limited contact times and thoroughly rinsed off at the end

The same precautions must be taken for chlorinated or halogenated disinfectants (bromine, iodine, fluorine), handled by trained staff (products specifically intended for stainless steel)

Unsuitable equipment for cleaning stainless steel installations

- Steel wire brushes and pads
- Equipment of dubious cleanliness
- Steel wool

Unsuitable products for cleaning stainless steel installations

- Hydrochloric acid is strictly prohibited. In case of contact with such a product or its vapours, immediately rinse thoroughly with plenty of water
- Bleach, even when diluted, should not be used at hot temperatures (above 25°C)
- Waxing products are unreliable. Their greasy or sticky texture may trap dirt and make cleaning more difficult
- "Two-in-one" products (cleaning/disinfection) are often particularly aggressive and could damage stainless steel
- Products used for silverware

B. Fabric care

Interior fabrics:

- F or C gasoline
- Machine wash on delicate synthetics at 30°C

Interior lining:

- F gasoline or mild alcohol-free soap
- Do not vacuum clean

Exterior upholstery:

- F gasoline or mild alcohol-free soap
- Do not vacuum clean

Acetone, White Spirit, and household alcohol are prohibited on all fabrics, interior and exterior.

C. General servicing of interior joinery

NEEL furniture is made of varnished Alpi, its servicing must therefore be done using a soft cloth and a product for varnished wooden furniture.

NEVER USE ACETONE OR ANY AGGRESSIVE ELEMENT (such as abrasive sponges)

If the surface is stained, clean with soapy water and a soft cloth without scrubbing. The protective layer formed by the varnish would then no longer perform its function.

The doors on this boat have been designed to be kept in the closed position while underway. Make sure they are properly closed before you go to sea.

D. Rig servicing

Inspect the standing and running rigging at least once a year.

For metal cables, change them as soon as the first broken strand appears, watch for any traces of corrosion, and check the condition of the cable ends.

For synthetic cables – everything to do with halyards, sheets, mooring lines, and possibly textile rigging – change them as soon as signs of wear or chafing appear.

Rig tuning:

The cap shrouds must be tensioned to the maximum value with the lower shrouds in place but not tensioned. Apply tension to the lower shrouds and check that the tension on the cap shrouds remains above the minimum value.

The masthead rig tuning must be carried out according to the guidelines, applying a pre-bend once the diamonds and lower shrouds have been tensioned.

The diamonds must be evenly balanced so that the mast stands straight from side to side.

The shrouds must be tensioned evenly.

The profile/mast step contact must be evenly distributed.

Cable / Câble	Ø mm	Type	Breaking load Rupture	Min load Charge mini	Max load Charge maxi
Cap shrouds / Galhaubans	12 mm	CS	14400 Kg	2160 Kg	2580 Kg
Outer diamonds / Losanges externes.	10 mm	1x19	8400 Kg	1520 Kg	1680 Kg
Inner diamonds / Losanges internes	7 mm	1x19	4040 Kg	720 Kg	880 Kg
Lower shrouds / bas haubans	10 mm	1x19	8400 Kg	1000 Kg	1180 Kg

FLEXITEEK	HANDBOOK			FH-12-03	
	Chapter MAINTENANCE INSTRUCTION			Tab no 12	Page no 1 of 1
Written by Paul Whelan	Controlled by Robert Tilney	Approved by Svein E. Abrahamsen	Edition no 3	Date March 16th 2007	

MAINTAINING YOUR FLEXITEEK DECK

Congratulations on purchasing the Ultimate Synthetic Decking system

Your Flexiteek deck does not require any special treatment or costly maintenance and by following these simple instructions your deck will last many years and continue to look great.

Flexiteek is stain resistant and most spills will clean up with warm soapy water (for rapid stain removal, clean while stain is fresh). We recommend the use of a alkaline degreasing detergent used with a 3M doodle bug scrubber or a stiff scrubbing brush, this process should be repeated as often as necessary. If a slight mark remains after a spill, sand with 60grit sandpaper, remember to follow the grain. This will remove any remaining marks.

Over time, your Flexiteek deck may go darker. Should you wish to bring the color back to the original than, once again, sanding with 60 grit sandpaper with a sanding block as described above will restore the color and texture. You will need to allow approximately 15 minutes per square meter to achieve the best results. Unlike real teak, there is minimal material removed when sanding as described and there is no concern about sanding through if the above directions are followed.

Flexiteek **may** be power washed with or with out detergent.

DO NOT use an orbital or belt sander on your Flexiteek deck.

DO NOT subject your Flexiteek deck to excessive heat, deck brightening chemicals, acid washes or any 2-part cleaners. Treat your Flexiteek deck with the care that you would a normal teak deck.

Flexiteek is designed to be left raw. DO NOT coat you Flexiteek deck with teak oil or oil based varnish. Flexiteek is synthetic and will not absorb fluids. For interior use you may sand your deck with 120-180 grit sandpaper and coat with a good quality 2-part water based polyurethane floor finish. This has excellent adhesion and will give a nice polished surface. Beware that the floor may become slippery. This finish is not to be used for the exteriors.

If you have any questions regarding the maintenance of your Flexiteek deck, please feel free to contact us.

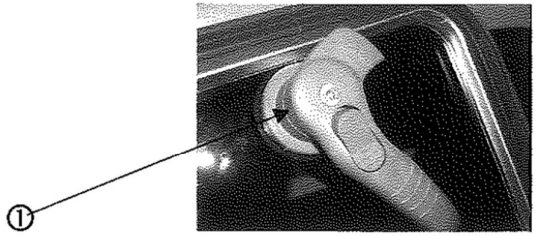
F. Deck hatches

UTILISATION

LE PANNEAU DOIT IMPERATIVEMENT RESTER FERME EN NAVIGATION

- La fermeture est assurée par 1 ou 2 poignée(s) munie(s) d'un bouton de verrouillage ON/OFF.
- Des bouchons de poignée pour ouverture extérieure sont livrés en standard avec chaque panneau.

① Pour les monter, dévisser la vis M6 à l'arrière de la poignée avec une clé Allen.



Enlever le bouchon existant dont la position est déterminée par une butée intérieure ② . Placer le nouveau bouchon en respectant la position de cette butée.

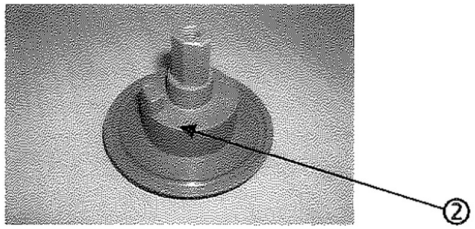
③ Les compas peuvent être démontés en dévissant l'axe à la base du compas à l'aide d'une clé Allen. Il est alors possible d'ouvrir l'ouvrant jusqu'à 180°.

OPERATING

THE HATCH MUST IMPERATIVELY BE CLOSED WHEN SAILING

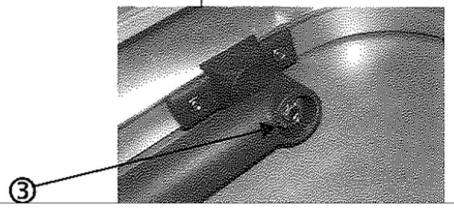
- Closing is operated with 1 or 2 handle(s) featuring a locking position ON/OFF.
- Outside handle caps are supplied as standard with every hatch.

① Mounting is carried out by unscrewing the M6 screw at the back of the handle with an Allen key.



Remove the existing cap, the position of which is controlled by a small locking stop ②. Mount the new cap making sure the locking stop is in the right position.

③ The stays could be removed by unscrewing the axis on the stay base with an Allen key. Opening is then possible until the 180° position.



ENTRETIEN

- Après chaque sortie en mer il est recommandé de rincer les panneaux à l'eau douce. N'utilisez jamais de solvant sur la glace pour le nettoyage au risque de l'endommager. Nettoyez toujours la glace avec du savon et de l'eau.
- Si la glace est endommagée, elle peut être remplacée. Il suffit d'identifier le modèle de panneau grâce au tableau ci-dessous et de vous adresser à un revendeur GOIOT. Un kit de collage accompagné d'une notice explicative est disponible (réf. 101715).
- La couche d'anodisation possède une grande dureté qui protège l'aluminium à l'action d'un léger abrasif. Ne pas nettoyer avec des produits ménagers tels que l'acide chlorhydrique, la soude, le vinaigre, l'alcali. Entretien courant à l'eau et détergent doux, suivi d'un rinçage à l'eau claire et essuyage avec chiffon doux et absorbant.

SERVICING

- Rinse the hatch with soft water after sailing.
Never use solvent to clean the acrylic, it could damage the sealant and the acrylic. Simply use soapy water.
- If broken, the acrylic pane can be replaced. To do so, you must identify the model using the chart below and contact your nearest GOIOT distributor (see "network" section on www.goiot.com). A glueing kit with refitting instructions is available (ref. 101715).
- The anodized layer has a hardness which protects the aluminum to the action of a mild abrasive. Do not clean with household products such as hydrochloric acid, soda, vinegar, alkali. Maintenance of water and mild detergent, followed by rinsing with clean water and wipe with soft, absorbent cloth.

PIECES DETACHEES ~ PANNEAU OPAL / *SPARE PARTS ~ OPAL HATCH*

Taille *Size*	Dormant / *Lower frame* (mm)		Référence glace *Part no.*	Joint *Gasket*	Bouchon poignée/ *Handle cap*		*Compas / Stay*
	Cotes de découpe *Cut out dimension*	Rayon de découpe *Cut out radius*			Standard / *Blank*	Empreinte étoile / *Winch recess*	
10	260 x 260	42,5	106898	95659	106894	106895	106891
20	347 x 202		106899				106892
30	457 x 327						106893
40	421 x 421		106901				106976
44	442 x 442		106902				106870
54	507 x 392		106903				106971
60	507 x 507		106904				106972
70	627 x 627		106906				106973

G. Use of trampoline nets

Instructions for use of trampoline nets:

- Do not jump on the nets as this causes premature breakage at the attachment points of the nets
- Do not exceed a load of 400kg per net
- Do not use products containing detergent, solvent, or chlorine to clean the nets. If you wash your boat deck with these products, take care not to splash it on the nets: These products burn the nets which are made of textile material and cause the net meshing to break.

CAUTION

No warranty if these precautions are not followed

H. Servicing the aluminium tanks

Diesel tank: always fill up before winterising the boat to prevent bacteria from forming
Water tank: Do not put anything in it (chlorine, magic tablet, etc.) so as to avoid alumina problems

I. Wiring diagrams

The electrical diagrams are provided on a separate sheet.

JUST
MAKES
SENSE.

4 rue Virginie Hériot 17000 La Rochelle - France