

SUN FAST 3600



OWNER'S MANUAL



JEANNEAU

CROISIÈRE

979012
Index A



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INTRODUCTION

Welcome

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

A JEANNEAU 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 JEANNEAU dealer will be able to help and advise you in the use and maintenance of your boat.

A lot of skill and care is required to commission your boat. 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 complies with the European Directive 94/25/CE of the 16 June 1994 amended by the European Directive 2003/44/CE of the 16 June 2003 ; and with the standard NF EN ISO 10240 of February 2005 .



- 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.



1 TECHNICAL SPECIFICATIONS

1.1 CONSTRUCTION

Model	SUN FAST 3600
Architect.....	Andrieu Yacht Design
Builder	SPBI S.A
Principal means of propulsion	Sail
Deck construction material	Laminated sandwich glass / Polyester / PVC foam
Hull construction material	Laminated sandwich glass / Polyester / Balsa wood
Application	infusion
Keel construction material	Lead
Ballast weight (Sail - Keel: 674 kg + Bulb 1 479 kg).....	2 153 kg

1.2 GENERAL DIMENSIONS

L.O.A (L_{max})*	11,66 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)*	10,80 m
<i>(Excluding: removable parts that can be dismantled, without affecting the structure of the boat)</i>	
Overall width (B_{max})*	3,61 m
<i>(Including: removable parts that can be dismantled, without affecting the structure of the boat)</i>	
Beam(B_h)*	3,55 m
<i>(Excluding: removable parts that can be dismantled, without affecting the structure of the boat)</i>	
Air draught – Empty vessel (without - Windvane).....	15,36 m
Draught - Boat fully laden - Aluminum pole	2,27 m
Draught - Boat fully laden - Carbon mast	2,26 m
Wetted surface area	Approximately 29 m ²

1.3 ENGINE

Nominal maximum propulsion power	14,7 Kw
Maximum recommended engine size	151 kg

1.4 ELECTRICITY

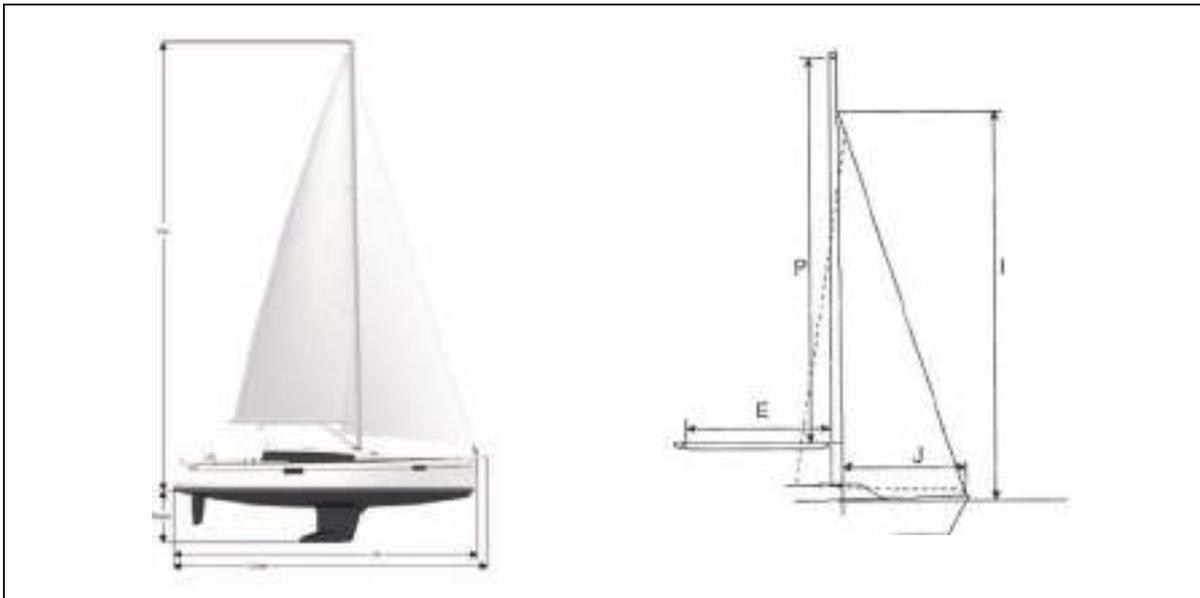
Circuit type - Direct current.....	12V
Circuit type - AC	220V
Circuit type - AC (US version)	110V

1.5 CAPACITIES

Total mass of the liquid content of fixed tanks when they are full..... 214 kg
Fuel capacity: 75 l
Fresh water capacity:..... 100 l
Black water capacity (WC):..... 50 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..... 14,19 m
J..... 4,20 m
P..... 13,50 m
E..... 4,60 m
Classical mainsail 36,75 m²
Genoa 32,34 m²
Asymmetric spinnaker..... 124 m²
Symmetric spi 105 m²





2 DESIGN CATEGORIES AND DISPLACEMENT

- 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).

Version: Aluminum pole

Design category	A	B	C	D
Maximum number of people to be allowed onboard	6	8	10	12
Light displacement	5 037 kg			
Recommended maximum load	1 230 kg	1 330 kg	1 350 kg	1 470 kg
Displacement with maximum load	6 267 kg	6 367 kg	6 387 kg	6 507 kg

Version: Carbon mast

Design category	A	B	C	D
Maximum number of people to be allowed onboard	6	8	10	12
Light displacement	4 999 kg			
Recommended maximum load	1 230 kg	1 330 kg	1 350 kg	1 470 kg
Displacement with maximum load	6 229 kg	6 329 kg	6 349 kg	6 469 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: At high sea

This craft is designed to operate in winds that may exceed wind force 8 (Beaufort scale) and in significant wave heights of 4 m and above.

This craft is largely self-sufficient. Abnormal conditions such as hurricanes are excluded. Such conditions may be encountered on extended voyages, for example across oceans, or inshore when unsheltered from the wind and waves for several hundred nautical miles.

Category B: In open sea

This craft is designed to operate in winds up to Beaufort force 8 and the associated wave heights (significant wave height up to 4 m, see Note 1 below).

Such conditions may be encountered on offshore voyages of sufficient length, or on coastal waters when unsheltered from the wind and waves for several dozens of nautical miles. These conditions may also be experienced on inland seas of sufficient size for the wave height to be generated.

Category C: Near to the coast

This craft is designed to operate in winds up to Beaufort force 6 and the associated wave heights (significant wave height up to 2 m, see Note 1 below). You may meet with such conditions in exposed inland waters, in estuaries and in coastal waters with moderate weather conditions.

Category D: In sheltered waters

This craft is designed to operate in winds up to Beaufort force 4 and the associated wave heights (occasional maximum waves of 0,5 m height).

Such conditions may be encountered in sheltered inland waters, and in coastal waters in fine weather.

NOTE:

- The significant wave height is the mean height of the highest one-third of the waves, which approximately corresponds to the wave height estimated by an experienced observer. Some waves will be double this height.
- The creation of different design categories results from the need to distinguish between different levels of risk according to the construction of the boats. The parameters for the characteristics are established to define the conditions of navigation which each category may encounter; they serve purely to evaluate the boat designs and are not to be used to limit the geographical areas in which these boats may operate.
- One boat may be classed in several design categories at the same time, each with their different maximum capabilities.



3 STABILITY AND BUOYANCY

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.



- Reduce speed in waves.
- 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 the cockpit



Chain must always remain closed during navigation.

Access to the engine compartment

Companionway



Side access (Cabins)





Access to companionway



- It is imperative that both the cockpit and the engine compartment are kept closed when at sea.
- 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.

ADVICE-RECOMMENDATION

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



4 MANOEUVRABILITY

- This boat was tested using the stability rating STIX, which is a worldwide safety measurement of stability and which takes account of the length of the vessel, its displacement, hull dimensions, stability characteristics and flooding proofness. This test produced the following results::

	Boat with minimal load Aluminum pole / Carbon mast	Boat laden Aluminum pole / Carbon mast
Angle of vanishing stability (in degrees)	146,9° / 151,2°	144,6° / 146,7°
STIX	49,3 / 51,0	51,3 / 52,1

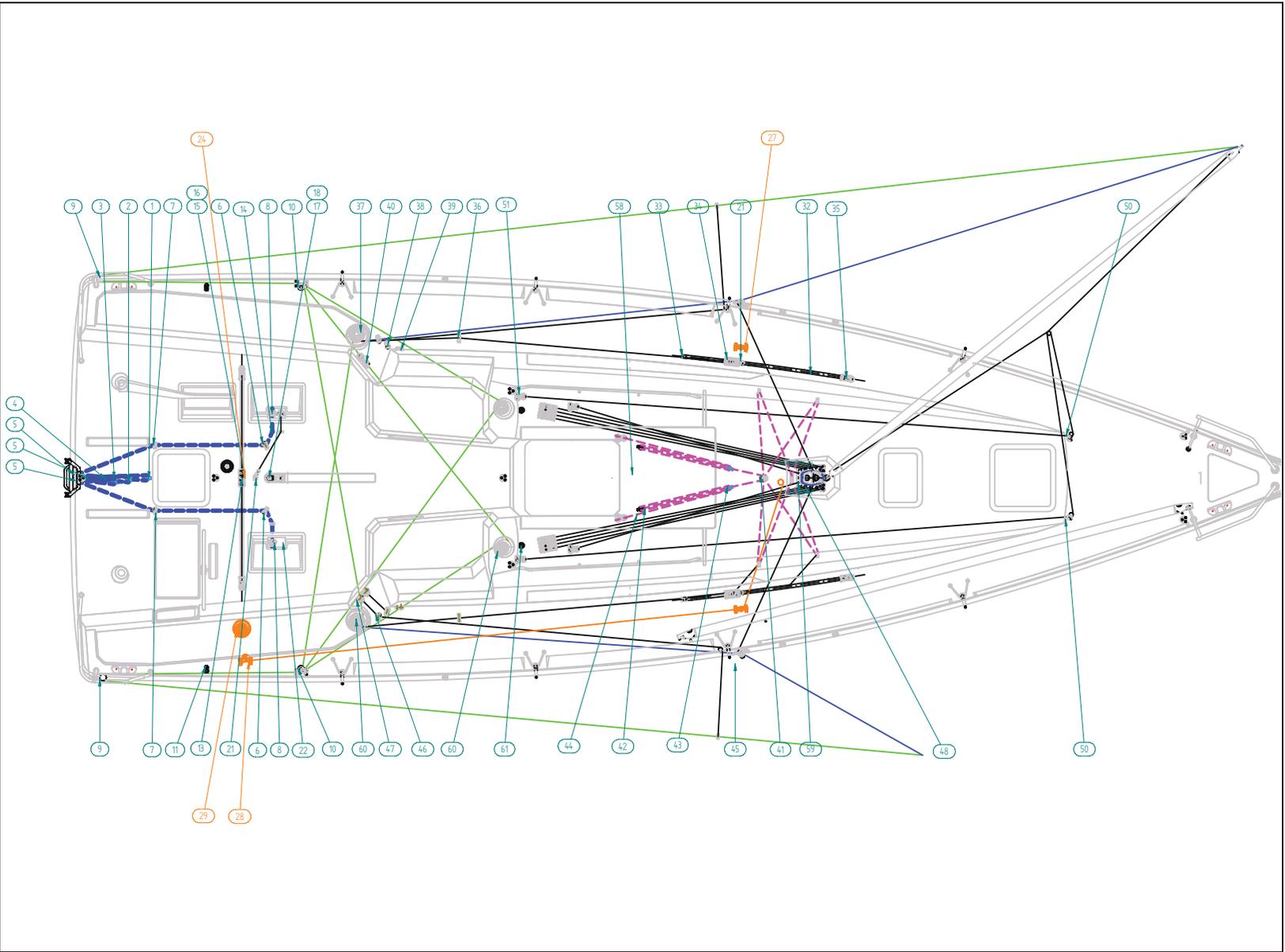
- This boat was found to be capable of carrying its crew, even when flooded.
- This boat is liable to capsize or to become flooded if carrying too much sail. In these circumstances it could sink. It is important to reduce the sail area if the wind exceeds force 3 on the scale of Beaufort. It is important 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.

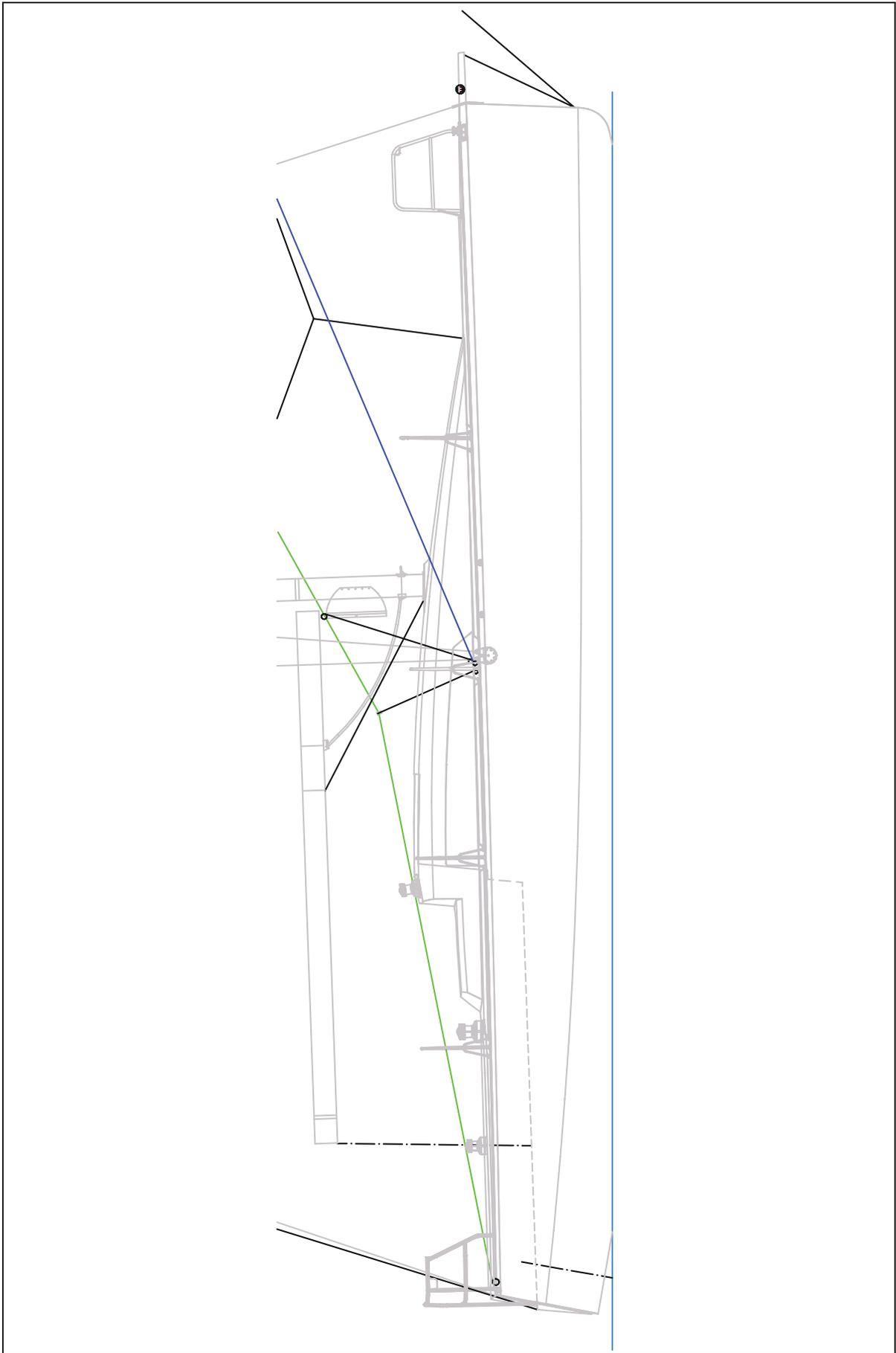


- If carrying too much sail, the boat could capsize.
- It is important to take additional precautions in very strong winds or in a confused sea or breaking waves.

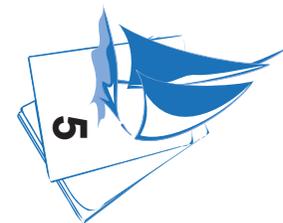
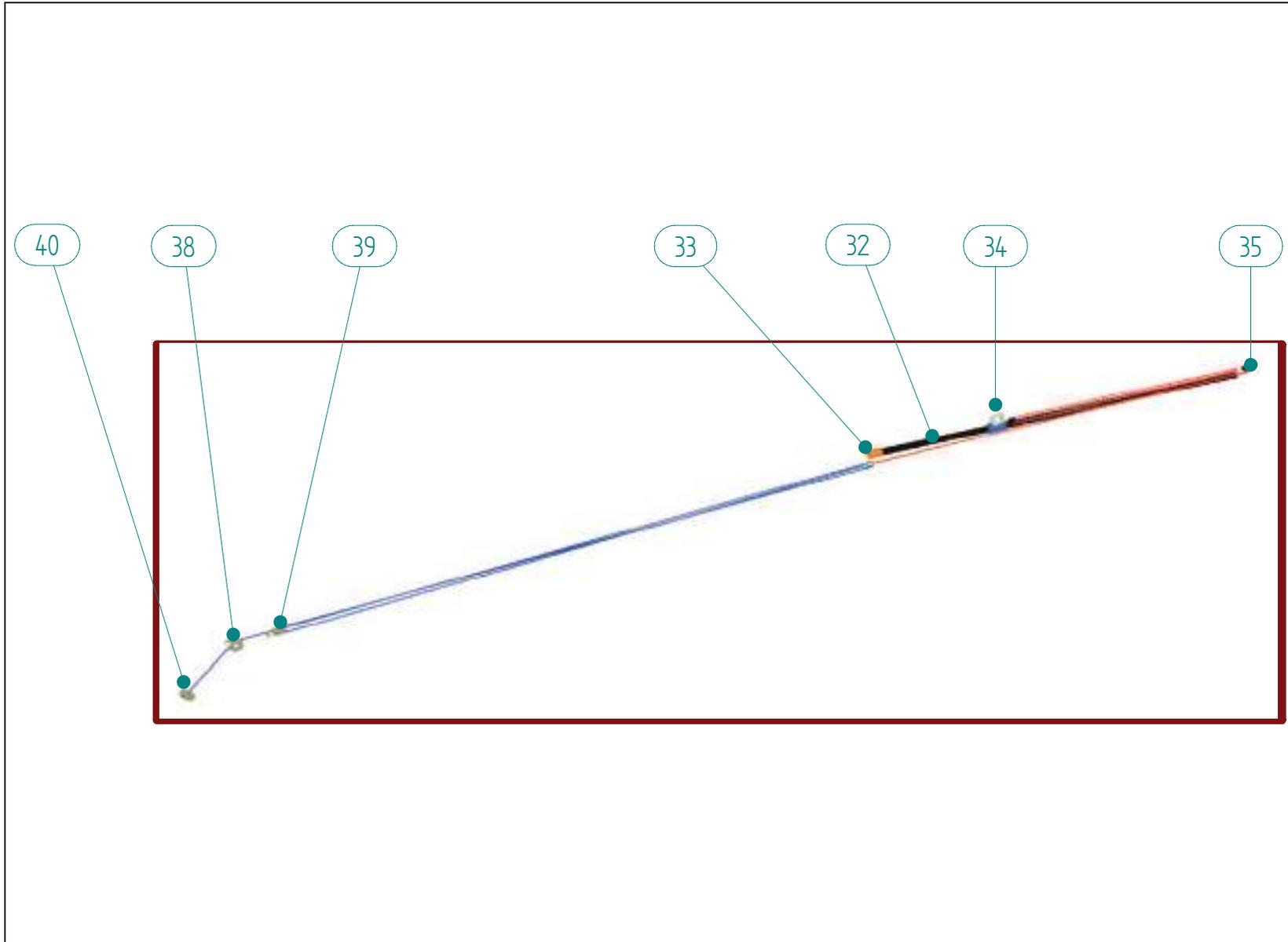
5 RIGGING AND SAILS

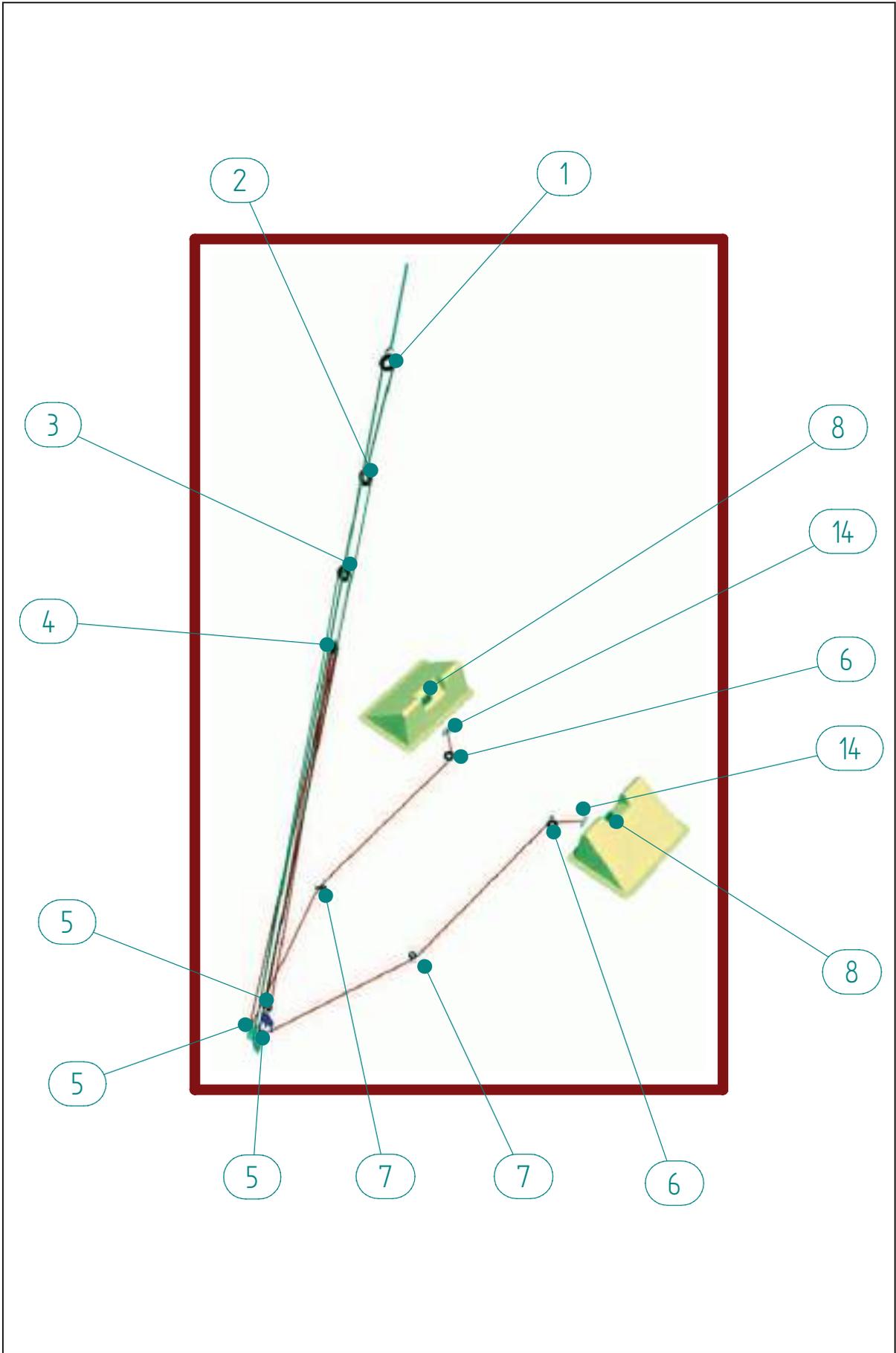
5.1 RIGGING DIAGRAM

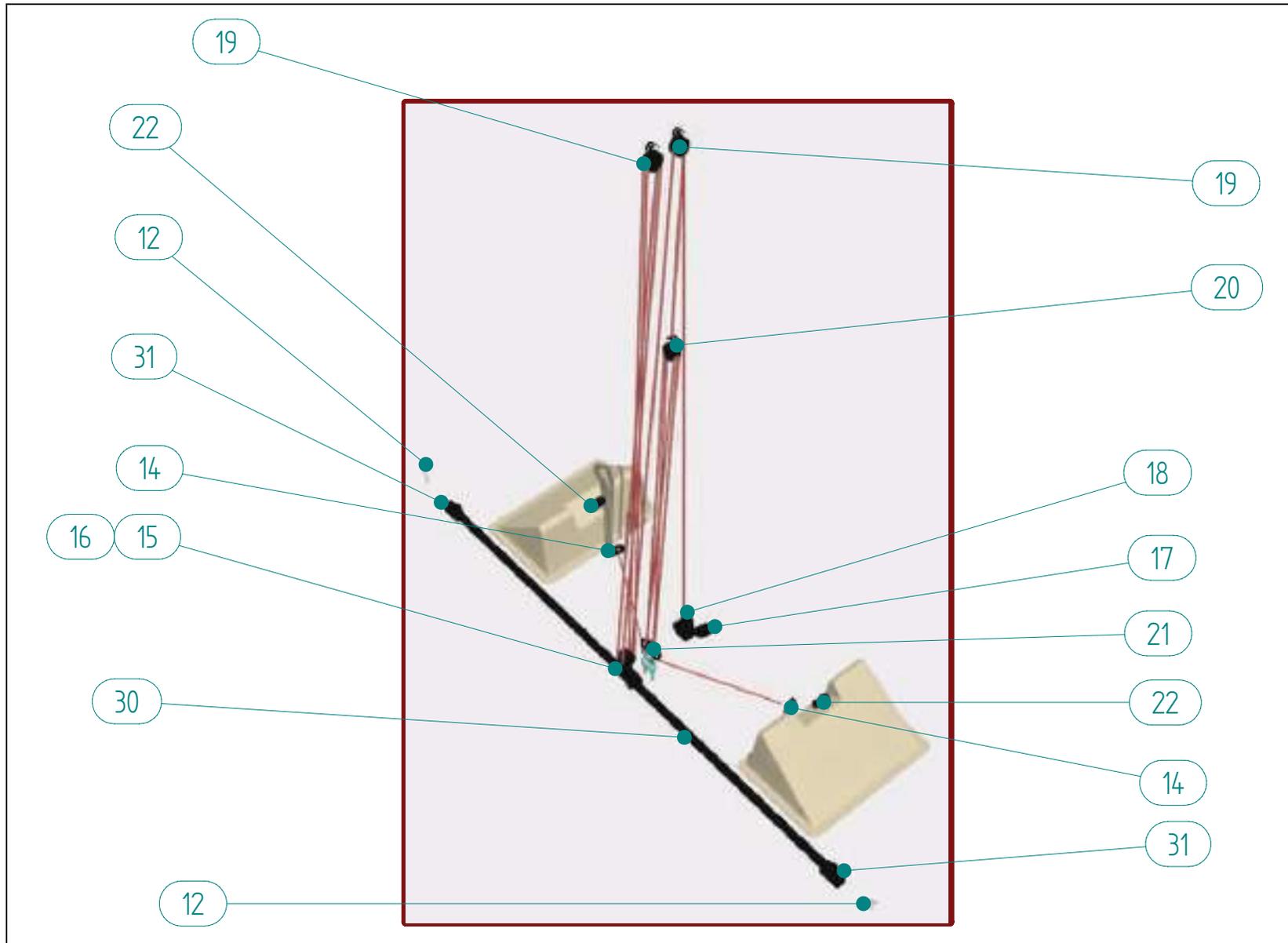




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REF	Reference YARDS	Reference SUPPLIERS	Designation	Description	Quantity
1	<u>Backstay</u>				
1	060637	6057	Pulley "ESP" 75mm 10mm removable	Tiered tackle "1"	1
2	155923	6097	Pulley "ESP" Mast foot 57mm Pin 8mm	Tiered tackle "2"	1
3	155924	2151	Pulley "Carbo T2 loop" 57mm	Tiered tackle "3"	1
4	975846	2638	Double blocks "Carbo" 40mm	Tackle "4" High	1
5	975154	2636	Single pulley "Carbo" 40mm	Tackle "4" Deck	3
6	975839	2644	Pulley "Carbo" 40mm to be attached	Return to: Footrests	2
7	060634	350	Pulley "Carbo" 29mm to be attached	Aft deflection	2
8	072286	459	Cleat - Standard 150 + Lead	Return	2
2	<u>Spinnaker sheet</u>				
9	960346	3215	"Black Magic" Single HR with swivel 57mm	aft	2
10	092211	3122	Pulley 57mm "Flip Flop"	Return	2
11	851110	150	Aluminium cleats "Cam- Matic"		2
3	<u>Mainsail sheet on block 8:1 and 32:1</u>				
12	156318	2133	Forged deck plate 5mm - 37,12mm Centre line to centre line	Fixed point - Control line	2
13	156319	1636	Traveller MR CB long Windward		1
14	156344	HCP1808	Lead "custom SMALL range"	Backstay adjustment	4
15	975843	2604	Pulley - triple "Carbo" 57mm	on traveller (shackle in shackle)	1
16	014011	071	Retaining spring		1
17	031126	144	Turret "SB" - High		1
18	074070	2135	Pulley "Carbo" 57mm "Ratchet"	on turret	1
19	975842	2602	Double blocks "Carbo" 57mm	on boom	2



3	<u>Mainsail sheet on block 8:1 and 32:1</u>				
20	975846	2638	Double blocks "Carbo" 40mm	Main sheet fine tune - Upper	1
21	975154	2636	Single pulley "Carbo" 40mm	Main sheet fine tune - Lower	3
22	072286	459	Cleat - Standard 150 + Lead	Main sheet fine tune - Lower	2
5	<u>Mainsheet track</u>				
30	132972	R27.1.8M	Track "CB MR" 1.8 m with piston stops		1
31	990745	1631	Couple ends - Track "CB MR" 1 Sheave 40mm	1 Sheave & Fixed point	1
9	<u>Genoa sheet: Traveller - Performance. Cable adjustment - 6:1</u>				
32	124226	R27.1.5M	Track "CB MR" 1.5 m with piston stops		2
33	124222	E2700	Couple ends - Track "MR"		1
34	156315	G2727B	Genoa MR traveller CB with sheave		2
35	990745	1631	Couple ends - Track "CB MR" 1 Sheave 40mm		1
36	156320	C8540	Lead "custom SMALL range"	anti riding turn	2
37	156317	46.2STP	Winch "self-tailing" 2 speeds aluminium - Performance		2
38	975839	2644	Pulley "Carbo" 40mm to be attached	on coaming in 3:1	2
39	060635	2637	Simple pulley with becket "Carbo" 40mm	Tiered tackle	2
40	072286	459	Cleat - Standard 150 + Lead		2
11	<u>Genoa return</u>				
41	067423	6091	Pulley "ESP" 57mm to be attached	1 on the 2 sides	1
42	156314	HSB 468	Pulley "Carbo" 40mm to be attached / with becket	pulley 4 fall	2
43	072296	2655	Fiddle block "Carbo" 40mm	pulley 4 fall	2
44	014009	240	Turret with cleat 150		2

13/14	<u>Spinnaker guy</u>				
45	960346	3215	"Black Magic" Single HR with swivel 57mm	Arm return	2
16	<u>Spinnaker sheet barber-hauler with sheet rings</u>				
46	060635	2637	Simple pulley with becket "Carbo" 40mm		2
47	072286	459	Cleat - Standard 150 + Lead		2
17 to 22	<u>4 Halyards, Spinnaker boom topping lift, 2 Reef, Foot tuning line</u>				
48	156313	3214	"Black Magic" to be strapped 57mm		8
23	<u>Spinnaker boom downhaul</u>				
49	156310	2149	Pulley "Carbo T2 lashing" 40mm	Boom	1
50	156311	2148	Pulley "Carbo T2 loop" 40mm	Deck	2
51	014009	240	Turret with cleat 150		2
24	<u>Kicking strap "24:1"</u>				
52	155918	6098	Pulley "ESP" Mast foot 75mm narrow - Pin 8mm	Tiered tackle "1"	1
53	155922	6096	Pulley "ESP" Mast foot 57mm narrow - Pin 6mm	Tiered tackle "2"	1
54	090088	2640	Pulley - triple "Carbo" 40mm	Tackle - Upper	1
55	975846	2638	Double blocks "Carbo" 40mm	Tackle - Lower	1
56	060628	2146	Pulley "Carbo T2 lashing" 29mm	Tackle - Lower	2
57	014009	240	Turret with cleat 150		2
30	<u>Cunningham "4:1"</u>				
58	060628	2146	Pulley "Carbo T2 lashing" 29mm		1
59	072286	459	Cleat - Standard 150 + Lead		1



Miscellaneous items					
60	156321	40STQP	Winch "self-tailing" 2 speeds Quattro - Performance	Winches - Roof	2
61	975839	2644	Pulley "Carbo" 40mm to be attached	Barber-hauler	4
62	976959	1981	Turning block 56mm	Roof	2
	049555	B10ASG	Handle		2

Blocks - Description

Blocks (standard)	Reference		Dimension	Quantity
	Jeanneau	Harken		
	060637	H6057	75mm	1
	155923	H6097	57mm	1
	155924	H2151	57mm	1
	975846	H2638	40mm	3 (1+1+1)
	975154	H2636	40mm	6 (3+3)
	975842	H2602	57mm	2

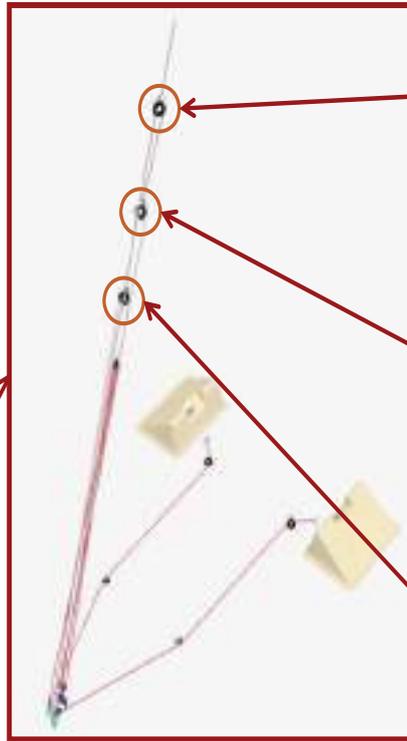
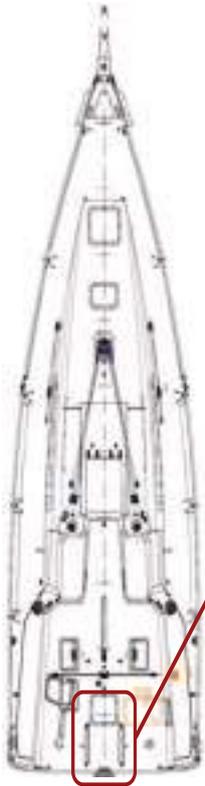
Blocks (standard)	Reference		Dimension	Quantity
	Jeanneau	Harken		
	074070	H2135	57mm	1
	975843	H2604	57mm	1
	060635	H2637	40mm	2
	072296	H2655	40mm	2
	156313	H3214	57mm	8
	155918	H6098	75mm	1
	155922	H6096	57mm	1
	060628	H2146	29mm	4 (2+2)



Blocks (standard)	Reference		Dimension	Quantity
	Jeanneau	Harken		
	156310	H2149	40mm	1
	156311	H2148	40mm	2
	090088	H2640	40mm	1
=				38 Blocks

RIGGING AND SAILS

Backstay



75mm

Reference:	
- Jeanneau	156311
- Harken	H2148
Quantity:	2



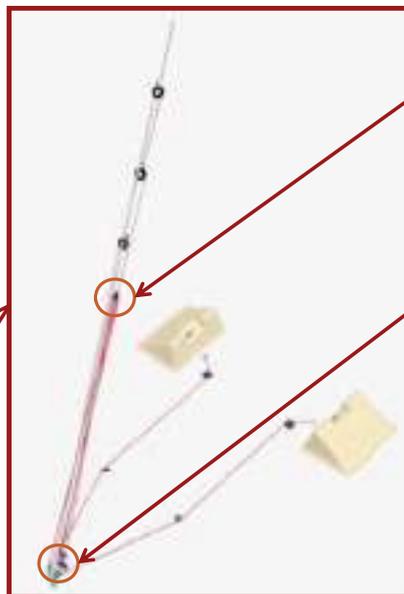
57mm

Reference:	
- Jeanneau	155923
- Harken	H6097
Quantity:	1



57mm

Reference:	
- Jeanneau	155924
- Harken	H2151
Quantity:	1



40mm

Reference:	
- Jeanneau	975846
- Harken	H2638
Quantity:	1



40mm

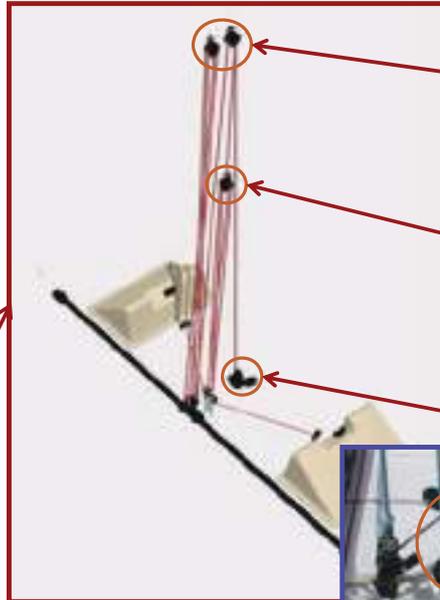
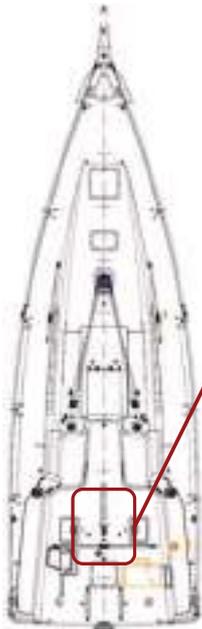
Reference:	
- Jeanneau	975154
- Harken	H2636
Quantity:	3



975154 Pulley(s) to be fixed here



Mainsail sheet



57mm

Reference:
- Jeanneau 975842
- Harken H2602
Quantity: 2



40mm

Reference:
- Jeanneau 975846
- Harken H2638
Quantity: 1



40mm

Reference:
- Jeanneau 074070
- Harken H2135
Quantity: 1



074070 Pulley(s) to be fixed here



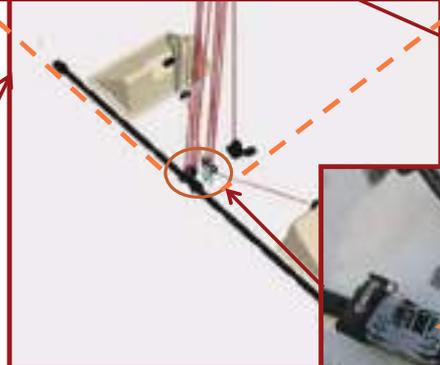
40mm

Reference:
- Jeanneau 975154
- Harken H2636
Quantity: 3



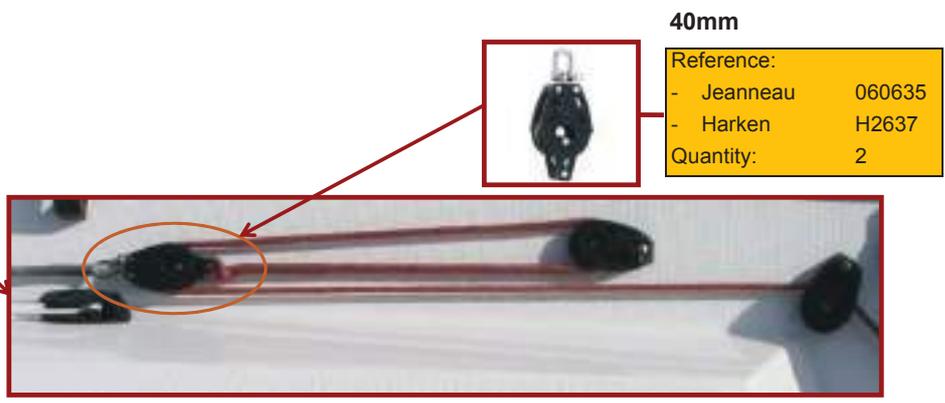
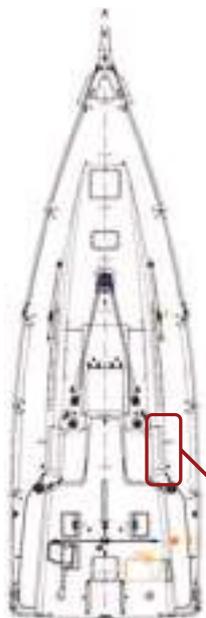
57mm

Reference:
- Jeanneau 975843
- Harken H2604
Quantity: 1



Traveller

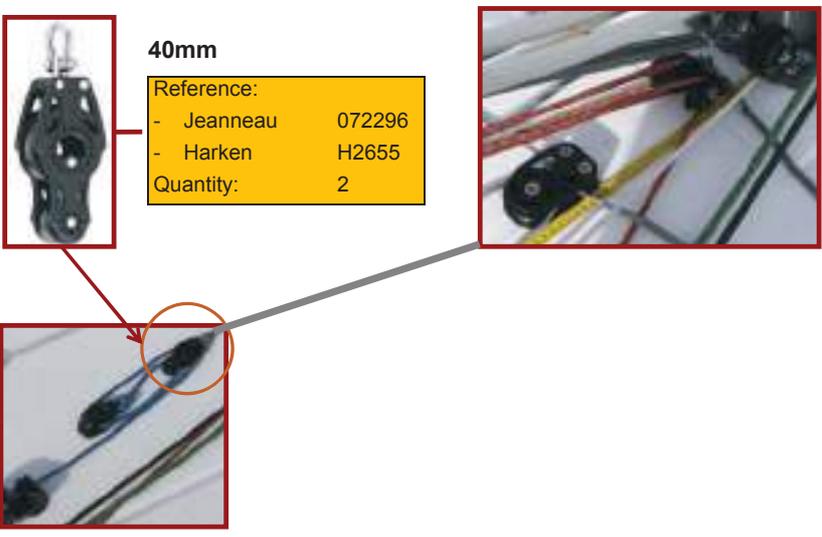
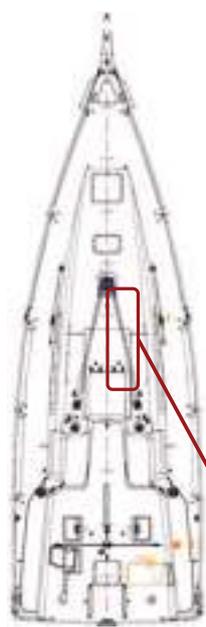
Traveller - Genoa sheet



40mm
Reference:
- Jeanneau 060635
- Harken H2637
Quantity: 2

NOTE: Mounting same port / starboard.

Barber-hauler - Genoa

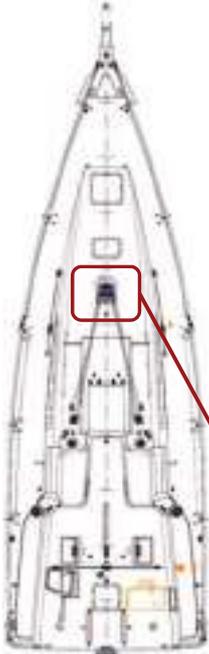


40mm
Reference:
- Jeanneau 072296
- Harken H2655
Quantity: 2

NOTE: Mounting same port / starboard.



Mast foot



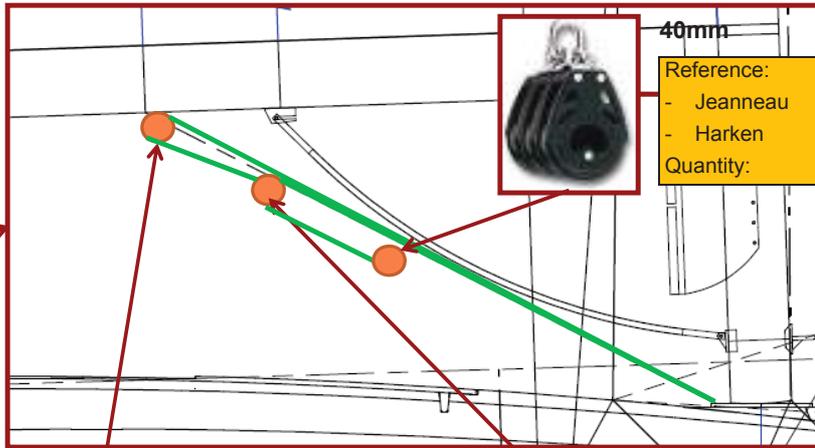
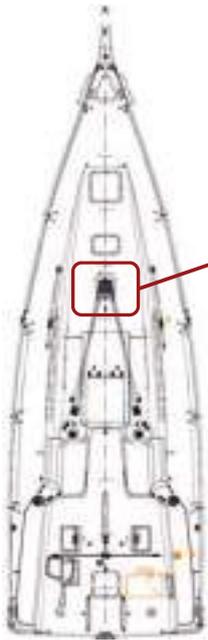
57mm

Reference:

- Jeanneau 156313
- Harken H3214

Quantity: 8

Kicking strap



40mm

Reference:	
- Jeanneau	090088
- Harken	H2640
Quantity:	1



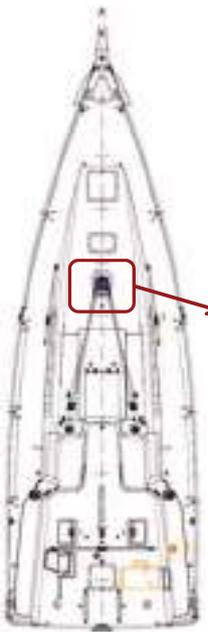
75mm

Reference:	
- Jeanneau	155918
- Harken	H6098
Quantity:	1



57mm

Reference:	
- Jeanneau	155922
- Harken	H6096
Quantity:	1



40mm

Reference:	
- Jeanneau	975846
- Harken	H2638
Quantity:	1

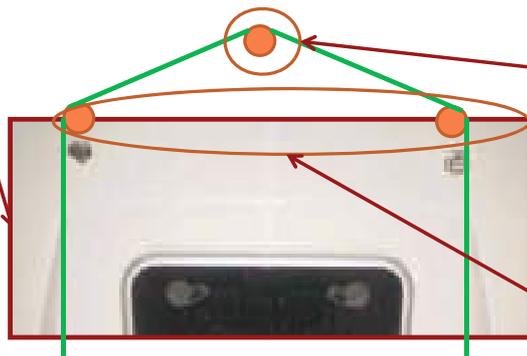
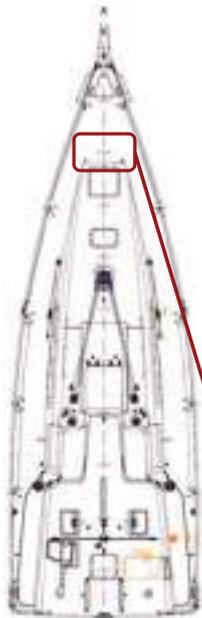


29mm

Reference:	
- Jeanneau	060628
- Harken	H2146
Quantity:	2



Kicker tackle - Spinnaker



40mm

Reference:

- Jeanneau 156310
 - Harken H2149
- Quantity: 1

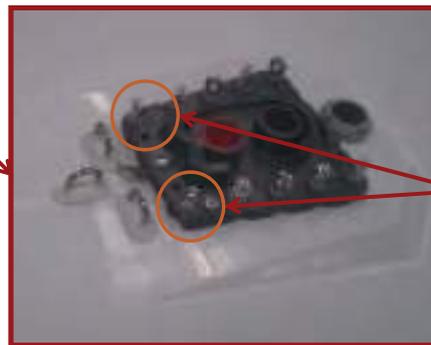
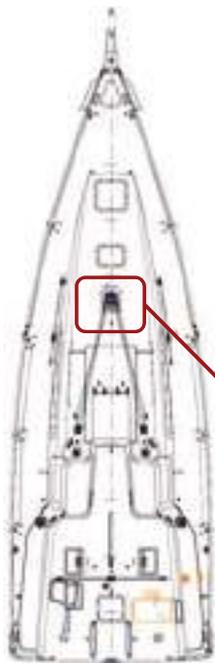


40mm

Reference:

- Jeanneau 156311
 - Harken H2148
- Quantity: 2

Cunningham - Mainsail (classic)



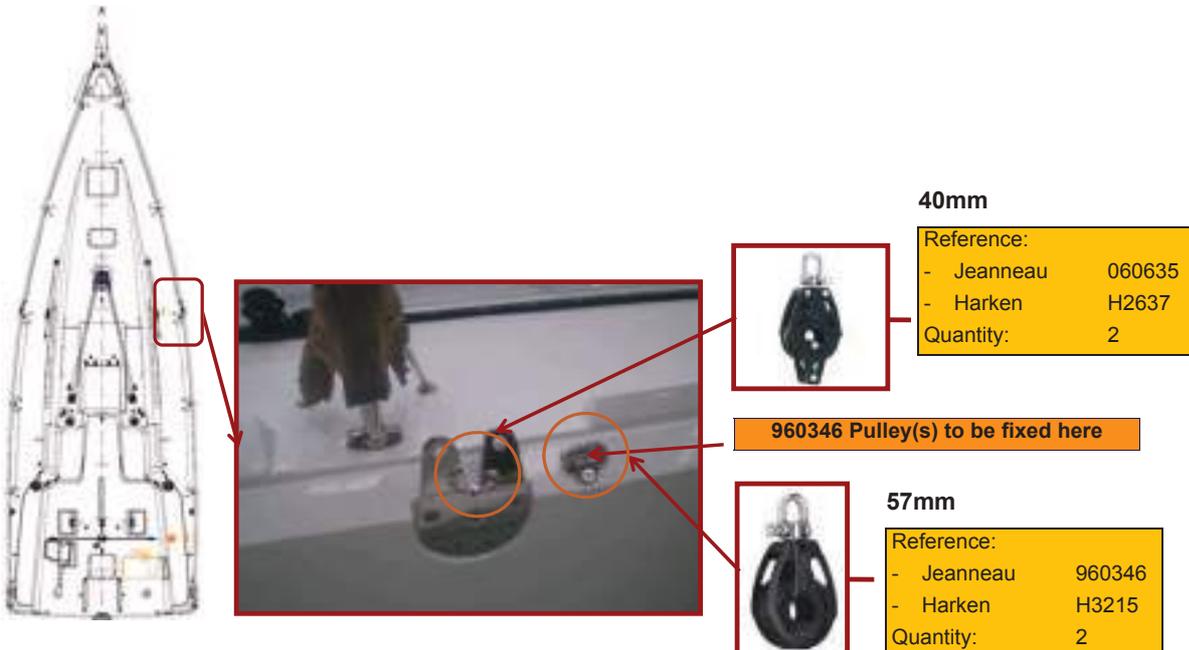
29mm

Reference:

- Jeanneau 060628
 - Harken H2146
- Quantity: 2

Blocks - Spinnaker & Boom (Optional equipment)	Reference		Dimension	Quantity
	Jeanneau	Harken		
	960346	H3215	57mm	4 (2+2)
	060635	H2637	40mm	2

Spinnaker guy + Barber-hauler (Optional equipment)



40mm

Reference:
 - Jeanneau 060635
 - Harken H2637
 Quantity: 2

960346 Pulley(s) to be fixed here

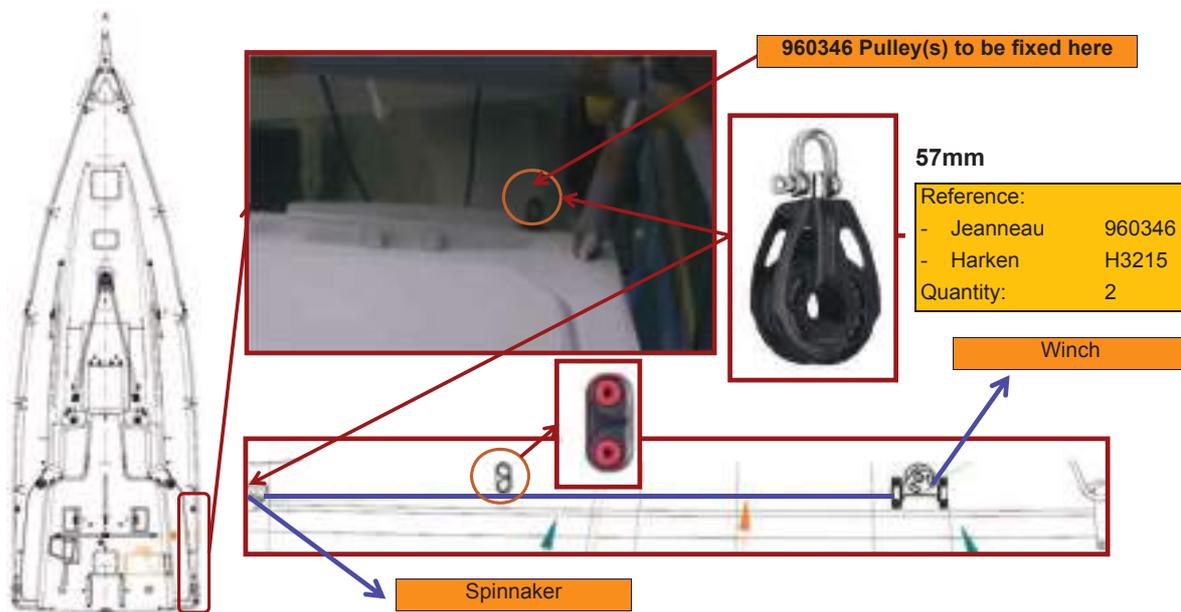
57mm

Reference:
 - Jeanneau 960346
 - Harken H3215
 Quantity: 2

NOTE: Mounting same port / starboard.

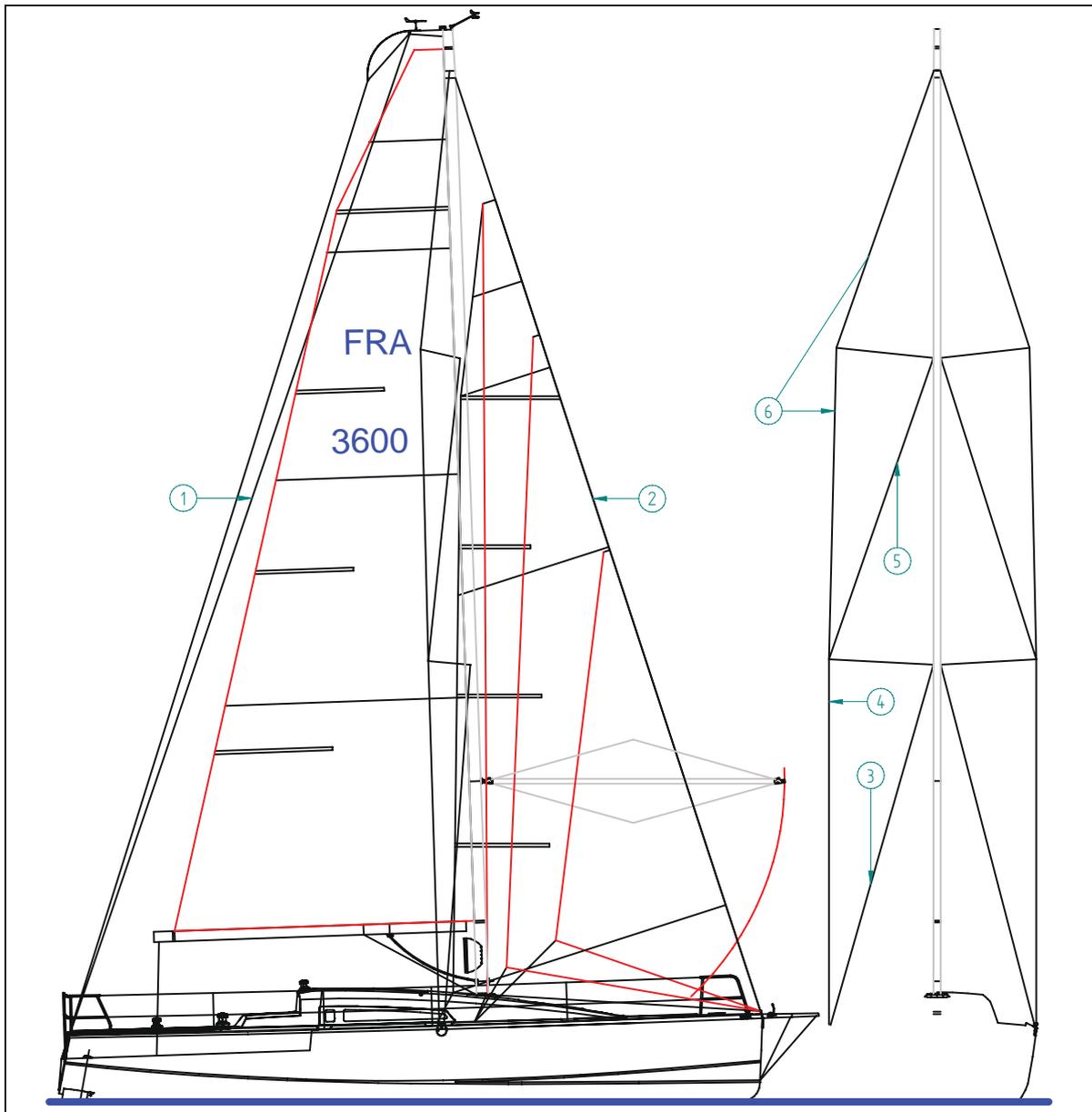


Spinnaker sheet (Optional equipment)

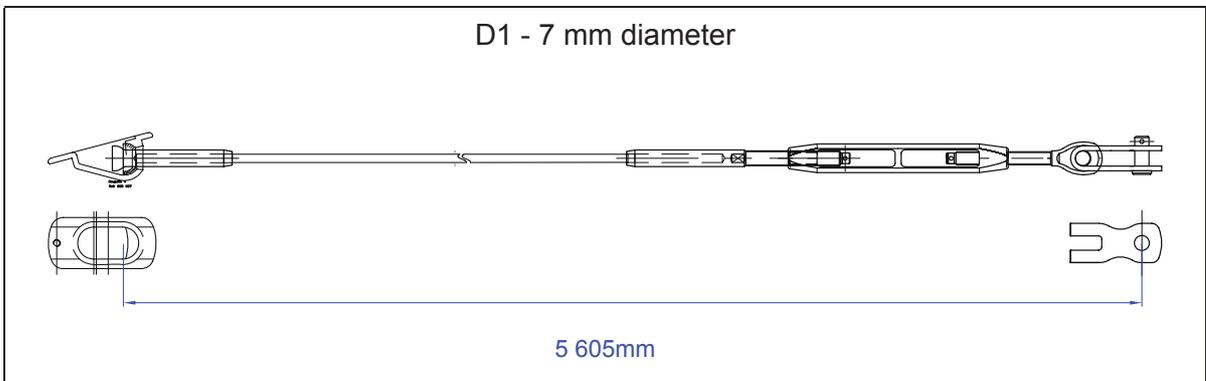
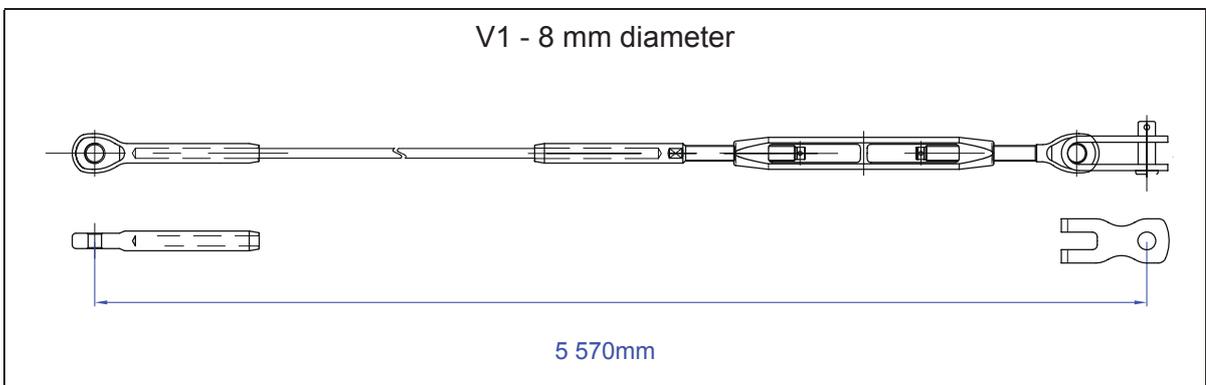
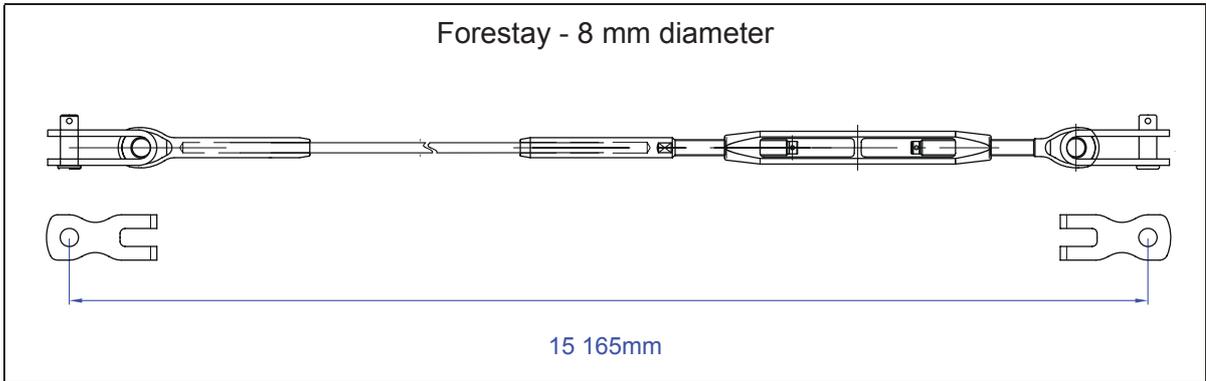


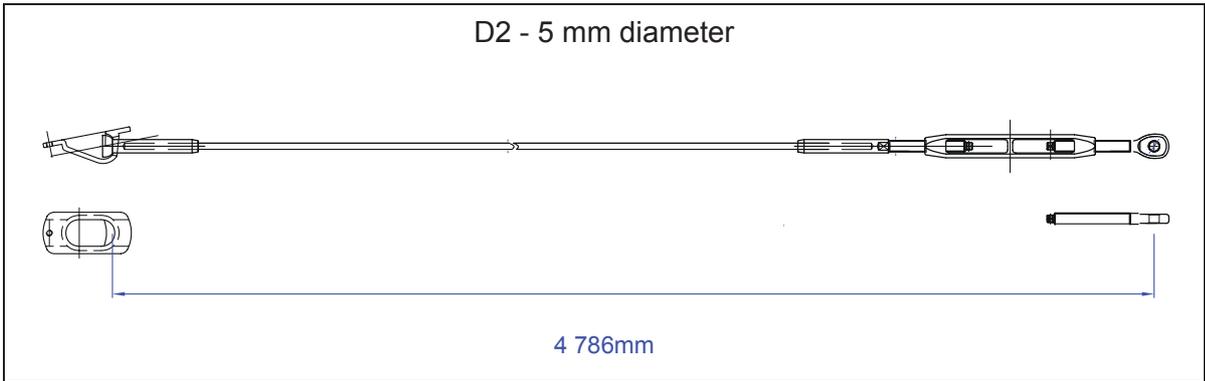
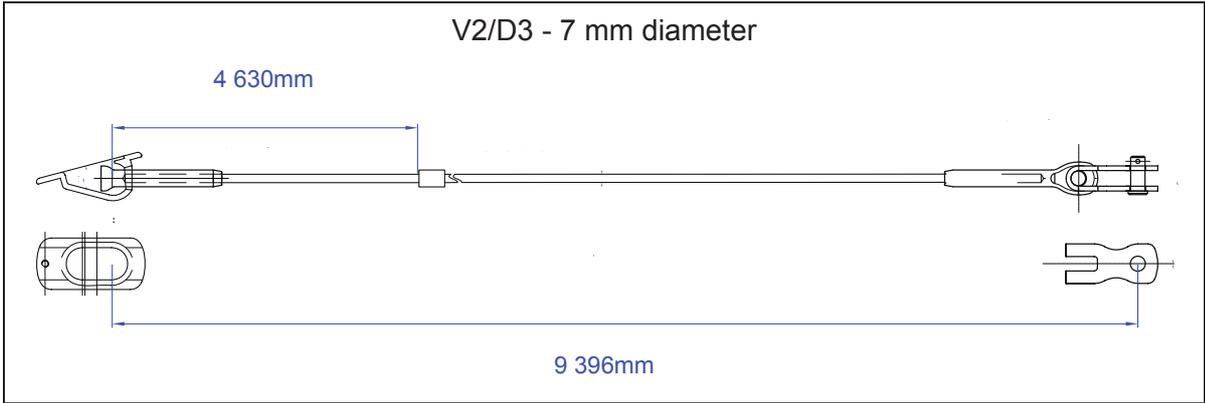
5.2 STANDING RIGGING

5.2.1 General layout



Reference	Designation
1	Backstay
2	Forestay
3	D1
4	V1
5	D2
6	V2D3







5.2.2 Mast

Profile: 122 x 195mm

Weight: 4,9

Assembly - Mast foot

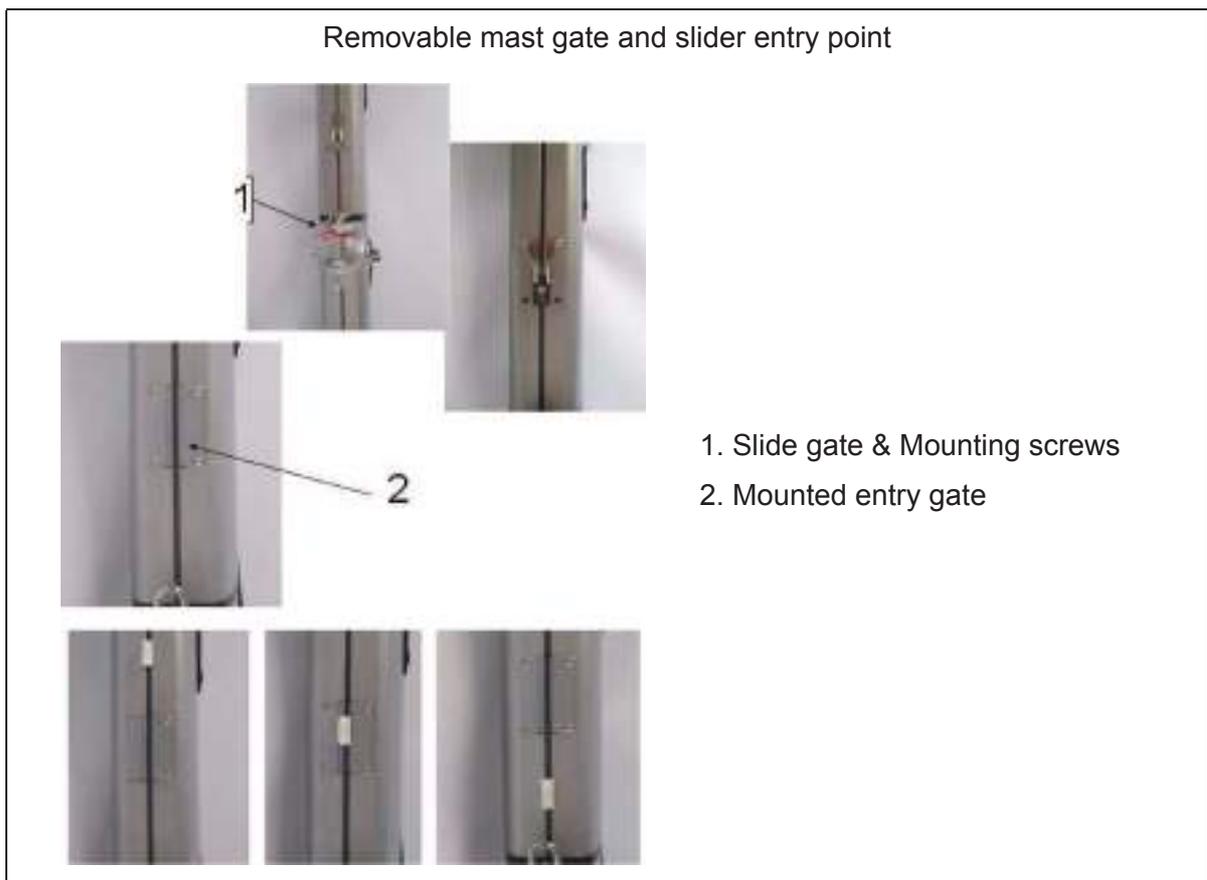
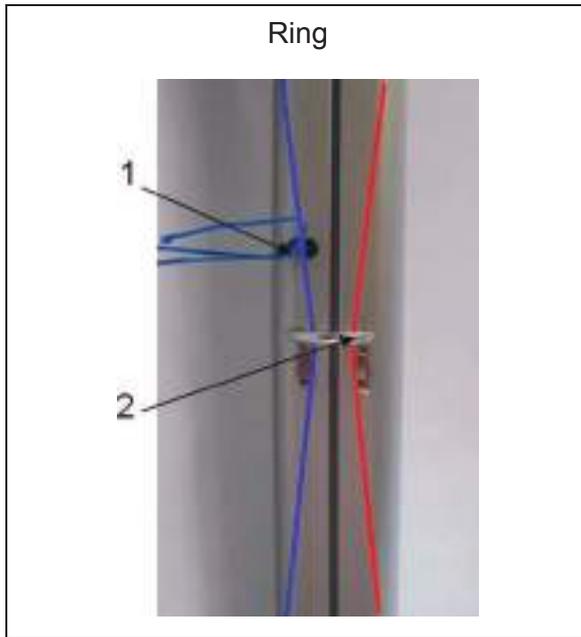


Pulley support strap



Adjustable boom car

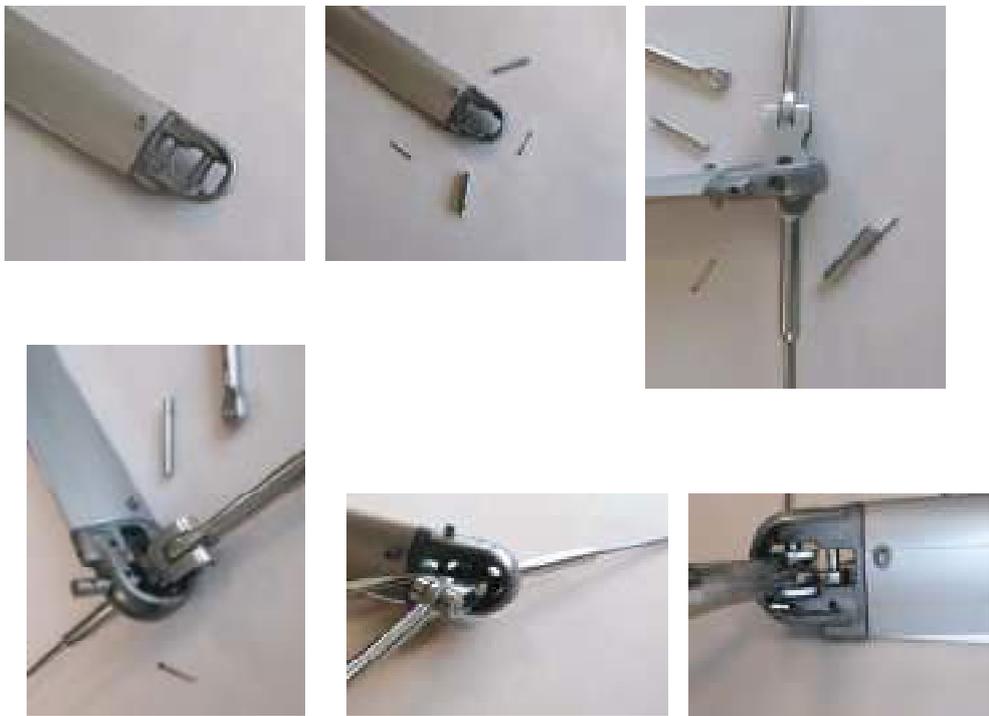




Mounting of spreaders



Mounting of spreader ends
Discontinuous rigging



Mounting of spreader ends
Continuous rigging



Backstay spacer & Windvane
1. Drilling for mounting windvane



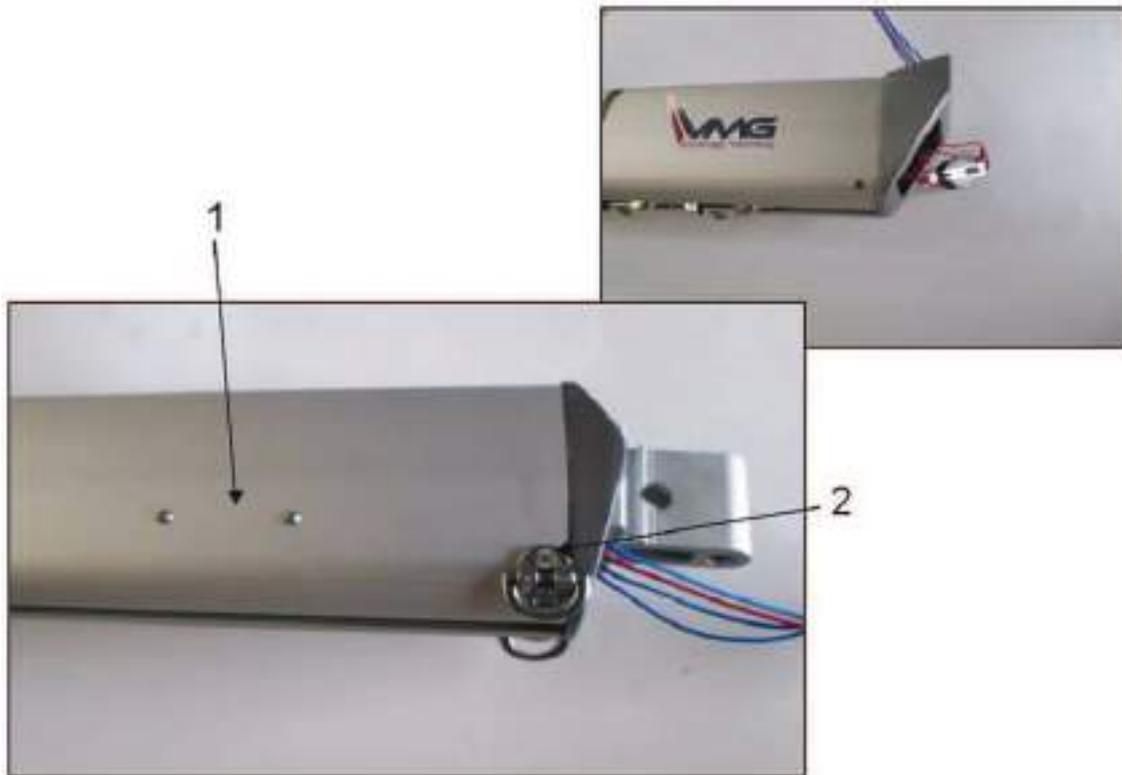
- To hoist a crew member up to the top of the mast, make a bowline with the halyard directly on the bosun's chair ring (never use the halyard snap shackle or shackle).
- Never hoist a crew member when sailing in heavy weather.

ADVICE-RECOMMENDATION

- A lot of skill and care is required to commission your boat. 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.

5.2.3 Boom

Foot tuning line block and mounting of 'German sheeting'



1. Attachment of fixed pulley for foot tuning line tackle
2. Attachment point for mounting of 'German sheeting' version

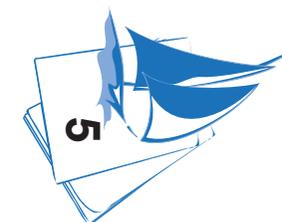
5.3 RUNNING RIGGING

- 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.



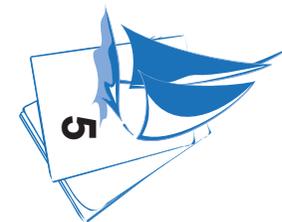
- When not sailing, slacken the genoa halyard and keep it away from the forestay (risk of halyard becoming furled around the forestay, which can lead to the stay breaking and dismasting of the boat).

Designation	Reference	Colour	Quantity	Diameter (mm)	Finished length (m)	Trim level 1	Trim level 2	Total weight
COMMON - MAST								10,00
Main halyard	HELIOS08TRSK90	beige tech - Mottled grey	1	8	55	Dyneema ® covered single splice	Messenger line with sleeve	2,56
The Tbone and the MX are to be supplied but not fitted on the halyard ; The Tbone is for fitting on the carbon mast (remove cover and recover over 2 000 mm)								
Genoa halyard	HELIOS08TRSK90	beige tech - Mottled blue	1	8	36	Dyneema ® covered single splice	Messenger line with sleeve	1,69
Cover removed over 8 500 mm / Covered to 2 000 mm								
Spinnaker halyard	ALBA08RSK78	Beige - Mottled red	1	8	36	Dyneema ® covered single splice	Messenger line with sleeve	1,58
Cover removed over 9 100 mm / Covered to 2 000 mm								
Genoa halyard / Spinnaker halyard	ALBA08RSK78	Beige - Mottled green	1	8	36	Dyneema ® covered single splice	Messenger line with sleeve	1,58
Cover removed over 9 100 mm / Covered to 2 000 mm								
Spinnaker boom topping lift	ALBA08	Charcoal grey	1	8	41	Long splice - Double plait	Messenger line with sleeve	1,71
Backstay end adjustment	DIM0406	Mottled white - black	1	4 - 6	20	—	Whipping	0,38
N1 backstay strop	DYNE08LE	Grey	1	8	3,93	Single splice		0,15
Lashing - N1 backstay strop	DYNE04LE	Grey	1	4	2	Single splice	Cut	0,02
To splice on the strop								
N2 backstay strop	DYNE06LE	Grey	1	6		Single splice		0,08
Lashing - N2 backstay strop	DYNE04LE	Grey	1	4		Single splice	Cut	0,02
To splice on the strop								
N3 backstay strop	DYNE06LE	Grey	1	6		Single splice		0,07
Lashing - N3 backstay strop	DYNE04LE	Grey	1	4		Single splice	Cut	0,02
To splice on the strop								



Designation	Reference	Colour	Quantity	Diameter (mm)	Finished length (m)	Trim level 1	Trim level 2	Total weight
Preventer for safety - Backstay	DYNE08SE	Red	1	8	3,48	Single splice		0,14
Lashing - Preventer for safety - Backstay	DYNE04LE	Grey	1	4	2	Single splice	Cut	0,02
To splice on the strop								
Backstay	DYNE08RSK99	Grey	1	8	13,1	Single splice		0,50
COMMON - SPINNAKER								5,20
Spinnaker guy	ALBA08	Grey	2	8	22	Long splice - Double plait	Whipping	1,86
Spinnaker boom downhaul	FO06ML	Grey	1	6	20	—	Whipping	0,56
Spinnaker barbers	ALBA08RSK78	Red	2	8	10	Single splice	Whipping	0,92
Spinnaker sheet	ALBA08	black - Mottled red	2	8	22	Long splice - Double plait	Whipping	1,86
Tack line	ALBA08RSK78	Charcoal grey	1	8	18	Long splice - Double plait - covered Dyneema®	Messenger line with sleeve	0,82
COMMON - DECK								5,51
Mainsail sheet	Punch08	Grey - Mottled turquoise	1	8	34	Splice - Double plait	Messenger line with sleeve	1,39
Main sheet fine tune - Mainsail sheet	DIM0406	Mottled white - Grey	1	4 - 6	12	—	Cut	0,23
Two-way switch - Mainsail sheet	CALLI07	Mottled grey - White	1	7	14	Splice - Double plait	Whipping	0,57
Interior eye splice: 50mm								
Inner	ALBA06	Mottled white - Blue	2	6	7	Splice - Double plait	Whipping	0,43
R14.10 not supplied (Do not mount on the inner)								

Designation	Reference	Colour	Quantity	Diameter (mm)	Finished length (m)	Trim level 1	Trim level 2	Total weight
Tiered tackle - Inner	DYNE05LE	Grey	2	5	2,2	Single splice - Dyneema ® + Whipping - Dyneema ®		0,08
Genoa sheet	ALBA10	Grey - Mottled red	2	10	14	Splice - Double plait	Whipping	2,03
genoa car adjustment	CALLI06	Grey - Mottled red	2	6	11	Splice - Double plait	Whipping	0,67
Tiered tackle - genoa car adjustment	DYNE05LE	Grey	2	5	3,7	Single splice - Dyneema ® + Whipping - Dyneema ®		0,12
COMMON - BOOM								2,84
Hardening in	ALBA08	White	1	8	7	Whipping	—	0,32
Sail foot adjustment tackle	CALLI06	White	1	6	8	Whipping	—	0,25
Reef line 1	CALLI08	Grey - Yellow braid	1	8	16	Whipping	Messenger line with sleeve	0,70
Reef line 2	CALLI08	Grey - Blue braid	1	8	22	Whipping	Messenger line with sleeve	0,97
Kicking strap	ALBA06	Beige - Red	1	6	15	Whipping		0,42
Downhaul strap 1	DYNE08LE	Grey	1	8	2	Single splice		0,09
Downhaul strap 2	DYNE06LE	Grey	1	6	1,9	Single splice		0,05
Downhaul strap 3	DYNE06LE	Grey	1	6	1,5	Single splice		0,04
OPTIONS								27,17
German sheet	PUNCH10	Grey - Mottled turquoise	1	10	39	Whipping		2,50
SHEET - Asymmetric spinnaker	ALBA08	black - Mottled red	1	8	27	Splice - Double plait	Whipping	1,13



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.

ADVICE-RECOMMENDATION

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 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).

DETAILS OF DECK PLAN

Cockpit



Roof



Mainsail winch



Genoa winch



Step





5.6 WINCHES

Manual winches

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

Rinse winches regularly with fresh water

- Rinse winches regularly with fresh water.
- Dismantle, clean and lubricate each winch annually. Parts that have been damaged or worn may need replacing.



- Refer to the manufacturer's instructions for use and maintenance.
- Avoid bulky clothing, long hair and jewellery that might become caught in the winch when it is moving. Avoid riding turns when using the winches.

5.7 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.



6 SAFETY

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

6.1.1 Prevention of man overboard

- The zones outside the working deck area are the hatched areas below 
- The 'working deck' means those areas outside where people stand or walk during normal use of the boat.





Ref 1: Fitting a means of climbing back onboard.

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



- Use the seats provided.

Regularly check the guard-rails:

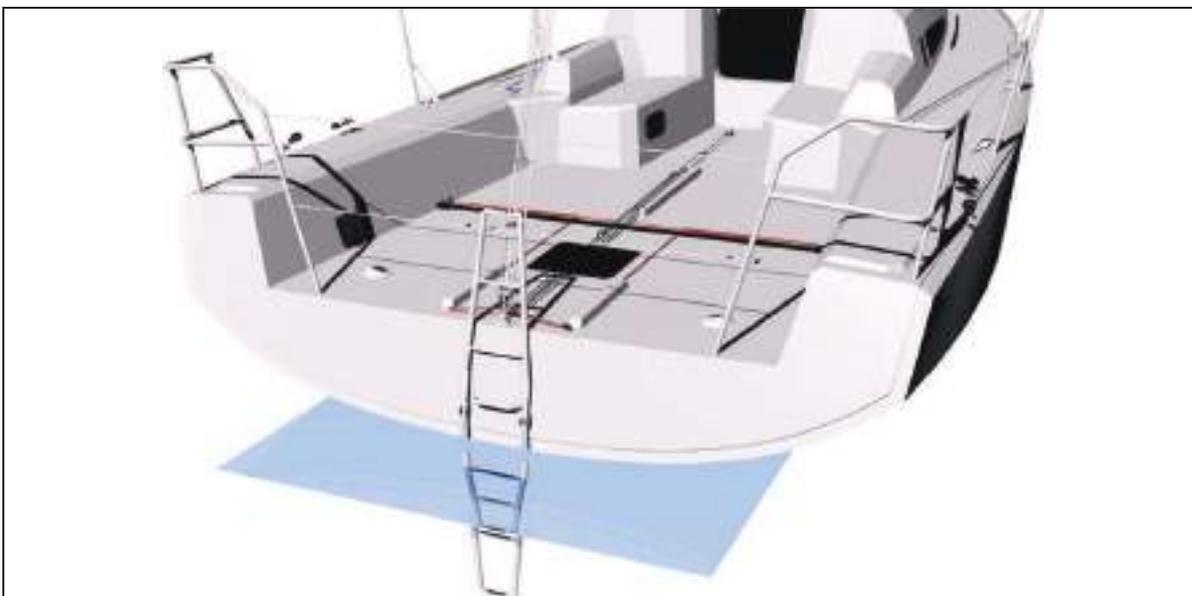
- With metal guard-rails, watch for corrosion particularly at connecting points.
- With synthetic guard-rails, change them as soon as they show signs of wear due to chafing or UV.



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.

Fitting a means of climbing back onboard:



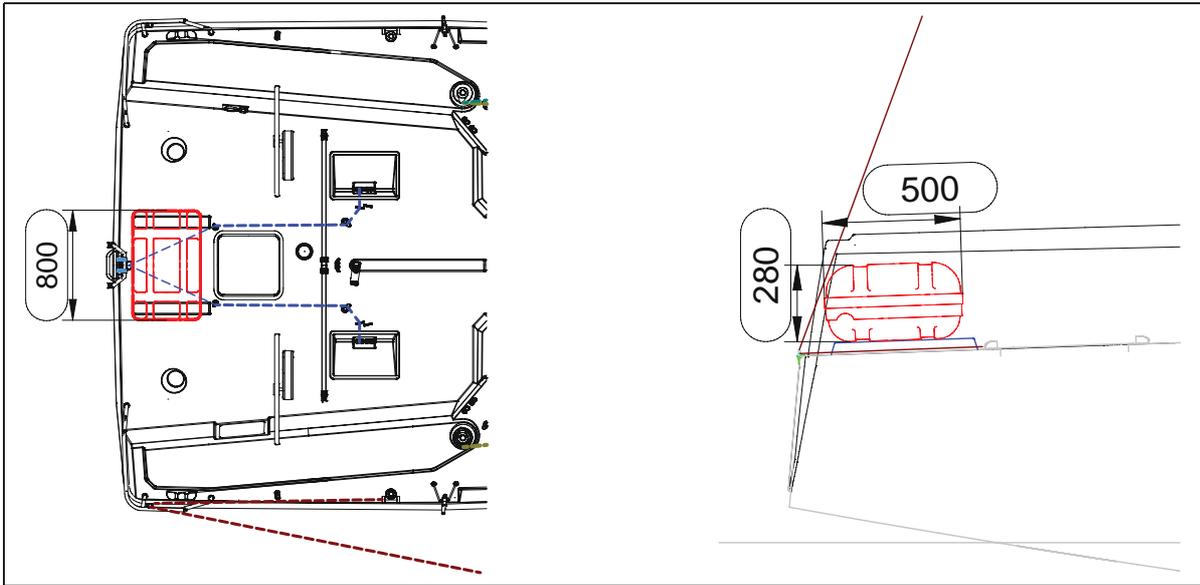
SAFETY



- 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.

6.2 STORING THE LIFE-RAFT



Note: Measurements are expressed in mm.

The life-raft(not supplied) must be stored in the space provided for it. 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



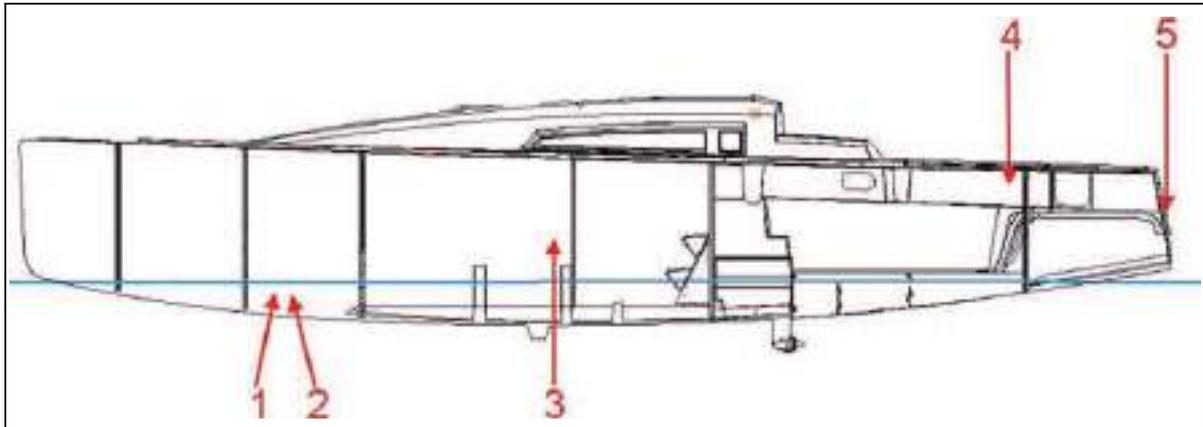
- Ensure that movable items are firmly secured when the boat is under way.
- Don't store anything below the floorboards.



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

6.4.1 Openings in hull

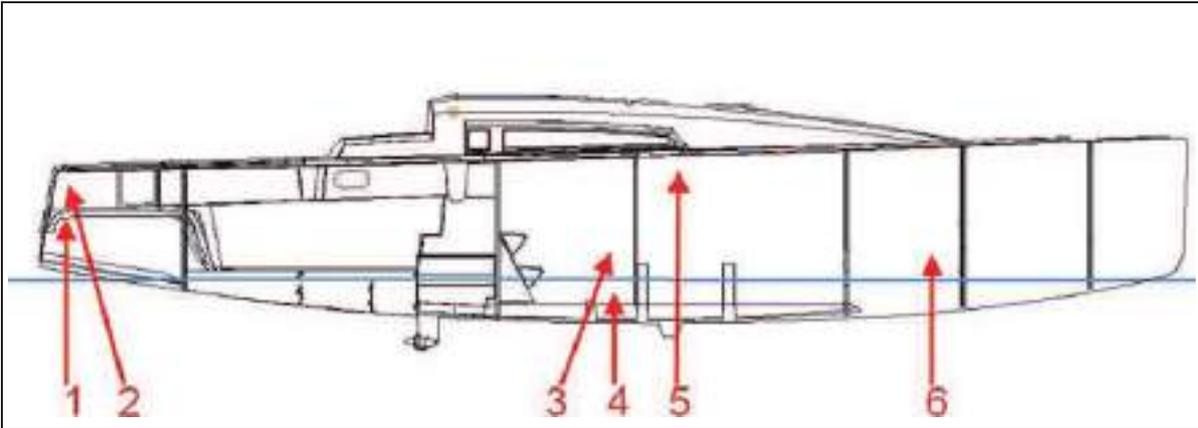
Hull - Port side



SAFETY

Reference	Designation	Valve
1	Sea water intake - WC	Yes
2	Thru-hull seacock - WC	Yes
3	Electric bilge pump draining	Yes
4	Vent hole - Fuel tank	Not
5	Outlet	Not

Hull - Starboard



Reference	Designation	Valve
1	Draining of manual bilge pump	Not
2	Gas locker drain	Not
3	Galley sink drain	Yes
4	Sea water intake - Foot pump	Yes
5	Water tank vent	Not
6	Bathroom washbasin evacuation	Yes

6.4.2 Bilge pumps and drainage

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.



Manual bilge pump

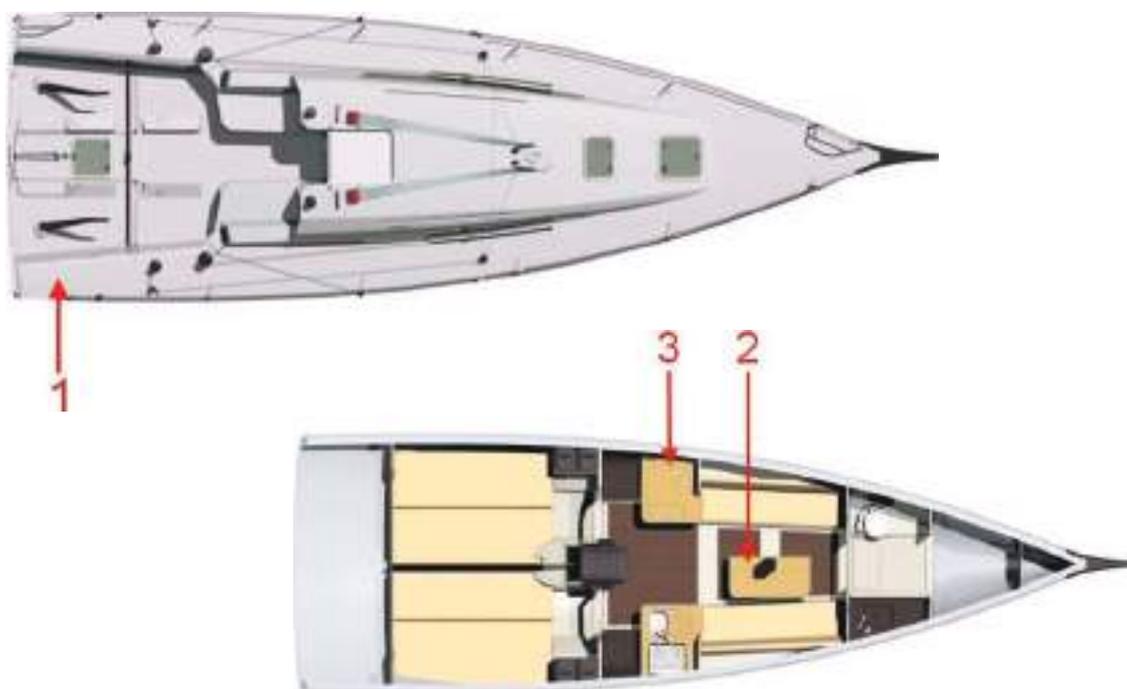
Operation:

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



SAFETY

Diagram of the layout - Bilge pumps



Reference	Designation	Rate
1	Manual bilge pump	32p/minute (*)
2	Electric bilge pump	21p/minute
3	Electric bilge pump switch	

(*) 45 strokes/minute
 If 70 stroke/minute: rate 35p/minute

Electric bilge pumps

- The bilge pumps are powered by DC.



- Location of the electric bilge pumps: Ref 2.
The switch for the electric bilge pump is located on the switch panel (Ref 3).
- The electric bilge pump must only be used to discharge stagnant water at the bottom of the bilge. It must not be used to pump out any oil-based products (petrol, oil) or inflammable liquids.

Operation:

I- Turn on the battery switches.

II- Switch on the bilge pump (Ref 3).

If the boat is equipped with an automatic bilge pump, the switch has an always-on position.



Bilge pump maintenance

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



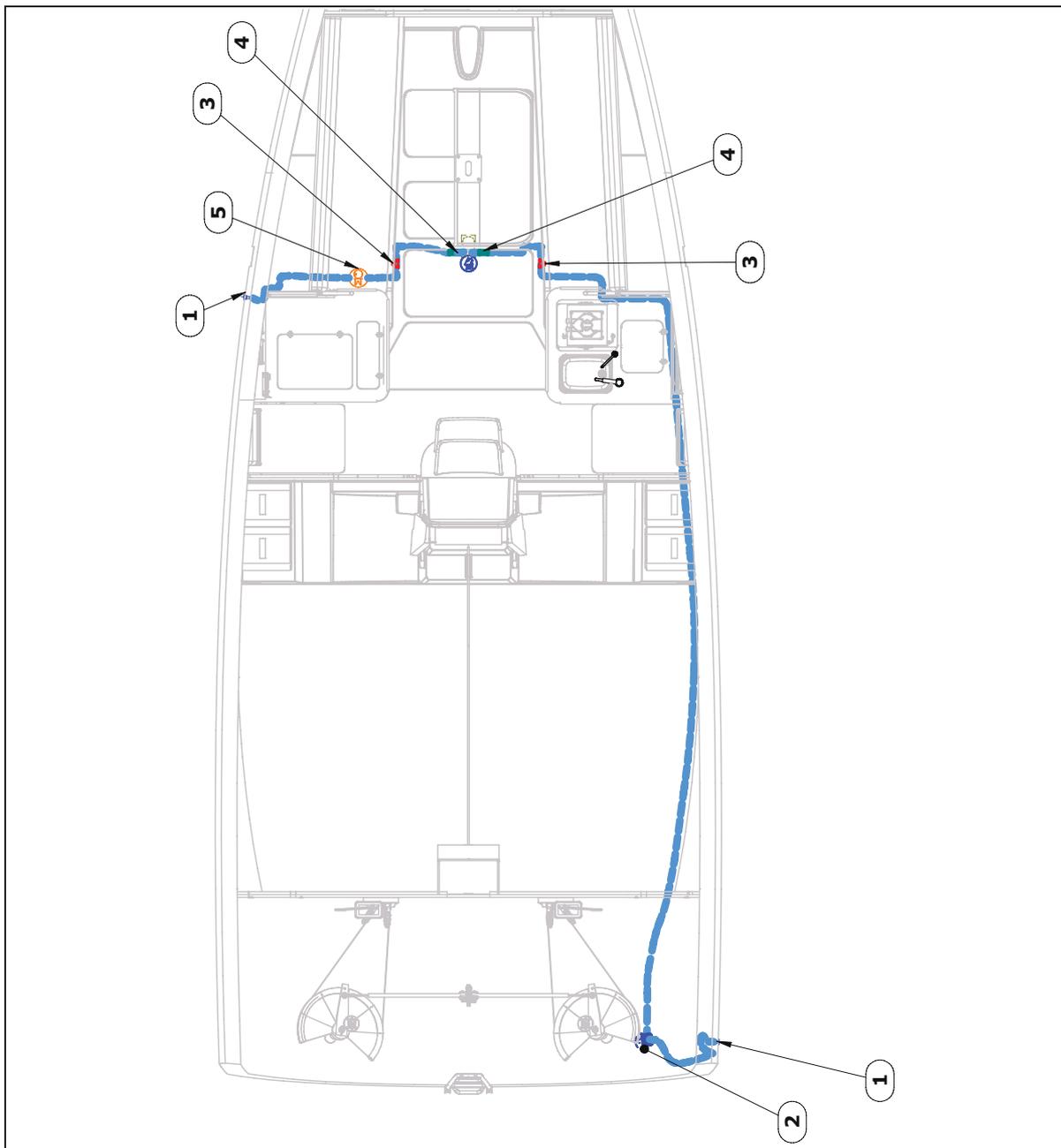
- The bilge pumps system is not designed to deal with water coming in through breaches in the hull.
- Keep the water level in the bilges to the minimum.
- Never store anything right at the bottom of the boat: Allow bilge water to flow freely down to the lowest point of the boat.

SAFETY

SAFETY PRECAUTIONS

- 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	Kitchen sink evacuation through-hull
2	Manual bilge pump
3	Filter
4	Electric bilge pump
5	Non-return valve



7 INFORMATION RELATING TO FIRE RISKS AND RISKS OF EXPLOSION

7.1 PROPULSION ENGINES AND OTHER FUEL-BURNING EQUIPMENT



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



The risks associated with other fuel-burning equipment are described in the **OTHER FUEL-BURNING EQUIPMENT** chapter.

7.2 ELECTRICAL SYSTEM



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

7.3 GAS SYSTEM



The risks associated with the gas system are described in the **GAS** chapter.

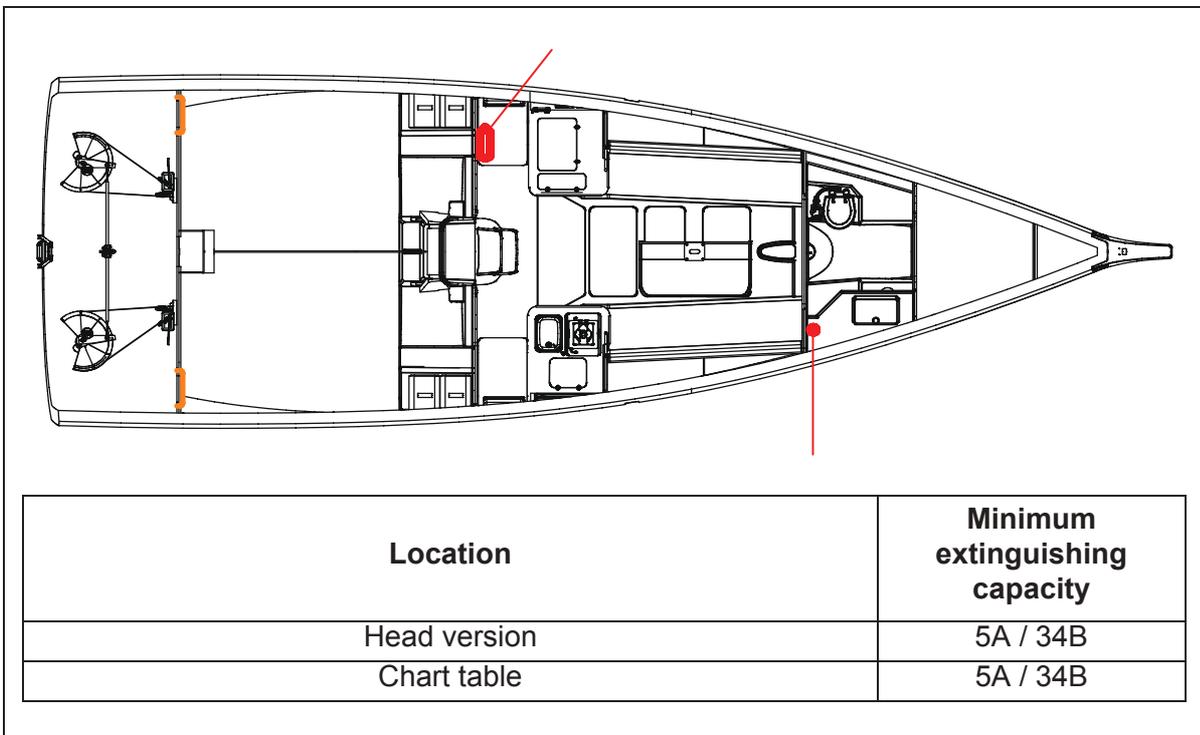
7.4 FIRE-PREVENTION AND FIRE-FIGHTING EQUIPMENT

7.4.1 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:

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 ;
- Ensure that the engine compartment fire extinguisher discharge port is readily accessible ;
- Show the members of the crew:
 - The location and use of the fire-fighting equipment ;
 - Location of discharge ports in engine compartment ;
 - The location of evacuation routes and fire exits.

Notes for the attention of the boat user

General points

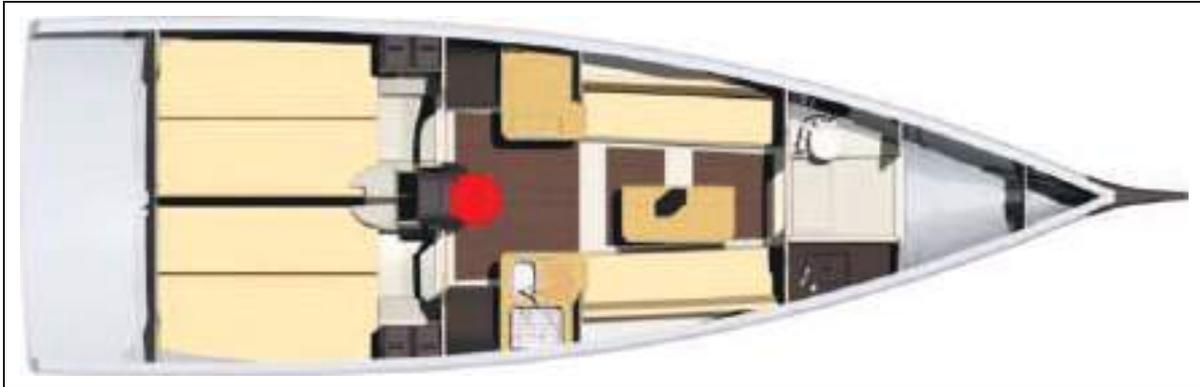
- Check that the bilges are clean and frequently check that there are no fuel/gas vapours or fuel leaks.
- In the case of replacement of components of the fire-fighting equipment, use only the appropriate components of the same code designation or having the equivalent technical capacity and fire resistance.
- Do not install free-hanging curtains or other fabrics near or above the cooking appliances or other equipment with a naked flame.
- Do not store combustible materials in the engine compartment. If non-combustible materials are stored in the engine compartment they must be secured so there is no danger of them falling on machinery and they do not obstruct access to and from the compartment.
- The fire exits other than the door or main companionway are identified by the following symbol:



7.4.2 Extinguisher access hole

The engine compartment has a port that makes it possible to inject the extinguishing product inside without opening the usual access hatches.

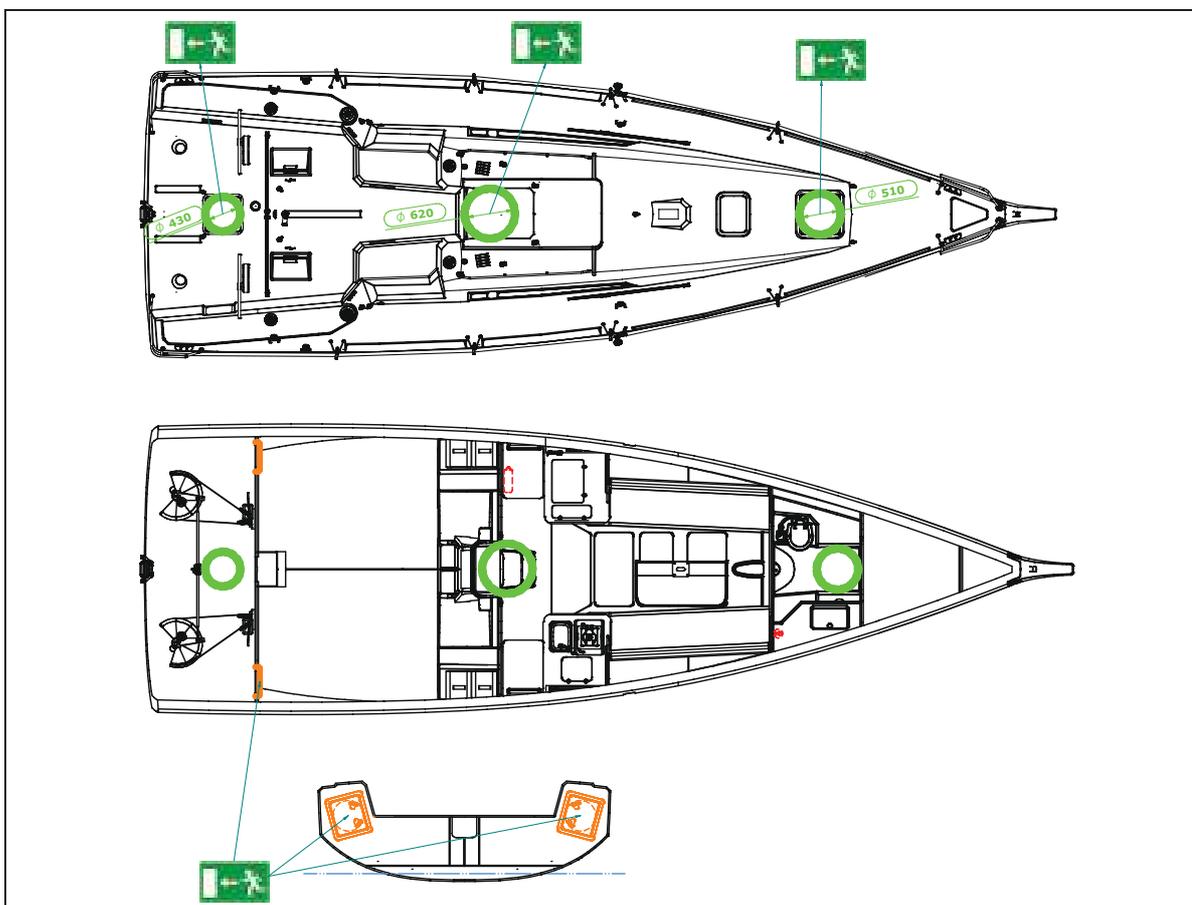
Location: Companionway.



A pictogram helps to locate it easily



7.5 EMERGENCY EXITS IN CASE OF FIRE



Note: Measurements are expressed in mm.

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.

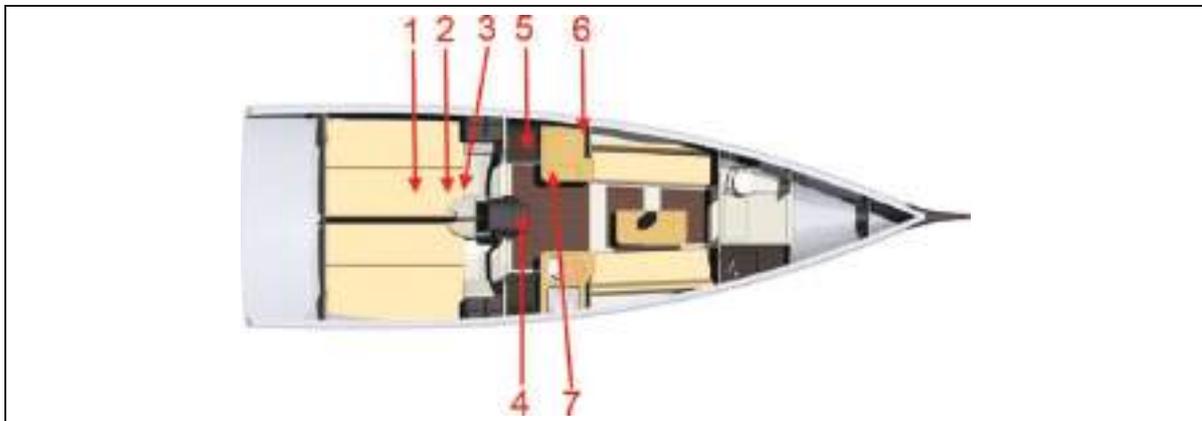


7.6 EMERGENCY SYSTEMS IN CASE OF STEERING GEAR FAILURE

In case of damage to a rudder, remove the connecting rod and steer the boat with the other rudder. Then quickly reach a shelter for repair or change the damaged rudder.

8 ELECTRICAL SYSTEM

8.1 GENERAL INFORMATION ABOUT THE ELECTRICAL SYSTEM



Reference	Designation
1	Service batteries
2	Power distributor, Fuses
3	Battery switch
4	Engine battery
5	Battery charger
6	Electrical panel - DC
7	Fuses



- 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 OR 24 V)

8.2.1 Battery use and distribution

General points

The electricity onboard is direct current.

The boat's electrical system comprises service batteries and the engine battery or batteries. The service batteries serve as the power supply for all the boat's electrical components. The engine battery is used solely to power the engine's starter motor.

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.

The battery banks are isolated from one another by a charge divider (see below).



Battery set

Engine battery: 50A

Access: Companionway



Service batteries: 2 x 120A

Access: Port aft cabin



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).



- 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 manufacturer's instructions for use and maintenance.
- IT IS IMPERATIVE TO DISCONNECT THE BATTERY CHARGER BEFORE DISCONNECTING THE BATTERY TERMINALS FOR MAINTENANCE.**

Maintenance of lead batteries

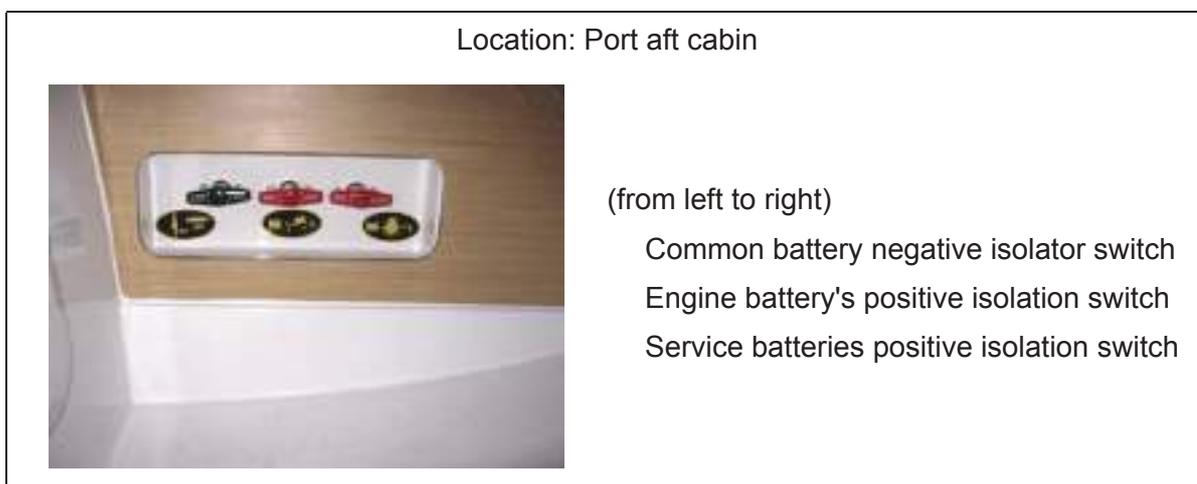
- Every year check the water levels in the batteries, and if they are low top them up with distilled water.
- Keep all metallic objects away from the batteries.
- Lead batteries contain sulphuric acid: Be careful not to knock them over whenever handling them.

Maintenance of watertight batteries

- This type of battery needs no maintenance and does not produce any gas during normal use. No ventilation is needed.
- The optimum temperature for use is between 10 degree C and 30 degrees C. Lower temperatures will reduce the available capacity. Higher temperatures will increase the batteries' self-discharge rate.
- Lead batteries contain sulphuric acid: Be careful not to knock them over whenever handling them.
- Never open watertight batteries.
- Never add acid or distilled water.
- The pressure valves are used to seal the batteries and cannot be opened without being destroyed.
- If the batteries overheat, a build-up of gas may develop: Keep away from the batteries.

8.2.2 Battery switch

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



- 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).

8.2.3 Power distributor

- The electronic charge dividers isolate the battery banks from each other and allow the charge to be directed automatically to the battery with the lowest charge. They give the advantage of preventing a drop in voltage.
- The charge divider is electronic. It is designed to distribute the charging current with a low voltage drop between the battery banks (engine and service batteries). It prevents the current from circulating from one battery to another. When the voltage of the charger or alternator is available, the charge divider's green indicator comes on.

Capacity: 150A



Location: Port aft cabin



8.2.4 Battery charger

General points

- The battery charger runs on AC power.
- A breaker protects the electrical circuit.
- The battery charger charges all of the batteries onboard, while keeping the service battery bank isolated from the engine's battery bank.
- Within its power limits, the DC equipment can be supplied directly.



Access: Pilot seat - Port side



Operation

- The charger runs fully automatically. It can remain permanently connected to the batteries and does not need to be disconnected when starting the engine.
- In some electrical circuits, there may be battery chargers coupled in parallel.

Maintenance

- Before doing any maintenance, cut the AC supply.
- Regularly vacuum out any dust particles which may accumulate in the charger. An annual check of the tightness of the nuts and bolts is necessary to ensure the correct operation of the charger.



IT IS IMPERATIVE TO DISCONNECT THE BATTERY CHARGER BEFORE DISCONNECTING THE BATTERY TERMINALS FOR MAINTENANCE.

8.2.6 Electrical panel

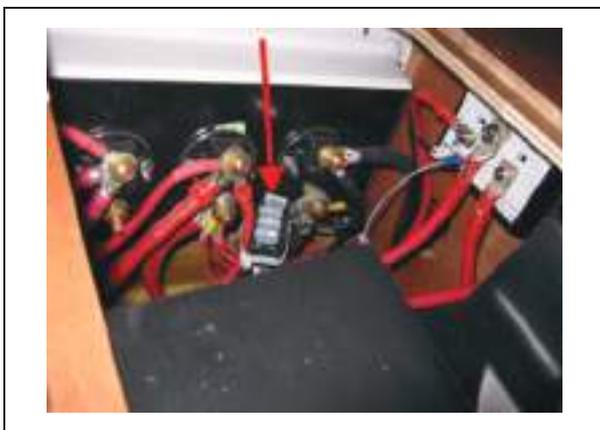
Location: Saloon



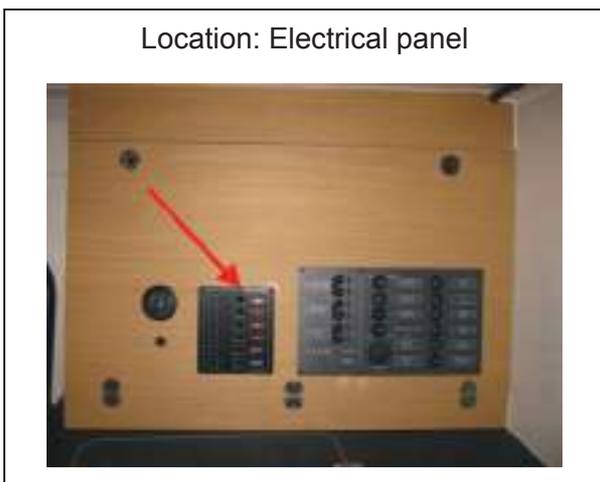
8.2.7 Fuses

- 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: Port aft cabin



Location: Electrical panel



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



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

8.3 AC SYSTEM (110 V OR 220 V)



- Never let the end of the boat/shore supply cable hang in the water: The result may be an electric field liable to hurt or kill the swimmers nearby.
- There may be danger of electrocution if alternating current systems are incorrectly used.
- Do not work on a live AC system.



To reduce the risks of electric shock and of fire:

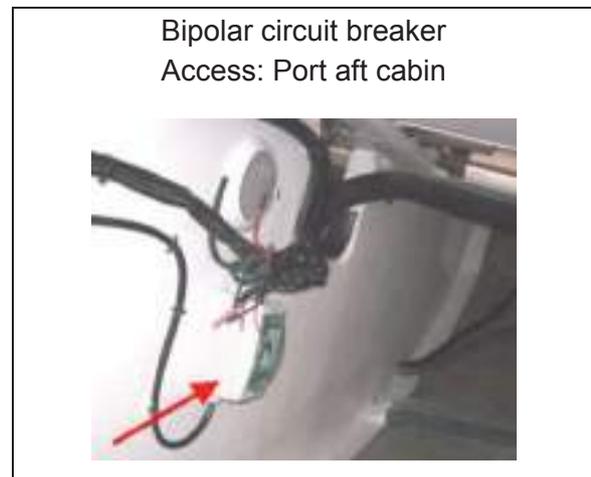
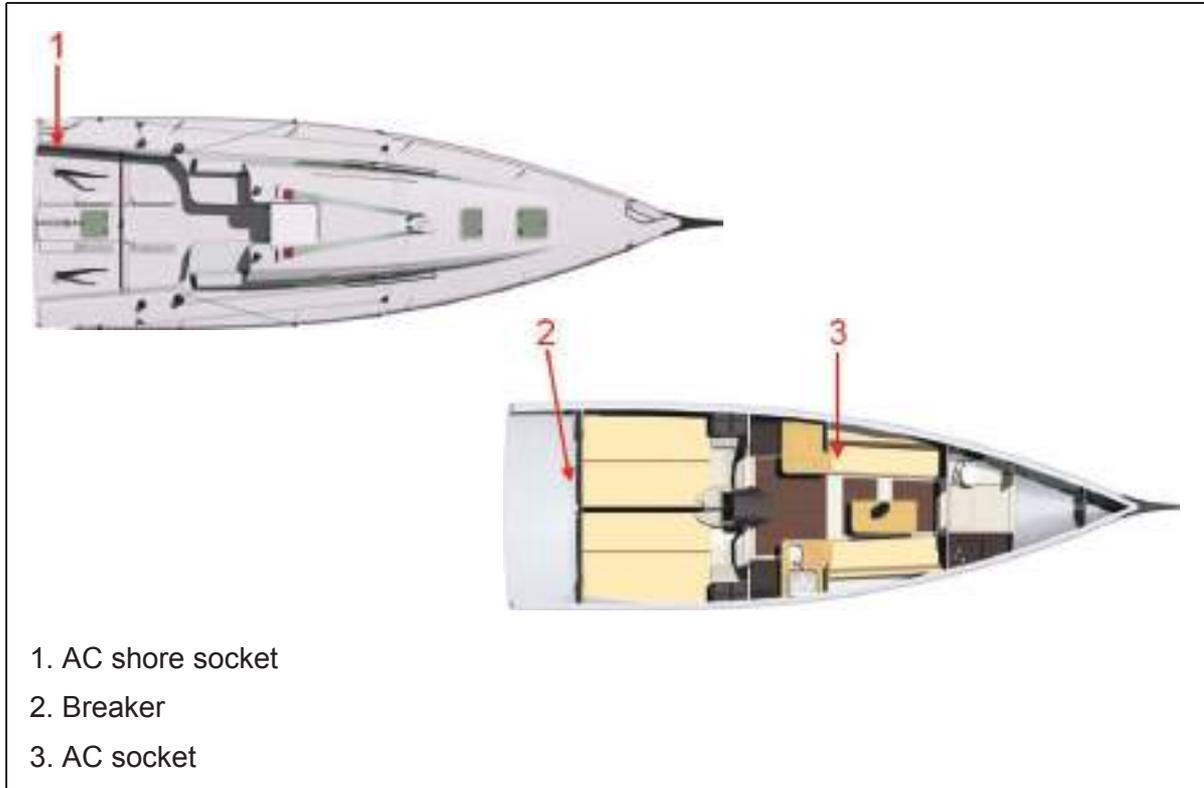
- Turn off the shore supply with the onboard cut-off switch before connecting or disconnecting the vessel/shore supply line.
- Connect the ship/shore power cable on the boat before plugging it into the socket onshore.
- Disconnect the ship/shore power cable at the shore socket first.
- If the reverse polarity indicator is activated immediately disconnect the cable.
- After using the socket onshore, close its protective cover tightly.
- Do not modify the connections of the ship/shore power cable: only use compatible connections.

DO NOT MODIFY THE CONNECTIONS ON THE SHIP/SHORE POWER CABLE.

- Do not modify the vessel's electrical installation nor its relating diagrams. The installation, maintenance and any modifications must be carried out by an electrician qualified in marine electricity. Check the system at least every two years.
- Disconnect the boat's shore power when the system is not in use.
- Connect the relay cans or metal casing of the electrical equipment installed to the boat's protective conductor (green or green with yellow stripe conductor).
- Use double insulated or earthed appliances.
- If the reverse polarity indicator is activated, do not use the electrical installation. Rectify the polarity fault before using the vessel's electrical installation (this applies only to polarised circuits with a polarity indicator).

8.3.1 AC shore socket

location of components



Operation

First plug the extension cable into the AC socket on the boat, then into the socket onshore.

First unplug the extension cable from the socket onshore, then from the AC socket on the boat.



8.3.3 Anodes

General points

- The sacrificial anodes protect the boat's metal components from electrolysis.
- A sacrificial anode is an expendable part, that by eroding (oxydisation), allows the current to flow. 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.



AC SYSTEM

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.
- When the boat is stored at a dry dock, the corrosion protection is not as effective due to oxidation of the anodes: even the new anodes oxidize the surface. 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.

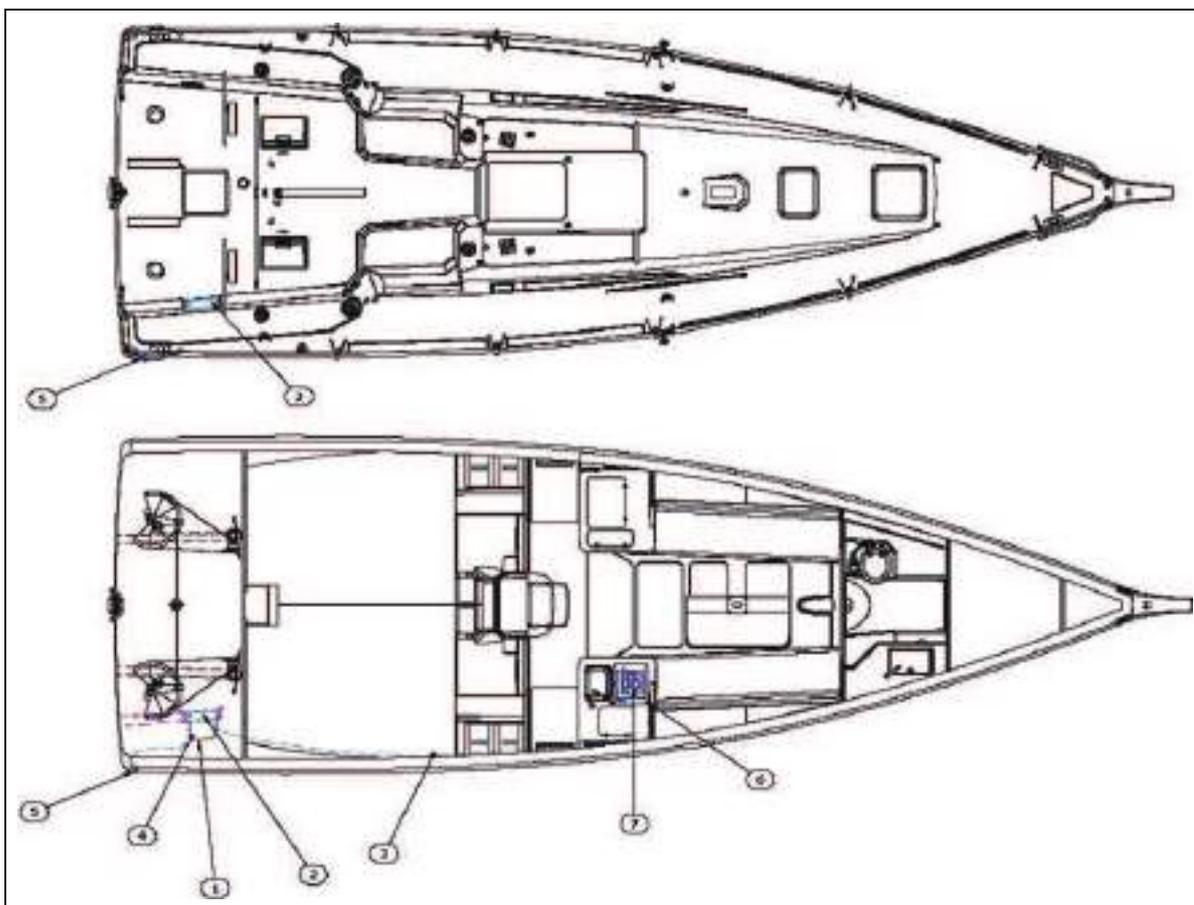


- Never cover the anodes in antifoul.
- During the first few weeks that the boat is in the water, check the anodes and if necessary replace them: they erode very rapidly during this period.

9 LIQUEFIED PETROLEUM GAS(LPG)SYSTEM (LPG)

9.1 THE ONBOARD GAS SYSTEM

location of components



Reference	Designation
1	Gas cylinder locker
2	Door
3	Gas system
4	Drain
5	Thru-hull fitting
6	Gas supply valve
7	Cooker

- Systematically store the gas bottles only in the lockers or storage places provided for these.
- It is recommended that you ensure good ventilation when using gas powered equipment, to prevent asphyxiation.

Use and maintenance of the installation

- Please refer to the manufacturer's notes for the use and maintenance of the LPG cooker.
- When the equipment is not in use close the taps on the LPG hose and on the gas bottles. Close the taps before changing the bottles and immediately in an emergency.
- Make sure that the taps on the equipment are closed before opening the one on the bottle.
- Before using the LPG installation, check it thoroughly for gas leaks. Check that all of the connections are gas-tight in the following way:
 - Before each use, close the taps on the equipment ;
 - Open the tap of the LPG bottle ;
 - Allow the pressure of the pressure-gauge mentioned to stabilise ;
 - Close the tap on the LPG bottle ;
 - Watch the value shown on the pressure-gauge next to the tap on the bottle for 3 minutes. It is important that this value remains constant to establish the absence of leaks. **If the value shown on the pressure-gauge decreases, then there is a leak. Do not use any LPG powered equipment.**
 - Find and repair the leaks before any further use.
- Regularly observe the bubble leak detector (if there is one) ; or
- Carry out a manual search by applying a foaming solution, or soapy water or a detergent (with the taps of the burners closed and those of the installation and of the gas bottle staying open). The foaming solutions for detecting leaks in the gas installations conforming to the EN 14291 meet these requirements ;
- If there is a leak, close the tap on the bottle and get the installation repaired before using it again. The repairs must be carried out by someone proficient in this.
- Do not in any way block the access to the components of the gas-powered installation.
- Make sure that the taps on the empty bottles are closed and put out of circuit. Keep in place the protection devices, the caps or stoppers. Store the spare bottles in ventilated housing on deck or in the lockers provided for this, gas-tight and with an external vent.
- Do not use the housings or the LPG bottle lockers to store other equipment.
- The flexible pipes of the LPG powered installation must be regularly checked, at least once a year and replaced if they have deteriorated.
- Check the vent pipes at least once a year. Replace them if they have deteriorated or split.
- Do not use the hot plate if the regular roll angles or heeling angles are likely to be significant. (if the boat does not have a gimbaled hotplate).



To change an LPG bottle

1. Close the tap on the LPG bottle
2. Detach the LPG bottle
3. Replace the LPG bottle
4. Attach the new LPG bottle
5. Open the tap on the LPG bottle



- When the cooker is on, ventilate well to prevent any risk of asphyxiation.
- Do not use the cooker as a means of heating.



- Never use a naked flame to check for leaks.
- Do not use a hotplate or an oven to heat the living areas.
- Equipment with a naked flame burning fuel consumes the oxygen in the cabin and gives out combustion residue in the boat. Ventilation is necessary when this equipment is used. Open the vents provided for this when using this equipment. Do not use a hotplate or an oven to heat the living areas. Never obstruct the vents provided for ventilation.
- Never leave the boat unsupervised when equipment using LPG with a naked flame is on.
- Do not smoke or use a naked flame when replacing LPG bottles. Close the tap on the empty bottle before detaching it to replace it.
- To ensure sufficient ventilation, make sure that you open the hatches or ports near the hotplate when using it.



- Do not use solutions containing ammonia (ammonia, which is present in certain soaps and detergents, attacks brass connections. Although the damage may at first be impossible to detect, the cracks and leaks may appear several months after the contact with the ammonia)).

Layout of components

Gas cylinder locker - Closed / Open



Gas supply valve



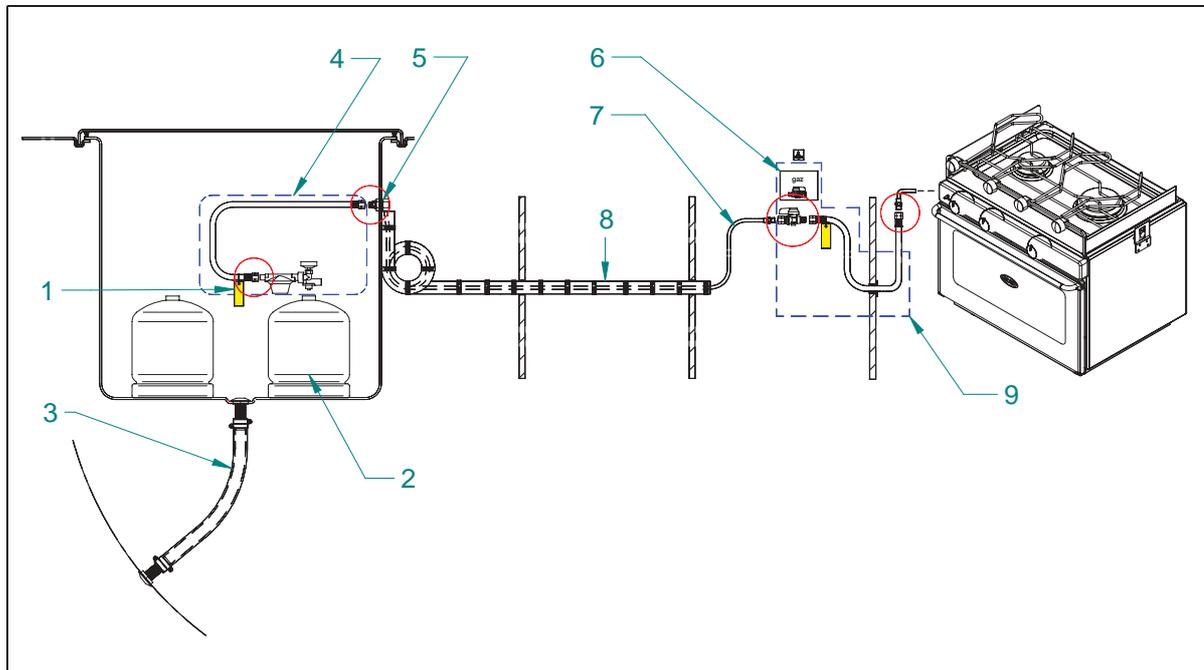
Cooker





9.2 LAYOUT DIAGRAM

Version: Europe



Reference	Designation
1	Regulator valve
2	Gas cylinder
3	Drain
4	Connection kit - gas bottle
5	Rubber washers
6	Pictogram
7	Connection kit - gas copper
8	PVC girdled sleeve
9	Gas appliance connection kit

LIQUEFIED PETROLEUM GAS(LPG)SYSTEM (LPG)

10 ONBOARD COMFORT

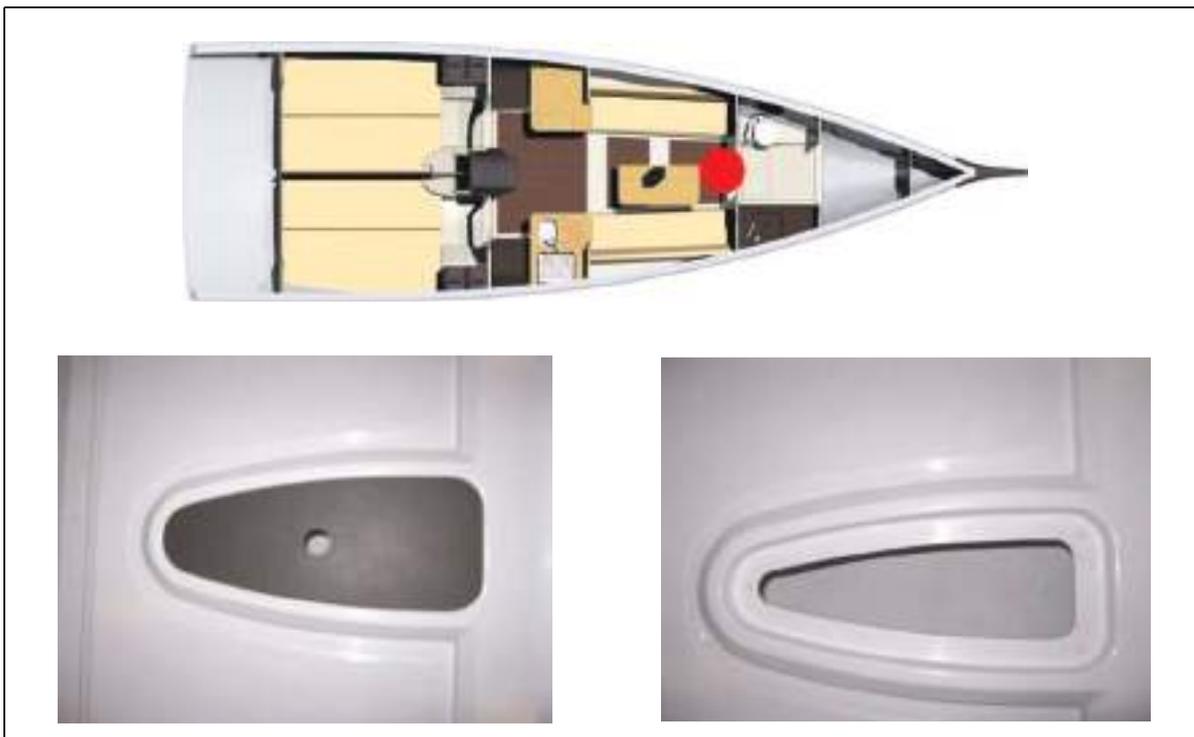
10.1 ELECTRONIC EQUIPMENT

The onboard electronics are powered by direct current.

Control: Electrical panel.

LEAD LINES

Transducer location:



- Do not store material on top of the sensors.
- Do not cover the sensors in antifoul when antifouling the hull.
- Regularly clean the sensors.

ADVICE-RECOMMENDATION

- Place the protective covers on the repeaters when unused for long periods.
- When sailing store the protective covers inside the boat to avoid losing them.
- The various repeater displays are back-lit.
- Regularly clean the fascias of the repeaters with fresh water.
- Refer to manufacturer's instructions for use and maintenance.



11 WATER SYSTEMS

11.1 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.
- Drain all the water systems during winterisation (in particular the cockpit shower and water heater) to avoid damage from 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.

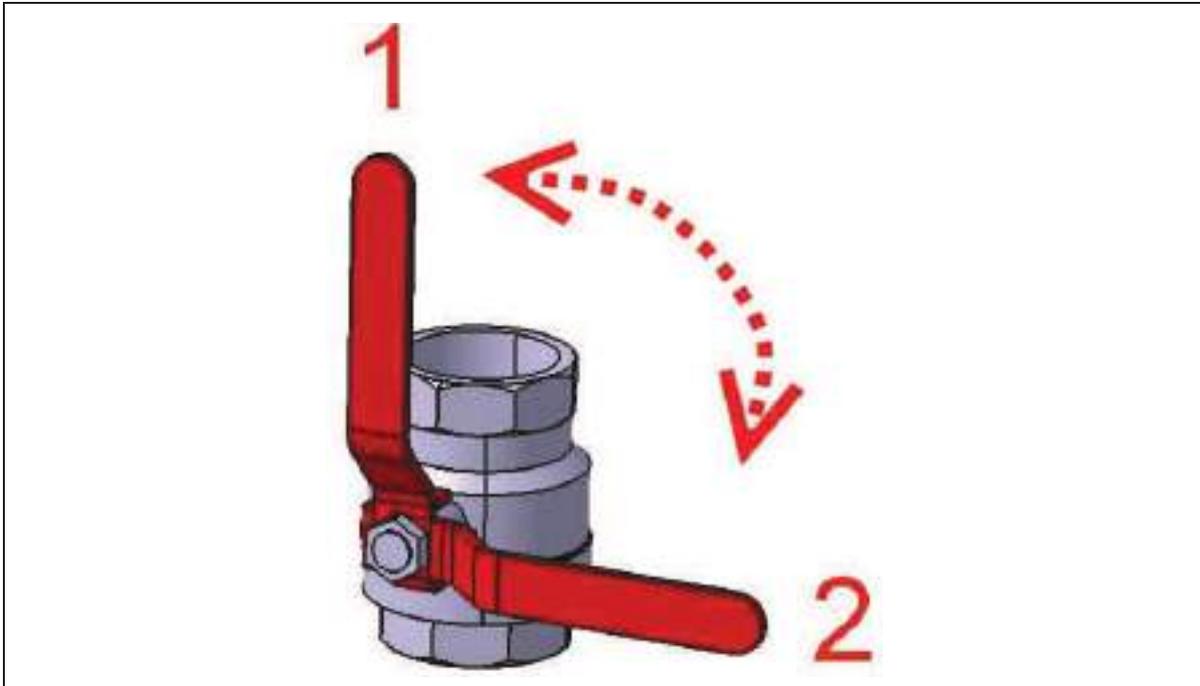
- Disconnect shore water supply before leaving the boat (if fitted).

- 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.

11.2 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.

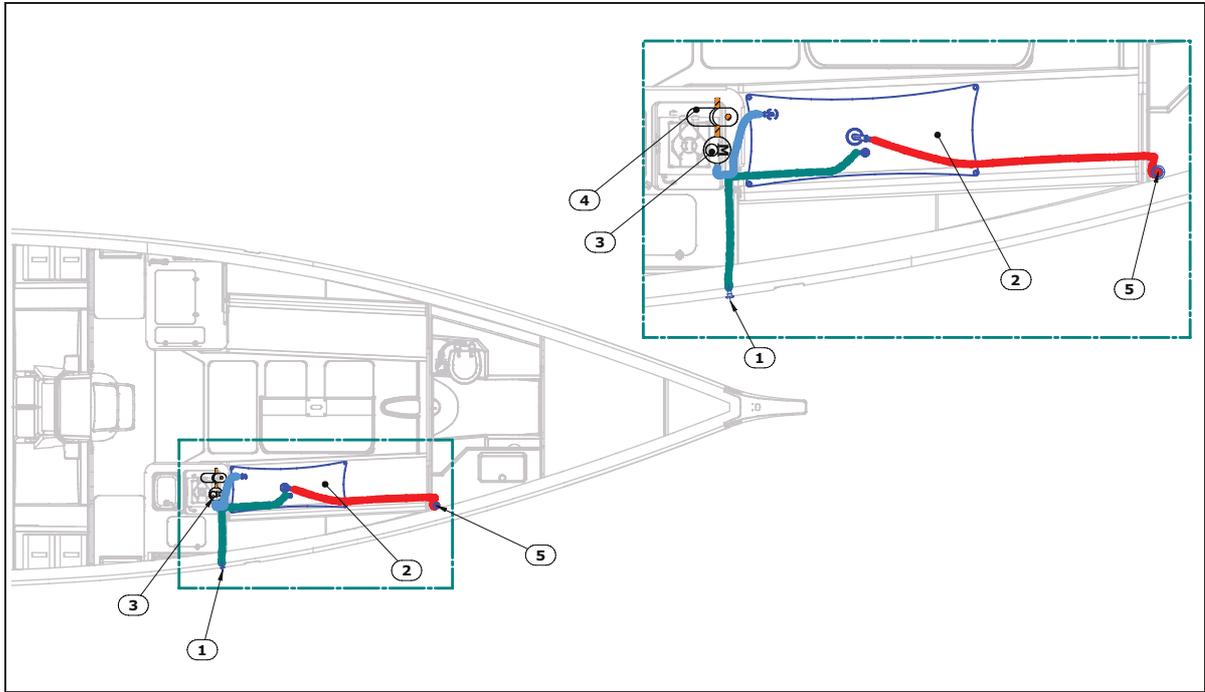


Reference	Designation
1	Open valve
2	Closed valve



- 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.

11.3 FRESH WATER FILLING SYSTEM



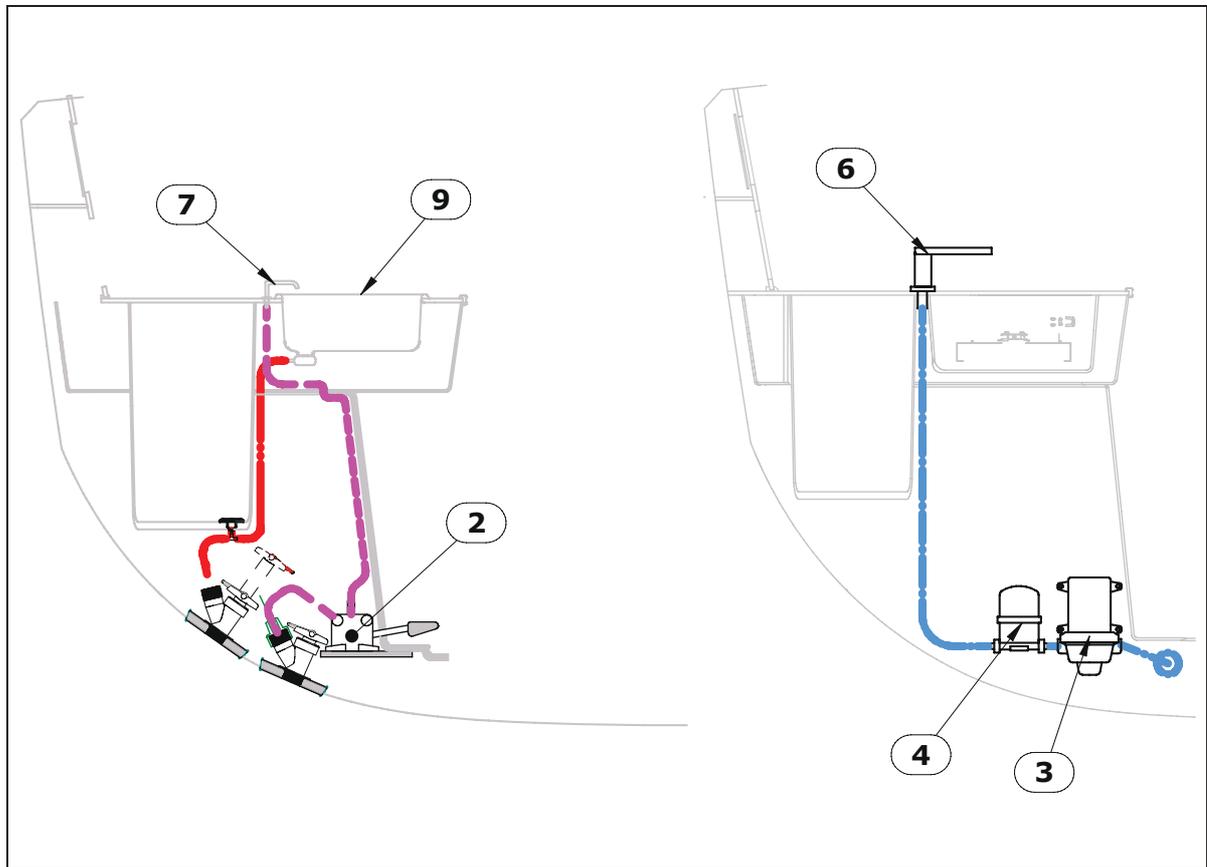
	Supply pipe
	Pipe - Vent hole
	Pipe filling

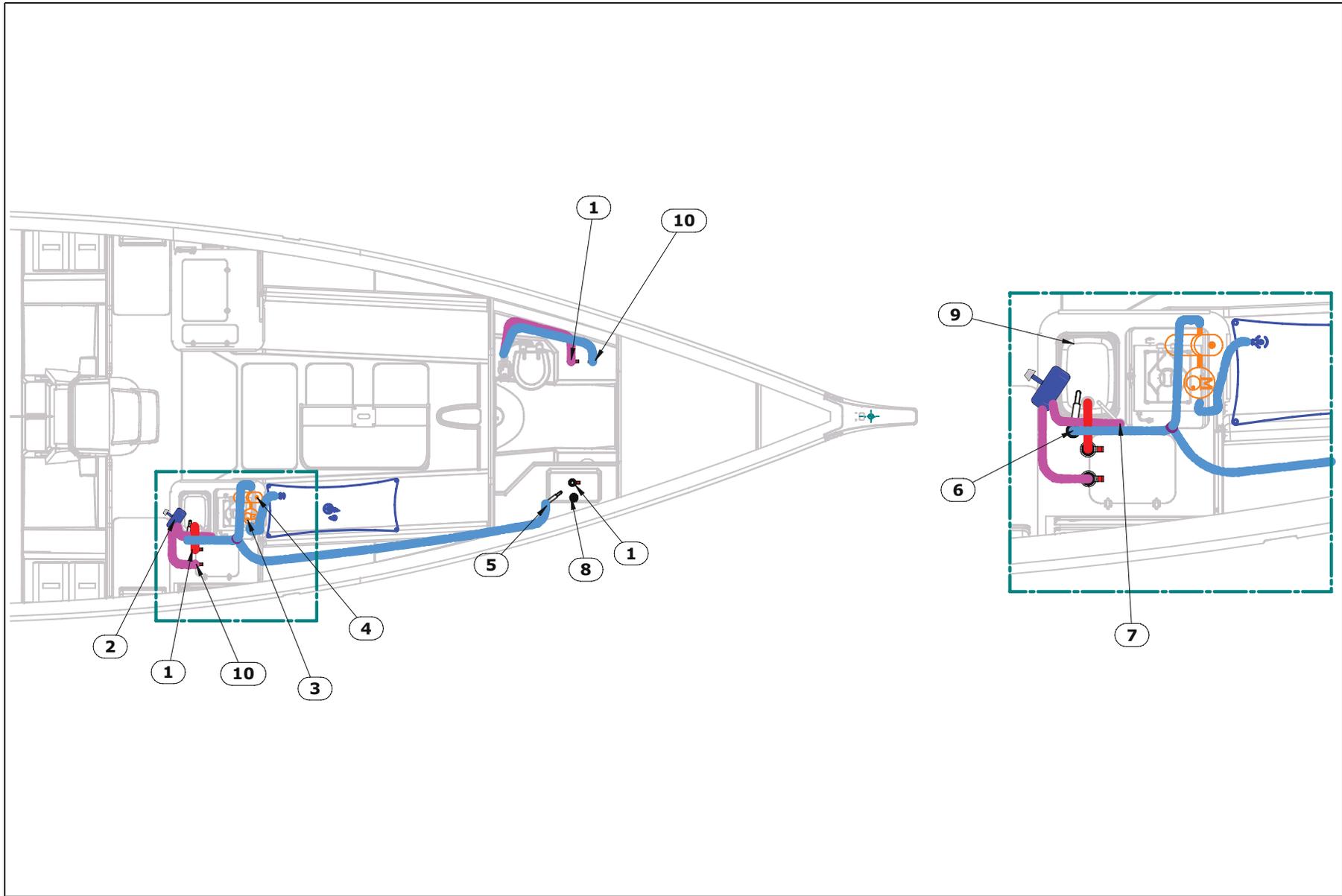
Reference	Designation
1	Water tank vent
2	Water tank - 100 litre
3	Water unit
4	Expansion tank
5	Deck filler

Water tank
Capacity: 100 litre



11.4 FRESH WATER DISTRIBUTION SYSTEM







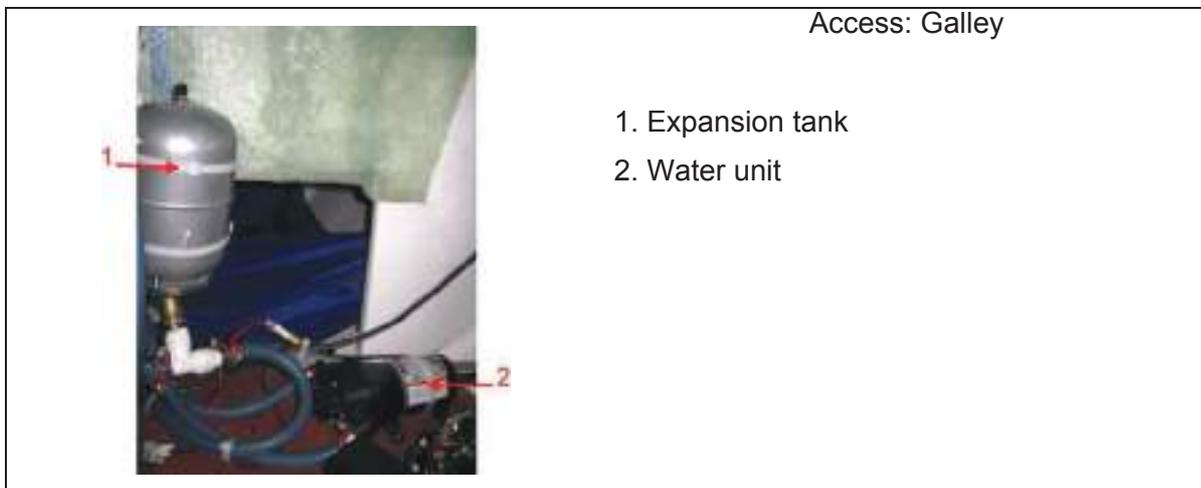
	Supply pipe
	Pipe - Sea water
	Pipe - Sewage

Reference	Designation
1	Thru-hull fitting with valve
2	Sea water foot pump
3	Water unit
4	Expansion tank
5	Mixer tap + Shower
6	Mixer tap
7	Spout
8	Sink plug hole - Galley
9	Galley sink
10	Thru-hull fitting with valve

11.5 MAIN PLUMBING EQUIPMENT

11.5.1 Water unit

- The water unit is supplied by direct current.
- It serves to feed all the boat's plumbing equipment with fresh water. It is fitted with a pressure switch that activates the flow when the pressure in the water system falls.
- The water unit must only be used with the fresh water supply. All other use (with sea water or bilge water, with oil products) is prohibited.
- The water unit is switched on at the electrical panel.
- Make sure that the water unit is never run dry.
- The pressure and capacity of the water unit depend on the temperature of the stored fresh water supply.



11.5.2 Sea water foot pump

- The foot pump allows the use of sea water without needing electricity.
- Water from the foot pump comes out at the spout located at the sink.

Control - Foot pump



Spout



Sea water intake



11.6 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.



YOUR BOAT IS FITTED WITH A BLACK WATER TANK

To minimise the smells coming from this tank, we advise the following use and maintenance:

1) Holding tank

- A black water tank is used solely for the temporary collection of water coming from the toilets.
- The tank can be emptied in 2 ways:
 - By connection to a pumping system that empties the tank by suction. This system uses the 'WASTE' deck connection.
 - Via the thru-hull fitting emptying directly into the sea (on condition that this is allowed by law in the country where the boat is sailing).
- Only use water soluble toilet paper to avoid any blockage.

Note: Sanitary towels and other items (paper handkerchiefs, dressings etc) in the toilets and black water tank will inevitably lead to blockages.

- Faecal matter causes formation of unpleasant odours in the black water tanks, to which the use of salt water for flushing the toilets also contributes. Algae present in salt water also give off unpleasant odours.
- Completely empty the black water system before leaving the vessel unattended in temperatures below freezing.
- Ask for information about the laws in force in your country or your marina about discharging your waste waters into the sea.

2) Use of toilets

- Every time the toilets are used, flush afterwards with copious amounts of water in the bowl using the toilet pump (manual or electric).
- When you are leaving the boat for several days, flush with fresh water, using for example the head's shower. Sea water that stagnates in the bowl gives off bad smells.

3) Maintenance of black water tank

- The risk of unpleasant odours forming increases when the waste water remains in the tank for a long time.
- Whenever possible empty the tank regularly even before it is full.
- Every time the tank is emptied put in about 5 litres of fresh water and add an appropriate detergent additive (available from chandleries). A very simple method is soda salts, which clean and disinfect at the same time.
- Before winterising, flush the tank with copious amounts of fresh water filling it through the 'WASTE' deck connection. Leave at least 5 litres of fresh water mixed with a detergent additive.
- Disinfecting: Disinfect the tank once a year by filling it with a solution of Javel water (1 to 1000).



- Never use automobile anti-freeze in the black water system: risk of poisoning.

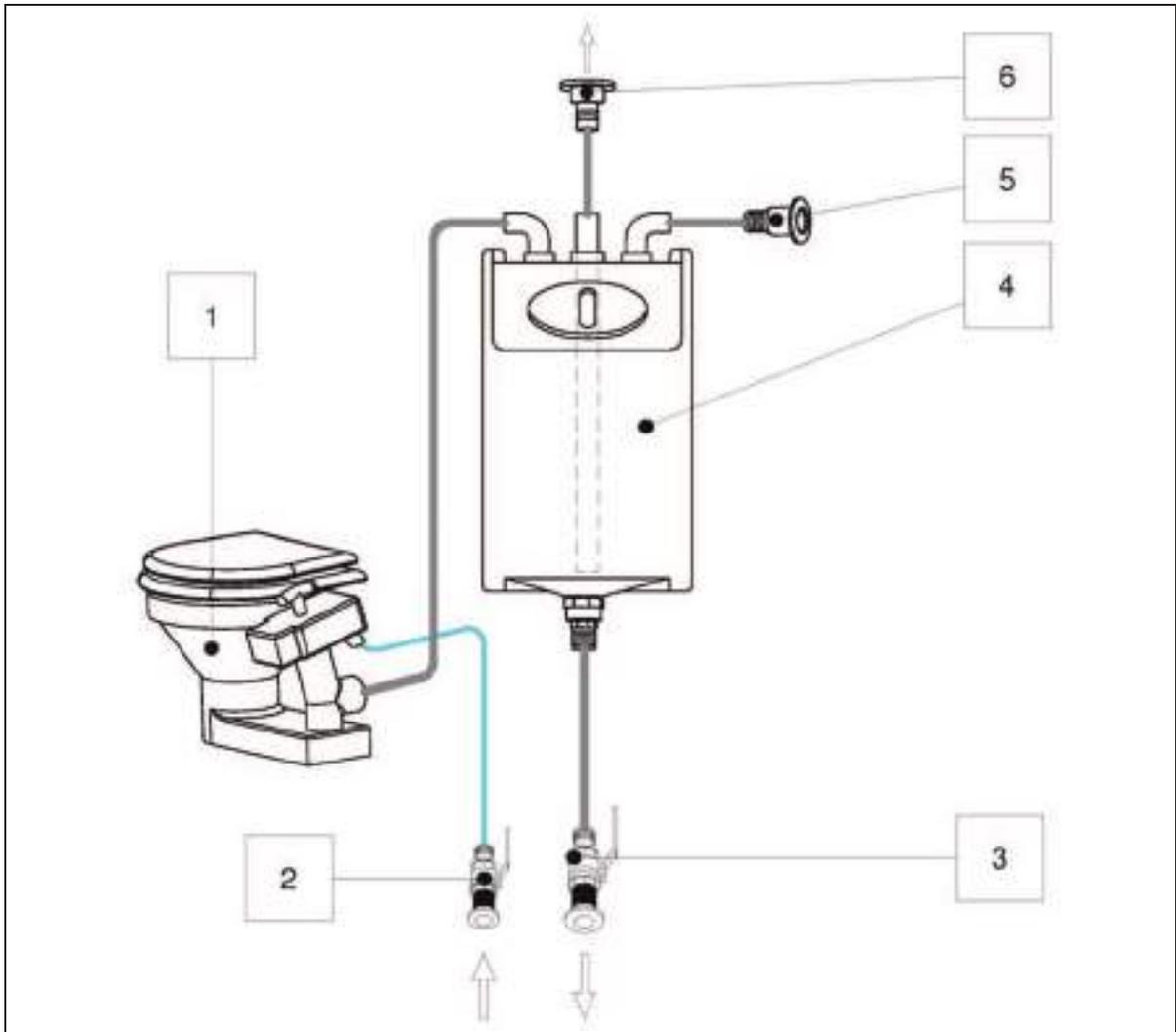
ADVICE-RECOMMENDATION

- Respect local regulations regarding the emptying of black water tanks.

Layout diagram of black water system

Emptying by gravity

Capacity of sewage tank: 50 litre.



Reference	Designation
1	WC
2	Seawater intake valve
3	Thru-hull seacock
4	Black water tank
5	Vent hole
6	'WASTE' deck connection

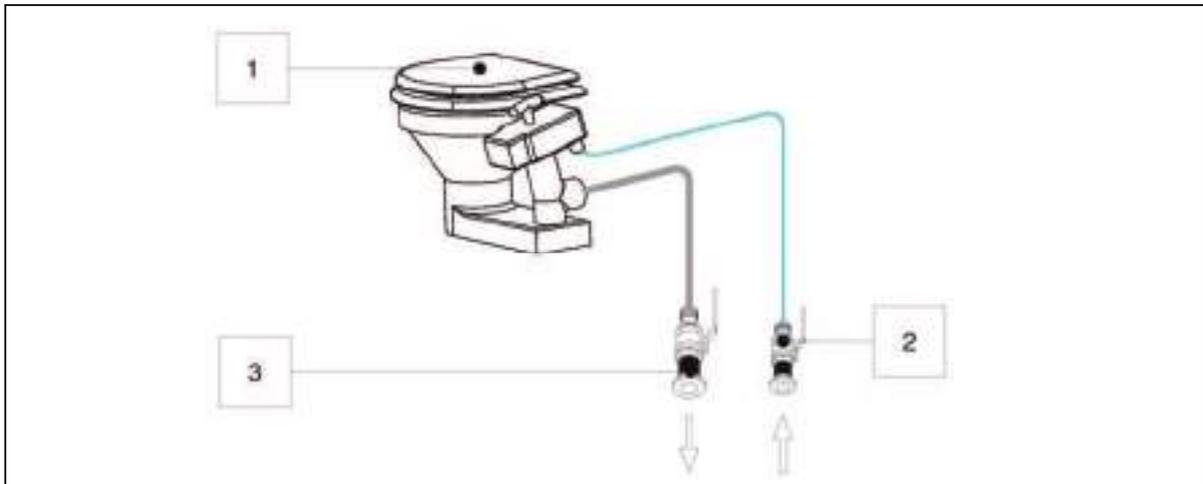
Using a marine toilet fitted with a tank emptied by gravity

- I. Open the sea water intake valve (Ref 2).
- II. Fill the bowl by using the manual toilet pump.
- III. Using the toilet (Ref 1).
- IV.a. To empty the organic waste in the tank:
 - Make sure the thru-hull seacock (Ref 3) is closed.
 - Empty the bowl using the manual toilet pump.
- IV.b. In the case of a direct discharge into the sea:
 - Open the thru-hull seacock (Ref 3).
 - Empty the bowl using the manual toilet pump.
- IV.c. To discharge through the deck:
 - Open the deck connection marked 'WASTE' (Ref 6).
 - Use the pump-out system where fitted at a port.



Refer to manufacturer's instructions for use and maintenance.

MARINE TOILET



Reference	Designation
1	WC
2	Sea water intake valve
3	Sea discharge valve

Using a marine WC fitted with direct discharge into the sea

- I. Open the sea water intake valve (Ref 2).
- II. Fill the bowl by using the manual toilet pump.
- III. Using the toilet (Ref 5).
- IV. In the case of a direct discharge into the sea:
 - Open the thru-hull seacock (Ref 3).
 - Empty the bowl using the manual toilet pump.



Refer to manufacturer's instructions for use and maintenance.

11.7 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.

ADVICE-RECOMMENDATION

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



12 ENGINE

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

- Make sure that the coolant is circulating properly.
- Ensure that the engine compartment ventilation air inlets are kept clear.
- 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 fuel tanks (jerrycans, spare cans) must be kept in a well-ventilated place.
- Regularly check that the engine compartment is clean and dry.
- Take all necessary precautions to avoid contact with naked flames and other hot areas.

Engine water intake valve: Located directly on the saildrive.

Access: Starboard aft cabin



Fuel supply valve: located directly on the tank.

Access: Port aft cabin





12.2 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).

12.3 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.

ADVICE-RECOMMENDATION

- 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).**

12.4 STARTING THE ENGINE

Before starting the engine, it is imperative:

- to open the fuel supply valve ;
- to open the sea water intake valve of the engine ;
- to switch on the battery supply by using the battery isolator switches ;
- to put the control lever in neutral.

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.

As soon as the engine starts, the engine compartment bilge fan operates.



- 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).

Type of motorisation

Your vessel is fitted with an in-board diesel engine.

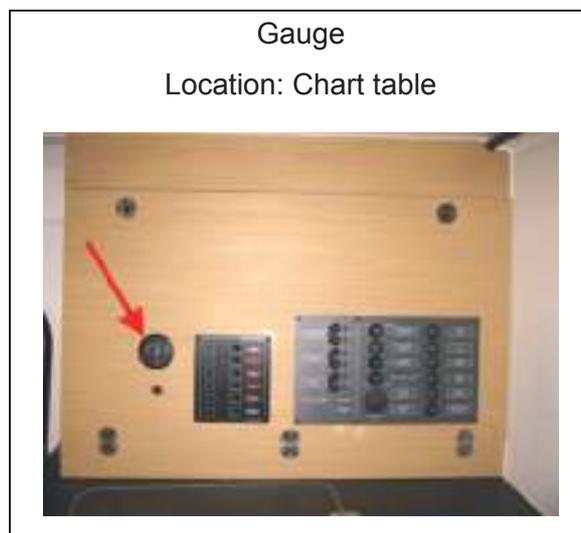
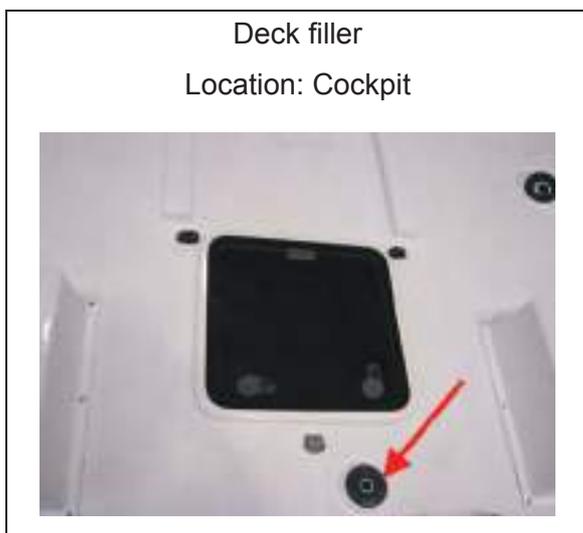
Transmission type is: sail-drive.

Filling up with fuel

- Fill the fuel tank by opening the cap marked "DIESEL", provided for this.
- Fuel capacity: 75 l
- Reservoir location: Port aft cabin
- Regularly check that the O ring on the filler cap is in good condition, to prevent any water ingress.

Gauge

- The fuel level is transmitted from the dipstick to the indicator located on the electrical panel.
- Some of the gauges must be calibrated when you first fill the tanks: please consult your dealer.



- The tanks' nominal capacity cannot be fully used due to the load and the need to maintain the correct trim. A 20% reserve should be kept.

12.5 ENGINE WATER INTAKE VALVE

The sea water intake valve plays a crucial role in ensuring that the engine runs well.

- Keep the strainer under the hull as clean as possible ;
- Brush the strainer whenever the boat is lifted out ;
- Don't cover the strainer in antifoul.

This valve must absolutely always be opened before starting the engine.

A sea water filter filters the water before it goes through the heat exchanger.

Regularly inspect the sea water filter and clean it if necessary. Screw/unscrew the cover of the filter by hand (never use tools for this).

For lengthy absences, close the engine's sea water intake valve.

Sea water intake



Sea water filter

Location: Engine compartment



12.6 ANTI-SIPHON VALVE

- The function of the anti-siphon valve is to inhibit the siphoning action when the engine stops thus preventing a return of water.
- It is possible that on starting the engine or at certain engine speeds some drops of water may be seen escaping from the anti-siphon valve.
If so you need to clean the anti-siphon valve: dismantle the water collector at the top of the anti-siphon valve, then clean the valve with fresh water to remove any impurities.
- Then do the reverse procedure to refit the cleaned component, taking care not to refit the valve the wrong way round.
- This simple preventative maintenance procedure of the anti-siphon valve is recommended to be carried out once a year.

Anti-siphon valve



Location: Engine compartment



12.7 FUEL FILTER

Engine running problems may have different origins, including dirty fuel. The injection pump may wear out if there is water in the system. The water results either from the condensation resulting from an insufficiently filled tank, or from a filler cap either not closed properly or with a damaged seal.

In order to prevent any water infiltration, the fuel runs through two filters:

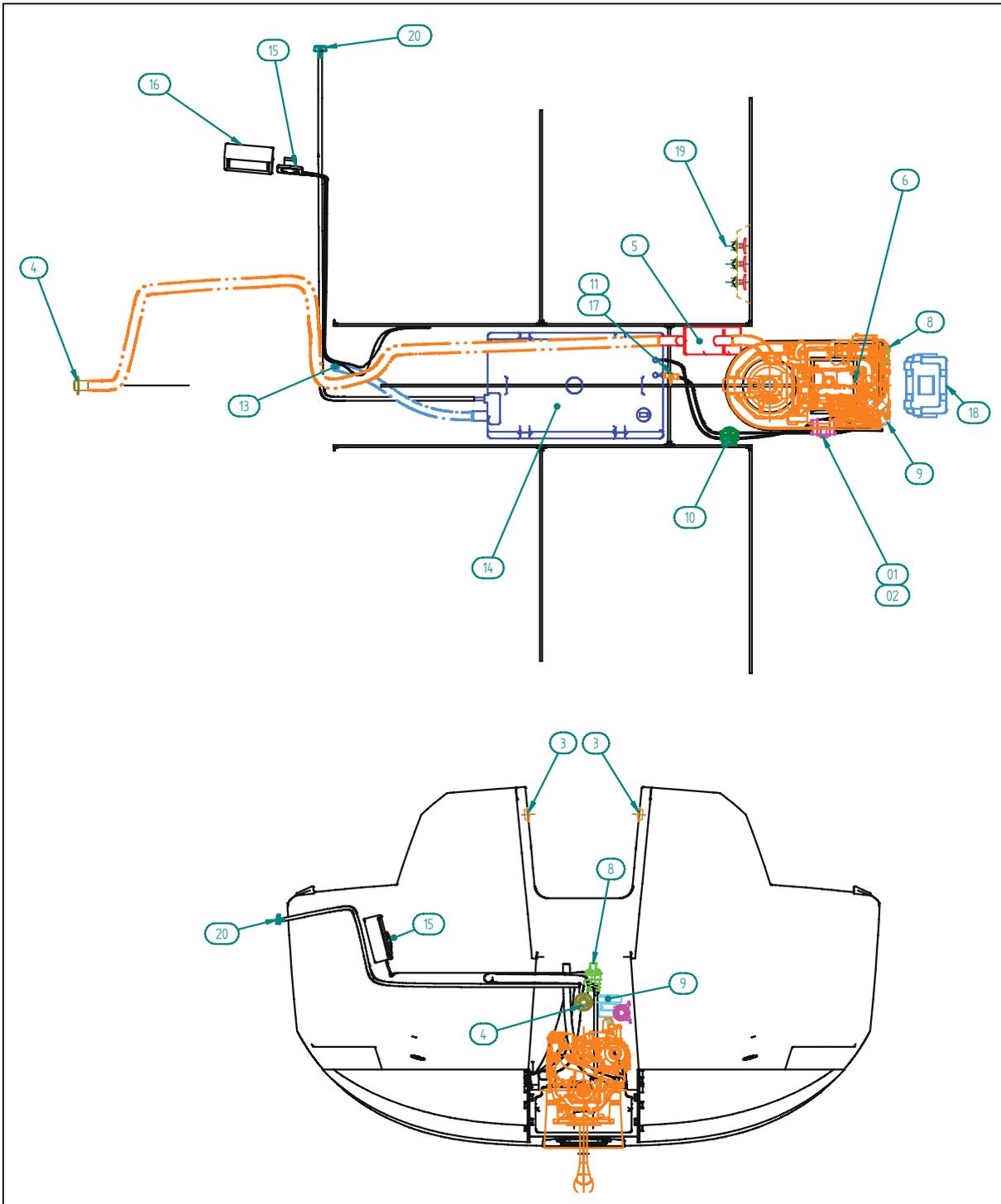
- One filter is an integral part of the engine, its role is to filter fuel very finely. Please refer to the engine manufacturer's notes for any maintenance and for the frequency of filter changes.
- The second filter is on the pipe that links the tank to the engine, it plays the role of a water decanter and prefilter.

Maintenance

- Purge the impurities by unscrewing the screw located at the base of the decanting bowl (without removing it). Let the liquid run into a receptacle until the fuel runs clear. Do this several times a year.
- Change the pre-filter at least once a year.

Access: Engine compartment





Reference	Designation
1	Engine compartment ventilator
2	Mount - Engine compartment ventilator
3	Grid
4	Outlet
5	Water trap
6	Engine & Transmission "Sail Drive"
8	Anti-siphon valve
9	Sea water filter
10	Fuel filter
11	Fan
12	Anti-flooding valve
13	Filler cap
14	Fuel tank
15	Engine control lever
16	Engine instrument panel
17	Fuel supply valve
18	Engine battery
19	Battery switch
20	Vent hole - Fuel tank

Sail Drive engine installation



12.9 ENGINE CONTROL

- The engine manufacturer's notes provide detailed explanations on how to operate the engine and keep it running well.



- Read the manufacturer's notes on use and maintenance of the engine.

12.10 ACCESS TO THE ENGINE

The access to the engine is via:

- The cockpit,
- Side hatches,
- the companionway.

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

12.11 PROPELLER

- The propeller delivered with the boat represents the end result of trials carried out in collaboration with the engine manufacturer. Never change the propeller without first consulting a professional engineer.
- Propeller efficiency will drop if the propeller blades are damaged in any way or dirty: regularly clean the blades carefully.
- During a lift-out, check the propeller: it should turn freely on its axis and there should be no play.
- Pitch of the propeller: to the left.



- Respect speed limits.
- If this boat is equipped with a fixed blade propeller, when sailing at speeds over 8 knots it is essential to leave the reverse gear control in neutral.

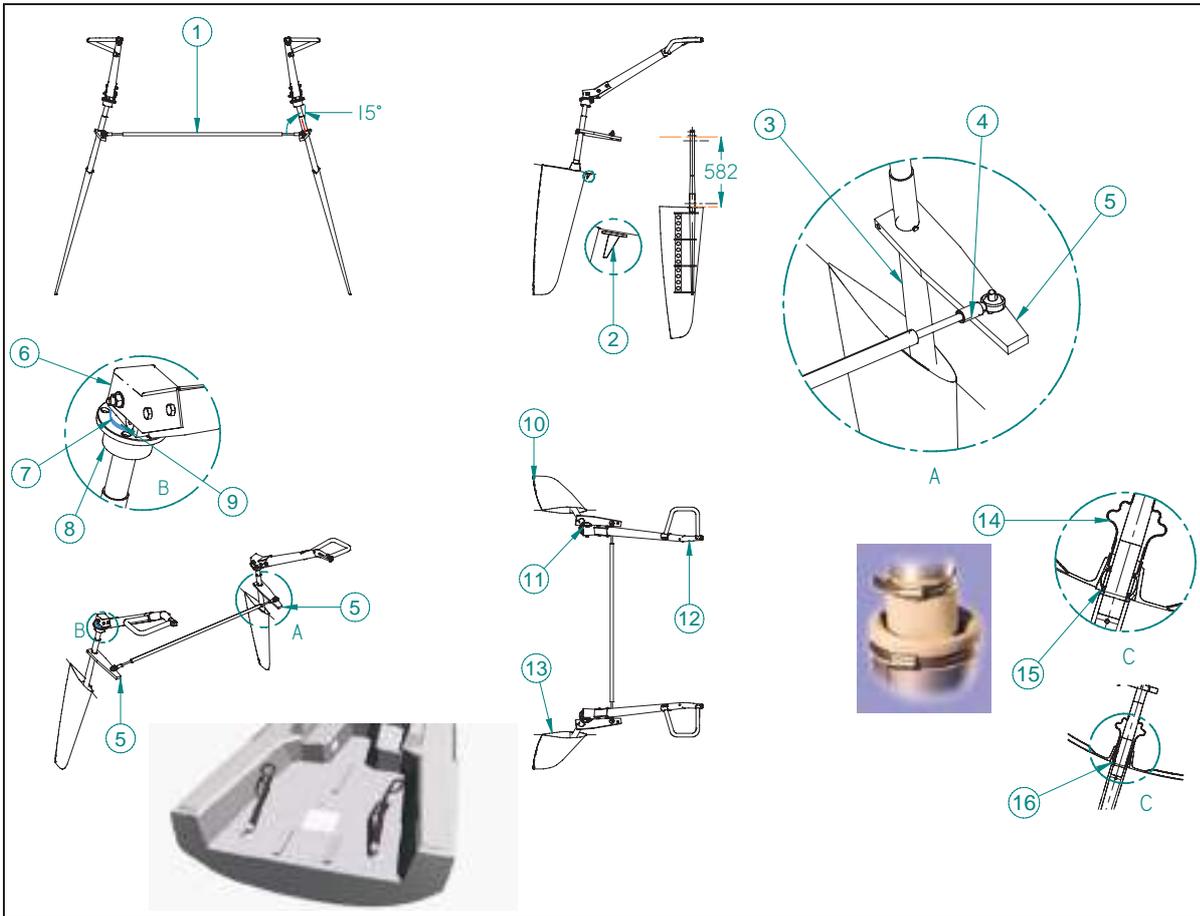


13 STEERING SYSTEM

13.1 GENERAL POINTS

- The steering operates by steering cables.
- 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.
- Regularly check the tension of the steering cables and the tightness of the steering components. If need be, adjust the tension of the steering cables. Don't tighten the steering cables excessively. When properly adjusted the steering should work smoothly, with no play at all and no stiffness in the tiller or wheel (consult your dealer).
- Regularly grease the chains and pinions.
- Do not grease the steering cables or the pulleys.
- Maintain the nylon, ertalon or teflon bushes with only a suitable lubricant.

13.2 LAYOUT DIAGRAM



Reference	Designation
1	Connecting rod
2	seaweed cut
3	Rudder stock
4	Track rod end
5	Stock arm
6	Bronze plug
7	adjustment ring
8	Upper bearing
9	Bearing ring
10	Rudder - Port side
11	Tiller head
12	Tiller
13	Rudder - Starboard
14	Watertight bellows (NOTE: Take care when fitting bellows)
15	Balance bush
16	Lower bearing



14 DECK FITTINGS

14.1 GENERAL POINTS

14.1.1 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.

14.1.2 Plexiglas (PMMA)

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

ADVICE-RECOMMENDATION

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

14.1.3 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.

14.1.4 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.

ADVICE-RECOMMENDATION

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

14.1.5 Exterior cushions

- 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.

ADVICE-RECOMMENDATION

Never:

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



14.2 BERTHING, ANCHORING, TOWING

14.2.1 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	A&B	B	B
Anchor Point Breaking Strength	24,1	34,6	34,6
Mooring Line/Chain Breaking Strength	19,3	27,7	27,7

Note: Measurements are expressed in kN.

If non-metal anchor points are installed on the boat, their limited lifespan must be taken into account. They must be replaced as soon as they show signs of deterioration, visible surface cracks or permanent deformation.

Note: black components are less sensitive to UV radiation than light coloured ones.

14.2.2 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.

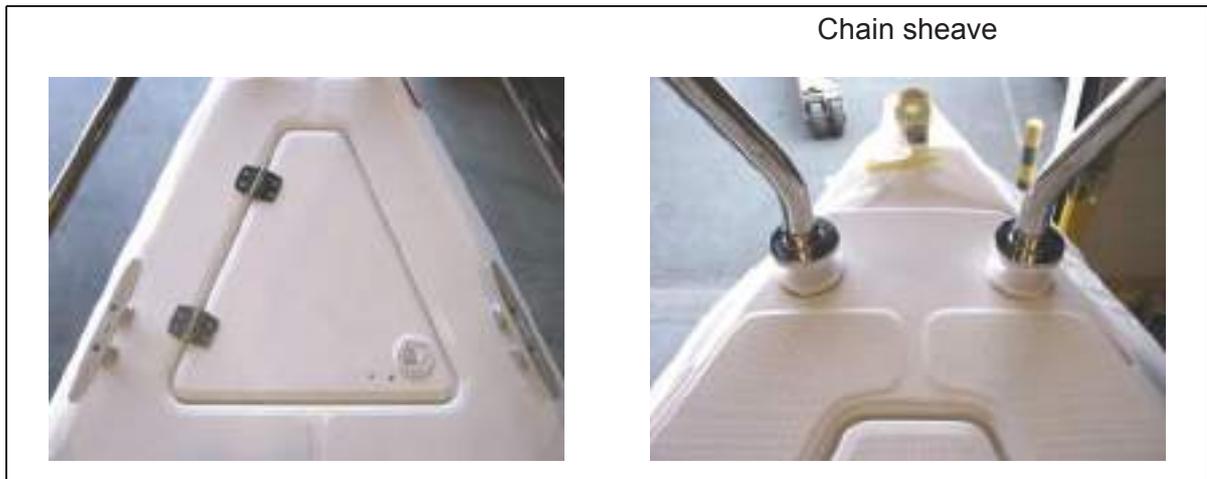
B. Towing:

- 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.

14.3 MAIN COMPONENTS OF THE ANCHOR WELL



Refer to manufacturer's instructions for use and maintenance.



Windlass operations are dangerous:

- Always keep the anchor chain or rode free and unfouled ;
- Carry out manoeuvres carefully and always wear shoes ;
- Avoid wearing baggy clothing, long hair that's loose and jewellery that could get caught in the engine when it is running.



15 HULL FITTINGS

15.1 UPHOLSTERY

LEATHER

Maintenance

Leather must be regularly cleaned and waxed.

To do so, clean the leather surface with a damp rag. This operation will remove dust.

Every 6 months to a year depending on use, apply a leather shampoo on the leather then use a hydrating cream which will also protect it.

Stain removal

If the leather surface gets stained, clean immediately using an absorbent piece of paper. Do not scour. Clean inwards to prevent the stain from spreading.

- Buffer applying denatured alcohol with a piece of cotton (ink and food stains).
- Apply absorbent powder (talcum) on grease stains.

Wait a couple of hours, then brush the excess of powder.

- Other: Apply white vinegar or acetic acid diluted in water.

ADVICE-RECOMMENDATION

- Test the product on a small hidden area of the surface before cleaning.
- Avoid excessive moisture.
- Do not scrub on leather surfaces.
- If you notice leather colour on the rag, immediately stop cleaning.

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

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.

15.2 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).

15.3 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.
- Install a dehumidifier in the saloon and leave open all the cabin doors and storage spaces (cupboards,iceboxes...).

ADVICE-RECOMMENDATION

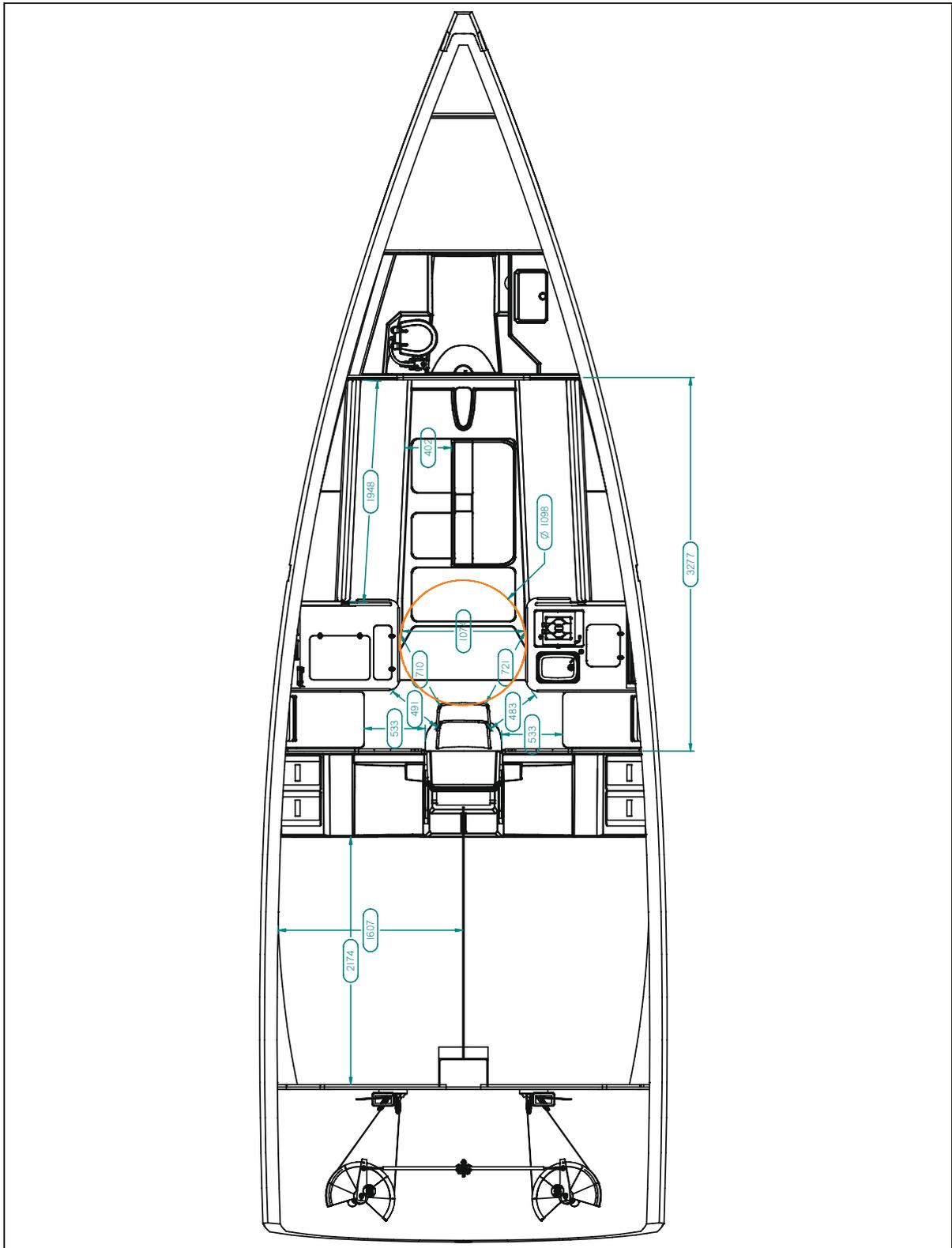
If the stains persist or if in doubt, consult a cleaning specialist.

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.

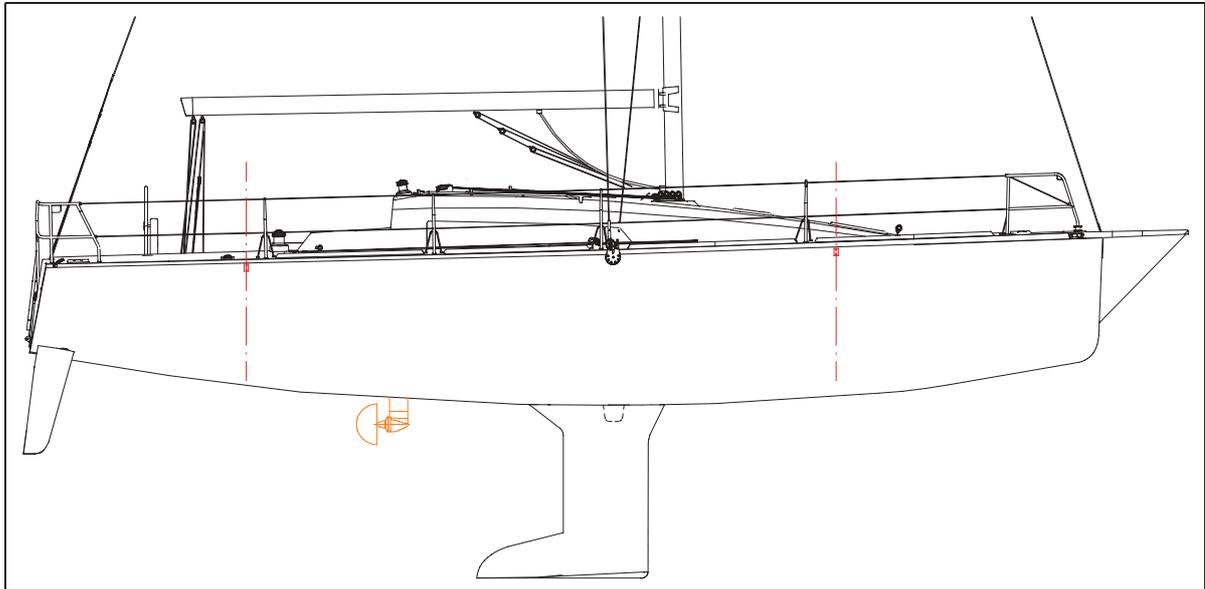
15.4 DIAGRAM - INTERIOR



NOTE: Measurements are expressed in mm.

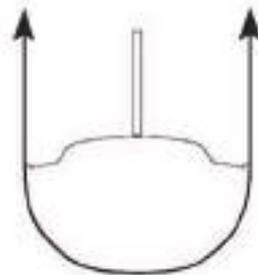
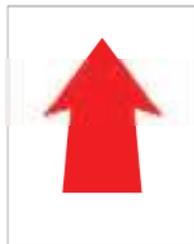
16 HANDLING, TRANSPORT

16.1 LIFTING PLAN



HANDLING, TRANSPORT

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



16.2 LIFTING

- Before applying the first coat of antifouling on the hull, you can key the hull using wet sandpaper of 400 grade or higher.
- 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.
- During lift-outs, check the anodes, cutlass bearing and propeller (see corresponding chapters).

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.

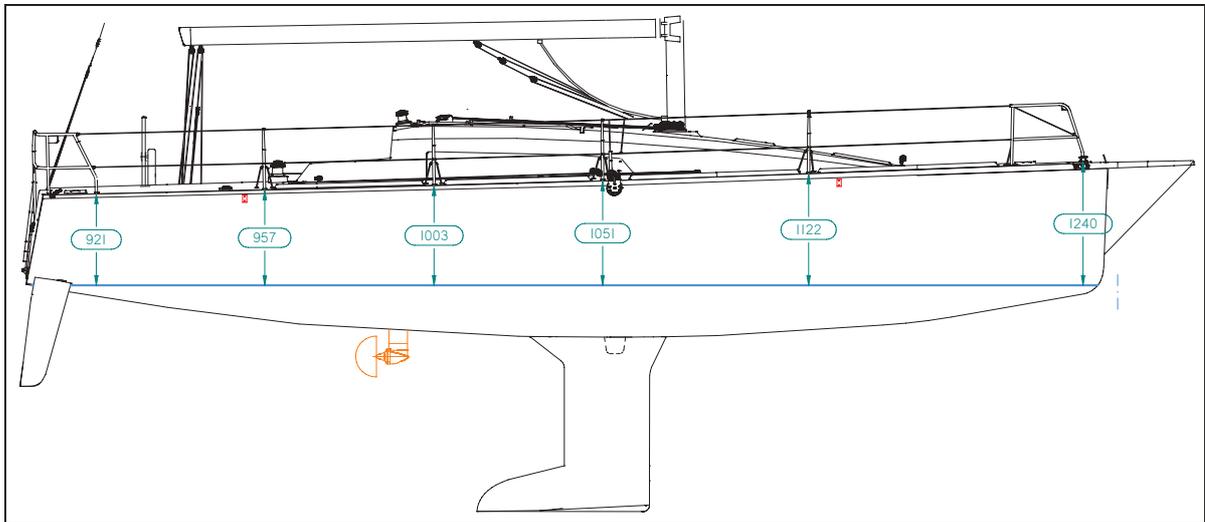
The wet surface area of the boat is about: 29 m².



- 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.

16.3 UPPER LIMIT OF ANTIFOUL

Measurements are expressed in millimetres.



16.4 LAUNCH/LIFT OUT

A lot of skill and care is required to commission your boat. 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.
- Check the anodes (see the chapter on Electricity).
- Check the propeller (see the chapter on Steering).
- Prepare enough fenders and lines.
- Check the engine's sea water intake valve and the fuel feed valve (see the chapter on motorisation).

16.5 STEPPING/UNSTEPPING THE MAST

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



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.



16.6 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.
- Install a dehumidifier in the saloon and leave open all the cabin doors and storage spaces.
- 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 black-out 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.

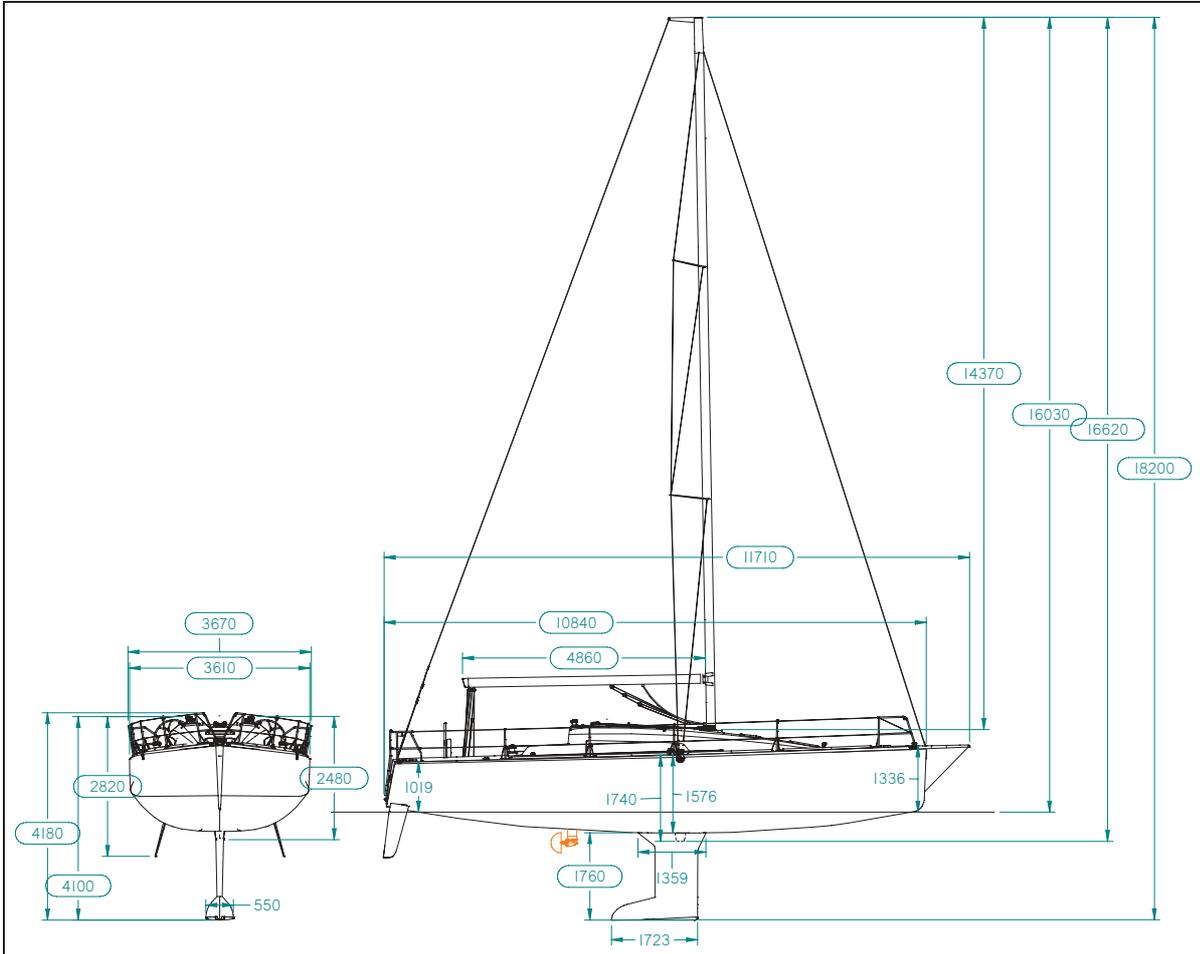
ADVICE-RECOMMENDATION

- 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.

16.7 TRANSPORT

PACKING PLAN

Measurements are expressed in millimetres.





17 ENVIRONMENT

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.

