

FIRST 20

OWNER'S MANUAL



189143 RCD-2

Index A



CONTENTS

5	Introduction	
9	Technical specifications	1
13	Design categories and displacement	2
17	Stability and buoyancy	3
21	Manoeuvrability	4
25	Rigging and sails	5
45	Safety	6
59	Information relating to fire risks and risks of explosion	7
65	Electrical system	8
73	Water systems	9
81	Engine	10
87	Steering system	11
91	Deck fittings	12
97	Hull fittings	13
101	Handling, transport	14
109	Environment	15
111	Appendixes	

INTRODUCTION

Welcome

You have just taken delivery of your new BENETEAU boat and we thank you for the confidence you have shown us in ordering a vessel of our brand. The whole BENETEAU team welcomes you aboard.

A BENETEAU is made to last, in order to bring you all the pleasure you expect from a vessel over a period of many years. Each boat is subject to the utmost attention to detail from the design stage right through to launching.

This manual is meant to help you to enjoy your boat comfortably and safely. It includes the boat specifications, the equipment provided or installed, the systems and tips on her operation and maintenance. Some of the equipment described in this manual may be optional.

Your BENETEAU dealer will be able to help and advise you in the use and maintenance of your boat. The initial commissioning of your boat will require a lot of skill and care. The proper working of all your boat's equipment is the result of the quality of the commissioning operations. This is why the initial launch must be overseen by your dealer.

Read this Owner's Manual carefully and take the time to get to know your boat before you use it.

The better you know your vessel the more pleasure you will get from being at the helm.

Keep this manual somewhere safe and should you sell your boat, hand it to the new owner.

You are advised to keep any user's guides supplied by the manufacturers of any equipment for your boat (accessories...), together with your manual.



For all the equipment on your boat, please read the instruction manuals provided by the manufacturer.

■ This manual has been produced to help you enjoy using your boat in all safety. It contains the details of the boat and of all the equipment provided and installed on your boat, as well as the instructions for their use. Read it carefully and really get to know your boat before using it.

■ This owner's manual is not in any way a navigation or mariner's training manual. If this is your first boat or if you have changed to a type of boat with which you are not familiar, make sure that you learn how to use it and manoeuvre it safely and with ease, before taking the helm alone. Your dealer, or national sailing or motorboat association, or your yacht club will be very happy to tell you about the navigation schools or qualified instructors in your area.

■ Make sure that the wind and sea conditions forecast are appropriate for the design category of your boat and that you and your crew are capable of manoeuvring the boat in these conditions.

■ Even with a well-adapted boat, the wind and sea conditions which correspond to the design categories A,B and C range from storm force winds for category A to severe storm conditions at the upper end of category C and would put the boat at risk from massive waves and extreme gusts. These are dangerous conditions in which only an experienced, fit and well-trained crew, manoeuvring a well-maintained boat, could navigate sufficiently well.

■ This owner's manual is not intended as a detailed maintenance or repairs manual. Should any problems arise please contact your dealer. If a maintenance manual is provided, please use it.

■ Always use the services of an experienced professional for the maintenance of your boat, for fitting accessories and for any modifications. Any alterations which may affect the safety specifications of the boat must be assessed, carried out and recorded by persons qualified to do so. The boat manufacturer cannot be held responsible for any modifications not approved by them.

■ Some countries require you to hold a Certificate of Competency or other qualifications, or other specific regulations may be in force.

■ Always maintain your boat well and make note of any deterioration due to wear and tear or to heavy or inappropriate use.

■ Any boat – no matter how well-built – could suffer serious damage if used recklessly. This is not compatible with safe navigation. Always adjust the speed and heading of your boat according to the sea conditions.

■ If your boat is equipped with a life-raft, read the instruction manual carefully. The crew must have available onboard all the safety gear (lifejackets, harnesses etc) appropriate for the type of boat and for the weather conditions etc.. In some countries it is mandatory to have this safety equipment onboard. The crew must be fully familiarised with the use of the safety gear and with emergency manoeuvres (Man Overboard procedures, towing another vessel etc). Sailing schools and clubs regularly run training sessions for these.

■ It is advised that, when on deck, everyone should wear the appropriate buoyancy aids (lifejackets, personal buoyancy aids) Be advised that in some countries, it is mandatory to wear a buoyancy aid which meets the national regulations at all times.

Notes on reading this manual

The various symbols used throughout the manual for crucial safety information are as follows:



DANGER

Indicates the existence of a serious inherent danger with a high risk of death or serious injury if the appropriate precautions are not taken.



WARNING

Indicates the existence of a danger which could lead to injury or death if the appropriate precautions are not taken.



WARNING

Indicates either a reminder of safety procedures or alerts you to dangerous manoeuvres or operations, which could result in injuries to those onboard or in damage to the boat or to components of it, or to the environment.



ADVICE-RECOMMENDATION

Indicates a recommendation or advice for carrying out manoeuvres appropriate for the planned manoeuvres.

- While some of the information and illustrations in this manual may show details which are slightly different from those found on your boat, the key information remains the same. Future versions of this manual will show any possible modifications as required.
- Due to the constant desire to improve the products, SPBI S.A. reserves the right to make any changes considered necessary to the design or to the equipment. That is the reason why the specifications and information given are not contractual, they may be modified without prior notice or up dates.



- This owner's manual is written in several languages. French is the authentic reference language.
- This owner's manual was written and made up into pages by SPBI S.A.. Any reproduction of this manual, direct or indirect, provisional or permanent, by whatever means this may be, whether in whole or in part, and any modification of this manual by a third party for commercial reasons, are forbidden.

TECHNICAL SPECIFICATIONS

■ Construction	10
■ General dimensions	10
■ Engine.....	10
■ Electricity	10
■ Capacities.....	11
■ Sails	11

1.1 CONSTRUCTION

Model.....	FIRST TWENTY
Architect	Finot - Cong
Builder	SPBI S.A
Principal means of propulsion	Sail
Hull construction material.....	Single skin laminated fibreglass / Polyester
Deck construction material.....	Laminated sandwich glass / Polyester / Balsa wood
Application - Deck	injection
Application - Hull	Wet laid fibre

1.2 GENERAL DIMENSIONS

L.O.A (L_{max})*	6,50 m
<i>(Including removable parts that can be dismantled (bow roller, pulpit, bowsprit), without affecting the structure of the boat)</i>	
Hull length (L_h)*	6,25 m
<i>(Excluding: removable parts that can be dismantled, without affecting the structure of the boat)</i>	
Overall width (B_{max})*	2,48 m
<i>(Including: removable parts that can be dismantled, without affecting the structure of the boat)</i>	
Beam(B_h)*	2,48 m
<i>(Excluding: removable parts that can be dismantled, without affecting the structure of the boat)</i>	
Air draught - Empty vessel	10,40 m
Draught - Boat fully laden.....	0,70 / 1,80 m
Wetted surface area	Approximately 11 m ²

1.3 ENGINE

Nominal maximum propulsion power (at the propeller output)	8 Kw
Maximum recommended engine size.....	30 kg

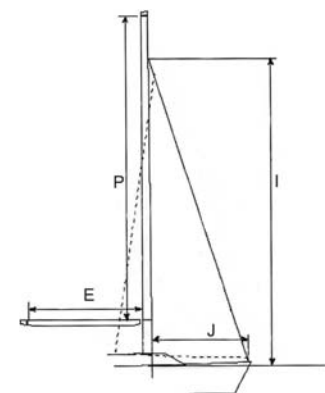
1.4 ELECTRICITY

Circuit type - Direct current.....	12V
------------------------------------	-----

1.5 CAPACITIES

Total mass of the liquid content of fixed tanks when they are full 35 kg
Fresh water capacity: 35 L
It may not be possible to use these capacities fully depending on the trim and load of the boat. It is recommended to keep a reserve of 20% in the fuel tanks.

1.6 SAILS



I: Distance between deck and highest genoa halyard sheave 7,00 m
J: Distance between the fore of the mast and the bow fitting on the deck 2,37 m
P: Length of the mainsail luff 7,40 m
E: Length of the mainsail foot 3,15 m

Mainsail 16 m²
Genoa..... 9,5 m²
Asymmetrical spinnaker 40 m²
Symmetric spi..... 34 m²

DESIGN CATEGORIES AND DISPLACEMENT

■ Design categories.....	16
--------------------------	----

- Some of the data is shown on the manufacturer's plate fixed to the boat. The explanation of the data is given in the appropriate chapters of this manual.
- The recommended maximum load includes the weight of all the people onboard, of provisions, personal belongings, of all equipment not included in the weight of the boat in ballast, of the cargo (if relevant) and of all liquids contained in fixed tanks when full (fuel, water, grey water, black water).
- The maximum recommended weight shown on the manufacturer's plate does not include the weight contained in the fixed tanks of liquid when full (fuel, water, grey water, black water).

Design category	C	D
Maximum number of people to be allowed onboard	6	6
Light displacement	1 331 kg	1 331 kg
Recommended maximum load	670 kg	670 kg
Displacement with maximum load	2 001 kg	2 001 kg

If some of those onboard are children, the total number of people allowed onboard may be increased, provided that:

- The total weight of the children does not exceed 37,5 kg;

and that

- the total weight of all allowed onboard (based on about 75 kg per adult) is not exceeded.



- Do not exceed the recommended maximum number of people onboard. However many people are onboard, the total, combined load of people and any gear or equipment must never exceed the recommended maximum load.

- Always use the seats or seating areas provided.



- When loading the boat, never exceed the recommended maximum load. Always load the boat with care and distribute the loads in order to maintain the theoretical trim (more or less horizontal).

- Avoid placing heavy loads high up in the boat.

2.1 DESIGN CATEGORIES

Category A:

A yacht of design category A is considered to be designed for wind that may exceed force 8 (on the Beaufort scale) and waves that can exceed a significant height of 4 metres, but excluding exceptional conditions such as storms, severe storms, tornadoes and extreme sea conditions or huge waves.

Category B:

A yacht of design category B is considered to be designed for wind that may go up to force 8 inclusive and waves that can reach a significant height up to 4 metres inclusive.

Category C:

A yacht of design category C is considered to be designed for wind that may go up to force 6 inclusive and waves that can reach a significant height up to 2 metres inclusive.

Category D:

A yacht of design category D is considered to be designed for wind that may go up to force 4 inclusive and waves that can reach a significant height up to 0,3 metres inclusive, with occasional waves of a maximum height of 0,5 metres.

NOTE: Boats in each category must be designed and built to withstand these parameters in respect of stability, buoyancy, and other relevant essential requirements and to have good handling characteristics.

STABILITY AND BUOYANCY

■ Stability data	18
■ Access to the boat.....	19

3.1 STABILITY DATA

- Fully laden displacement was used to evaluate the stability and buoyancy of the boat. The value of this displacement can be found in paragraph "Technical specifications" at the beginning of this manual.
- Any changes in the distribution of loads onboard (for example by adding a raised structure for fishing, fitting a radar or in-mast furling, changing the engine etc.) can significantly affect the boat's stability, trim and its performance;
- It is important to keep water in the bilges to a minimum;
- The boat's stability is affected by adding to the weight of the superstructure;
- In heavy weather it is important to close all the hatches, lockers and doors to minimise the risk of water pouring in;
- The boat's stability can be reduced when towing a boat or when using a davit or boom to lift a heavy load;
- Breaking waves are a serious threat to stability.



- Always adjust the speed and heading of your boat according to the sea conditions.
- All of the watertight hatches must remain closed when at sea.

3.2 ACCESS TO THE BOAT

Access to companionway



- When at sea close the guardrail side-opening or openings.
- Slamming an access hatch may cause injury : always close the hatch gently and carefully.
- Do not allow children to open or close the hatches unsupervised.



- It is imperative that companionway access is kept closed when at sea.
- Close the deck hatches and portholes before each trip.
- Close all access doors and hatches in heavy weather or when the sea is rough.



- Keep the sea cocks, discharge and drainage points closed to minimise the risk of seawater pouring in.

MANOEUVRABILITY

■ Visibility from the steering station.....	23
---	----

- This boat is liable to capsize or to become flooded if carrying too much sail. In these circumstances it could sink. It is important to reduce the sail area if the wind exceeds force 3 on the scale of Beaufort. It is important to be especially vigilant in strong gusts of wind or in a squall.
- Take extra precautions if sailing downwind when you come round onto a beam reach, as both the apparent wind and the angle of heel will increase. Such changes to the point of sail must not be made at speed and you should first consider reducing sail.



- If carrying too much sail, the boat could capsize.
- It is important to take additional precautions in very strong winds or in a confused sea or breaking waves.

4.1 VISIBILITY FROM THE STEERING STATION

The vision of the helmsman from the steering station can be obstructed when under sail caused by one or several variable conditions:

- 1) Load and load distribution;
- 2) Speed;
- 3) Sea conditions;
- 4) Rain and mist;
- 5) Darkness and fog;
- 6) Lights inside the boat;
- 7) Position of covers and curtains;
- 8) Persons or mobile equipment located in the helmsman's field of view.

List of sails able to obstruct a forward view:

- All except the staysail.

The international regulations to avoid collisions at sea (Col Reg / RIPAM) and rules require appropriate and continuous watching as well as the observance of the right-of-way rules. Observance of these rules is essential.

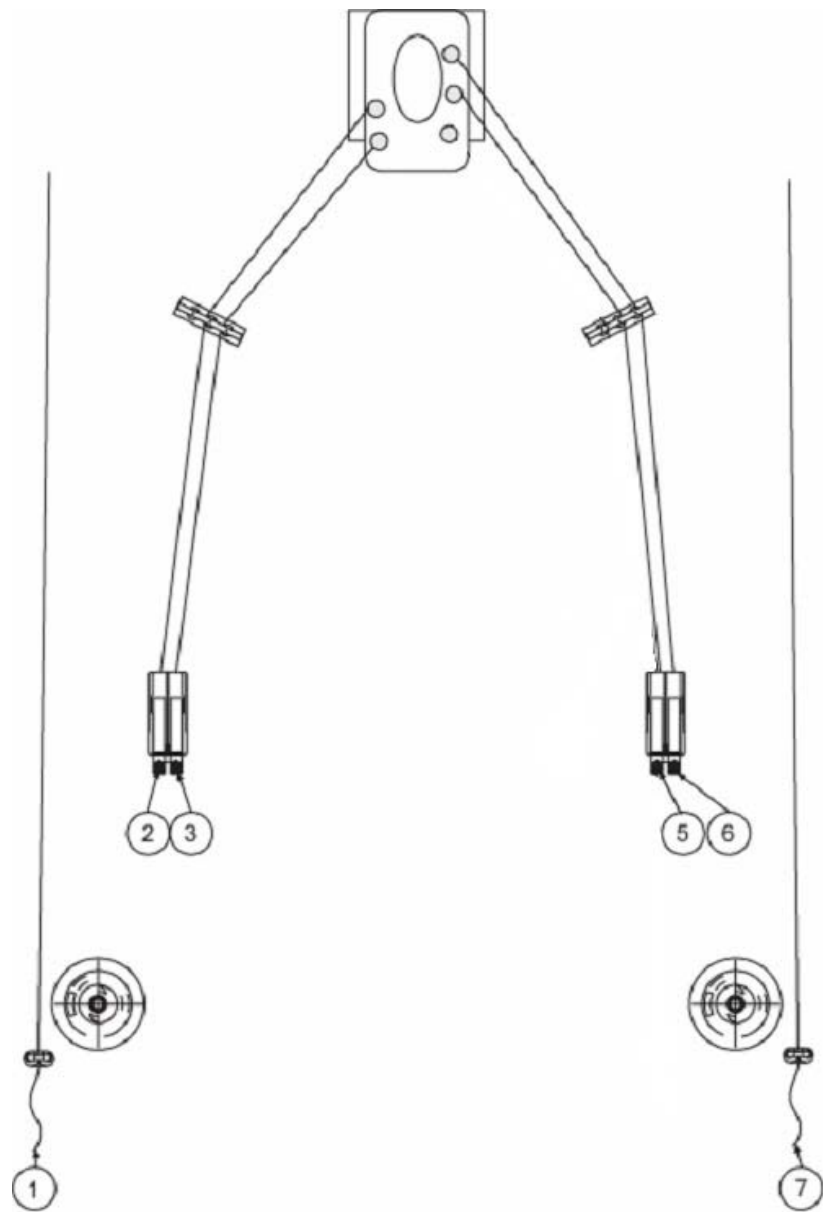


- Manoeuvrability is reduced at excessive speeds.
- There is a risk of loss of control during tight turns.
- Reduce speed before making a turn in any direction.

RIGGING AND SAILS

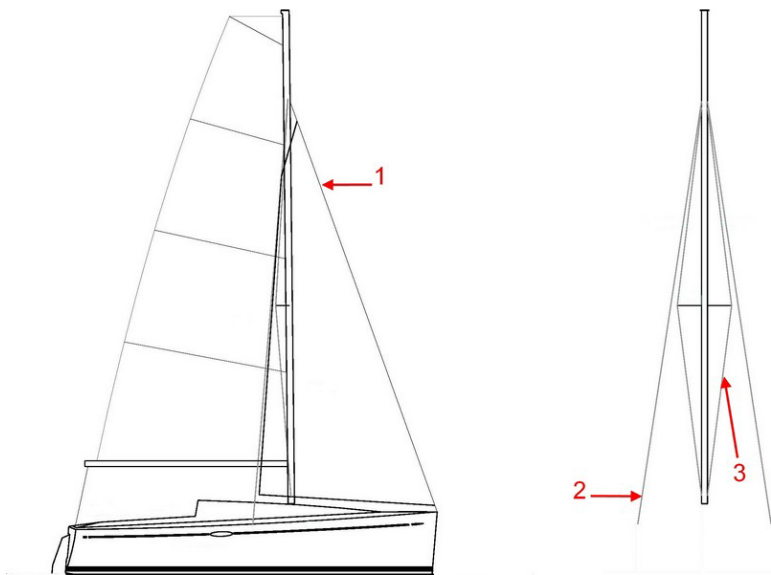
■ Rigging diagram	26
■ Standing rigging	27
■ Running rigging	36
■ Sails	37
■ Setting the sails	38
■ Deck fitting	42
■ Winches	42
■ Genoa furler	43
■ Dolphin nose	44

5.1 RIGGING DIAGRAM



Reference	Designation
1	Genoa furling gear stopper
2	Main halyard
3	Reef 1
5	Reef 2
6	Spinnaker halyard
7	Asymmetric spinnaker tack

5.2 STANDING RIGGING



Reference	Designation	Quantity
1	Forestay	1
2	Upper shroud	2
3	Diamond	2



- The initial commissioning of your boat will require a lot of skill and care. The proper working of all your boat's equipment is the result of the quality of the commissioning operations. For this reason the stepping of the mast must be carried out under the responsibility of your dealer the first time the mast is stepped.
- Before each trip, carefully inspect the mast from top to bottom.
- Periodically check the rig tension and the tightness of the locknuts and bottle screw clevis pins.



- When not sailing, slacken the genoa halyard and keep it away from the forestay (risk of halyard becoming furled around the forestay, which can lead to the stay breaking and dismasting of the boat).

MAST - FIXED

Mast adjustment

The recommended values should be respected (at minimum), since with these tensions the rigging is tight and the minimum cable flexibility (extension) when sailing to prevent mast movement.

The load on the wires can only be measured by using a tensiometer.

Necessary material:

- Tensiometer gauge from Loos & CO, model PT2M.

Prepare the mast ashore by fitting the various wires.

Leave enough play in the diamond cap to allow the wire to slide.

Fit the upper swivel of the furling gear to the mast with its halyard (the halyard is outside and parallel to the forestay).

Adjustment method:

- Step the mast and tighten the wires by hand using the bottlescrews setting them up equally as you do so.
- Gradually tension the diamond using the bottlescrews to obtain the following values by using tensiometers:

Diamond: 12

- Check that the mast is completely straight in transverse position (No S).

It is normal to have a longitudinal forward curve with a semi-profile value in the centre.

- Tighten the outer shrouds using the bottlescrews to obtain the following value:

Shrouds: 19

NOTE:

Gradually tighten each cable alternatively, since tensions are cumulative.

- Check that the mast is completely straight in transverse position (No S).

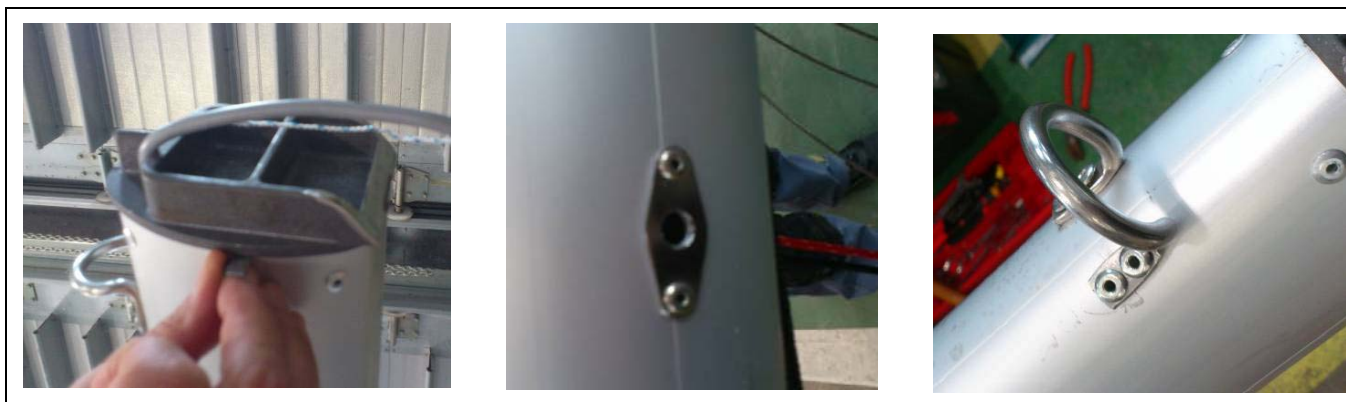


PIVOTING MAST

1. Preparation - Mast

Prepare the mast and fittings in the mast kit (ref. 148248).

- Mast diamond protection;
- Re-shaped mast foot;
- Mast ring.



2. Preparation - Deck

Replace the standard tabernacle with stainless steel tabernacle (ref. 147223).

Transfer the blocks and swivels for the halyards.



3. Installation - Mount

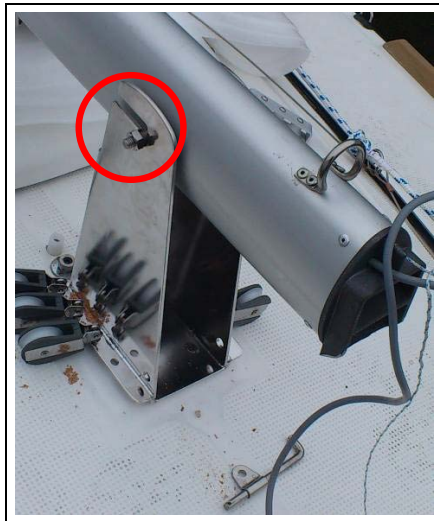
Place the support on the transom beam.



4. Fitting - Mast

Slide the mast towards the stern of the boat until the rotation pin can be engaged.

Always check that the mast is correctly held in the stainless steel tabernacle.



5. Fitting - Shrouds - Longitudinal

Place the spinnaker boom perpendicular to the mast.

It is held:

- on one side by the spinnaker halyard (Make up the halyard on the cleat);
- on the other side by the spinnaker boom downhaul which will go to the forestay chainplate then to the cockpit winch.



6. Fitting - Shrouds - Side

Place the centre ring into the spinnaker boom jaw.

Place the hooks in the holes made in the mast.

Attach the intermediate rungs with the aid of the jib sheets.

Position the intermediate rings with the aid of the jib sheets and adjusting the cars so that the rings and the mast pivot pin are on the same axis.



7. Fitting - Standing rigging

Attach the shrouds to the chainplates after opening the bottlescrews.

Prepare the forestay furler so that it can be put into place quickly.



8. Stepping the mast

Raise the mast by pulling on the downhaul.



9. Retention & Mast adjustment

Fix the forestay furler to the chainplate then secure the mast with the locking pin included in the mast kit.

Dismantle the fittings used for stepping the mast.

Adjust the tension of the standing rigging following the recommended tension settings.



5.3 RUNNING RIGGING

- Inspect the halyards for wear and condition.
- Regularly check the condition of the jam cleat jaws.
- Regularly clean the backstay blocks with fresh water.
- Avoid aggressive gybing in order to reduce premature wear on the sheets, attachment points and the gooseneck.
- If halyard tension (mainsail/genoa) is too great, this can lead to problems when hoisting/furling.

5.4 SAILS

General points

- The working life of a sail mainly depends on its being regularly maintained.
- When sailing, trim the sails properly in accordance with the stresses in order to reduce the harmful strains on the fabric.
- Avoid wear and tear: Protect against chafing on gear with rough/sharp surfaces (spreaders, stanchions, etc).
- Keep a sailmaker's kit and explanatory booklet onboard to carry out emergency repairs whilst waiting for a professional sail-maker.
- Rinse the sails in fresh water regularly and dry them quickly to avoid mildew. Avoid drying the sails on the mast in the wind: Flogging wears the seams and risks tearing the sails on the rigging.
- UV rays severely attack sails: If sails remain rigged, even for 24 hours, cover them with a sailcover or protective fabric.
- The genoa can be fitted with an anti-UV strip: Make sure that the furling direction on the furling drum is correct (the UV strip must appear on the outside).
- Never use force if the sail sticks when furling or unfurling. If this happens, check that a halyard is not rolled around the forestay.

Sail storage/folding

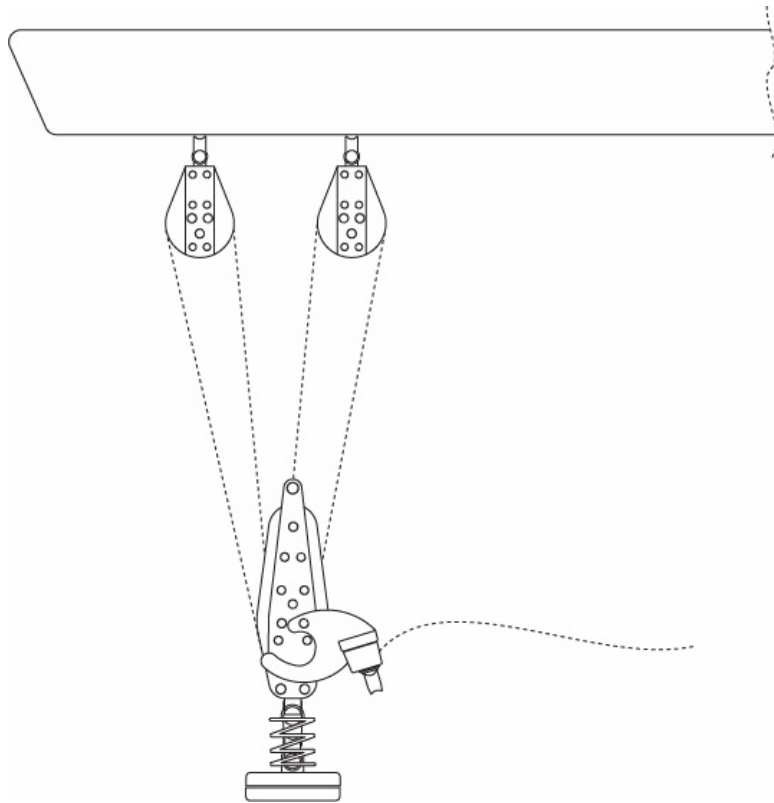
- Remove the sails if your boat is not to be used for a long time.
- Avoid storing a wet sail to prevent the appearance of mould and mildew.
- Flake the sail parallel to the foot, then roll it up to the bag dimensions.



When the sailing season is over and, if possible, before winter, take the suit of sails to a professional for an overhaul and effective repairs.

5.5 SETTING THE SAILS

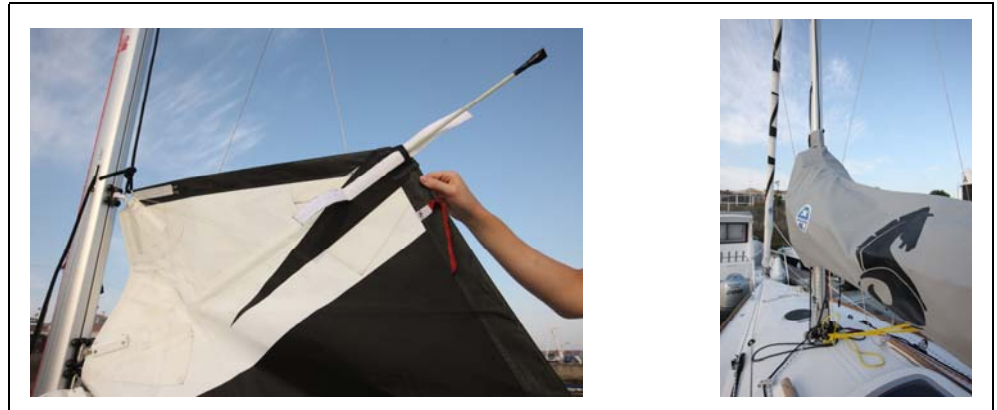
Mainsheet tackle











Stowage - Mainsail

For easier stowing of the mainsail under the boom cover it is recommended to remove the headboard batten.

This operation is enabled by the double Velcro system on the batten pocket.



Genoa halyard

 <p>The halyard comprises 2 parts; one uncovered (which remains in position) and one part covered (pulled when the sail is hoisted). Connect the two halyards with a lark's head.</p>	 <p>On the ground, pass the halyard through the upper sheave of the swivel.</p>	 <p>Once the sail is hoisted, disconnect the covered halyard and connect the tensioning tackle. Connect the two halyards with a lark's head.</p>	 <p>Once the sail is hoisted, disconnect the covered halyard and connect the tensioning tackle. On the ground, pass the halyard through the upper sheave of the swivel.</p>
 <p>Once the sail is hoisted, disconnect the covered halyard and connect the tensioning tackle.</p>	 <p>Once the sail is hoisted, disconnect the covered halyard and connect the tensioning tackle. Attach the tensioning tackle to the fixing plate with a twisted shackle.</p>	 <p>Attach the tensioning tackle to the fixing plate with a twisted shackle. Connect the two halyards with a lark's head.</p>	 <p>Attach the tensioning tackle to the fixing plate with a twisted shackle. On the ground, pass the halyard through the upper sheave of the swivel.</p>

Putting the jib onto the forestay



The jib luff must be passed around the forestay and closed with the zip (Tie the sail safety cord).



The jib halyard is designed to pass inside the luff.



The halyard comprises 2 parts:

- An uncovered part that remains on the jib and a covered part that will be removed once the jib is in place.
- Once the sail is hoisted and the zip closed over the full height of the forestay, use the shackle to connect the eye at the end of the halyard and the tackle.



to remove the covered part of the halyard and stow it (it will be useful when lowering the jib).

Tension the luff using the jib luff tackle.

Tie the sail safety cord.



Close the sail flap fitted with Velcro taking care to keep the ropes clear of the tackle.



Roll the jib around the drum.



Make sure that the spinnaker halyard does not become wrapped round the forestay whilst doing this. To haul down, reverse the operations described above.

5.6 DECK FITTING

General points

- Inspect each piece of deck gear regularly (blocks, shackles, swivels, jam cleats, etc): Check that there are no cracks, corrosion or deformation.
- When replacing a piece of deck gear, make sure that you use a type with the same strength specifications.
- If careful, regular inspections are not carried out and damaged parts and/or worn ropes are not replaced, a block or tackle may suddenly break and cause an accident or serious injury and damage the boat.

Maintenance

- On return from sailing always rinse deck gear with fresh water.
- Wash deck gear regularly with non-abrasive soap by making the block sheaves turn. Rinse afterwards with fresh water.
- Never use grease on deck gear parts (apart from the winches).
- Never use caustic-based cleaning materials on deck gear parts (such as some teak cleaners).

5.7 WINCHES

Manual winches

- Do not leave loose ropes on the winches but make them fast on cleats.



5.8 GENOA FURLER

Operation

- Leave several turns of the furling line around the drum.
- Furl/unfurl the genoa slowly so that the furling line is always under light tension thus avoiding any riding turns in the drum.
- Never slacken the genoa halyard when furling/unfurling the sail.
- When furling in light winds, it is recommended to keep the sheet under slight tension so that the genoa furls correctly.

Maintenance






- Rinse the furling drum regularly.
- It is recommended to rinse mechanical parts at least once a year in fresh water.



Refer to the manufacturer's instructions for use and maintenance.

5.9 DOLPHIN NOSE

Positioning the dolphin nose

		
Attach the end of the bobstay with a lark's head.	Pass the other end of the bobstay through the fairlead in the dolphin nose.	Pass the eye inside the ring.
		
Wind the eye around the ring to form a lark's head	Finished! !	

SAFETY

■ Preventing man overboard situations and the means of getting someone back onboard	46
■ Storing the life-raft	49
■ Securing moveable items	50
■ Deck Layout	51
■ Information about the risks of flooding and about the boat's stability	52
■ Instructions in the event of steering gear failure	57

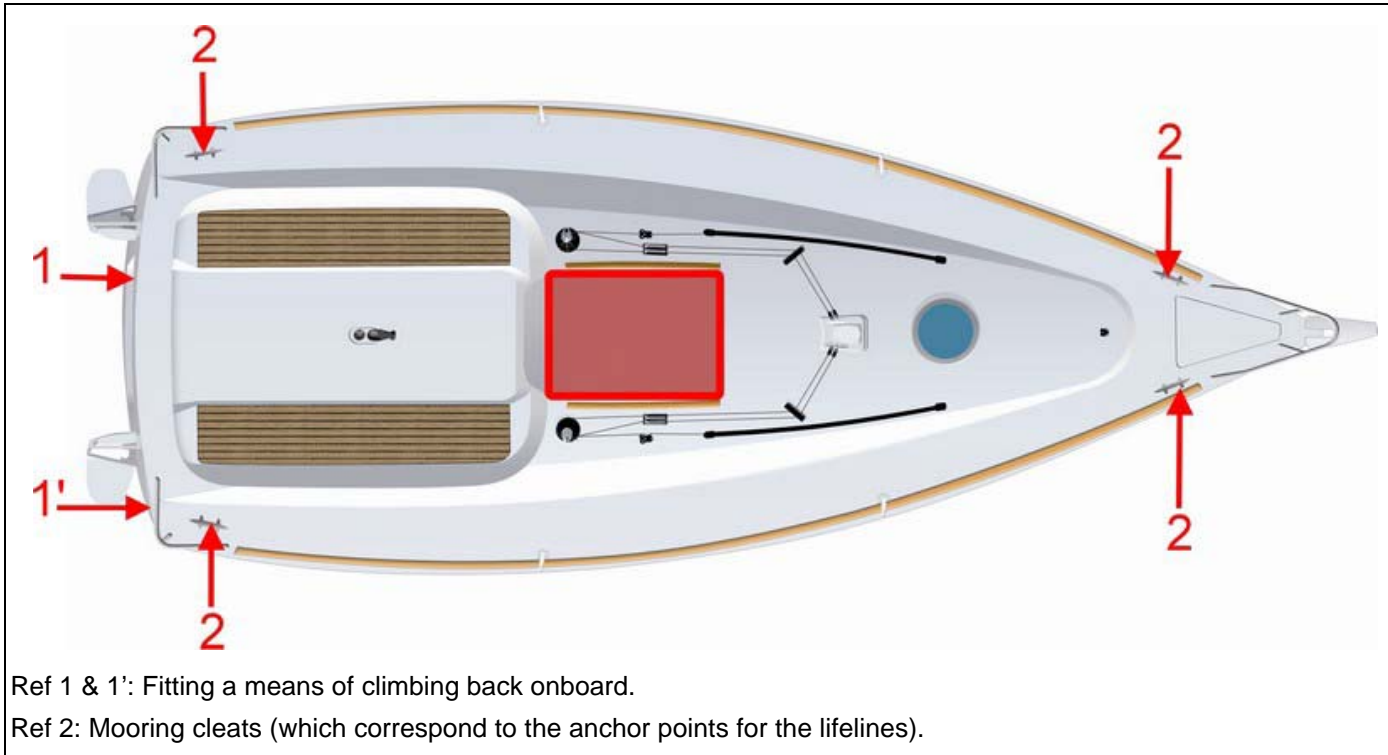
6.1 PREVENTING MAN OVERBOARD SITUATIONS AND THE MEANS OF GETTING SOMEONE BACK ONBOARD

6.1.1 Prevention of man overboard

- The off-limits areas of the working deck when the boat is under way are cross-hatched below



- The "working deck" means those areas outside where people stand or walk during normal use of the boat.



Ref 1 & 1': Fitting a means of climbing back onboard.

Ref 2: Mooring cleats (which correspond to the anchor points for the lifelines).

Regularly check the guard-rails:

- With metal guard-rails, watch for corrosion particularly at connecting points.
- With synthetic guard-rails, change them as soon as they show signs of wear due to chafing or UV.



- Use the seats provided.

6.1.2 Getting back onboard

The means for getting back onboard must be able to be deployed by one person alone in the water, with no other help.

Installation of means to get back on board when swimming (Ref 1):



Installation of means to get back on board in the event of an accidental fall (Ref 1'):



- Some types of equipment for getting back onboard have a locking device when folded up: It is important to keep the means for getting back onboard deployed and ready to use once the boat is in use (at anchor, moored or at sea).
- Make sure that the means for getting back onboard are readily accessible and easy to use by someone alone in the water.
- Before using your boat, make sure the safety ladder is in its place.



- Make sure your safety ladder is installed in accordance with the installation diagram.
- Make sure the triggering line is installed in accordance with the installation diagram.

AVERTISSEMENT

Veillez à ce que l'échelle souple soit installée conformément aux instructions du Manuel Propriétaire. Veillez également à ce que le bout déclencheur soit mis à poste conformément aux instructions.

WARNING

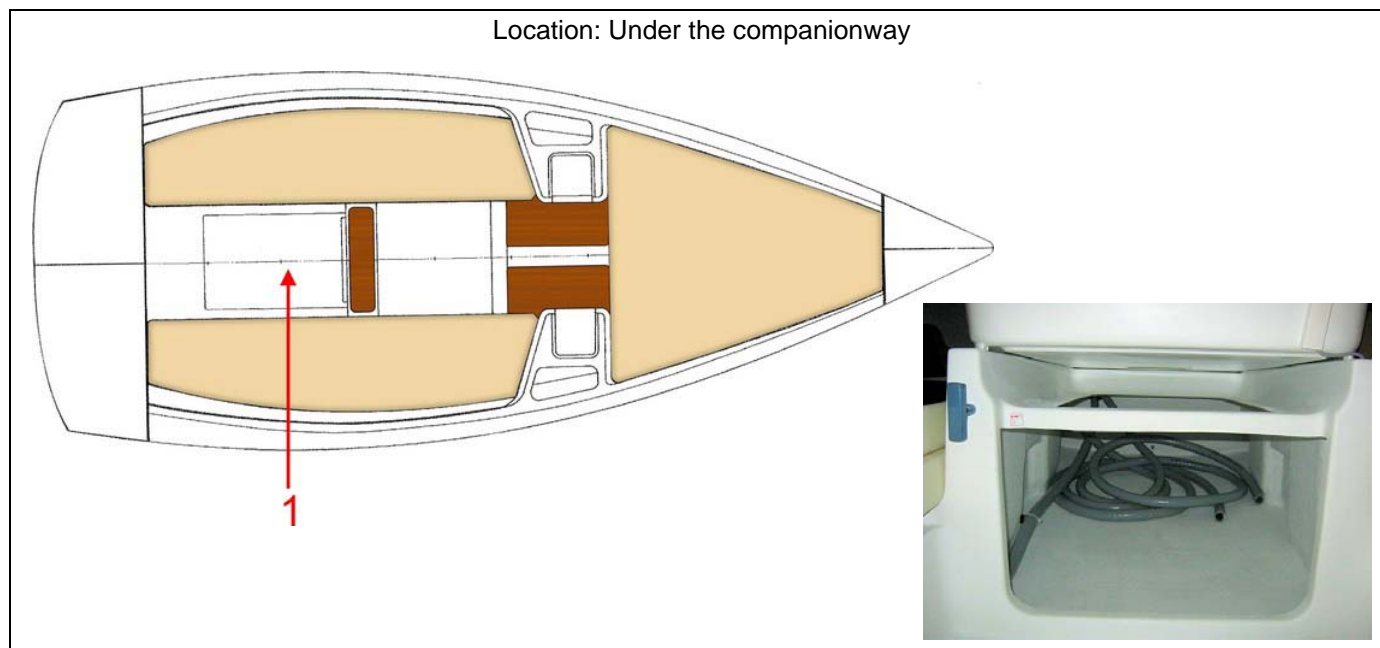
Make sure that the flexible ladder is installed as specified in the Owner's Manual. Also make sure that the rope trigger is installed in accordance with the instructions.

Assembling the ladder L2200 mm:

- To make the link between the swivel plates, use 2 stainless steel lyre shackles of 6 mm with special wrench for fitting.
- Adjust the length of the cord to reach the water level and check that the ladder is properly released. It is important to ensure that the ladder extends smoothly into the water. Finally stow away the ladder and close the internal flap with press studs.
- Attach the end of the cord to the swivel plate provided for this purpose.



6.2 STORING THE LIFE-RAFT



The life-raft(not supplied) must be stored in the space provided for it (Ref 1). A pictogram helps to locate it easily.



! Before putting to sea, carefully read the launching instructions shown on the liferaft.

When at sea, never padlock or lock the stowage locker for the life-raft.

6.3 SECURING MOVEABLE ITEMS

The technical areas are identified in the boat by the pictogram below:



The electrical technical areas are identified in the boat by the pictogram below:



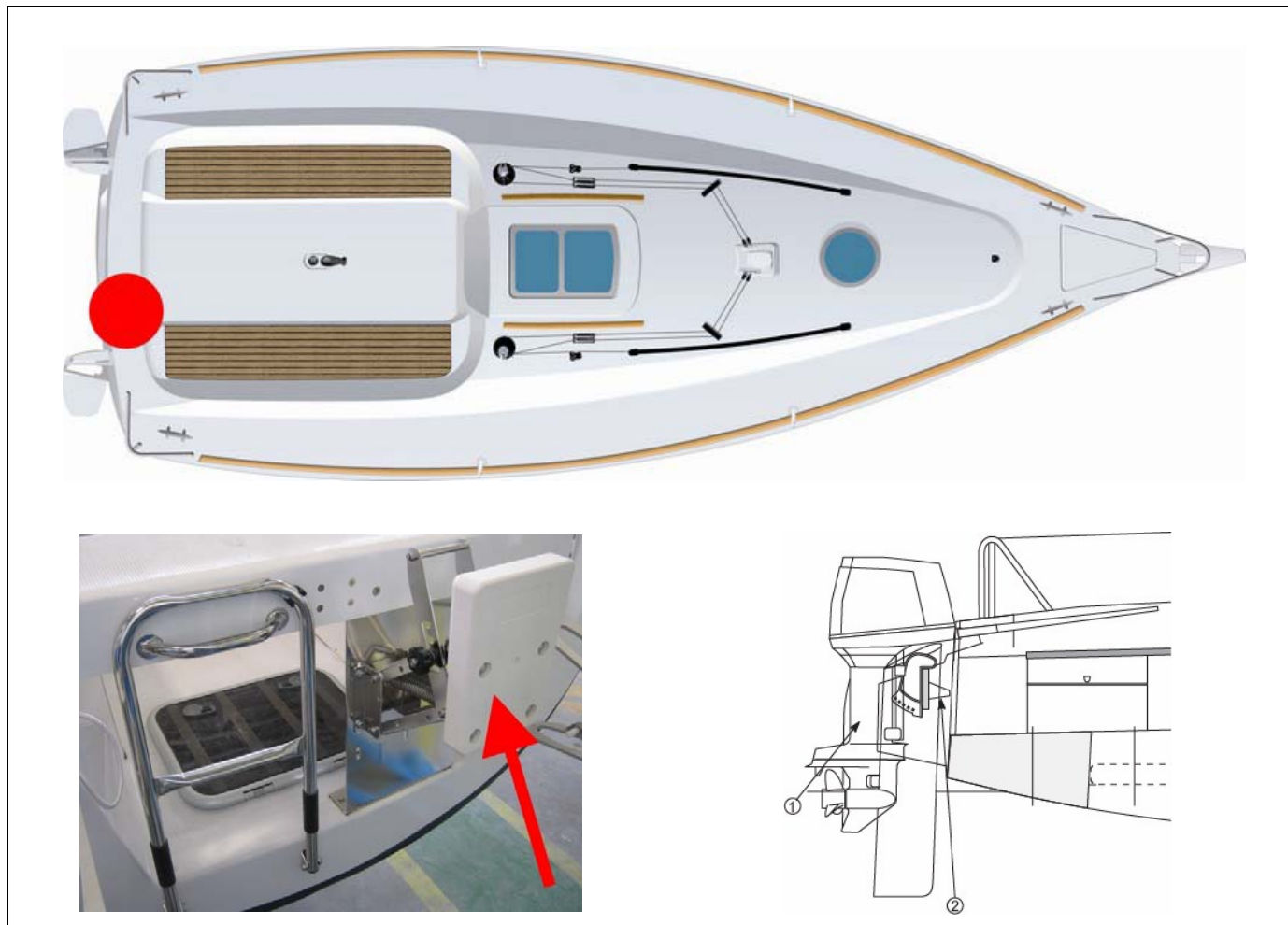
Technical areas may not be used as storage compartments.



- Ensure that movable items are firmly secured when the boat is under way.
- Don't store anything below the floorboards.

6.4 DECK LAYOUT

Outboard engine (the outboard engine is not supplied).



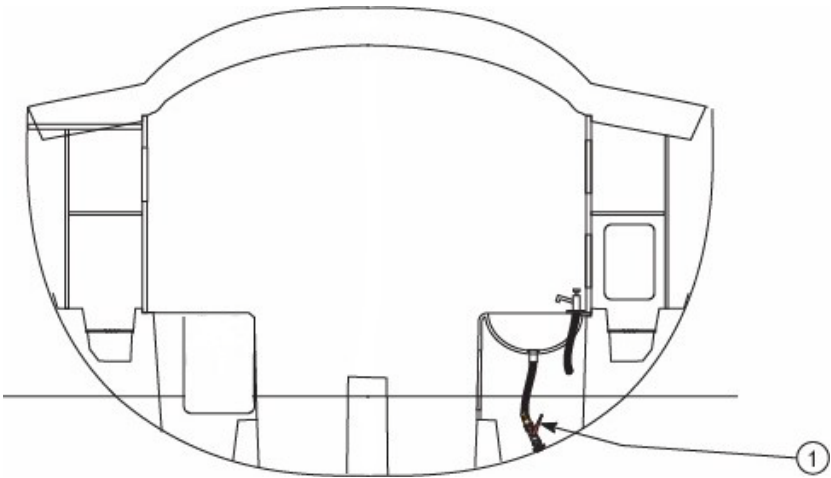
Maximum engine weight: 30 kg.

The outboard engine must have a built-in fuel tank. No space is designed for the stowage of a separate fuel tank.

6.5 INFORMATION ABOUT THE RISKS OF FLOODING AND ABOUT THE BOAT'S STABILITY

6.5.1 Openings in hull

The valves, through-hull and other brass accossories last for about 5 years. Have all valves, hull orifices and other brass accessories of the vessel professionally checked every 5 years and replace them as necessary.



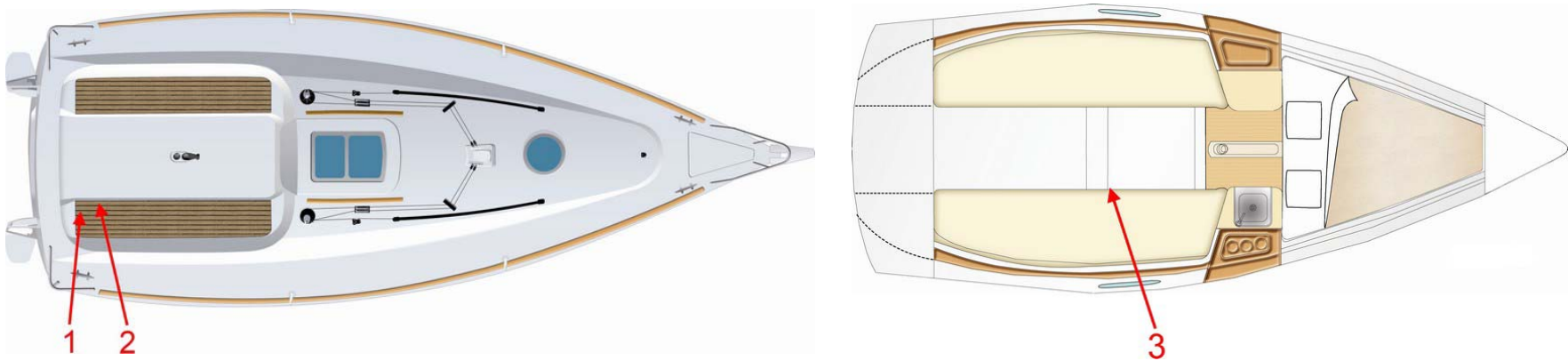
Reference	Designation	Valve
1	Sink draining	Yes

6.5.2 Drainage system

General points

- The inner moulding of the hull has channelling: the drainage channels. The drainage channels allow the water to drain down to the lowest point in the boat, where it can be discharged. So it is important to allow the water to flow freely down to this lowest point of the boat, which includes.
- Regularly cleaning the lowest point of the boat and the drainage channels.

DIAGRAM OF THE LAYOUT - BILGE PUMPS



Reference	Designation	Rate
1	Manual bilge pump (Outside)	32 L/minute (*)
2	Manual bilge pump lever	
3	Manual bilge pump (interior)	85 L/minute

(*) 45 strokes/minute

Manual bilge pump (Outside)



The manual bilge pump is in the cockpit (Ref 1).
The bilge pump lever is located close to it (Ref 2).



The compartment housing the manual bilge pump must not be locked.



Operation:

- I- Put the lever on the manual bilge pump.
 - II- Repeatedly work the lever up and down to its fullest extent.
- The manual bilge pump lever must remain accessible at all times.

Manual bilge pump (interior)



Operation:

- I- Operate the pump using the built-in lever.

Bilge pump maintenance

Please refer to the manufacturer's notes on the instructions for checking and maintaining the bilge pumps.

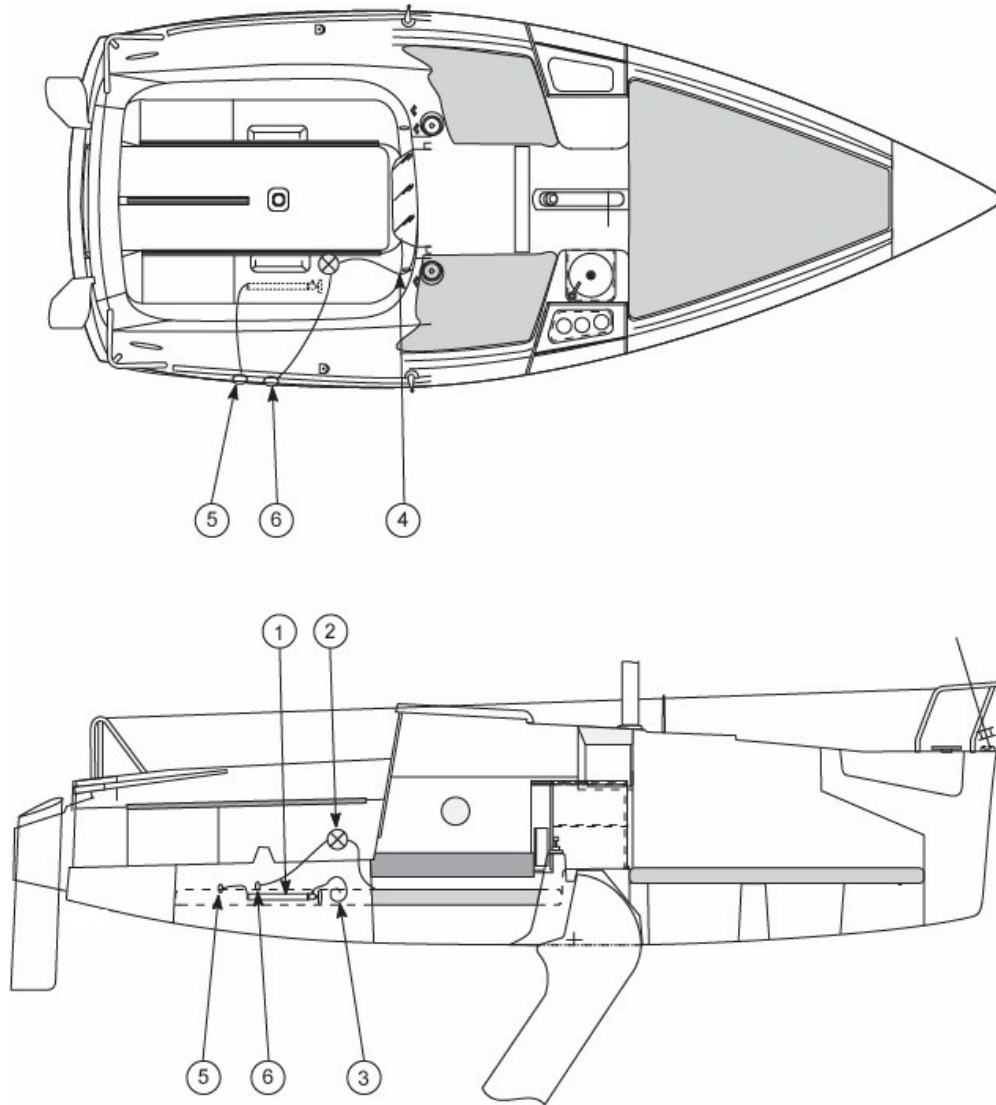


- The drainage system is not designed to control water coming from breaches in the hull.
- Keep the water level in the bilges to the minimum.
- Never store anything right at the bottom of the boat: Allow bilge water to flow freely down to the lowest point of the boat.



- Check that each bilge pump is working at regular intervals.
- Clear the bilge pump points or strainers of any debris that could clog them.
- If the watertight partitions which seal off the fore and aft points are fitted with valves they must be closed at all times and only opened to drain water into the main bilge.

DIAGRAM OF THE LAYOUT - DRYING OUT THE BILGE



Reference	Designation
1	Manual bilge pump (interior)
2	Manual bilge pump (Outside)
3	Intake - Bilge pump
4	Intake - Bilge pump
5	Draining of manual bilge pump (interior)
6	Draining of manual bilge pump (Outside)

6.6 INSTRUCTIONS IN THE EVENT OF STEERING GEAR FAILURE

1. Drop anchor to avoid drifting.
2. Find out if you can solve the problem yourself by looking at the engine manual.
3. Request help.

INFORMATION RELATING TO FIRE RISKS AND RISKS OF EXPLOSION

■ Propulsion engines and other fuel-burning equipment.....	60
■ Electrical system	60
■ Fire-prevention and fire-fighting equipment.....	61
■ Emergency exits in case of fire.....	63


7.1 PROPULSION ENGINES AND OTHER FUEL-BURNING EQUIPMENT

 The risks associated with motorisation are described in the **ENGINE** chapter.

- Boats equipped with a 25kW or larger outboard engine must have onboard one or more portable fire extinguishers with a total combined capacity of at least 8A / 68B.

 The risks associated with other fuel-burning equipment are described in the **EQUIPMENT OTHER THAN FOR PROPULSION, WHICH BURNS FUEL** chapter.

7.2 ELECTRICAL SYSTEM

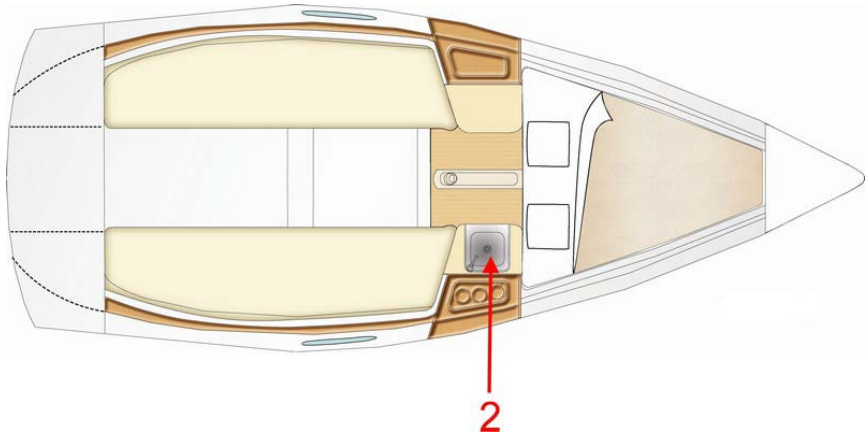
 The risks associated with the electrical systems are described in the **ELECTRICITY** chapter.

7.3 FIRE-PREVENTION AND FIRE-FIGHTING EQUIPMENT

7.3.1 Fire-fighting equipment

Portable fire-extinguishers and fire blanket (not supplied)

- When in use, this boat must be equipped with portable fire extinguishers of the following extinguishing capacity and located in the following places:



Reference	Designation	Location	Minimum extinguishing capacity
1	Portable fire extinguisher	Cockpit locker	5A / 34B
2	Portable fire extinguisher	Galley	5A / 34B

- The location of the portable fire extinguishers is shown by the pictogram below:



- When in use, this boat must be equipped with a fire blanket to protect the cooking equipment and/or the galley, installed in the following place: near the cooking equipment.

Maintenance of the fire-fighting equipment

The owner/person operating the boat must:

- Get the fire-fighting equipment checked at the frequency shown on the equipment;
- Replace portable fire extinguishers, if outdated or discharged, by extinguishing apparatus of equal capacity;
- Provide at least one fire bucket with a lanyard, in a readily accessible place, for protection on deck;
- Get the fixed fire extinguishing systems filled or replaced if they are discharged or have expired.

Responsibility of the owner/boat operator

It is the responsibility of the owner/boat operator to:

- Ensure that the fire-fighting equipment (portable extinguishers, bucket and fire blanket) is readily accessible when there are people onboard;
- Show the members of the crew:
 - The location and use of the fire-fighting equipment;
 - The location of evacuation routes and fire exits.
- Equip the vessel with one or more portable extinguishers whose heads are compatible with the diameter of the discharge orifice in vertical use..
- Unlock all deck hatches and fire escape openings when the vessel is occupied..

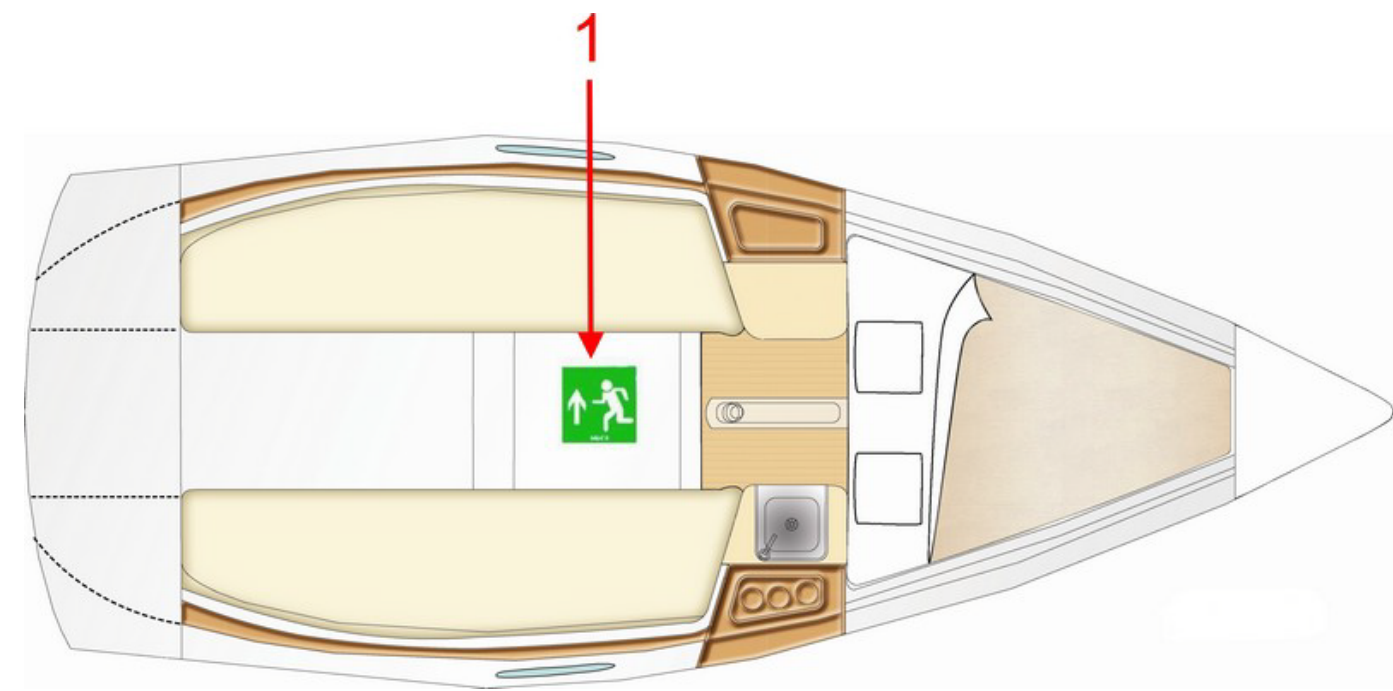
Notes for the attention of the boat user

General points

- Check that the bilges are clean and frequently check that there are no fuel/gas vapours or fuel leaks.
- In the case of replacement of components of the fire-fighting equipment, use only the appropriate components of the same code designation or having the equivalent technical capacity and fire resistance.
- Do not install free-hanging curtains or other fabrics near or above the cooking appliances or other equipment with a naked flame.
- The fire exits other than the door or main companionway are identified by the following symbol:



7.4 EMERGENCY EXITS IN CASE OF FIRE



Reference	Designation	Location
1	Emergency exit	Down

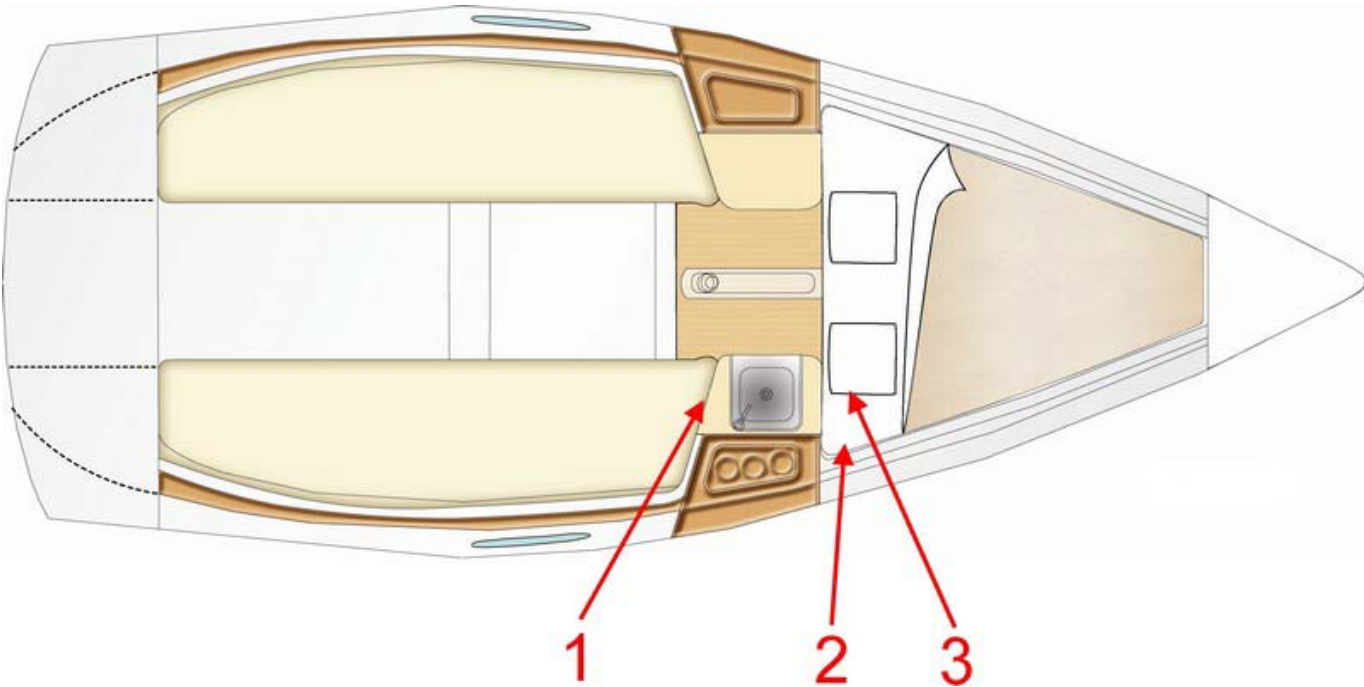
NEVER:

- Obstruct the passages leading to the emergency exits and the hatches;
- Obstruct or block safety controls, for instance fuel shut off valves, gas taps, electrical system circuit-breakers;
- Obstruct the access to the portable extinguishers stored in lockers;
- Leave the boat unsupervised when cooking equipment and/or heating equipment is in use;
- Modify any of the boat's installations (especially the electrical, fuel or gas installations) or allow unqualified personnel to proceed with modifying these installations;
- Fill the fuel tanks or replace gas bottles while the engine is running or while cooking or heating equipment is in use;
- Use gas lamps in the boat;
- Smoke when handling fuel or gas.

ELECTRICAL SYSTEM

■ General information about the electrical system	66
■ DC installation (12 V).....	67
■ Protection against electrolysis / Earth plate.....	71

8.1 GENERAL INFORMATION ABOUT THE ELECTRICAL SYSTEM



Reference	Designation
1	Electrical panel
2	Battery switch
3	Battery - 70A

- The risks of fire or explosion may result from careless use of the DC and AC systems.
- The risks of electrocution may result from careless use of the AC system.

NEVER:

- work on a live electrical system;
- modify the electrical system of the vessel or the relevant diagrams: It is important that the installation, maintenance and any modifications be carried out by a technician qualified in marine electricity;
- change or modify the strength of the safety devices protecting against power surges;
- install or replace electrical equipment or materials with components which exceed the system's nominal electrical power capacity;
- leave the boat unsupervised when the electrical system is live, apart from when the automatic bilge pump and the boat's fire protection and security systems are in use.

8.2 DC INSTALLATION (12 V)

8.2.1 Battery use and distribution

General points

The boat is equipped with a direct current electrical system.

The service batteries serve as the power supply for all the boat's electrical components.

the batteries are charged either by a load distributor or:

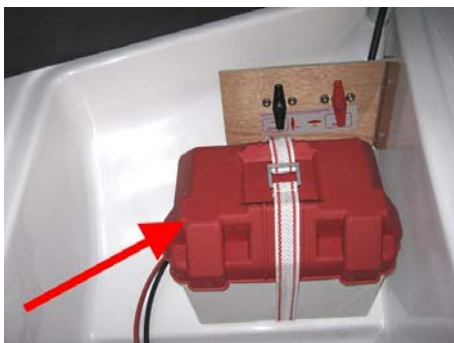
- by the alternator linked to the engine when the engine is running,
- by the battery charger (if the boat has one).

It is imperative that when the boat is first launched, a professional engineer connects the batteries.

Always check the condition of the batteries and charge system before putting to sea.

Battery set

Service batteries: 70A



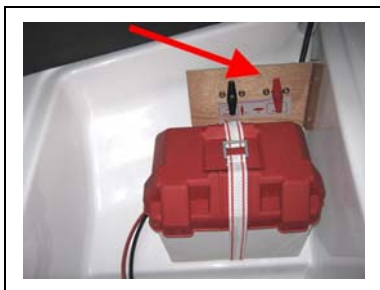
Maintenance

- Avoid charging batteries to a voltage greater than 14,6 V.
- Keep the batteries clean and dry.
- Regularly check that the terminals and connection cables are clean. If necessary, apply a thin coating of paraffin on the terminals, to prevent corrosion.
- Regularly recharge all of the batteries onboard.
- Continuously maintain the charged batteries: this determines their length of life.
- Avoid long periods of electrical inactivity (for example when wintering the boat).

Maintenance of lead batteries

- Every year check the water levels in the batteries, and if they are low top them up with distilled water.
- Keep all metallic objects away from the batteries.
- Lead batteries contain sulphuric acid: Be careful not to knock them over whenever handling them.

8.2.2 Battery switch



- Manual battery switches: to make the system live, manually turn the positive and negative battery isolator switches.

Positive battery isolator switch



Battery switch of negative terminal

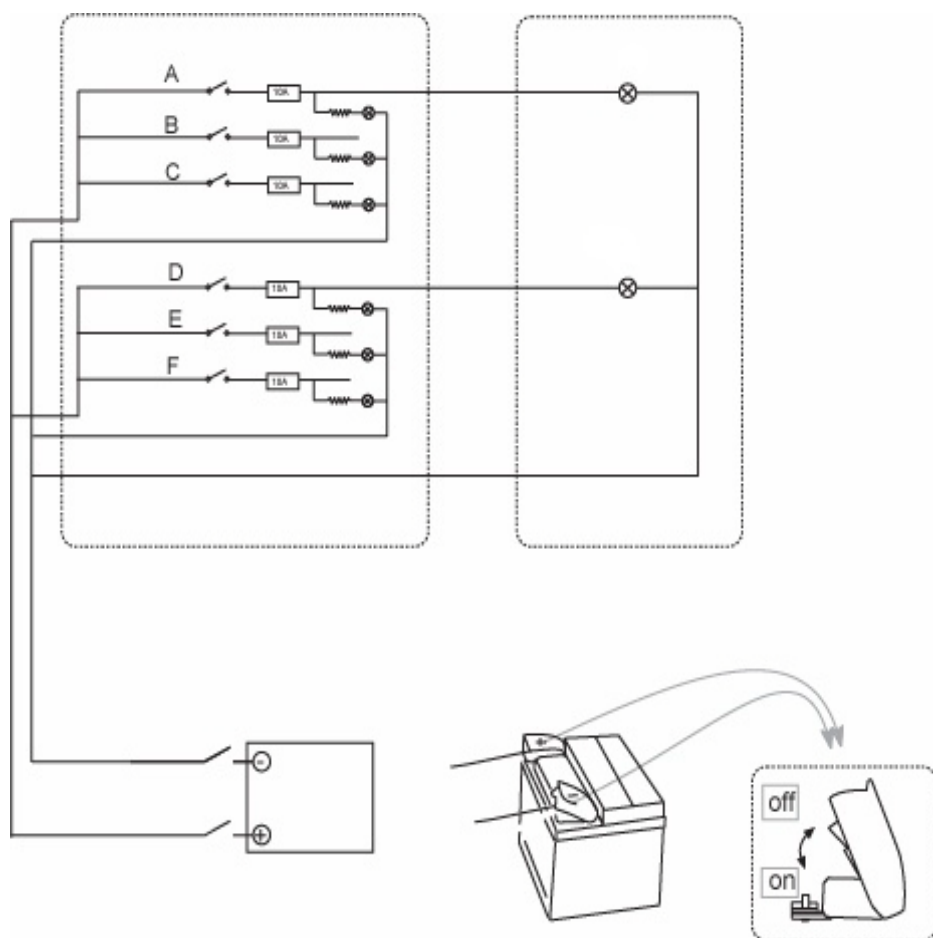


- All work carried out on a battery must only be carried out by someone qualified to do so. Whenever working on a battery, wear safety goggles and protective clothing.
- Never smoke or produce a spark near a battery: risk of an explosion.
- If any acid accidentally splashes on your skin or in your eyes thoroughly rinse it off immediately with fresh water. See a doctor immediately.
- Never touch the battery terminals: danger of electric shock.
- Refer to the manufacturer's instructions for use and maintenance.
- **IT IS IMPERATIVE TO DISCONNECT THE BATTERY CHARGER BEFORE DISCONNECTING THE BATTERY TERMINALS FOR MAINTENANCE.**



- Turn off all battery breakers before leaving the vessel: **risk of complete discharging of whole battery bank.**
- Avoid touching the battery breakers when they are live.
- Never switch off the battery breakers when the boat's engine is running (risk of serious damage to the charging circuit).

LAYOUT DIAGRAM - BATTERY CABLES



Reference	Designation
A	Navigation light
B	Mooring light
C	Electronic
D	Interior lighting
E	Available
F	Available

8.2.3 Electrical panel

Location: Saloon



- 1. Navigation light
- 2. Mooring light
- 3. Electronic
- 4. Interior lighting

8.2.4 Fuse

- A fuse protects an electrical circuit from a power surge. If it blows, you must replace it with another fuse of the same rating.

Location: Saloon



- 1. Navigation light - 10A
- 2. Mooring light - 10A
- 3. Electronic - 10A
- 4. Interior lighting - 10A

When replacing fuses/circuit-breakers, always ensure replacements are of the right capacity (see the colour-codes)

20A	15A	10A	5A	3A
-----	-----	-----	----	----

8.3 PROTECTION AGAINST ELECTROLYSIS / EARTH PLATE

8.3.1 Anodes

General points

- The sacrificial anodes protect the boat's metal components from electrolysis.
- A sacrificial anode is a consumable part that protects submerged metal parts by its dissolution (oxidation). The anodes used are made of a metal that is more readily reductive than the metal they are protecting.
- On a new boat, all the underwater metallic components try to be at the same electric potential, which leads to the rapid deterioration of the anodes in the first few weeks in the water.
- You can put several anodes on the hull.

Maintenance

- At least 2 times a year, check the corrosion on all of the anodes. Change the anode if necessary (Before it lost 50% of its weight).
- Use the appropriate anodes for the cruising area: fresh water/magnesium anodes; Sea water/zinc anodes.
- If the motor mountings are raised, the anodes are out of the water: in this case the anodes can no longer protect the sterndrive: take note of the skipper's recommendations.
- When the boat is kept in a dry dock, a light deposit of dust will settle on the anodes: Before returning the boat into the water, clean the anodes.

Cleaning anodes

- Use sandpaper. Do not use metal brushes or steel tools to clean the boat, it may damage the galvanic protection.

Replacing the anodes

- The anodes are fastened with screws and nuts. First, remove the screws and nuts that hold the anode, then clean the contact surface. Press the new anode to obtain a good electrical contact.



- Never cover the anodes in antifoul.
- During the first few weeks that the boat is in the water, check the anodes and if necessary replace them: they erode very rapidly during this period.

WATER SYSTEMS

■ General points	74
■ Using a valve.....	75
■ Fresh water filling system	76
■ Black water system (WC).....	77
■ Waste water system	79

9.1 GENERAL POINTS

- It is essential to rinse the entire on-board water system the first time the boat is used (The water system is protected in the factory by a dietary anti-freeze).
- The water tanks may have had an anti-algae treatment using a copper sulphate based product. It is advisable to renew the treatment according to the area in which the boat is sailing.
- Purge all the water circuits when winterizing to prevent damage due to freezing.
- Clean/change the filters regularly.



- Regularly check water-tightness of joints in the water system installations. Check that screws and bolts are well tightened and replace them if they are worn or corroded.

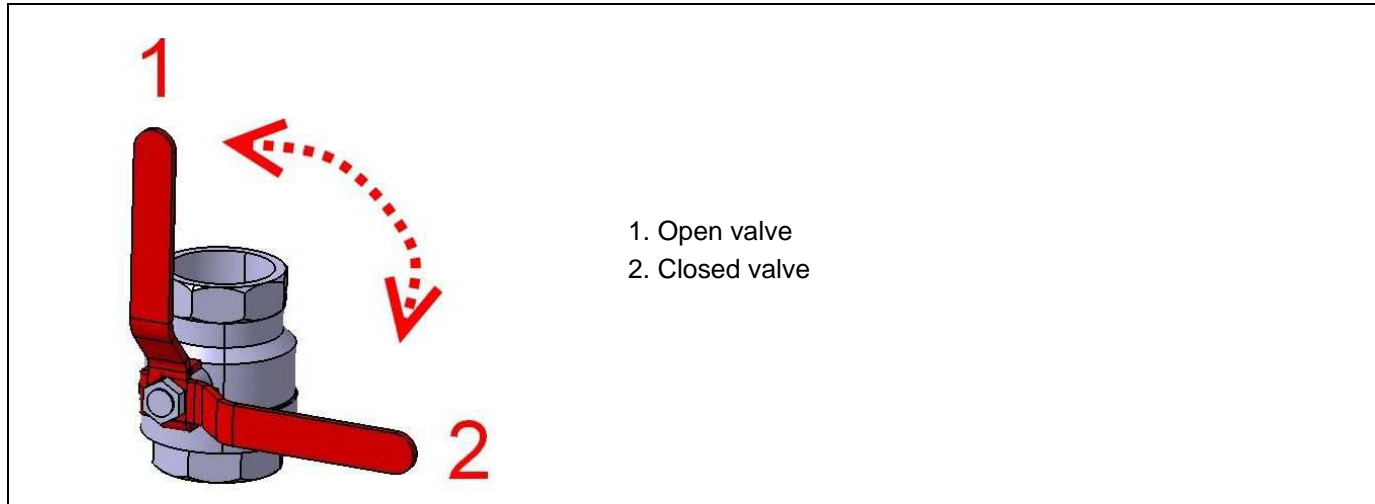
- Disconnect shore water supply before leaving the boat (if fitted).

- If the boat is sailing in temperatures below freezing, it is possible to use anti-freeze in the water systems: use a non-toxic anti-freeze marked for dietary use.

**NEVER USE AUTOMOBILE ANTI-FREEZE:
RISK OF POISONING.**

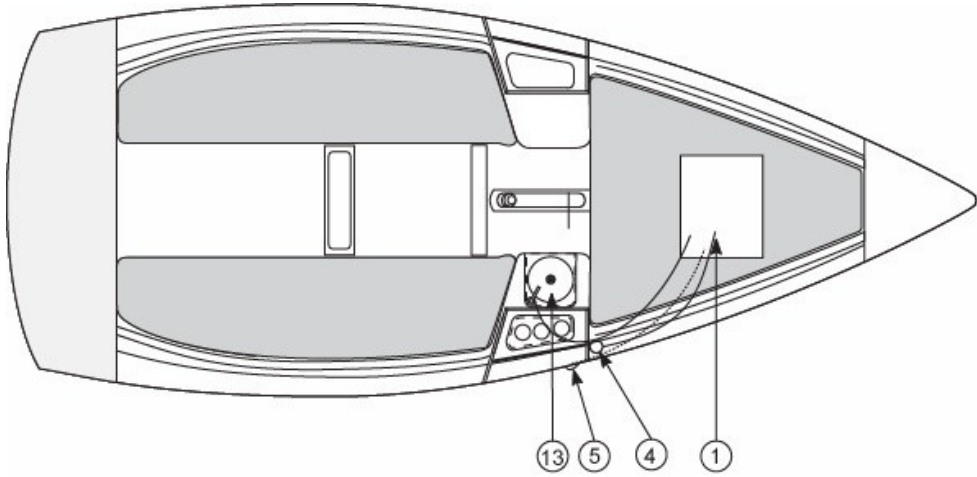
9.2 USING A VALVE

The valve is shut when the valve handle is at right angles to the pipe, the valve is open when the valve handle is in line with the pipe.

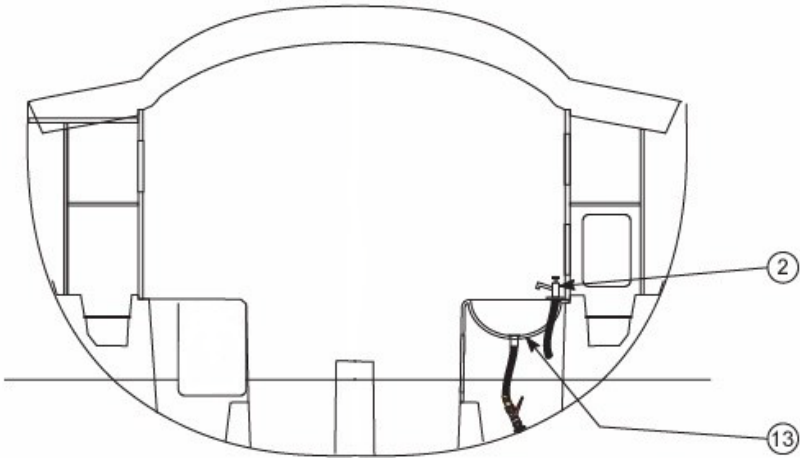


! Valves have a lifespan of approximately 5 years. It is essential to have all valves on board checked by a professional every 5 years and possibly replace them.

9.3 FRESH WATER FILLING SYSTEM



Reference	Designation
1	Water tank - 35 litre
2	Hand pump
4	"WATER" deck filler
5	Vent hole
13	Galley sink

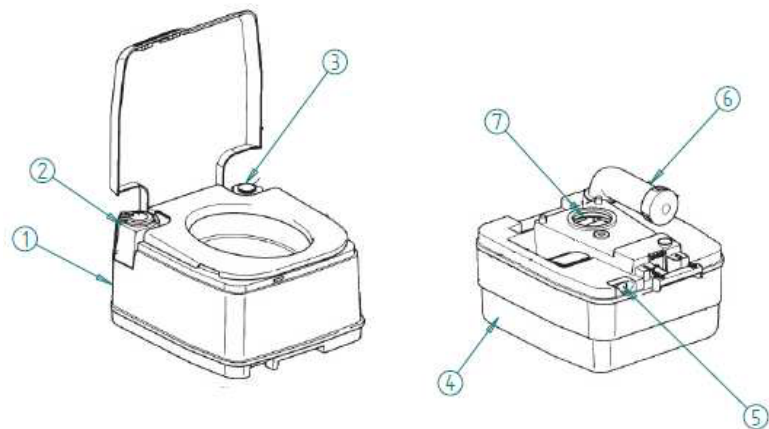


9.4 BLACK WATER SYSTEM (WC)

General points

- Black water is human waste including the flushing water from the toilets.
- Close the valves after each use and above all when the boat is unattended.
- Regularly check the valves and thru-hull seacocks for proper operation and watertightness.
- Regularly check the tightness of the flexible pipe clamps and connections.

Chemical toilet



Reference	Designation
1	Fresh water tank (Upper)
2	Pump
3	Fresh water tank cap
4	Black water tank (Lower)
5	Gauge
6	Evacuation pipe
7	Filler flap

General points

The chemical toilets have two tanks: a tank for flushing and a tank for faecal matter. The system is completed by the use of chemical additives which dissolve faecal matter and minimise the smell.

Operation

- Use an additive for sanitation for use with chemical toilets (use the recommended dose and follow the instructions on the bottle of the sanitation additive).
- Clean and dry the chemical toilets before storing them.
- Empty the black water tank in an authorised area or down a normal toilet.
- Regularly replace the gasket between the two tanks.

- Refer to the manufacturer's instructions for use and maintenance.
- Do not use detergents (chlorine, solvent).
- Respect local regulations regarding the emptying of black water tanks.

9.5 WASTE WATER SYSTEM

General points

- Close the valves after each use and above all when the boat is unattended.
- Regularly check the valves and thru-hull seacocks for proper operation and watertightness.
- Regularly check the tightness of the flexible pipe clamps and connections.



- Observe local regulations regarding the emptying of grey water tanks.

ENGINE

■ Information about the risks of fire and of explosion of engines	82
■ Danger from moving mechanical parts.....	83
■ General points	83
■ Starting the engine	84
■ Engine installation.....	85
■ Access to the engine.....	85

10.1 INFORMATION ABOUT THE RISKS OF FIRE AND OF EXPLOSION OF ENGINES

- Make sure that the coolant is circulating properly.
- Ensure that ventilation openings in the compartment fuel tank are not obstructed.
- Stop the engine and refrain from smoking during fuel tank filling.
- Get your fuel circuit checked regularly by a professional engineer.
- Avoid any contact between inflammable materials and the hot sections of the engine.
- Never switch off or de-energise the electric system when the engine is running.
- Never block the access of the fuel supply valve.
- Do not obstruct or modify the ventilation system.
- Never turn the engine over when the boat is on land.
- Fuel stored outside the tanks (jerrycans, portable fuel tanks, etc.) must be stowed on deck, protected from bad weather and mechanical damage.
- Regularly check that the petrol tank compartment is clean and dry.



The outboard engine must have a built-in fuel tank. No space is designed for the stowage of a separate fuel tank.

10.2 DANGER FROM MOVING MECHANICAL PARTS

- Keep away from the moving parts of the engine (belts and moving parts or hot components) and the drive shafts etc..
- Be careful if you have long hair, bulky clothing, rings etc (at risk of being caught).

10.3 GENERAL POINTS

- Don't install an engine more powerful or heavier than recommended on this boat, this risks compromising the boat's stability.
- Make sure you have enough fuel before sailing.
- Stop the engine before opening the engine compartment.
- Don't close the fuel supply valve between each use of the engine (unless for a lengthy absence).
- Get the whole propulsion system checked at least once a year by a professional engineer.

See the chapter on "Manoeuvrability".

Always start the engine with the control lever in neutral.

Type of motorisation

Your vessel is fitted with a gasoline-powered outboard engine (not supplied).



- Regularly check that the O ring on the filler cap is in good condition, to prevent any water ingress.
- Keep the fuel tank as full as possible to prevent condensation.
- Be careful with any possible risk of oil and fuel spillage.
- Follow the engine manufacturer's instructions exactly.
- **Never switch off the battery breakers when the boat's engine is running (risk of serious damage to the charging circuit).**

10.4 STARTING THE ENGINE

Before starting the engine, it is imperative:

- to put the control lever in neutral;
- to attach the circuit-breaker to the pilot.

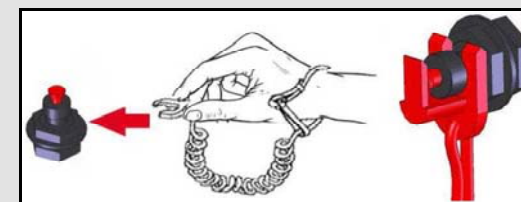
Make a habit of looking to see if sea water is pumped out with the exhaust gases as soon as you start the engine. If no water runs out, stop the engine immediately. Check the coolant flow.



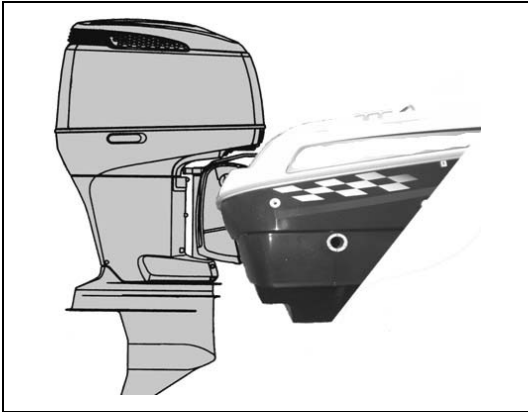
- Before using the engine, make sure you carefully read the handbook provided by the engine manufacturer.



- Always start the engine with the control lever in neutral.
- Learn how to judge the necessary distance of deceleration for the vessel to come to a complete stop (The reverse gear is not a brake).
- Attach the cutout to the pilot at engine start.



10.5 ENGINE INSTALLATION



10.6 ACCESS TO THE ENGINE

The access to the engine is via:

- The cockpit.

All access hatches to the engine absolutely must be kept shut when at sea.

STEERING SYSTEM

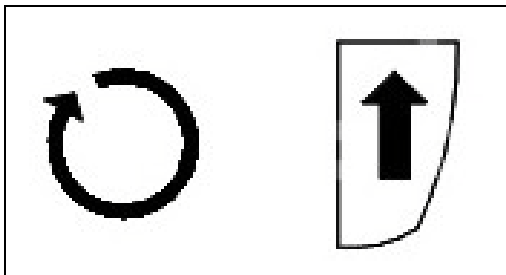
■ General points	88
■ Centreboard	88
■ Layout diagram	90

11.1 GENERAL POINTS

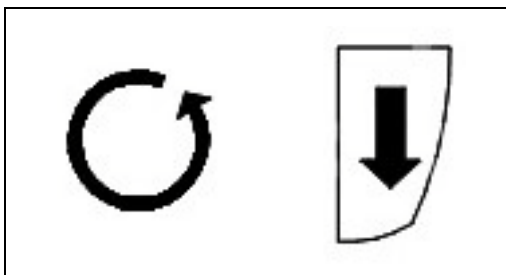
- The steering system is an important safety feature. For this reason, the annual inspection of the whole system must be carried out by a professional engineer.

11.2 CENTREBOARD

Operation:



To raise the centreboard operate the mechanism in a clockwise direction.



To lower the centreboard operate the mechanism in an anti-clockwise direction.

Approximately 57 turns are required to move the centreboard from the furthest position in one direction to the other.

To sail with the centreboard down, lower the centreboard fully then raise it one or two turns so that the system is always under tension.

When your boat is slipped, do not forget to grease the centreboard system worm gear at least twice a year.

If your boat is fitted with a system to keep the centreboard in the lowered position in the event of capsize, this must always remain in place.

NOTE: For optimum steering system function, it is advised to raise the centreboard after every time it is used.

Layout of components

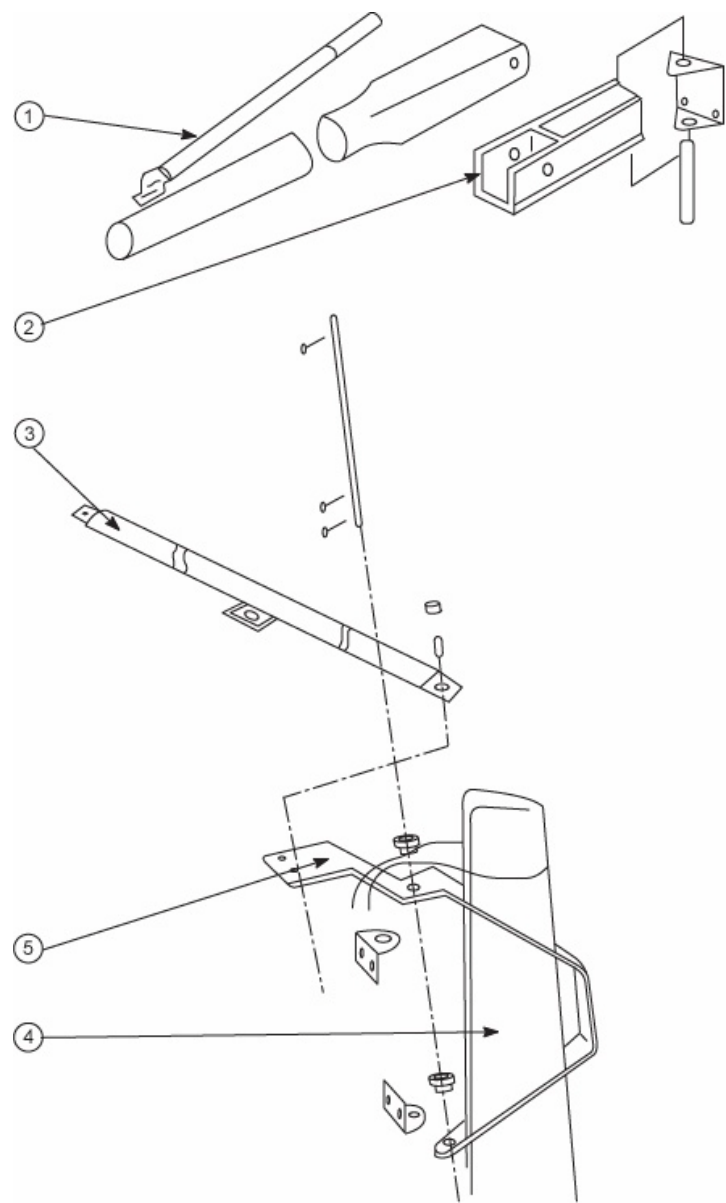
Centreboard



Mechanism



11.3 LAYOUT DIAGRAM



Reference	Designation
1	Tiller + For extension
2	Tiller head
3	Connecting rod
4	Rudder
5	Rudder sleeve

DECK FITTINGS

■ General points	92
■ Berthing, anchoring, towing.....	95
■ Main elements of the chain locker	96

12.1 GENERAL POINTS

12.1.1 Polyester

- Regularly brush the deck using a gentle de-greasing agent then rinse the deck with fresh water.
- Use as few cleaning agents as possible.
- Don't use solvents or aggressive detergent agents.
- Don't discharge cleaning agents into the water: Consult the harbourmaster's office to find out the conditions of water use and the maintenance area for cleaning your vessel.
- Don't use a pressure washer.

12.1.2 Plexiglas (PMMA)

- Rinse plexiglas with fresh water.
- Use a polish paste for thin scratches.
- Consult your dealer concerning deep scratches.

12.1.3 STAINLESS STEEL

Stainless steel is an alloy of iron and carbon (steel) with the addition of chromium. This chromium provokes the formation of a protective film which separates the steel from the atmosphere outside. This coating is usually invisible as it's so thin. So in spite of its name this steel is not stainless and requires a minimum of maintenance:

- The use of chrome tools is preferable whenever handling stainless steel;
- Re-nourish the protective film regularly with passivation paste.



Never use solvents, alcohol, acetone or detergents on the plexiglass.

12.1.4 Solid wood on exterior wooden panelling

- Wood exposed to harsh conditions, such as salty air and UV rays tends to become whiter and to lose its natural colour. This phenomenon has no effect on the intrinsic qualities of the wood, but can spoil its aesthetic appeal.
- To maintain the colour of the wood, regularly wash the woodwork in fresh water using a sponge (if necessary, use a mild soap).
- It is recommended to oil the external woodwork regularly using teak oil to protect them from the harsh conditions.

12.1.5 Exterior upholstery

- Bring the removable cushions inside (washed with soapy water then dried) when the vessel is unoccupied.
- Put canvas sheets/protective covering over the fixed upholstery.

Maintenance

To maintain the quality of the fabric, you are advised to spray it regularly with clarified water and to brush it with a soft brush (brush for clothes). It is advisable to clean thoroughly every 2 years.

Stain removal

Follow these steps for routine cleaning:

- Remove as much debris as possible using a soft brush;
- Spray the fabric with water;
- Prepare a cleaning solution using mild soap and water (Do not use detergent);
- Wash with a soft brush;
- Wait for soapy solution to act;
- Rinse thoroughly in fresh water;
- Dry in the open air.



Never use detergents, acetone or other harsh products on the wood.



Never:

- Use a heat source (hairdryer/clothes dryer);
- Use detergent, silicone, acetone, chlorine-based products or hot water;
- Use a high pressure cleaner.

12.1.6 Synthetic wood composite decking (imitation teak)

The product is UV resistant with no need for sanding or special cleaning products.



Normal cleaning:

- Rinse in fresh water, using a sponge or a soft brush.
- Clean with soap or a household product if necessary, then rinse in fresh water.

For stains/streaks:

- After normal cleaning, sand in the direction of the lines using a coarse sandpaper (50 to 24).
- Sweep the decking clean and rinse with fresh water.



Do not pour acetone on the decking.

12.2 BERTHING, ANCHORING, TOWING

12.2.1 Anchor points

Responsibility

It is the responsibility of the owner/user of the boat to ensure that the berthing lines, towing cables, chains and mooring lines and the anchors are adequate for the intended use of the boat, i.e. that the lines or chains do not exceed 80 % of the breaking strength of the corresponding anchor point.

	MOORING LINES	MOORING	TOWING
Reference (Diagram on next page)	A&B	B	B
Anchor Point Breaking Strength	13,1 kN	18,8 kN	18,8 kN
Mooring Line/Chain Breaking Strength	10,5 kN	15,1 kN	15,1 kN

Pass warps through the fairleads provided for this purpose.



The anchoring points or those showing visible signs of deterioration must be replaced.

12.2.2 Towing

Responsibility: It is important that the owner thinks through the actions required when securing a towing cable onboard.

Location of attachment points



A. Mooring cleats (which correspond to the anchor points for the lifelines).

B. Towing:

- at the bow, to be towed,
- at the stern, to tow.



- Generally the breaking strength of lines/ chains must not exceed 80% of the breaking strength of the anchor points.
- Always tow or be towed at low speed. Never exceed the maximum speed of a displacement hull during a tow.
- Be particularly vigilant when the end of a towing cable is being thrown or received (risk of the end becoming caught in the propeller).
- A towing cable must always be secured in such a way that it can be released under load.
- Do not try to stop the boat by using a boathook or your foot, hand or any other part of your body.



- Always keep the anchor chain or rode free and unfouled;
- Carry out manoeuvres carefully and always wear shoes.

12.3 MAIN ELEMENTS OF THE CHAIN LOCKER



1. Chain locker
2. Bow fitting
3. Opening - Chain locker
4. Drain scupper
5. Clinch



- Before anchoring check the depth of water, the power of the current and the nature of the sea bed.
- Check the swinging area once the boat is at anchor.
- After each trip rinse the windlass and anchor chain or rode with fresh water.

HULL FITTINGS

■ Upholstery.....	98
■ Interior woodwork	100
■ Interior maintenance	100
■ Saloon table	100

13.1 UPHOLSTERY

ALCANTARA (microfibre)

Stain removal

The fabric must be free from dust before removing. To do so, use a vacuum cleaner to achieve optimal cleanness.

Rub with a duster soaked in a solution containing ammonia diluted by 10%. Dilute to the strength appropriate for this fabric. Try it out first on a hidden corner, the hem for instance, if the appearance of the fabric changes, dilute accordingly.

Scrub the Alcantara fabric in all directions, particularly on the stains.

Rinse off the cleaning solution using a damp cloth.

Dry in the open air.

After taking the Alcantara fabric off, it's a good idea to use a soft brush on it to bring back its supersoft quality.

For difficult stains, dry-cleaning is recommended.

SYNTHETIC FABRIC

Stain removal

If you can remove the fabric:

- Clean in the washing machine (use the program for delicate fabric) at 30°.
- Do not iron.
- Never use Javel water.
- Do not dry-clean.
- Do not use a clothes drier.

If you cannot remove the fabric:

- Clean with the vacuum cleaner,
- Clean with a foam for synthetic fabrics (see foam use instructions).

COATED FABRIC (PVC)

Maintenance

- The PVC must be regularly cleaned with soapy water to maintain its appearance and avoid accumulation of debris. Try to avoid using the following products: lacqueurs, aggressive cleaning products, detergents, xylene or acetone-based products which can cause permanent damage or make the fabric deteriorate. The use of such products is at the owner's risk.

Stain removal

- All stains must be quickly removed to avoid formation of permanent stains.
- Use mild water to remove the stains found on the fabric surface. Use only clean, white, damp pieces of cloth.
- Difficult stains can be removed using a mixture of water (25%) and white spirit.
- Rinse with clean water.
- Dry with a soft piece of cloth.

ACRYLIC (bimini fabric type)

Maintenance

To maintain the quality of the fabric, you are advised to spray it regularly with clarified water and to brush it with a soft brush (brush for clothes). It is advisable to clean thoroughly every 2 years.

Stain removal

Follow these steps for routine cleaning:

- Remove as much debris as possible using a soft brush;
- Spray the fabric with water;
- Prepare a cleaning solution using mild soap and water (Do not use detergent);
- Wash with a soft brush;
- Wait for soapy solution to act;
- Rinse thoroughly in fresh water;
- Dry in the open air.

13.2 INTERIOR WOODWORK

- Clean the interior varnish using a de-greasing shampoo on a damp cloth.
- Polish the interior varnishing with a chamois leather.
- If there are any stains or light scratches, it is possible to polish the varnish. Doing this can give the polished area more of a shine than the rest of the varnishing onboard.
- If there are deeper scratches, it is possible to sand the scratched area lightly and then re-varnish it (consult your dealer).

13.3 INTERIOR MAINTENANCE

- Take advantage of fine weather to air the interior upholstery.
- Remove the cushions during lengthy periods of absence.
- Make sure the bilges are clean and dry.
- For lengthy periods of absence, leave the icebox and fridge doors open to prevent mould from developing.
- Use a dehumidifier in the saloon and ensure cabin and storage doors are left open (cupboards, iceboxes...).

13.4 SALOON TABLE



If the stains persist or if in doubt, consult a cleaning specialist.

When winterising the boat, make sure the curtains are pulled to prevent the fabrics from being exposed to the sun's rays for a lengthy period (risk of fading).

NEVER:

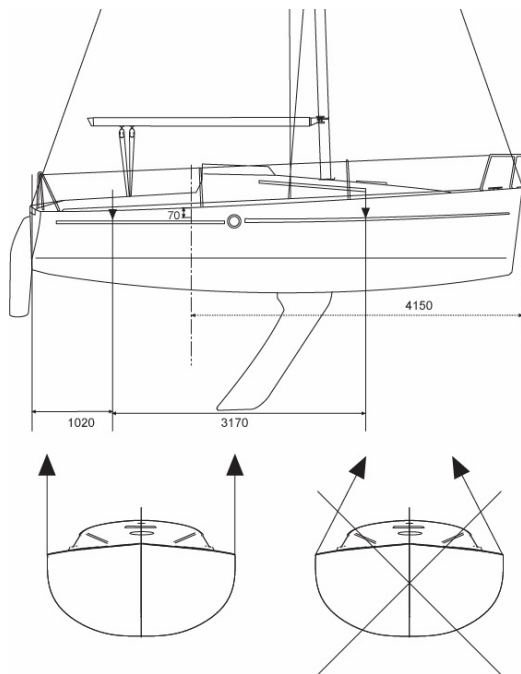
- Use a heat source (hairdryer/clothes dryer);
- Use detergent, silicone, acetone, chlorine-based products or hot water;
- Use a high pressure cleaner.

HANDLING, TRANSPORT

■ Lifting plan	102
■ Lifting.....	103
■ Keel	104
■ Upper limit of antifoul	104
■ Launch/Lift out.....	105
■ Stepping/unstepping the mast.....	105
■ Winter Storage	107
■ Transport.....	108

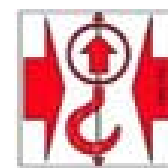
14.1 LIFTING PLAN

Location - lifting slings

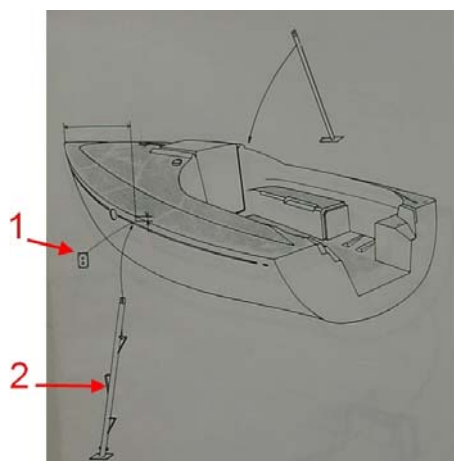


Note: Measurements are expressed in mm.

The position of the lifting slings is shown in the pictogram below:



Arrangement for beaching leg fittings



14.2 LIFTING

The wet surface area of the boat is about: 11 m².

- Before the first application of antifouling to the hull, you can lightly the hull using 400 µm or more wet and dry sandpaper.
- The lower hull of your boat should be covered with an anti-fouling paint which will prevent the adhesion of marine growth.
- The nature of the water where you keep your boat and the frequency of lifting it out determines the choice of antifouling.
- All bronze or steel surfaces, including the propellers, should be protected by a suitable antifoul paint.

Before applying the antifoul NEVER:

- Do any sandblasting;
- Use any other solvents than ethylic alcohol;
- Use detergents under pressure;
- Use scrapers;
- Use grinding tools.

If cleaning off existing antifouling requires high pressure washing:

- Ensure the water temperature does not exceed 15 degrees;
- The water pressure must not exceed 150 bars;
- The distance between the hose nozzle and the hull must not be less than 10 centimetres.



- Follow the manufacturer's recommendations scrupulously when applying antifouling.
- Never cover with antifouling:
 - the anodes;
 - the sea water strainers;
 - the sensors of the electronic instruments.
- Avoid using copper or tin-based antifouling: these are banned in some countries.

14.3 KEEL

General points

The ballast is the appendix located under a sailing yacht. It is an essential component of stability, essential for the operation of the boat.

The ballast is fixed to the bottom of the hull by bolts or pins and nuts with the corresponding tightening torque.

Maintenance

The ballast is a part of the hull under the waterline. It needs to be protected with anti-fouling paint.

Each time the hull is cleaned and each year at least, inspect the condition of the ballast visually together with its joint with the hull. Any fault, crack or burst must be reported to your dealer or a professional who will give you the right advice.

Yearly inspection

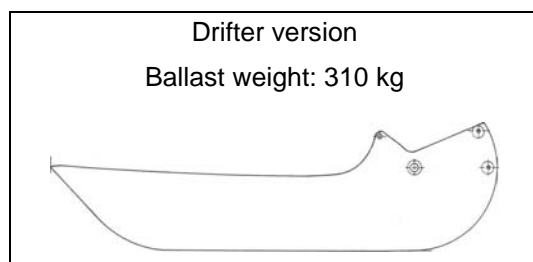
Make a visual inspection of all the ballast fixings under the floors. Make sure there are no cracks around the washers, bolts or nuts and that there is no significant corrosion. Any work carried out on these components must be done professionally.

In the event of an incident

In the event of grounding or impact with an unidentified floating object, lift the floors and check that there is no leakage of seawater in the ballast area. Do the same in the area of the rudder mountings.

If there is a leak of seawater, even small, reduce speed and contact the emergency services to follow their advice.

Then take the boat out of the water immediately and have it professionally inspected.



14.4 UPPER LIMIT OF ANTIFOUL

The boat's hull has a shallow indent moulded along its length: the upper marking corresponds to the upper limit of antifoul on the hull.

14.5 LAUNCH/LIFT OUT

The initial commissioning of your boat will require a lot of skill and care. The proper working of all your boat's equipment is the result of the quality of the commissioning operations. This is why the initial launch must be overseen by your dealer.

Before launching

- Replace the log in its housing.
- Check the cleanliness of the sea water strainers.
- Prepare enough fenders and lines.

14.6 STEPPING/UNSTEPPING THE MAST

The stepping /unstepping operations require the skills of a professional rigger: please consult your dealer.

Mast adjustment

NOTE:

The recommended values should be respected (at minimum), since with these tensions the rigging is tight and the minimum cable flexibility (extension) when sailing to prevent mast movement.

The load on the wires can only be measured by using a tensiometer.

Necessary material:

- Tensiometer gauge from Loos & CO, model PT2M.



Do not remain onboard or beneath the boat during the handling operations.



- When placing the slings make sure that the positioning marks are still visible.
- Submerge the sling fully under the engine mounting.



Prepare the mast ashore by fitting the various wires.

Leave enough play in the diamond cap to allow the wire to slide.

Fit the upper swivel of the furling gear to the mast with its halyard (the halyard is outside and parallel to the forestay).

Adjustment method:

- Step the mast and tighten the wires by hand using the bottlescrews setting them up equally as you do so.
- Gradually tension the diamond using the bottlescrews to obtain the following values by using tensiometers:

Diamond: 12

- Check that the mast is completely straight in transverse position (No S).

It is normal to have a longitudinal forward curve with a semi-profile value in the centre.

- Tighten the outer shrouds using the bottlescrews to obtain the following value:

Shrouds: 19

NOTE:

Gradually tighten each cable alternatively, since tensions are cumulative.

- Check that the mast is completely straight in transverse position (No S).

14.7 WINTER STORAGE

- Take advantage of laying up the boat to carry out a full inventory of the equipment.
- Check the expiry dates of the safety equipment.
- Have the liferaft overhauled.
- Empty the complete water system inside and outside and rinse it through with a mix of water and vinegar (do not use a chlorinated product).
- Empty and rinse the complete black water system.
- Dry out and clean the boat's bilges.
- Grease and close all the valves and through-hull fittings.
- Close all the boat's seacocks.
- Remove the depth sounder and log sensors.
- Put the covers back on the electronic screens.
- Use a dehumidifier in the saloon and ensure cabin and storage doors are left open.
- Air all of the cushions and upholstery for a good while before putting them back onboard and arranging them so as to limit the surface areas touching.
- Close the blackout curtains.
- Leave open the fridge/icebox doors to prevent mould and smells from developing.
- Protect the boat as well as possible with fenders.
- Make sure the boat is properly moored.
- Grease all mechanical and moving parts (bolts, hinges, locks...).
- Remove the sails and store them somewhere dry and well-ventilated.
- Remove the movable upholstery.
- Disconnect the batteries. Make sure you recharge them during the winter period if the boat is left inactive for too long.



- The winterisation of the engine requires the skills of a professional engineer: please consult your dealer.

- This is not an exhaustive list of recommendations: Your dealer will give you the advice you need and will carry out the technical maintenance of your boat.

14.8 TRANSPORT

Load (dry): 1 185 kg.

Light displacement: 1 300 kg.

Items of equipment included in the weight of the boat during transportation or when towed:

- All the structural components, including the keel/centreboard and rudder blade(s);
- the interior structure and furnishings (bulkheads, deckheads, fixed furnishings, buoyancy components...);
- Interior equipment: plumbing system, galley, ventilation system, electric installations and equipment including the batteries provided with the boat, electronic equipment and the fixed navigation components, fire-fighting equipment, mattresses and curtains;
- Exterior equipment: all the fixed deck equipment, cockpit tables, bathing ladder, steering system, exterior upholstery, mast fittings, anchor and chain, fenders, warps and mooring lines;
- heaviest weight of the engine(s) recommended by the manufacturer;
- weight of all liquids, including those in the fixed fuel tanks, the portable tanks and the fresh water tanks;
- For sailing yachts: standing and running rigging, basic sails.

Components that should not be on the boat during transportation or when towed:

- tableware, bed-linen etc, food and drink supplies, tools, spare parts;
- individual safety equipment;
- electronic equipment and portable navigation equipment;
- Additional sails;
- waste water and ballast water.

Towing ring (Handling on towed vessel)



- If the boat can be transported by trailer be careful to use a trailer that is appropriate for the boat and its weight.
- the weight of liquids is calculated on the basis of full tanks.

ENVIRONMENT

■ Waste management.....	110
-------------------------	-----

Waste management:

- Throw all packaging in the recycling containers provided for this.
- Once a piece of equipment has completely stopped working, find out about the relevant recycling regulations from your nearest recycling centre or from your dealer.
- Make sure you follow the relevant local laws when you scrap it.
- Some onboard equipment can have a toxic effect on the environment and on human health, caused by the specific substances they contain: Do not throw any equipment in household waste containers and absolutely not in the sea.
- Dead batteries are toxic to health and to the environment. So, batteries must not be put in with household waste, but must be recycled separately. Contact the harbour master or a specialist company about recycling them.



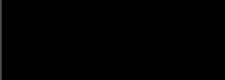





- Make sure you know the local environmental regulations and follow the codes of best practice.
 - Do not pump out the toilets or the contents of the black water tank near the coast or in areas where it's forbidden. Use the pump-out facilities available in ports or marinas to empty the contents of the black water tank before leaving port.
- Make sure you know the international regulations to prevent pollution in the marine environment (Convention MARPOL) and follow these as much as possible.

APPENDIXE

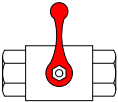
■ Meaning of the labels	112
-------------------------------	-----

MEANING OF THE LABELS

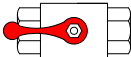
					
Engine group	Plumbing group	Colour - WC group	General electrical equipment	Comfort group	Drainage group



Valve location label

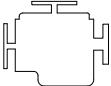

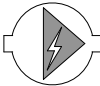



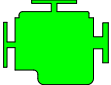





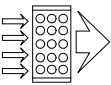





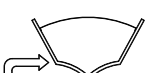











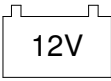

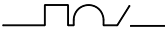


Closed valve



Open valve

Meaning of the symbols

	Motor		Shower		Electric pump
	Port engine		Washbasin		Manual pump
	Starboard engine		Icemaker		WC Toilet
	Propeller shaft		Deck wash		Washer
	Filter		Sea water tap		Dryer
	Hull drainage		Waste water tank		Dishwasher
	Sea water intake		Fresh water tank		Water maker

	Shore power socket		Fuel tank		Fuel filter
	Service		Holding tank		Inverter
	Generator		Battery stock		Heating
	Breaker		Thruster		Air conditioning

Each label is defined by:

- a functional group (specific colour);
- a component.

example:

