CONTENTS

WELCOME ABOARD

This manual

This manual has been compiled to help you to operate your craft with safety and pleasure. It contains details of the craft; the equipment supplied or fitted its systems, and information on its operation and maintenance.

Please read this and all operating instructions for extra equipment carefully and familiarise yourself with the craft and the equipment before using it.

This owner's manual is not a course on boating safety or seamanship. If this is your first craft, or you are changing to a type of craft you are not familiar with, for your own comfort and safety, please ensure that you obtain handling and operating experience before assuming command of the craft. Your dealer, national sailing federation or yacht club will be pleased to advise you of local sea schools or competent instructors.

Ensure that the anticipated wind and sea conditions correspond to the design category of your craft, and that you and your crew can handle the craft in these conditions.

Even when your yacht is categorised, the sea and wind conditions corresponding to the design category can be dangerous conditions where only a competent, fit and trained crew using a well-maintained craft, can operate satisfactorily.

This owner's manual is not a detailed operating or trouble shooting guide. In case of difficulty, refer to the boat builder or his representative.

Always use trained and competent people for maintenance, fixing or modification. Modifications that may affect the safety characteristics of the craft shall be assessed, executed and documented by competent people.

X-Yachts cannot be held responsible for modifications that have not been approved ahead of the modification.

Always maintain your craft properly and make allowance for the deterioration that will occur in time as a result of use or misuse of the craft.

Any craft, no matter how strong it may be, can be severely damaged if not used properly. This is not compatible with safe boat handling.

Always adjust the speed and direction of the craft to the sea conditions.

All personnel should wear a suitable buoyancy aid (life jacket/ personal floating device) when on deck.

Inappropriate use of the craft can result in death or irreparable injury.

PLEASE KEEP THIS MANUAL IN A SECURE PLACE AND HAND IT OVER TO THE NEW OWNER WHEN YOU SELL THE CRAFT.

Safety

Owner/operator should read and understand all contents of this manual with respect to all the cautions and warnings implied.

It is the responsibility of the owner/operator to ensure that all the craft's safety equipment is present and working. It is also the duty of the owner/operator to inform his crew of the usage of this equipment and other emergency procedures.

In order to obtain the best possible safety level, we recommend that the safety equipment aboard meets the requirements from "ISAF Offshore Special Regulations", which can be ordered from:

ISAF (UK) Ltd, Southampton, UK
Phone: +44 (0) 2380 635111

Or can be downloaded from:
http://www.sailing.org/documents/index.php

In case of "man overboard", using the bathing ladder will be the easiest way to get the person(s) back aboard. When using the bathing ladder, keep your body upright and close to the ladder. Do not lean back and do not use the bathing ladder with heavy gear like scuba equipment, this may bend the ladder.

The bathing ladder is fitted on the transom attached to the centre pushpit. In the case where an optional bathing platform is fitted, the bathing ladder is stored in the aft cockpit locker. Access is obtained by lowering the platform and fitting the ladder in the key holes.

Make sure emergency tiller arm is readily available. Instruction on use of emergency tiller arm is given in appendix "Deck Layout". Procedure should be practised in good weather condition. Always ensure that all escape routes and companionways are clear and escape hatches are unlocked when people are aboard.

Electronic navigational devices such as GPS, chart plotter and radar do not substitute basic navigational knowledge and proper watch keeping. Electronic charts should be updated as well as regular charts. Every craft should carry a minimum of traditional navigational aids as a backup in case of electrical blackout.

Safety precautions

This manual contains several safety precautions for you, your crew and the craft's safety. They are divided into three categories i.e. degrees of danger that are defined and emphasised as shown below:

DANGER

Denotes an extreme intrinsic hazard exists which would result in high probability of death or irreparable injury if proper precautions are not taken.

WARNING

Denotes a hazard exists which can result in injury or death if proper precautions are not taken.

CAUTION

Denotes a reminder of safety practices or directs attention to unsafe practices which could result in personal injury or damage to the craft or components.

Casting the Anchor

The anchor can be cast by using the electrical control or manually. To operate manually, the clutch must be disengaged allowing the gypsy to revolve and letting the rope or chain fall into the water. To slow down the chain, the handle must be turned clockwise.

To cast the anchor by using the electrical power, press the DOWN button on the control provided. In this manner the anchor casting is under control and the chain and rope unwind evenly.

X-Yachts recommend always casting the anchor by using the electrical control. This will allow the chain to be fed nicely into the gypsy.

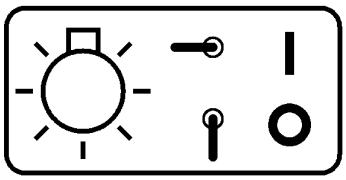
In case the anchor is cast manually it's recommended to adjust the clutch, so the chain doesn't run out uncontrolled. In case the chain runs out too quickly, it may cause damage to the gypsy. In this case the damages will not be covered by the warranty.

Sailing with the anchor

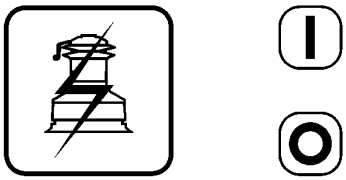
To prevent accidental releases, the anchor must be secured. The windlass must not be used as the only securing device.

X-Yachts recommend that a strap is fitted from the anchor chain to a fixed point in the anchor locker whenever the anchor isn't used.

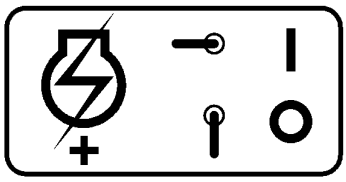
Symbols used in craft



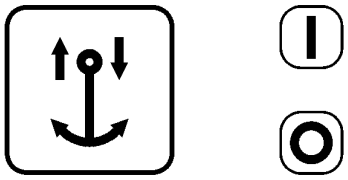
Main switch: Light and service circuit.



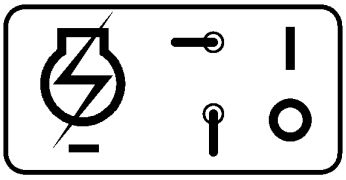
Main switch/automatic fuse: Electric winches.



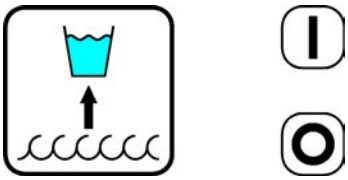
Main switch: Positive conductor main engine.



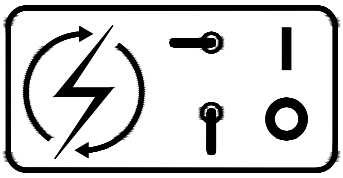
Main switch/automatic fuse: Electric anchor winch.



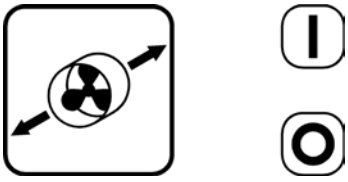
Main switch: Negative conductor main engine.



Main switch/automatic fuse: Water maker.

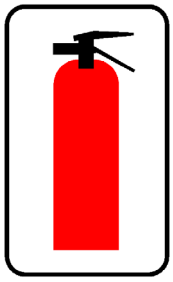


Main switch: Generator.

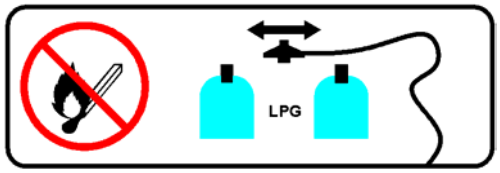


Main switch/automatic fuse: Bow thruster.

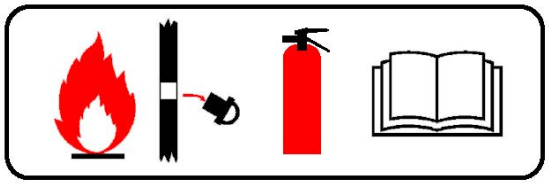
Fire escape hatch.



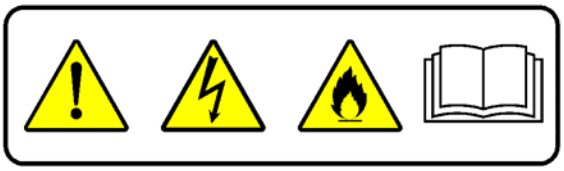
Portable fire extinguisher.



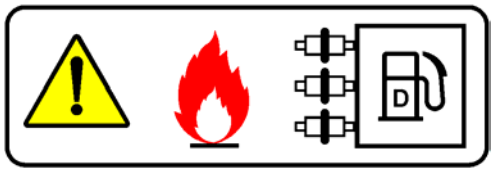
No open flame and no smoking when changing gas cylinders.



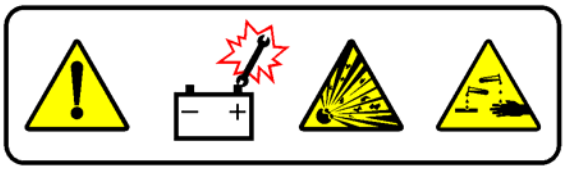
Fire port allowing fire extinguisher to be discharged through the hole into engine compartment in case of fire. Refer to manual for further instruction (evacuate accommodation before discharging).



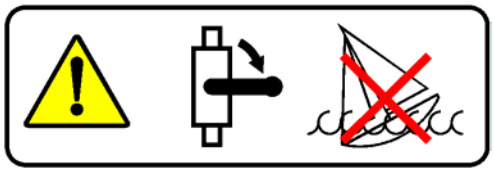
Warning, risk of electrical hazard and fire if proper precautions are not taken. Refer to manual.



In case of fire, close all shut off valves on fuel tank.

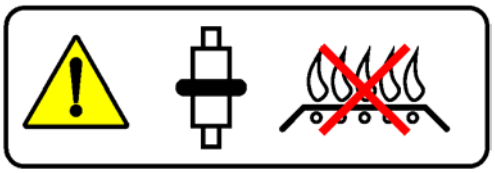


Warning, risk of explosion and leaking of caustic fluid if batteries are short-circuited between battery poles or from batteries to other conducting material i.e. the engine block.



Close all seacocks, not in use, to minimize risk of flooding.

Warning, risk of electrical hazard. Refer to manual before using the shore power inlet.



Shut off valve on gas line to cooking unit.

Caution!

Disconnect both positive and negative main switches to main engine when the engine is not in use!

Disconnect 230/110V plug to heater when boat is left unattended with shore power connected.

Important! In order to avoid electrolysis on metal parts, the engine battery main switches must be turned OFF when the engine is not in use.

If the battery main switches are not turned OFF, the battery negative potential is connected via the engine and the sail drive to the water. This can lead to electrolysis damage on metal parts onboard the boat.

The same conditions are present if the boat is connected to shore power. Any electrical failure on the shore installation or on another nearby boat can generate electrolysis damage on your boat.

It is therefore absolutely crucial, as stated in the manual for the boat, that the 230/110V plug for the water heater is unplugged when the boat is being left unattended for longer periods and with shore power cable connected.

Design category

The Xp 44 is designed and built to meet the requirements of category A - "ocean", which is defined as:

Category A: This craft is designed to operate in winds that may exceed wind force 8 (beaufort scale) and in significant* wave heights of 4 meters and above and 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 hundreds of nautical miles.

The yacht is designed for a maximum crew of 14 persons and a maximum recommended load of 2430 kg.

The maximum recommended load includes the weight of all persons on board, all provisions and personal effects, any equipment not included in the light craft mass, cargo (if any) and all consumable liquids (water, fuel etc.).

The total weight of totally filled water and fuel tanks amounts to 540 kg.

WARNING

Do not exceed the maximum recommended number of persons. Regardless of the number of the persons on board, the total weight of persons and equipment must never exceed the maximum recommended load. Always use the seats/seating spaces provided.

*The significant wave height is the mean height of the highest 1/3 of the waves, which approximately corresponds to the wave height estimated by an experienced observer. Some waves will be double this height.

Stability information according to ISO 12217-2:
Draft 2.65 m:
STIX: 49 (> 32 category A)
AVS: 128 degrees (> 100 deg. Category A)

Draft 2.30m:
STIX: 47 (> 32 category A)
AVS: 126 degrees (> 100 deg. Category A)

Environmental considerations

Careful consideration to the environment must be given at all times. Use of solvents should be kept to a minimum and wherever possible only used when the craft is laid-up and suitable drainage is provided. Discharge from marine toilets must be in accordance with local and international laws, and domestic and galley waste should at no time be disposed of overboard when the craft is in inshore waters.

In some areas operable direct overboard-waste discharge systems are prohibited. Discharge seacocks are sealable and should be sealed if required. Discharge of fuel and oily waste in navigable waters is prohibited. Consult your marine dealer about environmental regulations when purchasing cleaning agents, paint and other products of this kind.

Always be aware of local environment laws and respect codes of good practice.

Be aware and respect international regulations against marine pollution (MARPOL).

Always use marina toilet pump-out facilities to empty the holding tank before leaving the harbour.

Before departure

DO THIS:

- Open gas shut off valve in the gas box and ensure there are no leaks.
- Turn on main switches for engine and light installations.
- Open inlet seacock for engine cooling water.
- Close discharge seacocks for wastewater.
- Close windows and hatches when appropriate, e.g. in rough weather.
- Reconnect the 230V plug for the water heater, if it has been unplugged.

CHECK THAT:

- Present weather and weather forecast provide safe sailing conditions.
- All necessary equipment is on board. Pay special attention to safety equipment.
- Passengers and crew are instructed in emergency procedures and use of safety equipment.
- Emergency exits are accessible and unlocked.
- The draining system is working and clean.
- The fuel system is not leaking and inspect fuel filter for clogs.
- The craft carries sufficient fuel (with a safety margin). We encourage you to keep a log of fuel consumption and do not rely entirely on the level gauge.
- Shut off valves on fuel tank are open.
- The engine compartment is free of fumes of any kind.
- Both battery and charging system are in good condition.
- Navigation lights are working, and replacement bulbs are available.
- The steering system is working smoothly and properly.
- Navigation instruments and devices are fully functional and calibrated.
- Equipment is secured safely.

Deviation table
The magnet compass installed may be interfered by a plotter or another device installed in the immediate vicinity of the compass, and therefore it is recommended that a deviation table is made for each magnet compass installed onboard.

The deviation table must be checked for every 15° swing and compiled into a deviation table that is kept onboard.

During sailing

Always ensure that all actions on board the craft are carried out in the safest possible way. Remember that when at sea, medical assistance and assistance in general is usually far away.

Pay attention to the present weather and weather forecast. In rough weather always use safety harness, both on deck and in the cockpit. Use hooking points placed in various positions on the craft e.g. pad eyes on the steering pedestal.

It is recommended that all persons aboard wear life jackets.

CAUTION
Take care when gybing in heavy weather and always pull in the boom with the main sheet before a gybe is performed. Be ready to ease the sheet fully as soon as the gybe has been performed to avoid the boat to heel over.

Take care that the sheet does not catch deck equipment like winches and instrument consoles while gybing and make sure that the traveller is positioned in the centre before a gybe is performed.

In wind conditions above 20 knots, and especially in heavy seaway, it is recommended to perform a tack rather than to perform a gybe.

Before disembarking

DO THIS:

- Turn off main switches for engine and main electrical panel.
- Close all inlet seacocks.
- Close gas shut off valve in gas box.
- Lock all doors, hatches etc.
- Place all safety equipment beyond reach of thieves and vandals.
- Do not leave the boat connected to shore power supply for longer periods than necessary to recharge batteries; it can lead to stray current corrosion.
- To minimize stray current corrosion; disconnect the power supply for the water heater by pulling out the 230V plug nearby the water heater.

CHECK THAT:

- The bilge and the strainer for the bilge system are clean and dry (no signs of leaks). Clean if necessary.
- The electric bilge pump is working and in automatic activation mode.

Engine basics

The engine operating and maintenance manual, delivered with your craft, describes everything concerning the engine. The following notes are basic reminders and are not intended to cover every detail of operating the engine. We urge you to thoroughly read and understand the engine manufacture manual. Remember that you need to have an authorised dealer to do a 50-hour periodic maintenance interval in order to uphold the warranty.

Starting the engine:
Before starting the engine, always ensure that the cooling water intake seacock is open and that the filter is clean. Check engine/gear oil level and anti-freeze water level and that the ventilation ducts are free.

1) Turn on the engine main switches and put the remote control shift lever in NEUTRAL.
2) Switch on the ignition by switching on the "START/ON" push button on the Yanmar engine panel. Ensure that the instrument panel indicators light and the alarm sounds. This indicates that indicators and alarm are working correctly.
3) Start the engine by pressing the "START/ON" push button all the way in. Continue cranking for about 5 seconds and listen for abnormal noise during that time.
4) Never press the "START/ON" button for longer than 15 seconds or the starter motor will overheat.
5) Release the "START/ON" button when the engine starts, and check that the alarm stops.

Now use the control lever arm to operate the engine in forward or reverse gear. When engaged, move the handle slowly to a higher speed position.

Stopping the engine:
Do not stop the engine abruptly during operation. Always allow the engine to run without load for approximately 5 minutes before shutting down.

1) Reduce engine speed to low idle and put the remote control shift lever in NEUTRAL.
2) Accelerate from low speed to high speed and repeat a few times. This will clean out the carbon from the cylinders and the fuel injection nozzles.
3) Allow the engine to run at low speed (approximately 1000 rpm) without any load for 5 minutes.
4) Stop the engine by pressing the "STOP" button. After the engine has stopped, turn the ignition off by pressing the "OFF" button shortly.

If you continue by sail, then first pull the remote control shift lever into reverse position (for no longer than 30 sec.) allowing the propeller blades to adjust into sail position. When in sail position, then pull the remote control in neutral. Not doing so WILL introduce slippage and void your warranty.

Make sure that the boat doesn't sail more than 3 knots when allowing the propeller blades to adjust to sail position, otherwise the gear may be damaged.

CAUTION
The boat must not sail more than 3 knots when allowing the propeller blades to adjust into sail position, otherwise the gear may be damaged.

When shifting from FORWARD to REVERSE or vice versa, wait a few seconds in neutral until the engine runs idle. Never shift abruptly from FORWARD to REVERSE or vice versa.

Keep both hands on the steering wheel or tiller and hold on tight when engine is running in reverse.

Refer to engine manual concerning running a new engine with respect to maximum revolutions and load etc.

The engine is fitted with a vacuum valve to prevent seawater from siphoning into the engine block. This valve must be taken apart at least twice per season in order to function properly. **Refer to separate manual.**

Removal of main engine
The main engine can be removed via the companion way entrance. Removal is done in the following steps:

- The companion way entrance steps must be removed.
- The engine must be unbolted from the saildrive / propeller shaft.
- The gas cable, all cables, all fuel hoses and water hoses to hot water tank must be disconnected from the engine.
- Remove the expansion tank and the siphon breaker to avoid them getting damaged when lifting the engine.
- Remove the engine filter to allow the engine to be pushed as forward as possible.
- Unbolt the engine feet from the engine base.
- Slide the engine as forward as possible.
- Protect the entrance bulkheads with thin plywood plates.
- Arrange lifting above the entrance companionway and lift the engine out of the hull. Avoid that the engine hits the structure and bulkheads.
- Refit the engine in the opposite way.

Optional 230V AC generator basics

The optional 230V AC generator operating and maintenance manual, delivered with your craft, describes everything concerning the generator. The following notes are basic reminders and are not intended to cover every detail of operating the generator. We urge you to thoroughly read and understand the manual. Remember that you need to have an authorized dealer to do a service check in order to uphold the warranty.

Starting the generator:
Before starting the engine, always ensure that the cooling water intake seacock is open and that the wet exhaust from the gas-water separator is open if the system includes gas-water separator. Also ensure that no AC load is connected to the generator output during start up.

Turn on the generator main switches and start the generator on the remote control panel (see generator operating manual for detailed information about operation of remote control panel).

When the generator starts up and runs with a constant RPM and the control panel shows the nominal voltage e.g. 230V/50Hz, the different AC loads can be switched on.

Stopping the generator:
Switch off all AC load before the generator is stopped.
Stop the generator on the remote control panel.
Switch off the remote control panel.
Turn off the generator main switches.

DANGER
Contact of the electrical contacts may be DANGER TO LIFE.

The generator may not be taken into use with the cover removed. Rotating part may be DANGER TO LIFE.

CAUTION
Always have a trained technician to carry out work on the generator.

The electrical A/C installations may only be carried out by trained and examined personnel.

NEVER keep cranking the generator, if the generator doesn't start up after a few starting attempts (maximum 3-4 attempts). This may cause the generator to be flooded backwards. If more starting attempts are needed, the muffler needs to be bled first (a bleeding screw is fitted at the bottom of the muffler).

Winches special precautions

An electric winch is very powerful - only competent sailors should operate an electric winch. Before powering the winch, make sure that children and other crew are standing well clear of not only the winch, but also the rope being pulled. Always be wary of what the winch is pulling on, as well as the rope's progression to the winch. A rope snagged or jammed on a sail, spar or rigging can result in dangerous overloading. This is especially relevant when using a primary winch for less demanding tasks, where the winch is overly powerful for the task at hand.

The motor is not designed for continuous extended use. Avoid unnecessary unloaded running of the motor as this will generate heat, reducing the running time of the motor.

Always isolate the winches by switching off the circuit breakers when not in use.

WARNING

Under no circumstances should children be allowed to use an electric winch.

Under no circumstances should any self-tailing winch be used in self tailing mode for any lifting operation; rather suitable and adequate manual tailing should be arranged with proper means of manually cleating or stopping the hoist.

When lifting please be aware that national working environment authority rules are followed.

Only persons who are completely familiar with the controls and those who have been fully aware of the correct use of the winch should be followed to use it.

It is the unavoidable responsibility of the owner or master or other responsible party to assess the risk of any operation on the craft.

Warning – composite keel structure

The composite keel structure of the Xp 44 requires no maintenance and is not liable to corrosion. It is designed with large factors of safety, and provided it is not deliberately damaged or altered it will provide an extremely strong stiff and reliable structure for the lifetime of the yacht.

However – care must be taken not to create ANY new penetrations/holes in the structural beams without the express written permission of X-Yachts, as in some cases this may weaken the structure.

<u>The areas of special concern include:</u>
All beams in the saloon
All bunk fronts in the saloon
All hull skins (inside and outside) in the saloon
Areas of Bulkheads that are covered in layers of fibreglass

<u>It does NOT include:</u>
Cupboards
Galley unit above floorboard level
Heads unit above floor level
Plywood plates that are used to secure pumps and other equipment
Other furniture

<u>A penetration or hole includes:</u>
ANY new screw fixing of any diameter
ANY new hole or wire run
ANY type of grinding or enlargement of existing holes

If an EXISTING screw fitting becomes loose or damaged in the lifetime of the yacht, the EXISTING tapped hole should be repaired, and the screw inserted in the SAME location. If the screw fitting must be moved – this should not be done without the express written consent of X-Yachts. This is particularly important in relation to the screws holding down any floorboards.

Caution - grounding

The Xp 44 composite keel structure is designed to absorb and dissipate the loads from a heavy grounding or knock down without any permanent deformation or damage to the hull or structure. However, in the event of a heavy grounding or collision, the owner should check below the floorboards and at the ends of the bunk fronts for any visible signs of cracking as soon as possible after the impact, and report any concerns to X-Yachts or professional composite surveyor. This is good practice with any design of keel structure, fabricated from any material.

Caution – other structures

Please note it is strongly advised not to create penetrations in other structural beams and bulkheads without seeking professional advice or contacting your X-Yachts dealer.

Caution – Means of reboarding

The safety ladder shall be in place at the aft pulpit at all time. The line for deploying the ladder shall be reachable from the water. It must be possible to deploy the ladder singlehanded from the water.

Warning / Yearly maintenance

Locking screws for the rudder shaft must be inspected/checked for correct fixation at least once a year.

Warranty conditions

We refer to the sales documents.

We will do our outmost from Aftersales to support if any warranty issue turns up. Please remark that sailboats today are very complex with many suppliers involved.

X-Yachts follow European legislation. This means that a failure, which occurs within the first six months from delivery, will normally be considered as coming from delivery. After the first six months, until end of the two-year warranty period, X-Yachts will need to have a proof showing that the problem most likely was already there when the boat was delivered.

Remark: No customers can expect X-Yachts to cover repairs initiated by the customer without prior acceptance from Aftersales because it makes it impossible for us to help finding the right solution and get the help from our suppliers. In some cases, the warranty from the supplier is lost, if a non-authorized technician opens a defect component without acceptance from our supplier.

Please also note that the X-Yachts warranty covers components and salary for the repair. But most often we need to have offers from local service providers.

X-Yachts will not cover costs for extra transport, hotels, mooring fees, crew etc. with reference to the warranty.

Description of yacht

Model:	**Xp 44**
Design category:	"A" (ocean sailing)
Designer:	Niels Jeppesen

Yard:	**X-Yachts A/S**
Address:	Fjordagervej 21
	6100 Haderslev, Denmark
Phone:	+45 74 52 10 22

Main dimensions

L_{HULL}:	13.29 m
L_{WL}:	11.89 m
B_{MAX}:	4.07 m
Draft, Light Std.:	2.30 m
Draft, Light loaded * Std.:	2.42 m
Draft, deep Std.:	2.65 m
Draft, deep loaded * Std.:	2.82 m
Air draft Alu rig (excl. windex etc.)	20,90 m
Air draft Carbon (excl. windex etc.)	21.35 m
Displacement std. draft (Light):	8650 kg
Displacement std. draft (Loaded *)	13000 kg
Ballast deep. draft approx.:	3660 kg
Engine, standard	28.7 kW
Max recommended Engine power	44.0 kW

Sail areas*

Main:	App. 65.8 m^2
Genoa 106%	App 48.5 m^2
Spinnaker – Mast head	175 m^2
Spinnaker – Fractional	160 m^2
Asymmetric mast top	175 m^2
Code 0	131 m^2

*1: Loaded displacement according to ISO 8666. Includes all extra equipment specified by X-Yachts.
*2: For more detailed information please ask your sailmaker to obtain a sail plan drawing of the yacht.

Tank capacities

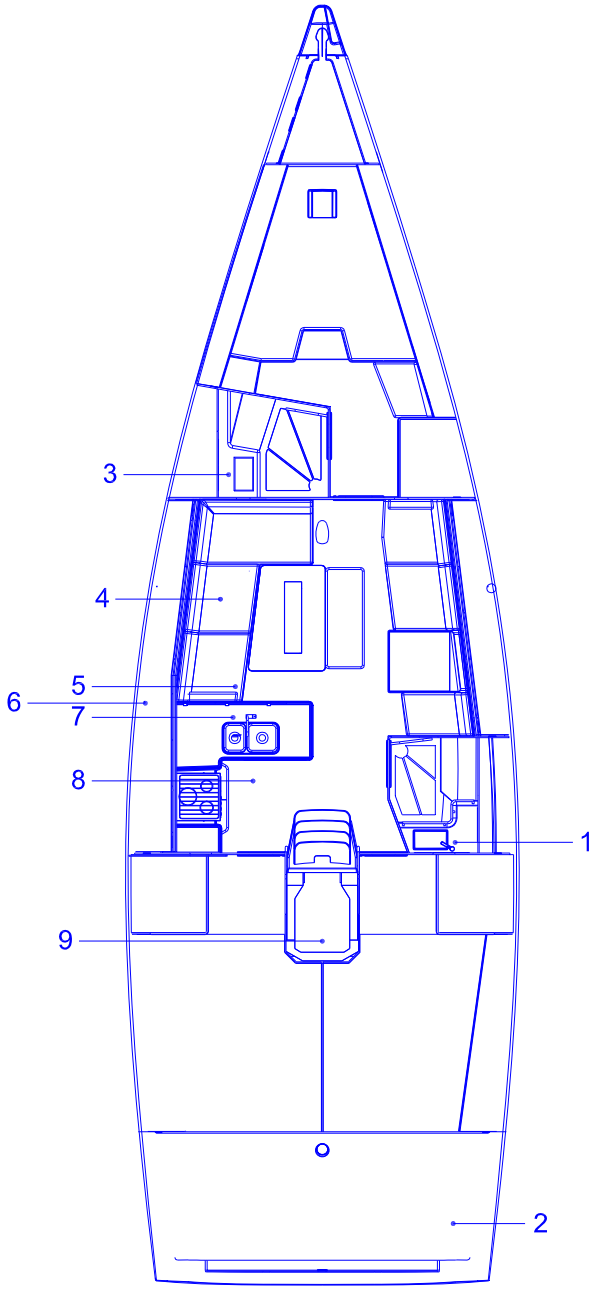
Diesel tank:	200 litres
Freshwater tanks:	350 litres
Hot water tank:	30 litres
Holding tank:	55 litres
Gas cylinders, butane:	2 x 3 kg

Misc. capacities

Service battery standard capacity:	12V/220 Ah
Service battery max. Capacity:	12V/330 Ah
Engine start battery:	12V/55Ah
Max. No of people:	14 people
Max. load (cargo and/or people):	1890 kg

SYSTEMS AND CIRCUITS

- **Fresh-/hot water system**
- **Seawater system (optional)**
- **Holding tank system.**
- **Sea cocks and through-hull fittings**
- **Draining system**
- **Shower sump system**
- **Fuel system**
- **Gas system**
- **Electrical installations**
- **Fire-extinguishing system**
- **Heating system (optional)**



Fresh-/hot water system

1. Mixer valve wash basin/shower SB aft head.
2. Mixer valve cockpit shower.
3. Mixer valve wash basin/shower owner's head.
4. Freshwater tank (350 litres).
5. Suction and ventilation lines freshwater tank. Tank level gauge and inspection hatch.
6. Deck fill cap freshwater tank.
7. Mixer valve sink galley and ventilation/overfill line from freshwater tank.
8. Freshwater pump and accumulator tank.
9. Hot water tank (30 litres), thermostat mixer valve (to adjust hot water temperature).

Freshwater system
The freshwater system consists of a 350-litre plastic water tank, located PS below the bunk in the saloon. The tank is equipped with inspection lid, level gauge, fill,-suction and overfill connections.

The freshwater is distributed via rigid Pex hoses to the mixer taps and the hot water tank by an electrically operated freshwater pump.

The freshwater pump is located below the floorboard in the galley. Easy access to freshwater pump and filter can be obtained via a lid in the floorboard.

Next to the pump an accumulator tank is installed. With the accumulator tank incorporated in the system, the intervals between cut-in and cut-out of the freshwater pump will be longer when only small amounts of water are drawn, meaning less wear and fewer starts and stops of the pump.

The accumulator tank has been pre-pressurized with 0,8 bar/12psi and do not need maintenance.

The freshwater pump is self-priming and has a built-in check valve to prevent backflow. It has a pressure demand switch that automatically switches the pump on and off.

Power supply to the freshwater pump can be switched on and off on the main el-panel located at the navigation area. The switch is labelled "Freshwater pump".

The actual level of the freshwater tank can be monitored on the analogue meter in the el-panel.

If the water tank runs dry or the yacht heels over, the freshwater pump will/may suck air and keep running until the pump is switched off. We therefore recommend switching off the power supply to the freshwater system during sailing.

The freshwater tank is filled with freshwater by unscrewing the deck fill cap. When the tank is full, freshwater will enter the ventilation line and freshwater will overfill into the galley sink.

Remember to tighten the deck fill cap properly after refilling the tank in order to avoid contamination of the tank.

The freshwater tank can be sterilised by adding chlorine tablets (available from chemists), but read and follow instructions carefully.

Hot water system
The yacht is equipped with a 30-litre water heater, located in the engine room compartment.

The water heater is well insulated in order to minimize temperature loss and has a built-in heating element, safety valve/wastewater drain, thermostatic mixing valve, overheat thermostat and connections to engine cooling and freshwater systems.

Access to the water heater can be obtained by removing the GRP sections in the aft cabins.

To avoid scalding, the water heater has been equipped with a thermostatic mixing valve that can be set between 38 and 65°C.

The water heater is filled when the freshwater pump is switched on. When filling the unit, open a hot water tap to bleed the hot water tank.

The safety valve/wastewater drain hose must not be restricted. A small quantity of water will drain from the relief valve each time the water tank is heated, due to the expanding of the water when heated. This is a normal situation and indicates that the relief valve works properly.
Any wastewater that will drain will accumulate inside the engine room compartment.

An overheat thermostat is located behind the connection cover of the water heater. The overheat thermostat will trip if the temperature of the water heater exceeds 96°C.
If tripped, the overheat protector will cut out the power supply for the electrical heating element. If this happens, the overheat thermostat can be reset manually.

Power supply to the water heater can either be switched on or off on the 230V AC distribution panel or by pulling out the plug from the 230V AC socket installed on the bulkhead next to the water heater.

When leaving the boat for longer periods, always pull out the plug from the 230V AC socket inside the engine room. This will eliminate stray current corrosion which could damage the water heater, the heating element or the engine/S-drive.

Never work on the water heater when 230V AC power is connected.

Maintenance/regularly tests
Regularly check the drain and pressure relief valve by pushing the lever. Water will flow into the drain hose. Make sure the drain hose is not blocked or closed. Pull the lever back to closed position.

Regularly check the level of the engine coolant and top up if necessary.

Winter drain:
Fit a bucket below the water heater/the wastewater drain. Disconnect the hot water hose or open the air bleeder screw mounted in the mixing valve. Take the air screw away completely and open the drain valve by turning the black knob anticlockwise one snap on the safety valve until the heater tank is empty.

The water heater can now be left for winter storage.

The coolant circuit from the main engine is a water/glycol mix and does not need to be drained for winter storage.

Please refer to the respective manuals for further operational instructions.

Tank capacity:

Freshwater tank:	350 litres.
Hot water tank:	30 litres.

CAUTION

Do not let the freshwater pump run dry. This may damage the pump.

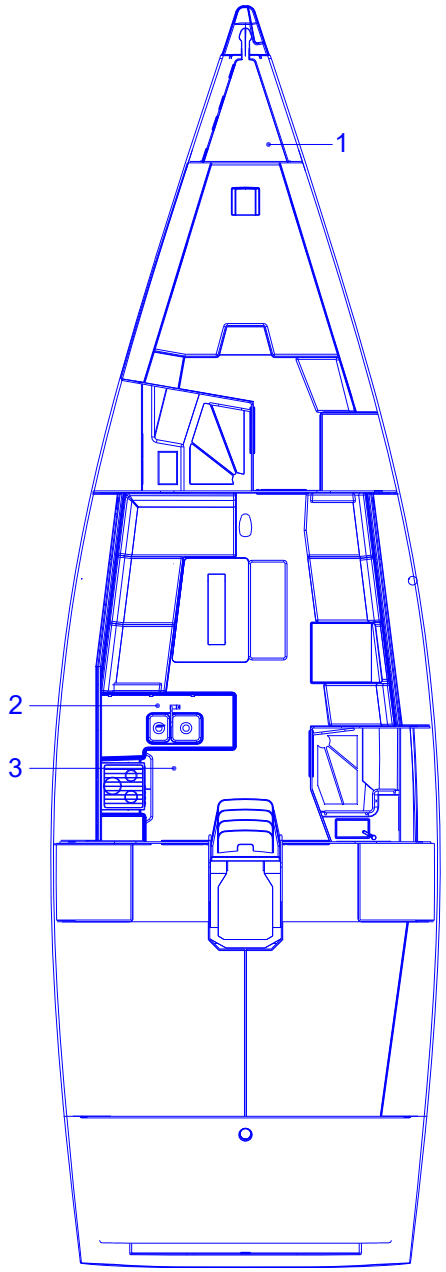
Always ensure that there is sufficient freshwater content for your anticipated usage.

The water heater must not be allowed to run dry whilst in use with shore power. This will damage the heating element.

Do not turn on the electric water-heating element if the freshwater tank is empty.

To prevent corrosion, when connected to shore power, the hot water tank must be disconnected when not in use.

Disconnect by pulling out the plug from the 230V AC socket installed next to the water heater.



Seawater system

1. Deck wash.
2. Seawater tap in galley.
3. Seawater pump.

Seawater system
The seawater system is optional and can be installed as one of the following options:

- Seawater tap in galley.
- Seawater rinse deck system.
- Seawater tap and seawater rinse deck system.

The seawater system, if installed, will always consist of a through-hull skin fitting, a seacock and a seawater pump.

The seawater pump is installed below the floorboard in the saloon next to the freshwater pump and will have a pre-filter installed before the pump.

Easy access to the seawater pump and the filter can be obtained via a lid in the floorboard.

The seawater pump is self-priming and has a pressure demand switch that automatically switches the pump on and off.

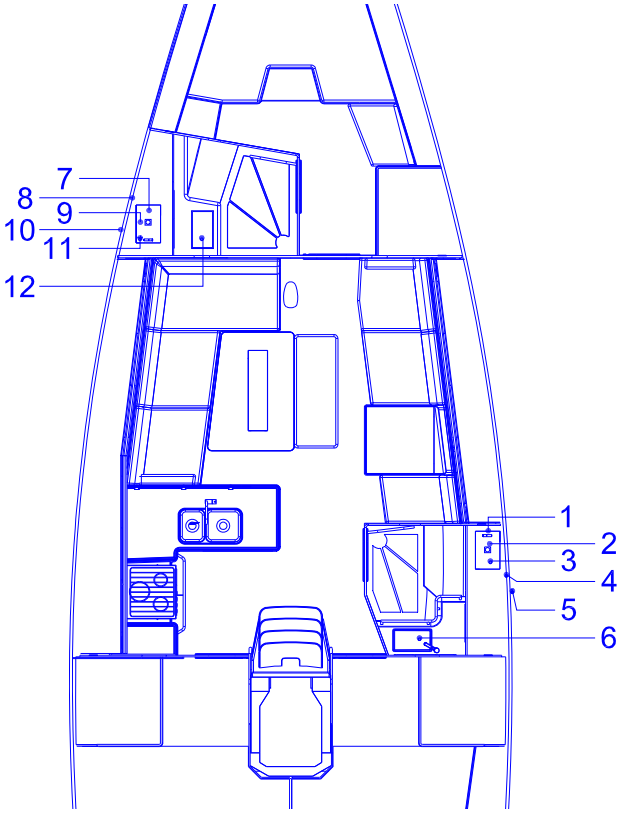
Depending on the system purchased, the seawater is distributed to a tap in the galley and/or to a seawater rinse deck connection located in the bow of the yacht.

Power supply to the seawater pump can be switched on and off on the main el-panel located at the navigation area. The switch is labelled "Seawater pump".

Winterisation:
Open the seawater tap in the galley and/or the seawater nozzle for the rinse deck system, then run the seawater pump for a few seconds after the boat has been hauled for winter storage.

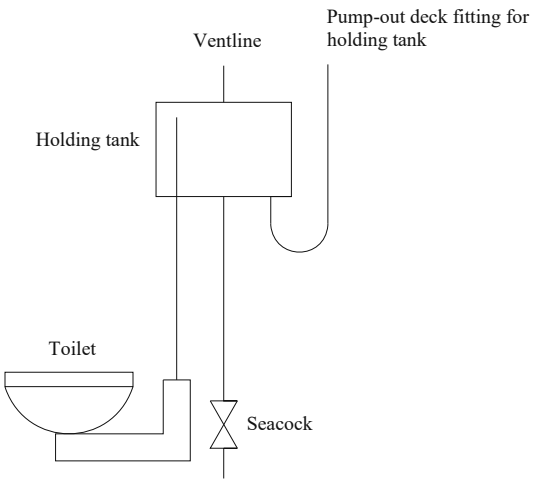
Unscrew the two hoses from the seawater pump and unscrew the cap of the filter. This will allow the seawater to be drained from the pump and the system.

The seawater system can now be left for winter storage.



Holding tank system

1. Ventilation line from holding tank SB aft head.
2. Level gauge holding tank SB aft head.
3. Holding tank SB aft head (55 litres).
4. Pump out deck fitting holding tank SB aft head.
5. Ventilation fitting holding tank SB aft head.
6. Seacock/THF holding tank SB aft head.
7. Holding tank owner's head (55 litres).
8. Pump out deck fitting holding tank owner's head.
9. Level gauge holding tank owner's head.
10. Ventilation fitting holding tank owner's head.
11. Ventilation line from holding tank owner's head.
12. Seacock/THF holding tank owner's head.



Holding tank system
The holding tanks are constructed as self-draining tanks. If the discharge seacock is left open, the respective tank will empty itself directly into the sea.

It is therefore recommended to close the discharge seacock whenever sailing in coastal waters and only to discharge holding tanks at sea according to local regulations or to have the holding tanks emptied via the pump out deck fitting.

A warning light will light up on the monitoring panel of the holding tank when the level inside the tank reaches ¾ full. The monitoring panel is located in the head nearby the toilet.

When sailing in areas where wastewater discharge is prohibited, we recommend that each holding tank discharge seacock is sealed in closed position.

There are two ways of draining out the holding tanks:

1) Through the pump-out deck fitting. The tanks can be drained out using a wastewater vacuum station, which is available in selected harbours.

2) Direct discharge to sea can be carried out by opening the respective discharge seacock, the tank will then drain.

Always empty each holding tank before winter storage.

Capacity of each holding tank:

Holding tank SB aft head	55 litres.
Holding tank owner's head	55 litres.

Adaptor holding tank suction
In case the holding tank suction hose from the shore-based pump out station is too large to fit into the ss deck suction fitting, an adaptor must be fitted.

Simply unscrew the holding tank deck suction lid and extend the chain securing the lid with a thin 1 meter 2 mm line.

Use a screwdriver and remove the chain from the lid. Route the 2 mm line through the adaptor and secure it to the stanchion next to the deck suction fitting. Screw the adaptor onto the deck suction fitting.

Empty the tank with the shore-based pump out station. Unscrew and remove the adaptor and reconnect the chain to the lid and retighten the lid. Clean the adaptor and store it for next use.

Adaptor:

Toilets
The toilets are seawater flushed and are only drained via the respective holding tank.

When sailing, the toilet bowl may be below the heeled waterline and water may siphon backwards into the bowl unless the inlet seawater seacock is closed.

Normal use:

- Open inlet and outlet seacocks.
- Before use, ensure that there is enough water in the bowl to prevent the toilet paper becoming compacted at the bottom of the bowl.

If the bowl is empty, move the flush control lever to the open position and pump the handle up and down until the flushing pump is primed and water enters the bowl.

- Shut the flush control.
- Operate the pump with long, smooth strokes for efficient and easy operation.
- During use, pump as necessary to keep the contents of the bowl low enough for comfort.
- Only use toilet tissue specially designed for sanitation systems including holding tanks, but do not use more than necessary.
- After use, keep the flush control shut and pump until the bowl is empty.
- When the bowl is empty, open the flush control again, and continue to pump until all waste has reached the holding tank.
- Then shut the flush control and pump until the bowl is empty. Always leave the bowl empty to minimize odour and spillage.
- Shut the flush control and twist 'n' lock the handle.
- Shut seawater inlet seacock (and) discharge seacock.

Winterisation:
Before winter haul:

- Flush the toilet and the holding tank in accordance with the operating instructions for normal use and in particular ensure that all waste has left the discharge pipe work, the holding tank and that the bowl is empty.
- Close both seacocks.

After winter haul:

- Be ready to mop up any water that may come out of the system.
- Drain the complete system, both as protection against frost damage and to discourage the growth in the pipe work of anaerobic bacteria that cause unpleasant smells.
- Open any secondary valves.
- Remove the base drain plug on the toilet.
- Disconnect the discharge flange from the pump.
- Loosen hose clips and disconnect the hose ends from both seacock hose tails. Pump the handle to drain the toilet pump and ensure that all water is drained from the toilet system.
- Reconnect all hose ends and secure them with their hose clips.
- Replace the base drain plug securely.

NOTE:
Do not put in: Sanitary towels, wet strength tissues, cotton wool, cigarettes, matches, chewing gum or any solid objects, petrol diesel oil, solvents of any kind or water more than hand warm.

To prevent solids to be built up inside the holding tank and around the level gauge it is recommended to flush the holding tank regularly with biodegradable toilet fluid and only to use toilet tissue specially designed for sanitation systems including holding tanks.

CAUTION

Always close the seawater inlet seacocks to the toilet and the holding tank when underway.

Do NOT use aggressive chemical agents such as acetone or bleach because plastic parts may crack and the enamel coating on the seat and lid may blister.

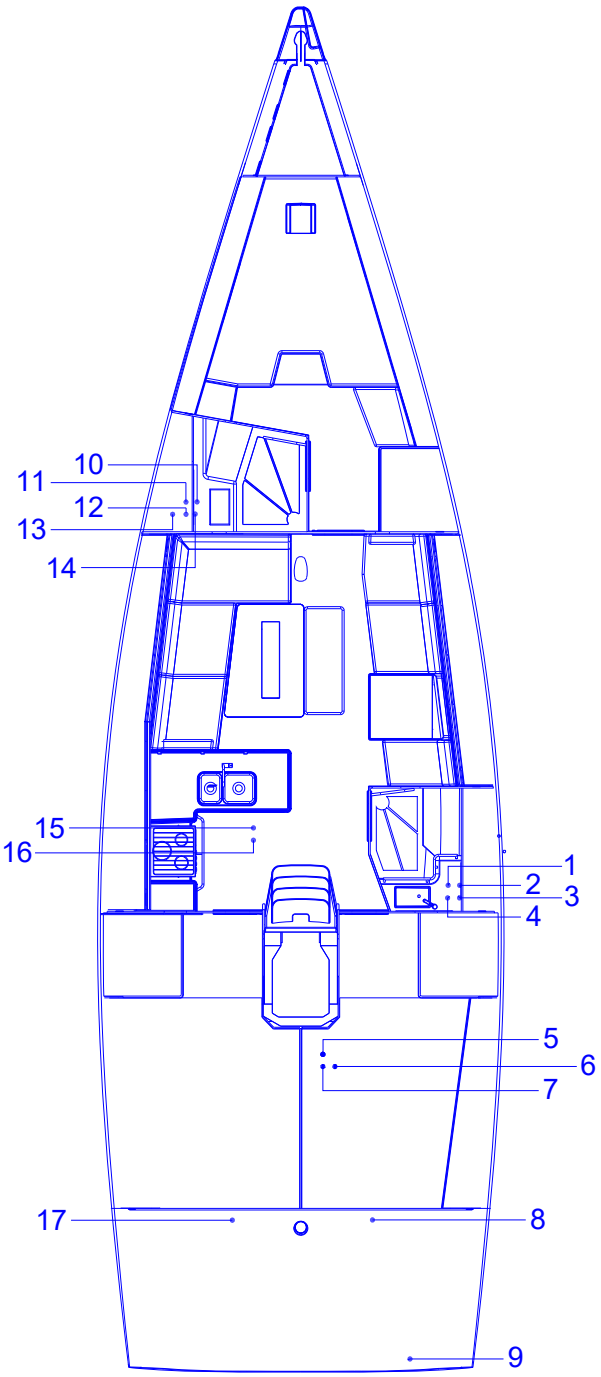
Do not use abrasive pads on any part of the toilet and do not use cream cleaners except for the bowl.

Do not use thick liquid toilet cleaners or neat bleach. They may damage the valves, gaskets, seals and the enamel coating of the seat and lid.

The use of anti-freeze is NOT RECOMMENDED, as it is impossible to ensure that it penetrates the complete toilet system.

Direct discharge of wastewater to the sea must be done in accordance with local and international laws.

Picture shows tank watch alarm panel. The light will illuminate when the tank is approx. ¾ full.



Seacocks and through hull fittings

1. Seawater in toilet SB aft head (1/2”).
2. Sink drain SB aft head (3/4”).
3. Shower sump out SB aft head (3/4”).
4. Holding tank out SB aft head (1½”).
5. Washboard drain (1½”).
6. A/C in (optional 1”)
7. 230V AC generator in (optional 1”).
8. Mainsheet recess/cockpit drain SB (1½”).
9. Main engine exhaust.
10. Seawater in toilet owner’s head (1/2”).
11. Sink drain owner’s head (3/4”).
12. Shower sump out owner’s head (1/2”).
13. A/C seawater out (optional 1/2”).
14. Holding tank out owner’s head (1½”).
15. Sink drain/special Isotherm implant for fridge compressor.
16. Seawater inlet deck wash pump/seawater tap galley (optional (3/4”).
17. Mainsheet recess/cockpit drain PS (1½”).

Seacocks and THF’s
All seacocks fitted are marine brass type.

The through hull fittings have been recessed into the hull in order to make the hull surface below the waterline as smooth as possible.

When you leave the boat, we recommend closing all seacocks not in use (leave drain seacock open). This will minimize the risk of sinking.

The seacocks must be activated/exercised on a regular basis in order to prevent them to get stuck in a fixed position.

When the boat is hauled, we recommend lubricating and exercising each seacock before closing them for the winter.

If a seacock becomes inoperable, the seacock must be replaced immediately.

During time seacocks will suffer from dezincification and it is therefore recommended to examine each seacock every year for any sign of corrosion and dezincification. Replace at least every 10 year or whenever necessary.

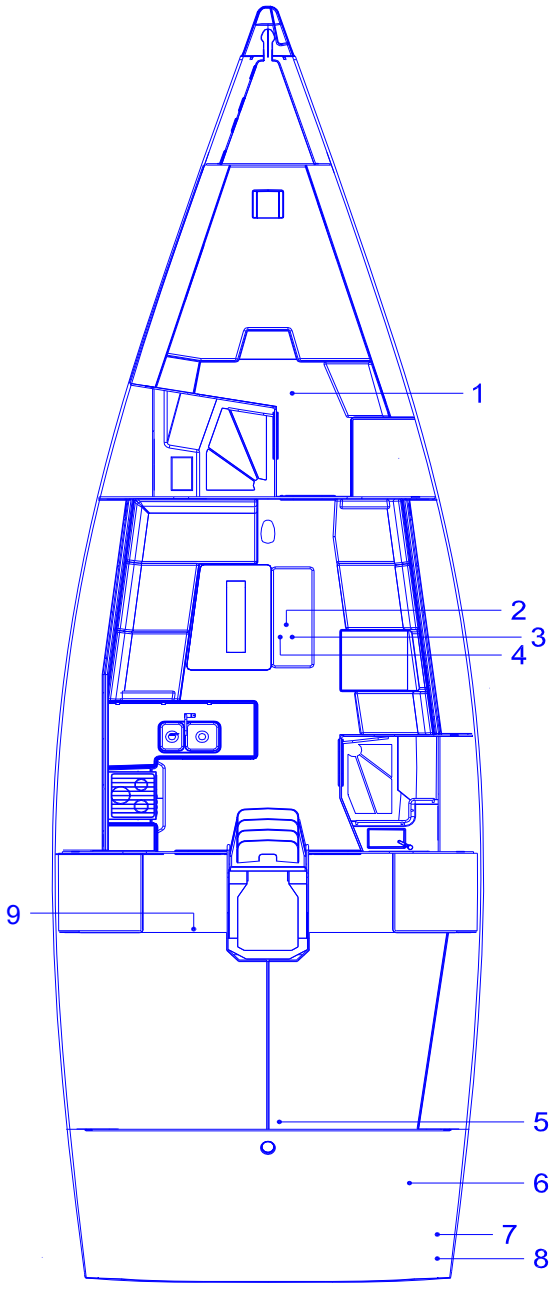
We also recommend keeping a set of assorted wooden plugs for stopping emergency leaks in through hull fittings.

CAUTION

All seacocks must be shut off when not in use to minimise risk of flooding.

CAUTION

All seacocks and through hull fittings must be inspected once a year due to function, corrosion and other defects. X-Yachts recommend exchanging seacocks every 10 years.



Draining system

1. Drain valve from sail cabin. Located below floorboard.
2. Level switch for automatic keel bilge pump.
3. 1" suction hose with strainer for manually operated keel bilge pump.
4. Electrically operated keel sump pump located in sump. A filter and a non-return valve are fitted after the electrical pump.

   IMPORTANT: Remember to clean filter regularly and check that non-return valve is functioning. Clean non-return valve in case water runs back to sump after the pump has stopped.
5. Drain hose from aft compartment to central keel bilge.
6. Manually operated keel bilge pump (located in cockpit coaming).
7. Outlet electrically operated keel bilge pump.
8. Outlet manually operated keel bilge pump.
9. Optional manually operated keel sump pump.

Draining system
The central keel sump is drained through either an automatic operated electric keel sump pump or a manual operated keel sump pump.

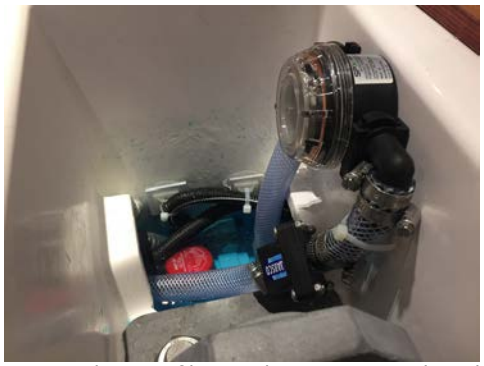
Electrically operated keel sump pump:
The electric keel sump pump is located in the sump.

The electric pump is activated from the nav. station and can be put in fully automatic mode simply by switching on the fuse labelled "Keel sump pump" on the el-panel.

If the water level in the bilge reaches the level switch, the pump will start and empty the bilge. When empty, the pump will stop automatically.

The electric keel sump pump can also be started manually by pressing the "Man." switch on the el-panel.

The electrically operated keel sump pump has "build in" pre filter fitted on the pump itself. Inspect the pump/filter regularly for clogs etc. to ensure maximum efficiency.


Picture showing filter and non-return valve electrical sump pump.

Manually operated keel sump pump:
The manually operated keel sump pump is located in the SB aft side of the cockpit and is operated with the supplied handle.

The manually operated keel sump pump has pre filter fitted on the suction hose in the central keel bilge.

Inspect the pre filter regularly for clogs etc. to ensure maximum efficiency.

Extra manually operated keel sump pump:
The boat can be equipped with an additional manually operated keel sump pump as an option.

This pump is located inside the boat in the PS aft cabin and has a loose suction hose fitted to the pump. The suction hose is coiled up below the bunk and can be brought to any position inside the saloon/aft cabin where water has been accumulated.

Pumping capacities:

- Electric keel sump pump: 32 l/ min.
- Manual keel sump pump: 50 l/min. at 45 strokes.
- Optional extra manual keel sump pump: 50 l/min. at 45 strokes.

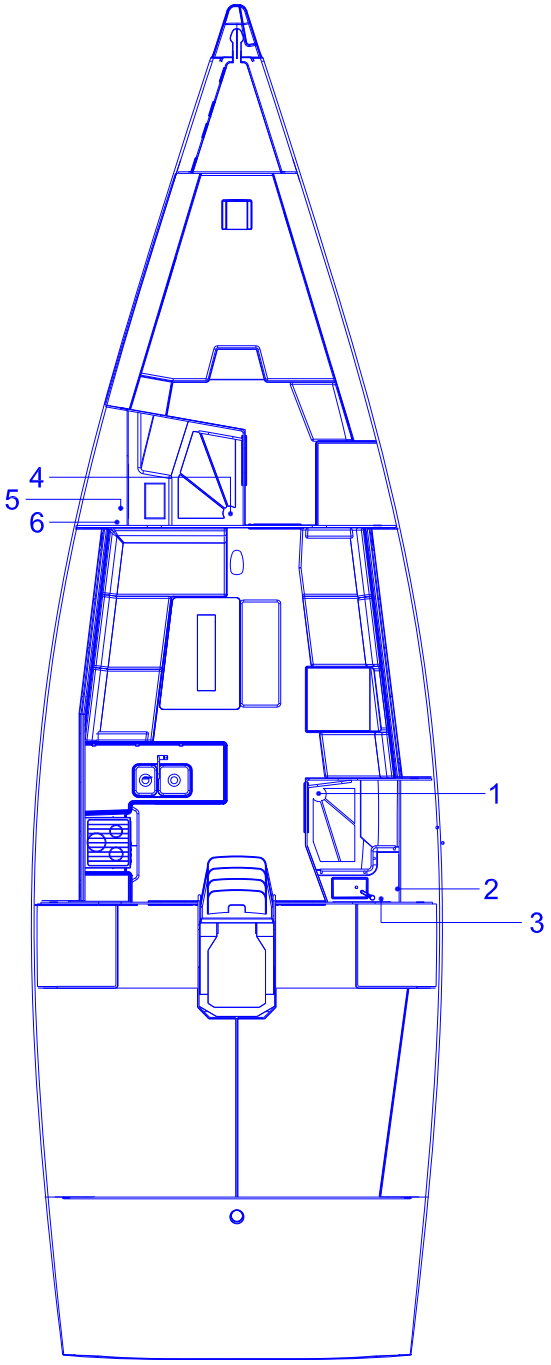
NOTE
When leaving the boat unattended, always make sure that the switch/fuse labelled "Keel sump pump" is activated on the electrical panel.

The main switch does not have to be switched on in order to power up the keel sump pump.

WARNING
SAFETY PRECAUTION – Check the function of all pumps at regular intervals.

Clean pump inlets of debris.
Clean filter for sump pump and check function of non-return valve regularly.

WARNING
The combined capacity of the system is not intended to drain the craft in case of hull damage. A collision mat may be a suitable means of achieving such a goal. Keep collision mat ready for use in a readily accessible location and practice its application.



Shower sump system

1. Shower sump SB aft shower.
2. Seacock and THF shower sump pump SB aft shower.
3. Shower sump pump SB aft shower.
4. Shower sump owner's shower.
5. Seacock and THF shower sump pump owner's shower.
6. Shower sump pump owner's shower.

Shower sump system
The shower sumps are drained overboard via shower sump pumps. Each pump is activated manually by a push button located in each head. Before each pump is activated, the respective seacock must be in the open position.

It is recommended always to close each shower drain seacock to avoid back siphoning when underway.

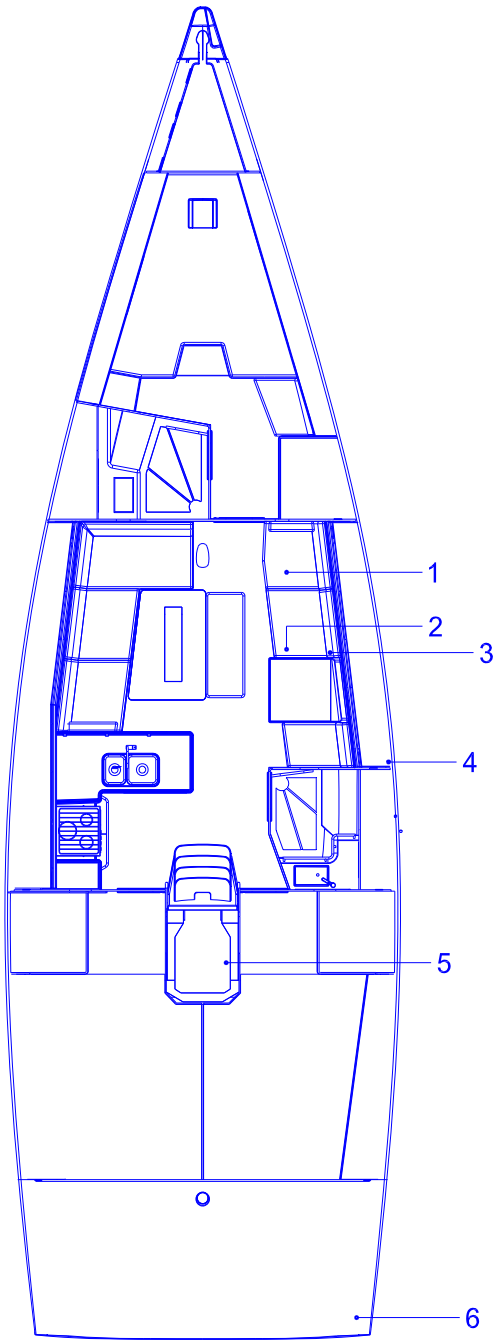
Each shower sump pump is located below the sink basin in each head and is equipped with pre-filter.

Regularly clean filter and keep shower bilge clean.

Power supply to the shower sump pumps can be switched on and off on the el-panel in the navigation area. The switch is labelled "Shower sump pumps".

CAUTION
The through hull seacock for the shower sump pump must be opened before operating the pump. Pumping against a closed seacock may damage the pump.

Picture shows push button for shower sump pump located next to alarm panel for holding tank level.



Fuel system

1. Fuel tank located below SB berth saloon (200 litres).
2. Manifold fuel tank, shut off valves and level gauge.
3. Fill hose and vent line connections to fuel tank.
4. Deck fill cap fuel tank.
5. Fuel filter/water separator main engine.
6. Vent line from fuel tank to pushpit.

Fuel system
The boat is equipped with one common fuel tank with a capacity of 200 litres.

The tank is located below the SB sofa in the saloon and has deck fill connection, breather connections as well as manifold with fuel supply and return lines for main engine and optional generator and heater.

The tank is also equipped with a level gauge. The reading can be monitored at the analogue meter on the el-panel.

The fuel supply and return lines have shut off valves installed, which means that the fuel supply to each consumer can be shut off in emergency cases or if service is carried out.

Deck fill connection cap is located SB approximately amidships, and the tank is ventilated to the SB aft pushpit via a vent and a vent return line.

Note:
Due to the shape of the fuel tank the reading on the analogue meter won't be 100% precise, we recommend therefore the user always to keep a watch with the fuel consumption and engine running hours in order not to run out of fuel when underway.

Fuel quality:
The main engine fitted to your craft uses diesel fuel, which is stored in the fuel tank.

The diesel fuel should comply with the following specifications:

DIESEL FUEL SPECIFICATION	LOCATION
No. 2-D, No. 1-D, ASTM D975	USA
EN590:96	European Union
ISO 8217 DMX	International
BS 2869-A1 or A2	United Kingdom
JIS K2204 Grade No. 2	Japan

Biodiesel Fuels
Yanmar approves the use of biodiesel fuels that do not exceed a blend of 5% non-mineral oil-based fuel with 95% standard diesel fuel. Such diesel fuels are known as B5 biodiesel fuels.

NOTICE: *If the B5 biodiesel fuel used does not meet the approved specifications, it will cause abnormal wear of injectors, reduce the life of the engine and it may affect the warranty coverage of your engine.*

B5 diesel fuels must meet certain specifications.
The biodiesel fuels must meet the minimum specifications for the country in which they are used:

• In Europe, biodiesel fuels must comply with the European Standard EN14214.

• In the United States, biodiesel fuels must comply with the American Standard ASTMD-6751.

Biodiesel should be purchased only from recognized and authorized diesel fuel suppliers.

Renewable/alternative fuels: GTL/HVO/BTL fuels
Yanmar permit the use of GTL/HVO/BTL fuels in accordance with EN590 or EN15940.

However, some warranty issues must be known. We therefore urge the user to read the enclosed Yanmar bulletin before renewable/alternative fuels are used.

The bulletin can be found in the appendix section of this manual.

Bunkering fuel:
When bunkering fuel, close all windows, hatches etc. adjacent to the deck fill to prevent ingress of fumes into the accommodation.

Locate the vent opening in the SB aft pushpit and protect the environment from diesel due to overfilling by adding a rag underneath the vent opening.

Clean the area around the fuel cap and add plenty of water to the teak area adjacent to the cap and ventilation opening to protect the teak.

Avoid overfilling and fill slowly to avoid splashing (not more than 30 l/min).

Keep an eye on the actual fuel level gauge when filling fuel tanks. Fill slowly when the tank is almost full. Stop fuelling when the level gauge shows the tank is full.

After filling, close the deck fill cap tight to prevent water from entering the tank. Wash off any spilt fuel immediately with detergent and running water.

Fuel filters/water separators
The main engine fuel supply line contains two fuel filters/water separators; the one fitted on the main engine itself and an additional fuel filter/water separator installed by the yard.

The additional fuel filter/water separator is installed inside the engine room on the SB side.

Access to the filter can be achieved by removing the engine GRP cover box in the SB aft cabin.

The engine manufacture fuel filter is located on the SB side of the main engine and can also be accessed from the SB aft cabin or from the front side of the main engine by removing the companionway steps.

Drain both fuel filter/water separator every 50 hours or monthly from water. Always place a suitable container below the filters to catch the fuel/water drained. Replace the fuel filter elements for every 250 engine hours.

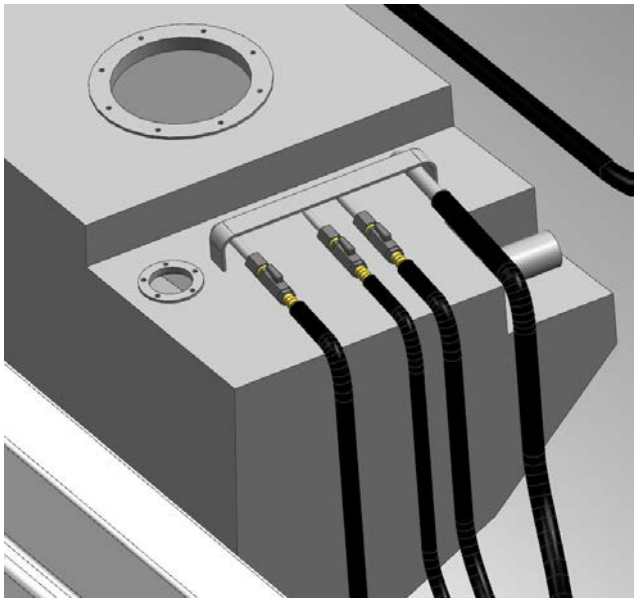
Always be environmentally responsible. Dispose the collected fuel and water/dirt properly.

DANGER
In case of fire, shut off all valves on the fuel tanks.

Do not smoke when bunkering fuel and do not bunker near naked fire or with engine running.

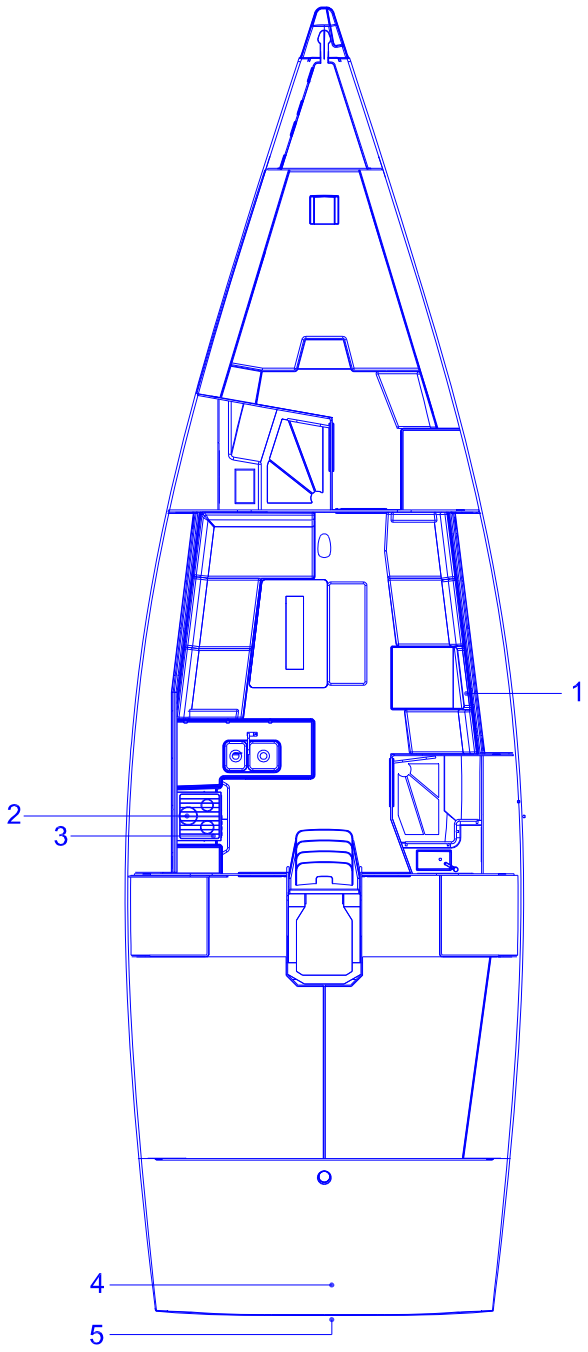
Never store fuel or oil inside the engine room compartment.

CAUTION
Read and follow manufacturer's instructions regarding operation, safety precautions, maintenance, warranty etc. for main engine (and generator or heater if installed).



Picture shows manifold on fuel tank with connection and shut off valves for main engine (feed and return), optional 230V AC generator (feed and return), optional feed line for heater and ventilation return line.

Inboard of manifold the level gauge is fitted.



Gas system

1. Gas detector panel/gas switch panel (optional).
2. Cooking unit with oven.
3. Flexible hose attachment to cooking unit and manual shut off valve.
4. Gas cylinder box located in aft storage compartment to accommodate two 2 kg gas cylinders (butane, propane mix) ADR class 2.2 UN 1965, pressure reduction unit, manometer and optional electrical shut off valve.
5. Drain from gas box.

Gas system
The boat is as standard equipped with a 2 kg gas cylinder located and safety secured in the gas cylinder locker. The locker is located in the aft storage compartment and access is obtained via the PS aft locker.

The locker is as maximum capable of storing 2x2 kg gas cylinders.

The gas cylinder is fitted with a 30mbar pressure regulator, manometer, adjusting knob and low-pressure gauge.

The gas cylinder locker is drained overboard via a through hull fitting in the transom in case any gas is accumulated inside the gas cylinder locker.

A shut off valve is located below the oven. We recommend always shutting off the valve when the oven is not in use.

Operating the gas system:

- Ensure that appliances are shut off when applying pressure to the system.
- Turn the adjusting knob all the way clockwise until the pressure gauge reads approximately 30mbar. You now have a pressurized and ready gas system.
- After use, turn the adjusting knob all the way counterclockwise.

Always close the adjusting knob on the cylinder when replacing gas cylinders.

Never leave appliances burning unattended. Do not obstruct access to gas system components in any way. Always use CE approved cylinders and components.

Keep valves and empty cylinders closed and disconnected. Keep protective covers, caps or plugs in place. Empty cylinders must be stored in a gas box or on open deck. Do not use gas box for storage of any other equipment.

Regularly test the gas system for leaks. Shut off the appliance valve and apply pressure. Then check for leaks either using a leak testing device (extra) or soapy water on hoses, connections and piping.

Specification:

Gas type:	The gas system is designed for use of a butane, propane mix. ADR class 2.2F, UN 1965 gas only (blue cylinders).
Operating temp.:	The ambient operating temperature of the system is -10 to 40ºC.
Working pressure:	The working pressure of the appliances is 30 mbar.
Capacity:	The capacity of the pressure reduction system is max. 1.5 kg/h.

We recommend that the gas system is pressure tested by a professional once a year. The test pressure should be five times the working pressure, i.e. 150 mbar.

Testing the gas system for leaks:
A daily test can be carried out by following these instructions:

- With appliance valves closed, open cylinder valve (turn the adjusting knob clockwise).
- Close cylinder valve (turn the adjusting knob counterclockwise).
- Allow indicated gauge pressure to stabilize.
- Observe pressure on gauge for 3 minutes.
- If pressure remains constant, no leak is present. If pressure falls, a leak exists. Do not use LPG system until leak is repaired.

DANGER
Avoid asphyxiation. Provide ventilation through windows and hatches in the cabin when the cooking unit is in use.

Do not use for space heating.

In case of a gas leak or when replacing gas cylinder(s), ensure that cigarettes and naked flames etc. are extinguished immediately and all electrical systems are switched off.

Never use flame to check for leaks.

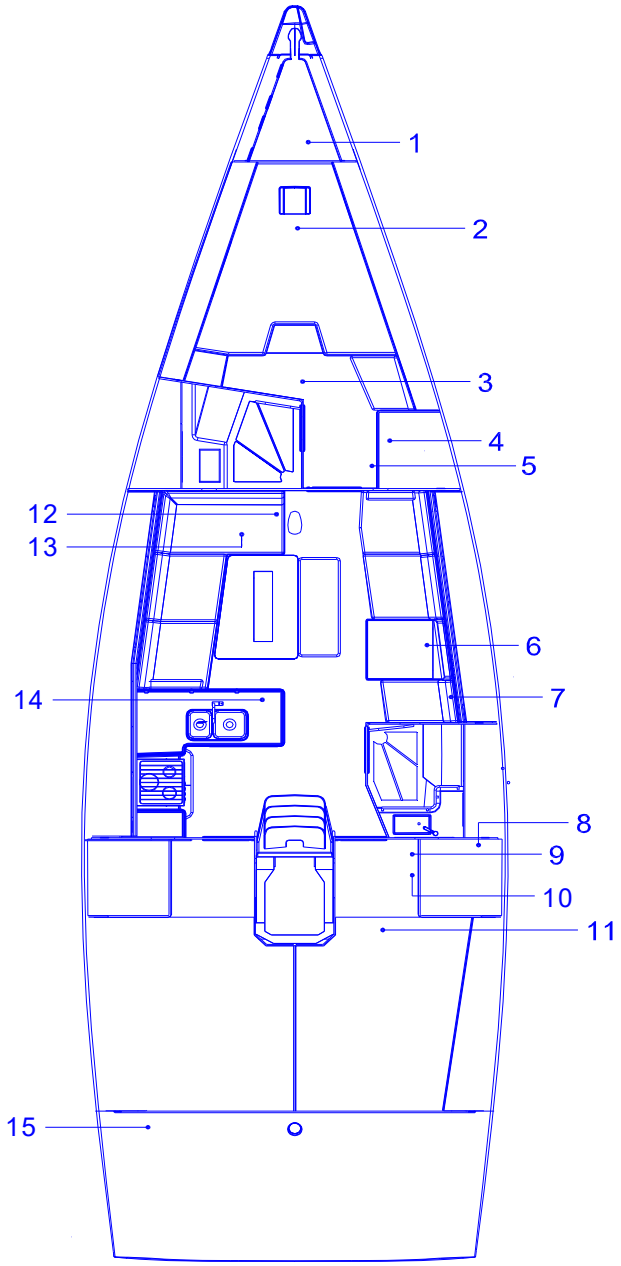
WARNING
If a gas leak is suspected, the following precautions must be taken:

- Turn off the gas supply.
- Disconnect the gas cylinder(s).
- Open all hatches and port lights to ensure maximum air circulation and operate manual bilge pump.
- Employ a qualified plumber to undertake repairs.

CAUTION
Do not use solutions containing ammonia on the gas piping and appliances.

Ageing of the gas sensor
The gas sensor ages when it is used for measuring. The extent of the ageing is monitored by the gas detector. After about 2 year's continuous use, the sensor is aged, and the gas detector will give a warning. The LED of the corresponding sensor on the panel will flash red and the red LED on the particular sensor will also come on. The buzzer will also give the attention signal. A sensor that has aged must be replaced.

Replacement sensors can be purchased via X-Yachts, please contact aftersales.



Electrical installations

1. Anchor windlass.
2. Bowthruster (optional).
3. Speed and depth sensors.
4. Service battery bank standard 220Ah @ 12V, optionally 330Ah @ 12V.
5. Main automatic fuse panel.
6. Chart table with space for electronics.
7. 12V el-panel and main distribution box.
8. Electronic black boxes.
9. Main switches main engine and optional 230V AC generator.
10. 230V AC main distribution panel.
11. 12V start battery main engine.
12. Mast connection boxes.
13. Battery charger or optional combi.
14. Compressor fridge.
15. 230V shore power inlet box with fuse and optional RCD relay when combi is installed.

General Information
The electrical system on board consists of a fully insulated 12 DC system and a 230V AC system.

It is recommended to have an educated marine electrician to carry out repair or work on the system. Ensure that all work carried out afterwards is in correspondence with the relevant ISO regulations e.g. 10133 (DC installations) and 13297 (AC installations).

Never work on a DC system with energised parts due to fire or explosion hazards.

Never work on an AC system with energised parts due to risk of electrical shock.

Always use each system according to the intended use.

Special attention shall be obtained to avoid short circuits when disconnecting batteries. Always insulate battery cable terminals and battery cable wires if a battery must be disconnected or replaced.

DC System build-up
The following specification has been made as a general description for the electrical system on board. Thus, the description does not describe all technical details. As regards troubleshooting, changes or additional information we refer to the electrical diagrams and manuals.

The electrical system on board consists of a 12V service battery bank with a standard capacity of 220Ah.

The batteries are GEL type and do not require maintenance.

The battery bank is located securely in the lower part of the SB wardrobe in owner's cabin.

Double pole main switch DC electrical system
A double pole main switch for the entire electrical system (ex. keel bilge pump, optional Eberspächer heater, solar charge system and alarm system) is located at the chart table.

This switch switches OFF both the positive and the negative power supply from the service battery bank.

When switched OFF, the battery charger/combi **will not** charge the service battery bank if the boat is connected to shore power and charger/combi is ON. In this case the charger/combi will power supply the DC installation as the only power source.

This situation should be avoided; hence it will generate a "floating" voltage reading of the battery monitor display, generating false voltage reading of the start battery and an alarm on the battery monitor display.

The double pole switch shall only be used to switch OFF the system in case the boat is left unattended for longer periods without the need for recharging the battery bank (combi or charger OFF).

Main el-panel 12V DC
The El-panel is fitted in the upper cabinet in the navigation area.

From this panel all 12V components can be switched on and off. The panel consists of 27 switches/automatic fuses, keel sump pump control switch, analogue battery voltmeter and analogue meters for displaying water and fuel level of each tank.

Behind the el-panel all cables have been terminated in dedicated terminals or relays in a "dry" GRP box.

Each electrical component cable, terminal or relays have been labelled with an ID number/code in correspondence with the electrical schematic found as a separate document in this owner's manual.

Main fuses
The main automatic fuses for the DC system are located in the lower part of the SB wardrobe in owner's cabin, and consist of 5 automatic fuses for the following consumers:

- El-panel (100A fuse).
- SB electrical winches (150A fuse).
- PS electrical winches (150A fuse).
- Anchor winch positive (150A).
- Anchor winch negative (150A).

NOTE:
When the boat is left unattended for several days, all fuses in this panel must be switched off.

The two fuses for the anchor winch must be switched off when underway.

The following additional standard main fuses are located inside the SB wardrobe in owner's cabin.

- Bow thrusters, 200A fuse (optional).
- Septor, 80A fuse.
- Battery charger, 63A fuse.
- 12V DIR+ (35A fuse).

Battery banks:
The service battery bank consists as standard of 2 GEL batteries and has a total capacity of 220Ah@12V.

The battery bank can be upgraded with an additional battery, which upgrades the battery bank to a maximum total capacity of 12V @ 330Ah.

The service battery bank is maintenance free.

The battery bank is charged via the shore power connected battery charger (12V/50A) or via the standard alternator fitted on the main engine.

The start battery is fitted below the berth in the SB aft cabin and is a special GEL cranking battery. The capacity of the start battery is 70Ah@12V, and the battery has a CCA (cold cranking amps) of 760A amperes. The battery is maintenance free.

Main switches for both positive and negative conductor of start battery are located in the front side of the berth in the SB aft cabin.

The start battery is charged via the shore power connected battery charger or via the standard alternator fitted on the main engine and/or the optional 230V AC generator.

CAUTION
In order to obtain maximum lifetime of your battery bank it's recommended not to cycle the battery bank to a level below 50% (12,06V/24,12V) of the total capacity.

Never discharge the battery bank to a level lower than 80% (11,58/23,16V) of the total capacity. This may damage the battery bank.

Always recharge the battery bank as soon as possible after a discharge.

Always make sure that the battery bank is fully recharged when the boat is left unattended for longer periods. Always replace a Li-Ion/GEL/GEL battery bank with the same type of batteries when replaced.

CAUTION
If the yacht is equipped with a combi (combined charger and inverter) it's necessary to make sure that the inverter function is switched OFF when the boat is connected to shore power.

Otherwise the combi automatically switches from charger mode and back to inverter mode if the shore power supply is switched off.

This can drain the battery bank completely within a few days and hence destroy the battery bank.

The inverter function can be switched OFF via the remote control panel. In case any doubt, please consult X-Yachts or your local dealer.

Keel sump pump
The keel sump pump can be operated in both automatic as well as in manual mode.

Automatically operated keel sump pump:
In automatic mode the keel sump pump will start automatically when high water level is detected in the sump. The pump will run with a short time delay after minimum level has been reached.

The keel sump pump is simply put into automatic mode by switching the fuse/switch labelled "Keel sump pump" on the electrical panel to ON.

To operate the keel sump pump in manual mode simply press the toggle switch "Keel sump pump" in the electrical panel towards "Man".

SmartShunt
The SmartShunt is an all-in-one battery monitor, only without a display.

The SmartShunt monitors the service battery bank.

Your phone acts as the display as soon as you have downloaded the "VictronConnect" app from the app store:

The SmartShunt connects via Bluetooth to the VictronConnect App on your phone (or tablet) and you can conveniently read out all monitored parameters from the service battery bank like state of charge, time to go, historical data and much more.

230V AC system
The 230V AC system consists of a 25-meter shore power cable located in the PS aft storage room, a 10 Amp main shore power circuit breaker, a galvanic isolator (optional) and a 230V distribution panel located in the SB aft cabin.

The 10 Amp main circuit breaker and the optional galvanic isolator are located in the PS aft locker and protect the cable from the shore power intake to the 230V AC distribution panel from an over current or a short circuit.

The 230V distribution panel consists of combined RCD relay/automatic main circuit breakers for the hot water tank, the 230V sockets and the battery charger.

The boat is as standard fitted with one 230V AC socket, fitted in the front of the 230V AC distribution panel and a 230V AC socket fitted at the navigation table.

Optional sockets can be fitted in the galley section, in owner's cabin and in the PS aft cabin.

Charger/optional Combi
Charger:
The boat is as standard equipped with a 12V/50A battery charger which is located in the L sofa PS.

The charger is switched on and off at the 230V AC distribution panel.

The battery charger charges both the service battery bank as well as the start battery (via the septor).

Combi:
The charger can be upgraded to a Combi 12/1200-60. The combi is controlled via a remote control panel (ICC panel) which is fitted at the navigation area.

When the combi is installed all 230V sockets are power supplied from the combi.

The combi also has its own earth plate for safety protection against shock hazards. Never disconnect the PE ground wire from the combi to the earth plate. To avoid stray current corrosion, a galvanic isolator is installed together with a combi.

Stray current control box
Inside the el-panel a simple, but reliable stray current control box has been fitted.

The purpose of this box is to determine if all equipment fitted to the mast and the pull-/ and push pits are fully insulated and that no stray current is present.

The following procedure must be carried out in order to test for stray current:

- Disconnect both positive and negative main switches to main engine.
- Switch on the power supply for the stray current control box by switching on the fuse labelled "Isolation test" on the el-panel.
- The two lamps on the test box will now light up dimmed and equally.
- Test for stray current by pressing the toggle switch and watch the two lamps.
- If no failure is present, you will hardly see any change in the light intensity of the two lamps.
- If one lamp dims and the other lights up you will either have a negative or positive failure.

A negative failure may be caused by a not fully insulated area or less commonly a chafed cable where the negative core is exposed to the mast or a push-/ or pulpit.

A positive failure may be caused by a chafed cable.

A small change in the light intensity may indicate that a connection is exposed to humidity.

No matter what type of failure is present, it is highly recommended to trace down and solve the problem.

Ahead of delivery all yachts have passed this test.

WARNING

To minimise shock and fire hazards:

- Turn off craft's shore power connection switch before connecting or disconnecting shore power cable.
- Connect shore power cable to craft inlet before connecting to shore power source.
- Disconnect shore power cable at shore source first.
- Do not allow shore power cable to hang in the water.
- Never work on the electrical installation while the system is energised.
- Never alter or modify the rated current amperage of over current protective devices.
- Never install or replace electrical appliances or devices with components exceeding the rated current amperage of the circuit.

CAUTION

All main switches should be shut off when the boat is left unattended. This does not cause the sump bilge pump to be switched off as the pump is connected directly to the 12V supply.

The 220V socket from the hot water boiler in the engine room shall be removed from the socket if water is not supposed to be heated by 220V supply to prevent galvanic corrosion (Ref. Water heater manual).

Only qualified marine electricians are allowed to modify the electrical installation, relevant drawings and diagrams.

WARNING

All antennas and electric equipment mounted on mast must be fully insulated from mast to prevent stray current corrosion.

Supersail alarm

In case your boat is equipped with an alarm system, the system needs to be activated.

To activate the alarm, the following steps must be performed:

Download SuperSail mobile app* for your cell phone via GooglePlay (Android) or AppStore (iPhone).

Send an e-mail to Supersail: info@super-sail.dk with the following information:

- Full name
- Address
- E-mail address

SuperSail will create your account and send an email with the alarm information.

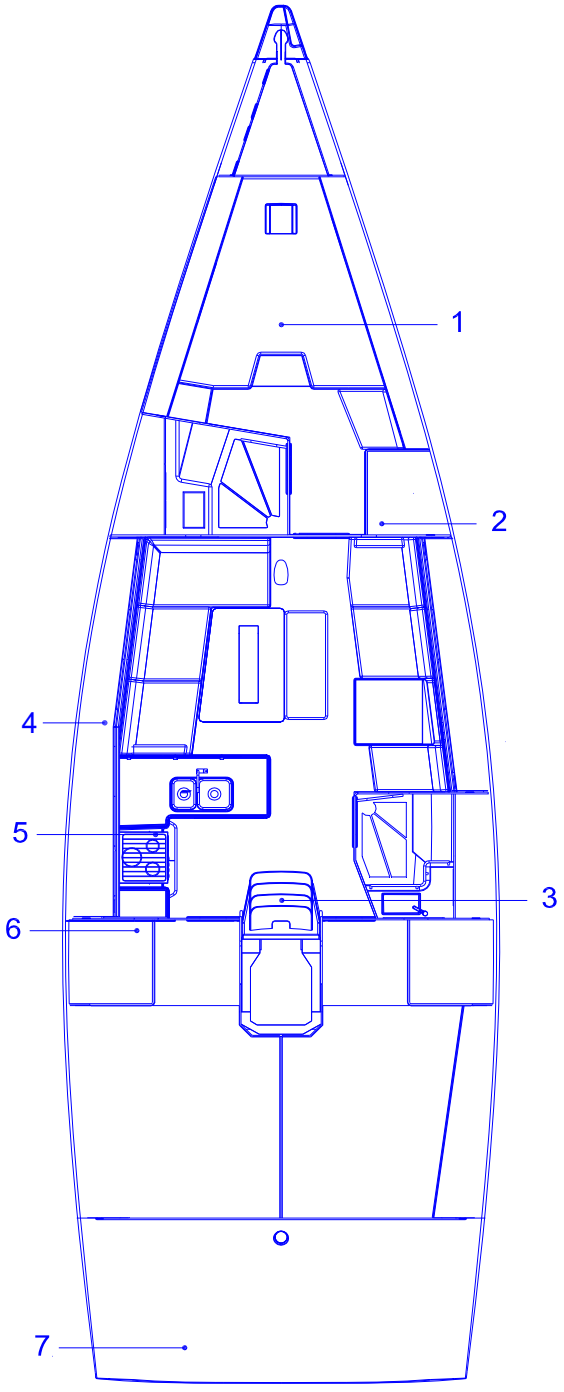
After login the system can be activated.

*

All SuperSail units are controlled and operated via the SuperSail mobile app. Find it in the AppStore (iPhone) or Google Play (Android) by searching for "SuperSail" under mobile apps.

Install the app on your mobile phone.

Find User's Manual for the SuperSail system and app by visiting SuperSail's website: www.super-sail.dk/support.



Fire-extinguishing system

This craft, when in service, shall be equipped with portable fire extinguishers of the following extinguishing capacities and in the following locations:

1. Escape hatch owner's cabin.
2. Fire extinguisher 2 kg dry chemical 13A89B located in SB closet in owner's cabin.
3. Fire port engine room.
4. Fire extinguisher 2 kg dry chemical 13A89B with hose for discharging through fire port to engine room. Located behind backrest sofa PS.
5. Fire blanket located in the cabinet below the stove (optional).
6. Fire extinguisher 2 kg dry chemical 13A89B located in closet in the PS aft cabin.
7. Fire extinguisher 2 kg dry chemical 13A89B located in the PS aft cockpit locker.

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

- Have firefighting equipment checked at intervals indicated on the equipment.
- Replace firefighting equipment, if expired or discharged, with devices of identical or greater firefighting capacity.
- Inform members of the crew about the location and operation of firefighting equipment and the location of escape hatches.
- Ensure that firefighting equipment is readily accessible when the craft is occupied.

The boat owner/operator shall provide at least one bucket, with a lanyard attached, stowed in a readily accessible position for the protection of the deck.

Keep the bilges clean and check for fuel and gas vapours at regular intervals.

When replacing parts of the firefighting installation, only matching components shall be used, bearing the same designation or being equivalent in their technical and fire-resistant capabilities.

Do not fit free hanging curtains or other fabrics in the vicinity of or above cookers or other open flame devices. Combustible material shall not be stowed in the engine space.

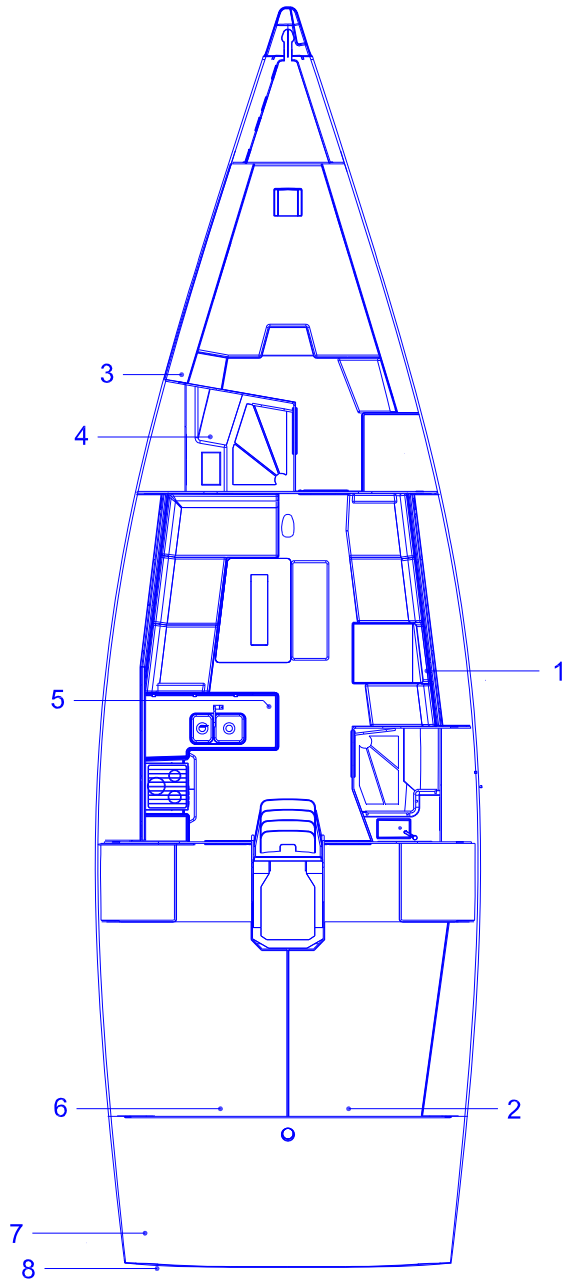
If non-combustible materials are stowed in the engine space, they shall be secured against falling into machinery and shall cause no obstruction to access in or from the space.

Exits other than the main companionway, doors or hatches with permanently fixed ladder are identified by a symbol.

WARNING

Never

- Obstruct passageways to exits and hatches.
- Obstruct safety controls, e.g. fuel valves, gas valves, switches for the electrical system.
- Obstruct portable fire extinguishers stowed in lockers.
- Leave the craft unattended when cooking and/or heating appliances are in use.
- Use gas lights in the craft.
- Modify any of the craft's systems (especially electrical, fuel and gas) or allow unqualified personnel to modify any of the craft's systems.
- Fill any fuel tank or replace gas bottles when machinery is running or when cooking or heating appliances are in use.
- Smoke while handling fuel or gas.



Heating system (Optional)

Heating system
The heating system consists of a central heater unit (Eberspächer D5) and the following 5 air outlets:

1. Control panel at chart table.
2. Ø60mm closable outlet in SB aft cabin.
3. Ø60mm closable outlet in owner's cabin.
4. Ø60mm closable outlet in owner's head.
5. Ø90mm outlet in saloon (non-closable).
6. Ø60mm closable outlet in PS aft cabin.
7. Heater located in aft storage room.
8. Exhaust through transom.

All 60 mm outlets are closable; the 90 mm outlet is always open.

Operating instructions
The heater is operated via the mini control panel located at the chart table.

Start heater - heating mode:
Use the "heater" button to start the heater in heating mode (continuous operation). You can adjust the required temperature with the control knob. If the heater is in heating mode, the red LED lights up as a check.

Start heater – ventilation mode:
Use the "fan" button to start the heater in ventilation mode (continuous operation). The temperature control knob has no function in ventilation mode. When the heater is in ventilation mode, the blue LED lights up as a check.

Switch off heater:
Use the "Off" button to switch off the heater. Heater or ventilation mode is terminated and the corresponding LED goes out.

Heating mode is terminated with after run in order to allow the heater to cool down.

Fuel supply system
The heater uses standard fuel. The fuel line has shut-off valve installed at the pick-up line from the fuel tank, fuel filter and separate fuel pump.

Regularly check the filter for clogs and water and replace if necessary.

Please refer to separate manual for detailed maintenance and operating instruction.

CAUTION

Please note that the oil heater inside the PS aft storage room gets hot when in use so never let clothing or other flammable materials contact the surface or area around the heater unit when in use.

In particular fuel canisters, oil cans, spray cans, gas cartridges, fire extinguishers, cleaning rags, items of clothing; paper etc. must not be stored next to the heater.

DANGER

Before working on the heater, switch the heater off and let all hot parts cool down

CAUTION

When sailing in heavy seaway and other conditions where the boat may broach, it is recommended to protect water entering the heater exhaust system by plugging in a rubber plug in the exhaust fitting on the transom.

Please be aware that the heater must be stopped before this is done and that the plug must be removed before the heater is started again.

Please also note that the heater runs on a direct positive power supply and therefore MUST be switched off on the heater control panel itself (switching off the main breaker is not enough).

Also be aware that the stainless steel fitting must be cold before the plug is inserted.

A rubber plug can be purchased via X-Yachts.

GENERAL MAINTENANCE

Hull and deck

General maintenance

The general maintenance of the gel coated surfaces on the boat corresponds to the care that you would normally give your car. We do, however, recommend using maritime detergent and waxing products.

We recommend that a qualified marine electrician check the electrical system every second year.

All screw terminals must be tightened, and all relays must be checked. If the screw terminals or the contact functions in the relays are corroded or burned, they must be changed.

All the NORPOL® products, mentioned below, are manufactured by JOTUN POLYMER and should be available at your local boat equipment dealer.

Cleaning

Periodic cleaning with soft detergents is necessary to remove normal dirt. This dirt will have been caused by regular use together with environmental pollution sources like carbon, smog etc. Regular washing - when necessary - will avoid the building up of dirt and discolouration. To maintain the sparkling finish of the boat, it is important often to wash down the deck and hull with plenty of freshwater and some boat shampoo to remove salt and grime from the surface. The boat should be applied with UV-protective wax treatment at least three times per season.

CAUTION

Do not use caustic and very alkaline detergents or detergents containing chlorine or ammonium chloride on the gel coat, as this will cause the surface to fade.

Waxing

As gel coat will start losing its brilliance by constant exposure to the natural environment and pollution sources, it would demand a particular effort to regain the original brilliance and colour. The gel coat surfaces need regular maintenance. The dark colours especially often need cleaning and waxing.

Wash the exterior gel coat surfaces of your boat several times each season using a mild detergent and a lot of freshwater in order to remove salt and dirt.

When dry, use a good quality wax for protection against UV rays. We normally use International polish with Teflon and wax sealer with Teflon. The treatment must be repeated when water does not "pearl" on the surface, sometimes after 2 months in the sun.

If the surface has been badly affected from wind and weather, cleaning and treatment with wax certainly will not re-establish the finish to your satisfaction, and therefore a polish would be necessary.

WARNING

Use care in waxing to ensure walkways are not made dangerously slippery.

Polish

Use NORPOL® R10 grind and polish paste to remove scratches, discolouration or other seriously damaged surfaces. NORPOL® R10 grind and polish paste can be applied either manually or mechanically. After the weather-beaten surface has been removed, it must be waxed in order to reinforce the brilliance and colour, and at the same time sealing the surface hence delaying discolouration or new dirt accumulation.

Removal of discolouring

Discolouring of the gel coated fibreglass surface may occur if regular washing and waxing has been neglected. Discoloured areas are really just in the surface. They can be removed easily with soft wet grinding in the affected areas with 800-1,200 grade wet grinding paper for removal of the slight blemishes. Always grind in one direction only. All areas, including curves, must be grinded in the same direction. Use plenty of water. After the grinding, the areas must dry, and one must make sure that all the discolouring has been removed. If not, the procedure must be repeated. Subsequently, the gel coat surface must be polished with NORPOL® R10 by hand or machine.

For machine polish one must use a machine with approx. 2,000 rpm. to recreate the brilliance on the grinded surface. Use a soft wool cushion like Oskar's polish disc A880 and apply plenty of NORPOL® R10 with rotary movements. Once the polish has been finished, the grind paste must be washed off with clean water. After the washing, one must use NORPOL® W50 for removal of possible remnants of NORPOL® R10.

Subsequently, the subject must be treated with the hard wax NORPOL® W70.

Damages

The hull and deck of your boat is made of hand laid fibreglass with an outer surface of gel coat. The gel coat is in general very resistant against strokes and scratches, but the boat will unavoidably get some minor scratches during its lifetime due to wear. These scratches should be attended to in their early stages.

Scratches

If the scratch is at the surface of the NORPOL® gel coat and has not penetrated to the fibreglass, one may use NORPOL® R10 polish paste to "rub it off". The paste must be applied with a polish disc such as Oskar's A880 by machine or by hand with a wet cloth using a lot of "elbow grease". The scratch may not disappear completely, but it will definitely be less visible.

Repairs of the surface must be made with NORPOL® filler in the right colour. This recommended mending procedure is as follows:

- The spot for repair must be degreased with acetone to remove all signs of wax and oil.
- Carefully mix 1 tablespoonful of NORPOL® stopping with two or three drops of catalyst on a piece of cardboard.
- Apply the mixture on the hole, broken fragment or groove with a single shaped razor blade fitting to the surface and contour of the area to be repaired. It is better to apply just a little more mend mixture than needed to avoid having to fill up the damaged part again.
- Let it harden well (leaving for approx. 48 hours).
- Use 800-1.200 grade wet grinding paper on a grind block. Water grind the mended down to level.
- Finish with NORPOL® R10 polish paste.

If damage goes through to the laminate or it covers a large area of the hull or deck, it should be repaired by a professional.

It is good practice to use fabric fender protectors to avoid scratching the freeboard.

CAUTION

If stress cracks occur or delaminating is suspected, contact a GRP laminate specialist immediately. Rubbing the hull with abrasive compounds or sandpaper removes the gel coat. As this is only a thin layer, great care should be taken. If in doubt, consult a professional.

Bottom treatment

If the boat is delivered with the bottom treatment from X-Yachts, 3 coats of epoxy barrier and 2 coats of antifouling are applied to the degreased and sanded gel coat bottom.

The epoxy barrier is applied to seal the hull and to reduce the risk of gel coat blistering. It is therefore of vital importance that this barrier is kept intact.

Antifouling should be checked on a regular basis and replaced at least once a year.

CAUTION

Some types of antifouling are incompatible, so it is advisable to keep a record of antifouling used and to consult a professional if you want to change antifouling type.

Be careful not to cover zinc anodes, grounding plates or transducers.

Cathodic protection

The zinc anodes, mounted on the hull and saildrive or propeller shaft, must be replaced when they are approx. 2/3 eroded in order to maintain cathodic protection.

WARNING

Failure to ensure cathodic protection may result in leakage and serious damage to metal parts.

CAUTION

X-Yachts recommend regular maintenance of the vacuum valve for the seawater intake of the main engine by following these instructions:

Maintenance

The air vent pipe for air vents without a valve must be checked regularly for blockages. We recommend that the valve is replaced regularly for air vents with a valve. A set consisting of 4 valves and a nozzle brush is available.
Vetus art. code: ASDVS

Replacing the valve

Unscrew the cap nut anti clockwise. Make sure that the hose pillar does not turn at the same time.

Remove the valve from the housing. Clean the valve housing and the hose pillar where the valve is fitted using clean water and a small brush. Also clean the screw thread of the cap nut and the housing.

Spray the valve with Teflon spray and fit it in the housing. Do not use any silicone oil, engine oil or grease!

Fit the cap nut and hose pillar back on the air vent. Make sure that the hose pillar does not turn at the same time. If no new valve is available, we advise cleaning the old valve very carefully to prevent damage to the sealing surface and then replacing it.

Check the working of the valve (reduce pressure at the connection for the air vent pipe) and the sealing of the hose pillar with cap nut before taking the air vent into service again.

Chrome parts in heads

To avoid chrome parts in heads to rust over time it is advised always to make sure that the head compartment is vented from damp after each shower and that all mixers and other steel/chrome fittings are wiped off.

Regularly clean chrome parts with chrome polish/rust remover to ensure a nice and clean surface. This will ensure a long-lasting lifetime of the product.

Deck hardware and rigging

Wash all deck gear and hardware in freshwater and soap regularly and inspect the deck gear for defects and damages. Lubricate all moving parts with grease or teflon spray in accordance with the specific manual. A glass cleaner is usually safe for stainless. Remove rust spots as soon as possible with a brass, silver or chrome cleaner. Never use an abrasive like sandpaper or steel wool on stainless.

Maintenance of teak deck

It is important to maintain the teak deck by rinsing with water and not to use any equipment that will wear out the teak and seams.

By rinsing with saltwater, you will leave a thin layer of salt, which absorbs moisture and therefore counteracts drying up of the wood, mould growth and algae. Deck hardware should, however, be washed with freshwater.

It is also very important to check the seams and repair loose damages in the seams, as water under the teak deck can loosen the teak from the GRP. The seams along the cabin and around the chain plates are especially exposed.

New caulking, adhesive and primer can be ordered at X-Yachts A/S.

Maintenance of Flexiteek deck

Wash your Flexiteek deck with a medium stiff brush and mild soap like Flexiteek Wash and Care soap.

Flexiteek is stain resistant and most spills will clean up with warm soapy water (for rapid stain removal, clean while stain is fresh).

In case of stains, Flexiteek Spot Cleaner can be used; simply spray the Spot Cleaner on the area, leave for 3-5 minutes and scrub with a 3M doodlebug pad and rinse with water. Heavy stains should be removed using Flexiteek Spot Cleaner used with a red/green 3M doodlebug pad or a stiff scrubbing brush, then rinse with water. Repeat the process, if necessary.

If a slight mark remains after a spill, sand with 60grit sandpaper (remember to follow the grain). This will remove any remaining marks and the sanded area could have a lighter shade that will even out over time.

Flexiteek is synthetic and will not absorb fluids such as soap/cleaners, therefore make sure to properly rinse off all detergents used on the Flexiteek with water.

The above mentioned Flexiteek wash and cleaning products, can be ordered through: order@flexiteek.com.

Over time, your Flexiteek deck may go darker and/or lose some of its "graining". Should you wish to bring the look back to the original then; once again, sanding with 60grit sandpaper with a sanding block as described above will restore the colour and texture. Unlike real teak, there is minimal material removed when sanding as described and there is no concern about sanding through if the above directions are followed.

Flexiteek may be power washed – power up till 135 Bar. This is the best way to clean out particles and dirt.

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

DO NOT subject your Flexiteek deck to excessive heat, Chemicals, deck brightening chemicals, acid washes or any 2-part cleaners. Treat your Flexiteek deck with the care that you would on a normal teak deck. Some modern cleaners may damage the soft caulking around the edge of a Flexiteek deck.

Running rigging

Regularly check all sheets, halyards and hauls etc. for wear and damages that reduce their strength and replace them if necessary.

Standing rigging

Regularly check all shackles, pins, blocks, rigging screws etc. If they show any signs of cracking or deformities, they should be replaced. Check also that all the rigging is properly fastened and in the right positions. Regularly wash the rigging close to the deck in freshwater.

X-Yachts recommend having the rig inspected every 5th year. It's important to dismount all components of the rigging and to check for cracks near the cold pressed heads on the ends of the rods. After 40.000nm we recommend replacing the entire standing rigging.

CAUTION

Maintenance of turnbuckles and tip cups
It is of high importance to ensure that the thread on all the tip cups is properly lubricated with copper grease. Danger - if not doing so can cause serious damage to the thread and in worst case lead to a hazardous condition. We recommend the tip cups to be re-lubricated with new copper grease, minimum once a year.

WARNING

Do not raise any halyards or tension the rigging before deck tie rods are attached to the mast collar and the mast.

Failure to do this could result in severe damage to the deck structure.

Sails

Regularly check sails for wear and tear and turn them into your sail maker if necessary. If they need cleaning, ask your sail maker for advice or let the sail maker do the job. Always ensure that your sails are as dry as possible before packing and storing them.

Mast, boom and spinnaker pole

Regularly wash the spars and fittings with freshwater and soap to remove salt and grime. The anodized parts can be polished, if required, to protect them from staining.

Make sure that all sharp edges are fully taped for protection. Lubricate fittings as required. Secure all rigging away from the surface of the spars as there could be corrosion between the different materials or chafe caused by the wind. Check regularly for signs of stress cracks around joins and halyard exits.

It will be necessary at times to work aloft to carry out maintenance. If you are uncomfortable aloft, get an experienced crewmember or a professional to undertake the work.

How to adjust the Vang Boom

Please be aware, that the vang on your yacht is a double purpose device.

The main objectives are to prevent the sail to lift the boom end and make you able to adjust the angle of the boom. In the same way it prevents the boom to fall down in the cockpit when the main sail is down.

When bimini and sprayhood are present, the vang also protects these, when the telescopic parts are fully together.

This means that the lower position is given by the sprayhood or bimini. Please mark your vang in this fully together position, with a tape or similar. New yachts might have this marking from the spar manufacturer.

The delicate matter is that sometimes there is a very small margin between the boom angle with the sail up and the boom angle without the sail up.

In this case your focus is needed, as you risk not being able to sheet the main sail correct, if the vang prevent the boom in the right angle.

Adjustment of the length of either vang or main sail aft leech must be done.

Optional Furling boom

Please note that X-Yachts does not use the Furlerboom main halyard control block (the mast halyard block that increases the tension on the halyard when furled), due to durability and adjustment reasons, when a Furlerboom is installed. Instead a standard block is fitted, and the halyard luff tension must therefore be kept tight by having the halyard one turn around the halyard winch during the furl.

This method also allows the halyard tension to be adjusted by hand during the furl.

DANGER

Mast and other rigging components conduct electricity. Contact with overhead electrical wires could be fatal!

Please exercise extreme caution when rigging or sailing.

WARNING

To ensure safety, this procedure should be followed when preparing and carrying out a personnel hoist.

1) Procure and check the necessary equipment, starting with the flake and halyard. The halyard must be in good condition, particularly around the shackle. A second halyard must always be connected for safety. Never rely on snap shackles as these can snag and release.

2) Use a deep bag for your tools, remembering that any tool dropped may injure persons below or do damage to the deck. A messenger line can be used to raise and lower tools.

3) Use an experienced assistant who is familiar with winches. Climb with your feet and hands as your assistant winches with at least three turns on the drum. Make sure that your assistant fastens the halyard end to a secure cleat or ties it to the winch. Tie yourself to the mast with a short line to lock yourself in position.

4) When lowering, make sure that the halyard tail is clear and ease the halyard slowly around the winch. The assistant must always ensure good foothold and steady grip on the halyard.

Personnel hoist is safest if carried out in harbour under calm wind and sea conditions with proper distance to other masts and riggings.

Canvases

Sprayhood and cockpit covers

The canvas consists of 100% dyed in polyacryl (Dralon Dorcolor), coated with polyurethane and impregnated with Baygard. Sprayhoods and cockpit covers endure ordinary washing at max. 30ºC, but should not be dry-cleaned nor washed down with high pressure.

Sprayhoods or cockpit covers should only be machine or laundry washed if extremely dirty, such washing being very hard on the canvas. The canvas is not guaranteed waterproof if machine-washed. Washing is recommended at least once a season in order to avoid mould. The cover should be soaked for 6-8 hours in a mild detergent and thereafter rinsed with a brush while unfolded on the floor or a table or mounted on the craft - if possible after rainy weather when the canvas is already soaked.

The canvas is mould proof from the factory, but should be re-impregnated after washing. A silicosis-impregnation for textiles is recommended.

Sprayhoods or cockpit covers must be impregnated while mounted on the craft. The canvas must be clean and absolutely dry before treatment. The impregnator is applied with a soft brush, normally only on the outer side. After treatment, the canvas should not be folded if still wet. The impregnation is only effective if the material is absolutely dry. When treated with impregnation, the canvas is waterproof and protected against mould.

Mould arises due to condensation of humidity. Condensation can be reduced considerably if proper ventilation is provided.

Rubber Seals

Rubber seals are found on hatches, lockers, skylights, portlights and transom platform doors. They must be checked and maintained on a regular basis in order to ensure water tightness. The rubber seals must be washed, dried and sprayed with silicone grease on a regular basis.

Interior

Lacquered wooden surfaces

When cleaning the wooden surfaces of the interior, use a soft rag wetted in water and dishwashing detergent.

Scratches should be repaired by rubbing the area lightly with 240-grade sandpaper. Apply a thick layer of lacquer and let it dry. Rub the area lightly with 240-grade sandpaper again before applying the final layer of lacquer.

If the damage comes from an impact to the surface and a permanent compression mark shows, the lacquer should be rubbed off with sandpaper and the naked wood should be wet with water. Use an electrical iron to carefully apply heat to the surface through a paper coffee filter bag until the compression mark "grows out" and disappears. When the surface is dry, proceed with the same lacquer procedure as described for repairing scratches.

CAUTION

Extensive heat may result in dark areas on the wooden surface. If you are unfamiliar with woodwork or in doubt about a specific task, please consult or employ a professional before undertaking the repair.

Moisture

When living on board a yacht moisture will build up inside the cabins and heads.

X-Yachts therefore recommends that your yacht is properly ventilated by ensuring free air ventilation through deck hatches and windows while onboard.

When the boat is left unattended, additional dehumidifying of the saloon and cabins is also recommended.

By using a dehumidifier frequently, the woodwork will be far better preserved, there will be less corrosion on metallic parts, cushions stay dry and the electrical components will last longer.

Additionally, mould and mildew will have poorer conditions to develop and the living environment inside the boat will be far better.

- Ensure proper ventilation when staying and living onboard your yacht.
- Never leave wet cloth/wet sail gear/wet sails inside a locker or small cabin without proper ventilation.
- Ensure good ventilation before/during and after each shower.
- Ensure good ventilation in a cabin before you go to sleep.
- Make sure the mattresses are raised after a night's sleep to avoid moisture to build up below the mattresses.
- Wipe down any damp developed on windows or furniture.

Maintenance instructions BSI hatches

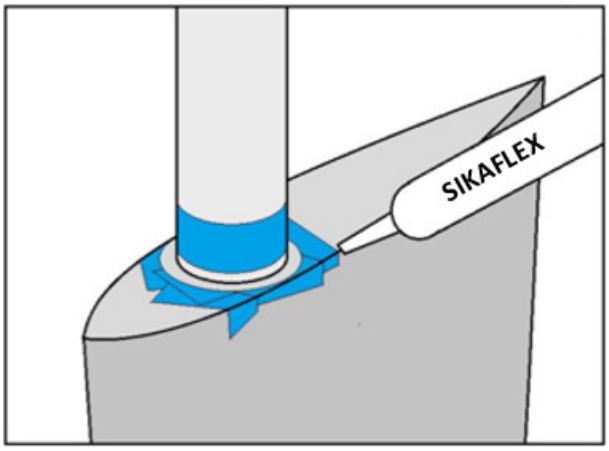
Please find below some common recommendations to maintain your hatches and portlights from BSI.

- Keep the gaskets clean. Especially on the flush portlights, dirt and even debris can accumulate on the upper side between the hull and the portlight. It's important to clean this area regularly. Clean by using warm water and a sponge. It is not necessary that the gasket is greased with silicone, but it is recommended to gently spray the gasket every year or so with silicone-spray, similar to how you maintain gaskets in your car doors.
- Replacement of gaskets. The gaskets are made of EPDM which is an artificial rubber that can last for 20 years or more, also in strong UV exposure. Should the gasket get damaged, it can be replaced simply by pulling it out of the acrylic and inserting the new gasket. The gasket ends are glued with common cyanoacrylate glue (also known as "2 second glue" or "super glue").
- Maintenance of hatch stay-arm. From the fall of 2012, BSI modified the design of the stay-arm to include friction rills in the stainless steel rod and O-ring under the tensioner. In order for the stay-arm to have the best function, the rod needs to be clean, and the O-ring needs to be fresh. To protect the O-ring from unwanted wear and tear, you must take care that the tensioner is properly released when operating the hatch.

Service kit included: spare O-rings for stay-arm.

Sealing of rudder blade

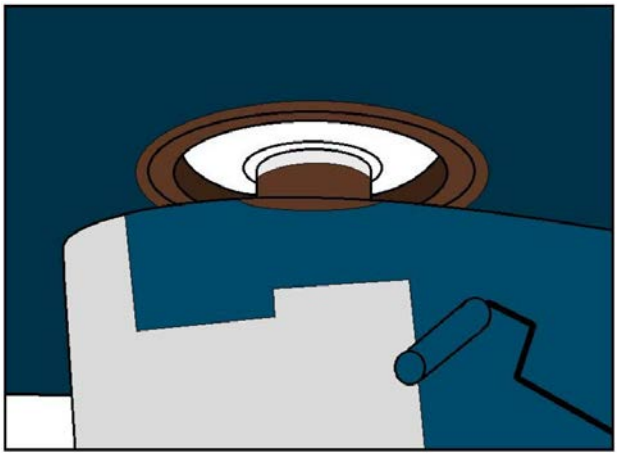
All rudders have a fillet applied along the rudder stock/rudder blade join line. This fillet should be inspected on a regular basis and renewed as necessary or at least every 3 years. The fillet should be done with Simson MSR, SIKA 221 or similar polyurethane-based sealant.



Antifouling

It is very important not to use any metal-based antifouling within 50mm of rudder bearings or shaft.

Coat with a non-metallic/aluminium compatible product where shown (Brown). Products formulated for stern gear, propellers and outboard legs are suitable. Thereafter, any anti-fouling system (Blue) can be applied to the remaining hull and rudder blade surfaces. Do not overcoat or apply alternative bottom paint/ antifouling within the 50mm distance from bearings/stock.



Metal based antifouling is conductive and can induce severe electrolysis.

LAYING-UP AND WINTER STORAGE

Lifting

Lifting of the craft can be done either with slings or by a single-point lift.

Lifting with slings

Position of aft sling should be just aft of deck window. Position of forward sling should be in way of the mast. (See Profile/Sail plan page 52)

Single-point lift

Single-point lift is carried out by using the lifting strap and shackle (extra).

Lifting procedure:

1. Remove floor plate between pantry and salon table and both inside and outside caps on lifting hole in the cabin roof.
2. Attach shackle to the lifting bracket of the steel floor frame.
3. Check lifting strap thoroughly for possible injuries. If there is any sign of weakness, do not use the lifting strap.
4. Lead the lifting strap through the hole in the cabin roof. Ensure that the lifting strap is not twisted or kinks in any way.
5. Attach crane shackle to the lifting strap.
6. Attach control lines in forward and aft mooring cleats.

CAUTION

Always ensure that lifting material meets appropriate safety standards and is not damaged in any way.

Always ensure that slings are clear of rudder, keel, sail drive, transducers etc.

Cradle

A foldable galvanized steel cradle is available from the yard as optional equipment. We recommend that this cradle be used for winter storage of the craft.

Always ensure that the cradle is placed on solid and horizontally aligned ground. Also ensure that the craft is safe against likely wind direction and protected against vandals.

If the craft is stored under open sky, it should be covered. Ensure that the cover is secured in such a manner that it doesn't catch wind and damages the craft due to chafing.

Hull and deck

Cleaning

Immediately after the boat is lifted out of the water, wash off the bottom with a high-pressure cleaner or a brush to avoid possible fouling from drying in and fix itself more firmly to the bottom.

Wash down the deck and hull with plenty of fresh and preferably warm water together with some boat shampoo and give the boat an UV-protective wax treatment.

CAUTION

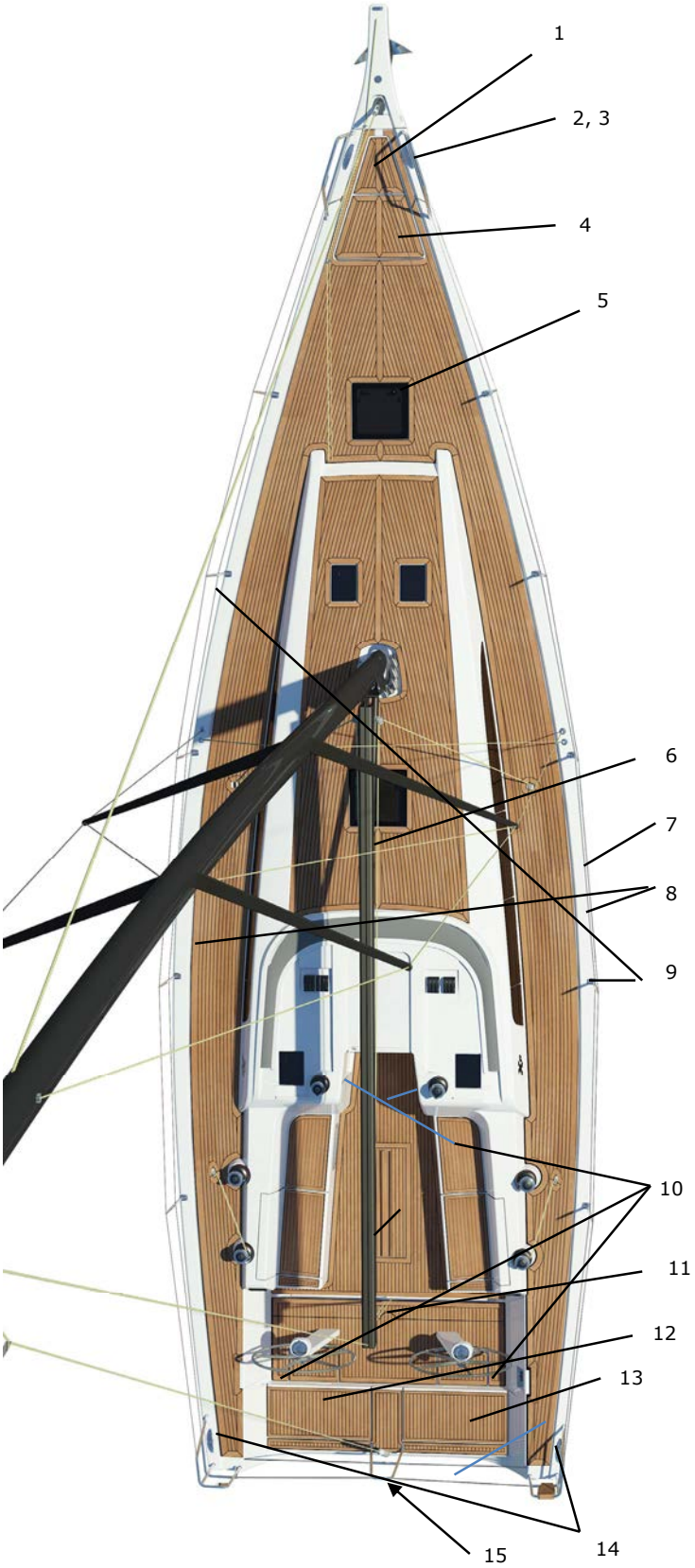
Do not use detergent containing chlorine or ammonium chloride on the gel coat as this will cause the surface to fade.

General winterisation

- Ensure the craft is adequately ventilated. Open all lockers and cabin doors to allow air to circulate.
- Arrange heating, if possible, for periods of extreme cold.
- Remove all cushions for cleaning and store in a dry and preferably heated place.
- Remove all portable equipment liable to corrode from craft.
- Drain tanks and piping to avoid damage from frost swells, except for the fuel tank, which should be filled completely to reduce risk of damage due to corrosion.
- Remove batteries for cleaning, charging and storage.
- Refer to engine manual for proper winterisation of engine.
- Remove sails for storage in a dry place. If necessary, have them cleaned, checked and repaired by a sailmaker.
- Clean and check all running rigging. Replace damaged or perished items.
- Check all standing rigging for possible damages and excessive wear. Replace items as needed.
- Check mast fittings including tracks, sheaves, spreaders, electrical cables and gear. Pay special attention to items that are difficult to check when the mast is on the craft.
- Dismount all deck blocks etc. and wash them in warm freshwater. Check for damages and replace if needed. Remount again just before launching.
- Remove all sheets and mooring lines etc. and wash them in freshwater. Ensure they are absolutely dry before storing them.
- Remove old or loose antifouling and apply a new coat. Be sure that the new coat is of same type or at least a compatible type of antifouling. We encourage you to keep a log of these things.

APPENDIX

- **Deck layout**
- **Anchoring arrangements**
- **Profile/Sail plan**
- **Propulsion arrangement**
- **Electrical installation diagrams**
- **Yanmar Bulletin**



Deck layout

1. Anchor hatch **(See note)**.
2. Fwd mooring arr.
3. Hocking points to jack lines.
4. Sail cabin hatch **(See note)**.
5. Escape hatch **(See note)**.
6. Single-point lifting strap.
7. Centre mooring arr.
8. Deck fill cap: Diesel tank (Starboard side)
   Freshwater tank (Port side)
9. Deck suction fitting holding tanks.
10. Hocking points to safety line.
11. Emergency tiller arm **(See note)**.
12. Aft locker hatch **(See note).** Fire extinguisher. Handle for manual keel sump pump.
13. Life raft box installed by the yard. Recommended location of life raft **(See note)**.
14. Aft mooring arr. & hocking points to jack lines.
15. Bathing ladder on centre pushpit or in optional bathing platform.

Note:

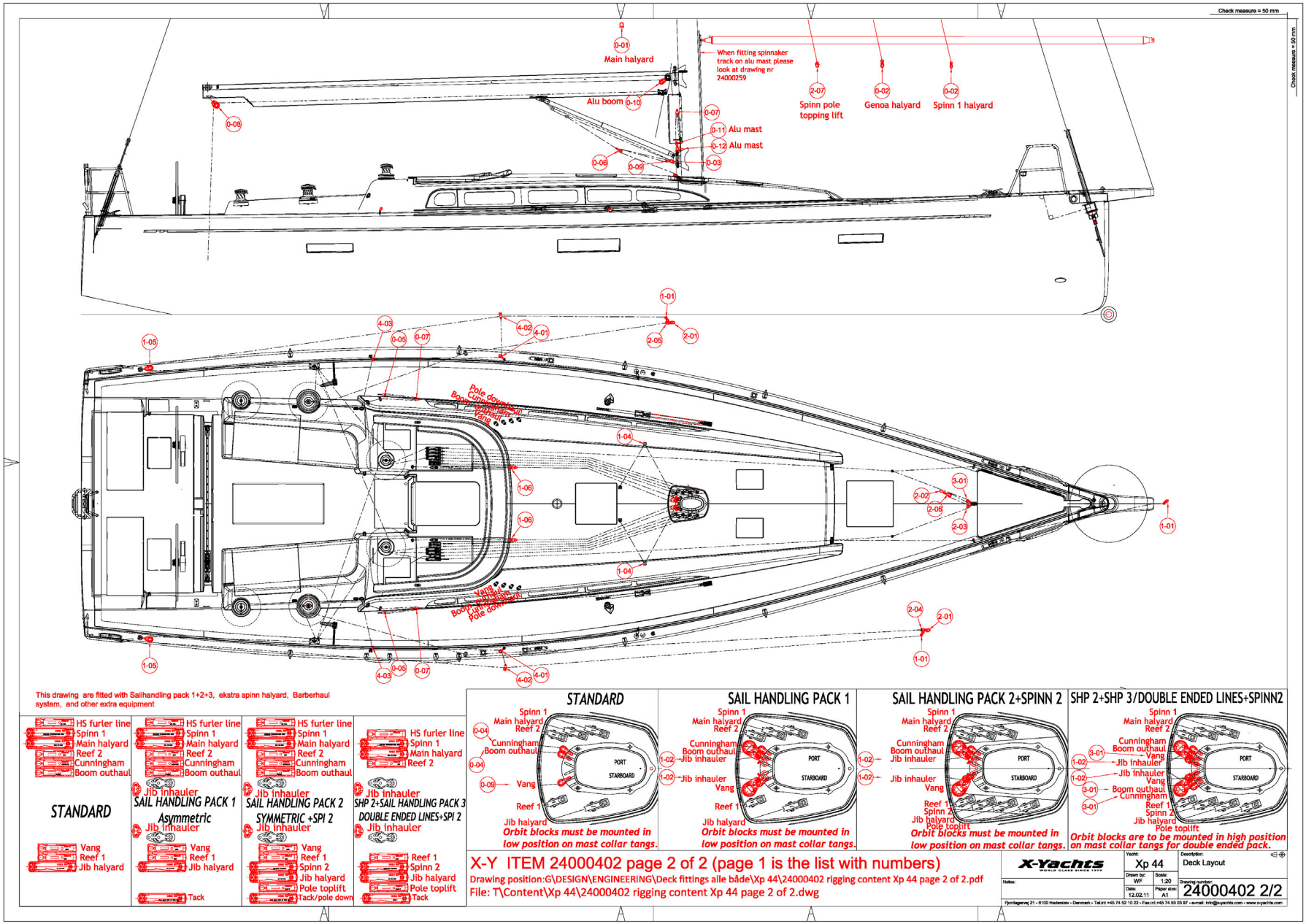
Watertight closing – keep shut when under way.

Mounting of emergency tiller arm:

1. Open main sheet recess hatch.
2. Remove top bearing cover using a winch handle.
3. Insert emergency tiller arm.
4. The boat can now be steered by pushing and pulling the tiller arm.

Xp 44 Deck fitting not fitted in production:				28-02-2013	X-Y Item nr:24000402 page 1 of 3 (page 3 is the drawing)
Position	X-Y item No	Item No	Qty	Item name	Drawing position:G\DESIGN\ENGINEERING\Rigging content alle både\24000402 rigging content Xp 44 page 1 of 2.pdf
Standard 40440800					File: T\Content\Xp 44\24000402 rigging content Xp 44 page 1 of 2.xlsx
0-01	12005418	1306	1	Allan P shackle	Main Halyard
0-02	12000553	2654	2	Speedlink snap shackle	Spinn halyard, Genoa halyard
0-03	12005428	1204	1	Self locking D shackle	Vang lines and block 0-09
0-04	27000088	RF45110	2	Block orbit w.becket s40 BB	Cunninghan, outhaul
0-05	27000088	RF45110	2	Block orbit w.becket s40 BB	Jib floting car aft
0-06	27000137	RF45201	1	Block double 2 axis Orbit s.40	Vang cascade 3 4:1
0-07	27000138	RF45501	3	Block single Orbit fiddle s.40	Cunningham, Jib floting car
0-08	27178699	RF69200	1	Orbit dobb.blok 60mm	Main sheet on boom
0-09	27178758	RF35100	2	Single Block S.30 Orbit BB	Vang 4:1 fitted with 0-03 at vang, and vang at mastbase
Extra standard when alu mast and boom:					
0-10	27178690	RF 69100	2	Single block Orbit	Mainsheet forward alu boom
0-11	27000088	RF45110	1	Block orbit w.becket s40 BB	Cunningham at vang fitting vertical bolt
0-12	12005406	1263	1	Self-locking large opening shackle	To fit 0-04 to vang fitting vertical bolt
Sailhandling pack 1 404402448 Asymmetric spinnaker					
1-01	12000552	2652	3	Speedlink 87mm 2652	Spinn sheets and Tack line
1-02	27000058	RF64100	2	Core block single serie 60	Jib inhauler mastbase
1-04	27000110	KH-LRING46	2	Low friction ring, 25,5mm ID	Jib inhauler for jib sheet
1-05	27178688	RF79100	2	Block Single S.75 Orbit	Spinn sheets
1-06	27178755	ZO5042	2	Serie 40 BB/30 AP søsterblok	Jib inhauler in halyard channel

Sailhandling pack 2 404402458 Symmetric spinnaker					
1-01	12000552	2652	3	Speedlink 87mm 2652	Spinn sheets and Tack line her mangler 1 stk, i alt 3
2-01	12000553	2654	2	Speedlink 105mm 2654	Guy
2-02	12005432	2481	1	snap hook 75mm 2481	Spinn pole down haul
1-02	27000058	RF64100	2	Core block single serie 60	Jib inhauler mastbase
2-03	27000088	RF45110	1	Block orbit w.becket s40 BB	Pole down haul on deck
1-04	27000110	KH-LRING46	2	Low friction ring, 25,5mm ID	Jib inhauler for jib sheet
2-04	27007241	PNP198GRN	1	Spinnaker Pole stop, Green	Guy in starboard side
2-05	27007242	PNP198R	1	Spinnaker Pole stop, Red	Guy in port side
1-05	27178688	RF79100	2	Block Single S.75 Orbit	Spinn sheets
2-06	27178746	RF55110	1	Single block, serie 50 BB	Spinn pole down haul on pole
1-06	27178755	ZO5042	2	Serie 40 BB/30 AP søsterblok	Jib inhauler in halyard channel
2-07		2471	1	Snap shackle	Spinn pole topping lift
Racing lines 404402478 Control lines double ended back					
3-01	27000088	RF45110	4	Block orbit w.becket s40 BB	Vang, cunningham, Pole down haul, boom outhaul
Barberhaul 404402598-01					
4-01	27000088	RF45110	2	Block orbit w.becket s40 BB	Barberhaul at forward pad eye
4-02	27037186	9040	2	Antal kasteblok 40 mm	Barberhaul snatch block
4-03	27178758	RF35100	2	Single Block S.30 Orbit BB	Barberhaul at aft pad eye
Spinn Halyard 2 40440830/831					
5-01	12000553	2654	1	Speedlink snap shackle	Spinn halyard 2

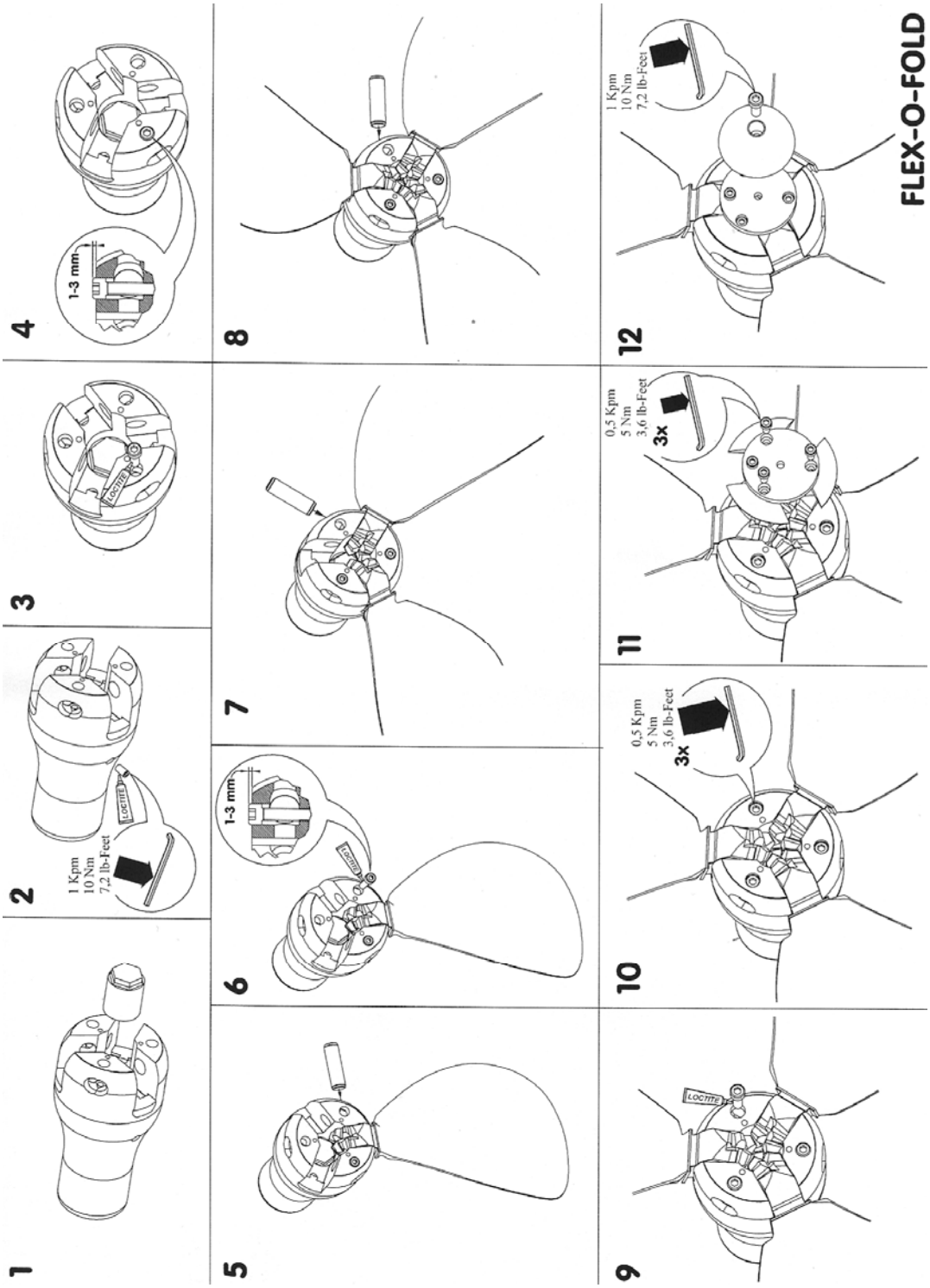

Check measure = 50 mm
0-01 Main halyard
When fitting spinnaker track on alu mast please look at drawing nr 24000259
Alu boom 0-10
0-08
0-07
0-11 Alu mast
0-12 Alu mast
0-06
0-09
0-03
2-07 Spinn pole topping lift
0-02 Genoa halyard
0-02 Spinn 1 halyard
1-01
1-05
4-03
0-05
0-07
4-02
4-01
2-05
2-01
Pole down
Boom cunningham
Vang
1-04
1-06
2-02
2-06
2-03
3-01
2-04
This drawing are fitted with Sailhandling pack 1+2+3, ekstra spinn halyard, Barberhaul system, and other extra equipment
HS furler line
Spinn 1
Main halyard
Reef 2
Cunningham
Boom outhaul
Jib inhauler
STANDARD
Vang
Reef 1
Jib halyard
SAIL HANDLING PACK 1
Asymmetric
Tack
SAIL HANDLING PACK 2
SYMMETRIC +SPI 2
Spinn 2
Pole toplift
Tack/pole down
SHP 2+SAIL HANDLING PACK 3
DOUBLE ENDED LINES+SPI 2
STANDARD
SAIL HANDLING PACK 1
SAIL HANDLING PACK 2+SPINN 2
SHP 2+SHP 3/DOUBLE ENDED LINES+SPINN2
PORT
STARBOARD
Orbit blocks must be mounted in low position on mast collar tangs.
Orbit blocks are to be mounted in high position on mast collar tangs for double ended pack.
X-Y ITEM 24000402 page 2 of 2 (page 1 is the list with numbers)
Drawing position:G\DESIGN\ENGINEERING\Deck fittings alle både\Xp 44\24000402 rigging content Xp 44 page 2 of 2.pdf
File: T\Content\Xp 44\24000402 rigging content Xp 44 page 2 of 2.dwg
X-Yachts
Yacht: Xp 44
Description: Deck Layout
Drawn by: WF
Scale: 1:20
Date: 12.02.11
Paper size: A1
Drawing number: 24000402 2/2
Fjordagervej 21 - 6100 Haderslev - Denmark - Tel.int +45 74 52 10 22 - Fax.int.+45 74 53 03 97 - e-mail: info@x-yachts.com - www.x-yachts.com

Profile/sail plan

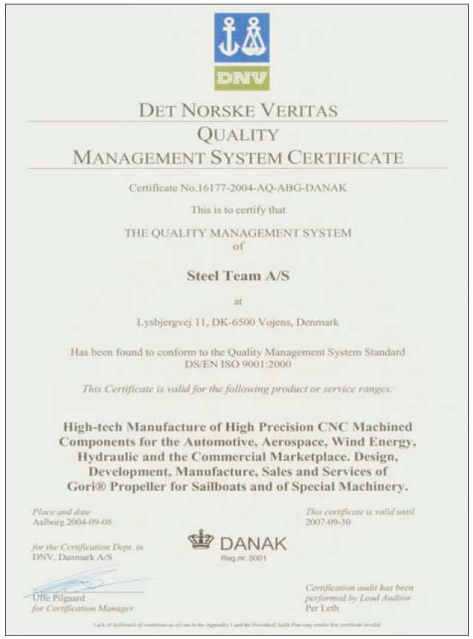
Pos. Aft sling Pos. Fwd sling

Propulsion arrangement

Below schematic showing how to connect the propel type 3-blade flex-o-fold.



Gori® propeller



DET NORSKE VERITAS
QUALITY
MANAGEMENT SYSTEM CERTIFICATE

Certificate No.16177-2004-AQ-ABG-DANAK

This is to certify that

THE QUALITY MANAGEMENT SYSTEM
of

Steel Team A/S

at

Lysbjergvej 11, DK-6500 Vojens, Denmark

Has been found to conform to the Quality Management System Standard
DS/EN ISO 9001:2000

This Certificate is valid for the following product or service ranges:

High-tech Manufacture of High Precision CNC Machined Components for the Automotive, Aerospace, Wind Energy, Hydraulic and the Commercial Marketplace. Design, Development, Manufacture, Sales and Services of Gori® Propeller for Sailboats and of Special Machinery.

Place and date
Aalborg 2004-09-08

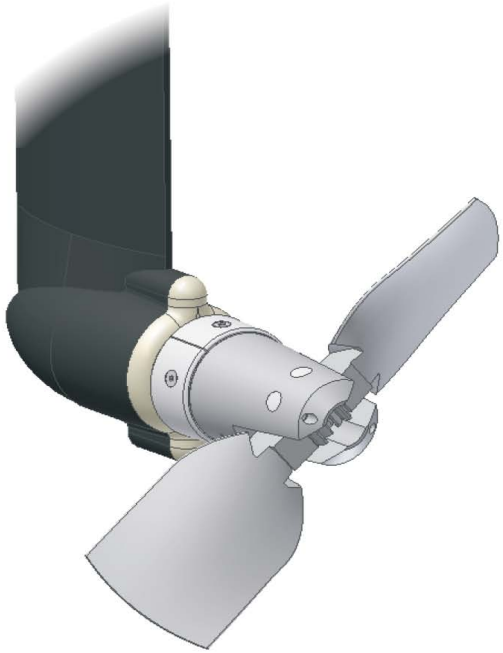
This certificate is valid until
2007-09-30

for the Certification Dept. in
DNV, Danmark A/S

DANAK
Reg.nr. 5001

Ulle Pilgaard
for Certification Manager

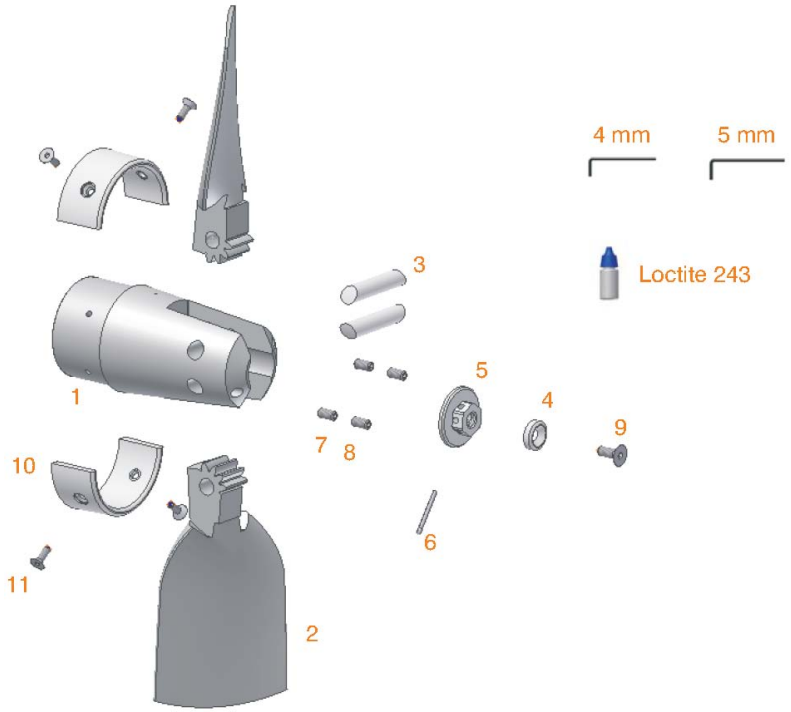
Certification audit has been performed by Lead Auditor
Per Leth



Gori® propeller

Gori Propeller ApS, Fjordagervej 34-36, DK-6100 Haderslev,
Phone: +45 73 52 53 54, www.bsidk.com

	DK	GB	D	F	IT	ESP	Pcs.
1	Nav	Hub	Nabe	Moyeu	Mozzo	Cuerpo	1
2	Blad	Blade	Flügel	Pales	Pale	Pala	2
3	Aksel	Pin	Führungsstifte	Boulons en acier	Perni-pale	Pasador	2
4	Låseskive	Lock Washer	Sicherungsscheibe	Rondelle frein	Rondella-sicurezza	Tuerca de seguridad	1
5	Møtrik	Nut	Mutter	Ecrou	Dado	Arandela	1
6	Split	Split pin	Splint	Goupille fendue	Coppiglia	Chaveta	1
7	Skrue M8	Screw M8	Schrauben M8	M8Vis	Grano di fermo M8	Tornillo M8	2
8	Skrue M8	M8Screw	M8Schrauben	M8Vis	Grano di fermo M8	Tornillo M8	2
9	Skrue M8	M8Screw	M8Schrauben	M8Vis	Vite-bloccaggio M8	Tornillo M8	1
10	Zink	Zinc	Zink	Anode zinc	Anodo zinco	Ánodo	2
11	Skrue M8	M8Screw	M8Schrauben	M8Vis	Vite M8	Tornillo M8	4



DK
Læs instruktionen, før der arbejdes med propellen.

Vigtigt:
Udskift zink, hvis de er korroderet mere end 50%.

Advarsel!
Pas på skarpe kanter.

GB
Read the instructions before any work on the propeller.

Important!
Replace zinc if eroded more than 50%.

Warning!
Beware of sharp edges.

D
Bitte die Anweisung lesen, bevor Sie mit dem Propeller arbeiten.

Wichtig!
Zinkteile auswechseln, wenn sie mehr als 50% korrodiert sind.

Warnung!
Achten Sie auf die scharfe Kanten.

F
Lire les instructions avant toute intervention sur l'hélice

Important!
Remplacer l'anode zinc si elle est corrodée à plus de 50.

Attention!
Attention aux bords coupants.

IT
Leggere attentamente le Istruzioni prima di qualsiasi operazione sull'elica.

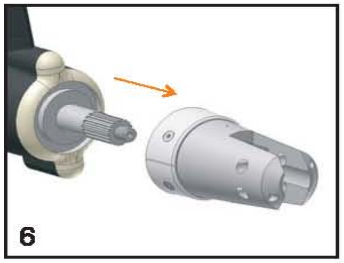
Importante!
Sostituire l'anodo di zinco se usurato più del 50%.

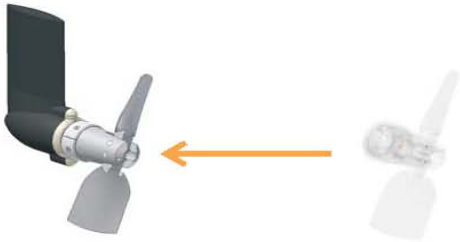
Avvertenza!
Prestare attenzione alle parti taglienti

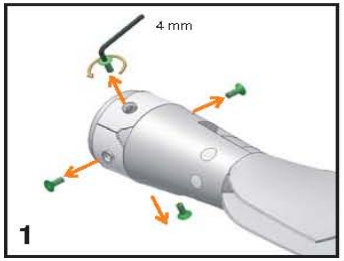
ESP
Lea las intrucciones antes de efectuar cualquier trabajo en la hélice**.**

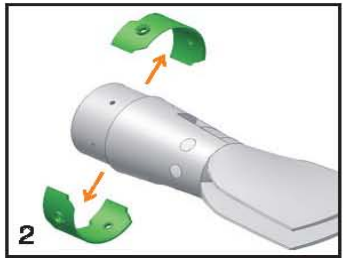
Importante !
Reemplazar el ánodo si observa mas de un 50 % de corrosión..

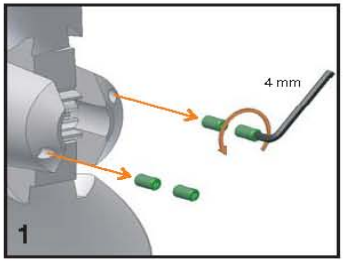
Advertencia
Tenga cuidado con las esquinas afiladas.

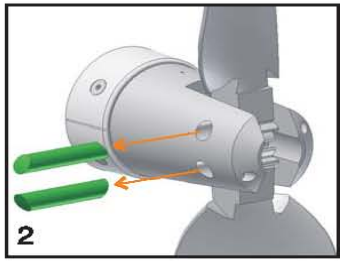

6

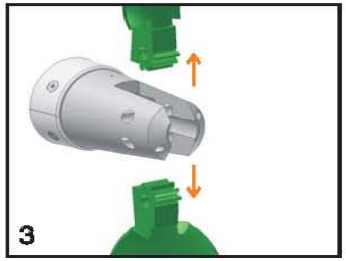


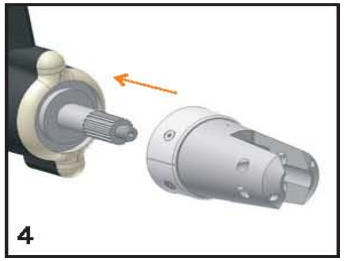

4 mm
1

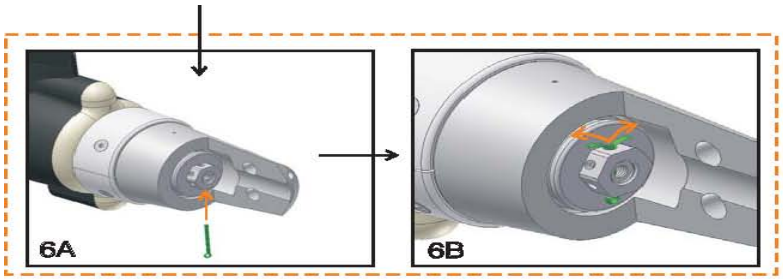

2

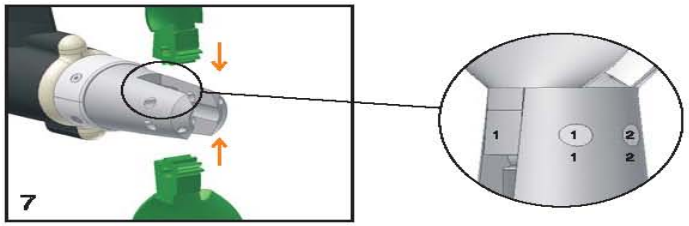

4 mm
1

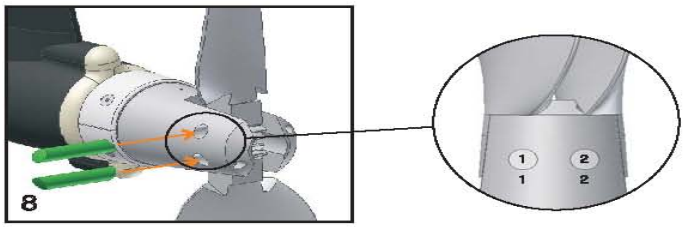

2

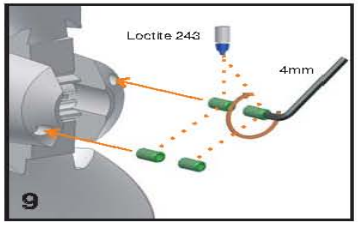

3


4

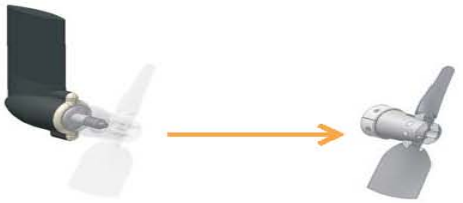

6A
6B

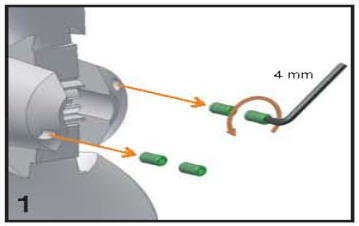

7
1
1
1
2
2

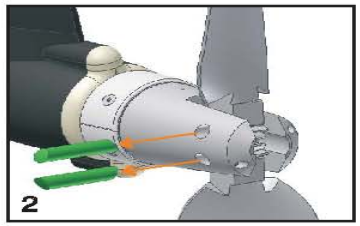

8
1
1
2
2

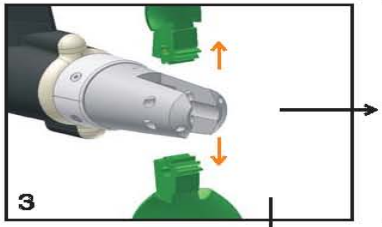

Loctite 243
4mm
9

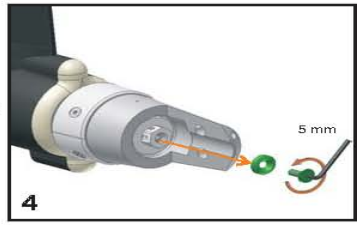

10

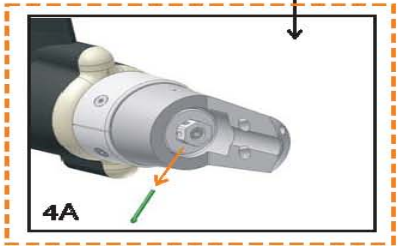


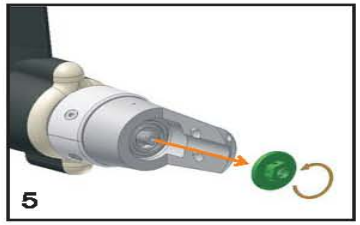

4 mm
1


2


3


5 mm
4


4A


5

Electrical installation diagrams

Yanmar Bulletin

Warning Labels

VERY IMPORTANT INFORMATION

1. Please read the user manual for the craft and all operating instructions for extra equipment carefully. It is important that you familiarize yourself with the craft and the equipment before using it.
2. Inappropriate use of the craft can result in death or irreparable injury and cause severe damage of the craft if proper precautions are not taken.
3. The water heater must not be allowed to run dry whilst connected to 230V or 110V AC power. This will damage the heating element. Do not switch on the electric water heating element if the freshwater tank is empty or there is air in the system.
4. Exercise caution when using electric winches. Keep your hands well clear. Be sure not to overload the winch and pay close attention to sails when using an electric winch to furl them.
5. Generator/engine: NEVER continually crank the generator, if the generator doesn't start after a few attempts (maximum 3-4 attempts). This may cause the generator to back flood. If further starting attempts are required, the muffler must be drained first (a drain screw is fitted in the bottom of the muffler).
6. Close outlet seacocks for sinks, toilets and wastewater when not in use. To prevent seacocks seizing up they shall be opened and closed 5-10 times a month.
7. Never discharge the battery banks to a level below 40% (11.1V for a 12V battery bank and 22.2V for a 24V battery bank) of the remaining capacity. This will damage the battery bank irreversibly.
8. All main switches should be shut off when the boat is left unattended. The main bilge pump is connected directly to the 12/24V supply and will continue to function with the main switches turned off.
9. Do not let the boat remain connected to shore power unattended or for longer than necessary to recharge the batteries, it can lead to stray current corrosion.
10. On some models there are an Isolation Tester fitted behind the electrical panel. This is used to test the electrical system for stray current corrosion. An example could be a chaffed cable to navigation light; this can either be a positive or negative failure.

    Before test, both main switches for the engine must be switched off. Activate the switch "Isolation test box" on the instrument panel, both lights dim with the same light intensity. Press the switch on the isolation test box; if the light intensity remains the same, the boat is fully insulated and OK. If one lamp lights up fully and one goes off, there is a failure – please contact your local dealer.