XO CRUISER

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XO BOATS

PREFACE

Congratulations on your new Finnish XO boat! We want to thank you for choosing XO and we hope you enjoy the time you spend aboard.

The purpose of this manual is to help you operate your boat with safety and pleasure. The manual contains the details of the boat and the associated or installed equipment and systems, as well as information on its operation and maintenance.

Please read the manual carefully and familiarize yourself with the boat before using it. Naturally, you cannot learn the skills of seamanship and safe boating by reading a User Manual.

If this XO is your first boat, or if you are changing to a type of boat you are not familiar with, for your own comfort and safety please ensure that you obtain handling and operating experience before assuming command of your boat. Your dealer, boating clubs and national sailing and yacht federations will be pleased to advise you of local boating schools and competent instructors.

Make sure that your boat's design category is appropriate for the expected wind and wave conditions and that you and your crew are capable of handling the boat in such conditions. The wind and wave conditions specified for design category C may include gales and high winds, with risk of exceptional waves and gusts. Such conditions are dangerous and can be sufficiently handled only by a competent and fit crew in a well-maintained boat. This User Manual is not a detailed maintenance or troubleshooting guide. If a problem occurs, please contact your XO dealer. If a repair is required, use only the companies recommended by your XO dealer.

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

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BOAT MODEL: XO CRUISER

Craft identification number - Cin: .....

Engines make and model: .....

I Owner
First name:
Surname:
Domicile:
Year of purchase:

II Owner
First name:
Surname:
Domicile:
Year of purchase:

III Owner
First name:
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VI Owner
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Surname:
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1 BEFORE DEPARTURE

Read this User Manual carefully. Before each departure, check at least the following:

1.1 WEATHER AND WEATHER FORECAST

Take the wind, waves and visibility into account. Is your boat's design category, size and equipment, as well as the skills of the helmsman and crew adequate for the waters you are about to boat?

1.2 LOAD CAPACITY

Do not overload the boat and always distribute the load properly. To avoid diminishing your boat's stability, do not place heavy items too high up.

1.3 PASSENGERS

Make sure that a life jacket is available for each person on board. Before departure, agree on the tasks to be performed by each person during the outing.

1.4 FUEL

Make sure that there is enough fuel on board, including a sufficient reserve in case of bad weather, for example. You should have at least a 20% reserve to allow for the unexpected.

1.5 ENGINE AND EQUIPMENT

Check the operation and condition of steering, electrical devices and battery, and perform all daily inspection procedures specified in the engine manual. Check the boat's seaworthiness in general: check the boat for fuel and water leaks, make sure that the necessary safety equipment is on board, etc. Check that the bilge water level is at the minimum.

1.6 VENTILATION

Make sure that the fuel tank compartment is properly ventilated to minimize the risk of fire. Securing of equipment Make sure that all items on board are secured so that they remain in place in rough seas and high wind.

1.7 NAUTICAL CHARTS

If you are not fully familiar with the planned route, make sure that you have nautical charts that cover a large enough area.

1.8 DEPARTURE PROCEDURES

Agree with the crew on whose task it is to detach each line, etc. Make sure that the mooring lines or any other lines do not get caught in the propeller during manoevring.

2 GENERAL

The purpose of this User Manual is to help you familiarize yourself with the characteristics of your new boat. Separate manuals for the equipment installed on the boat are attached and also referred to in a number of sections of this manual. Naturally, you can complement this manual with manuals of any device installed later on. There is also space reserved for your own notes at the end of this manual. The units used in this manual are in accordance with the SI system. In some cases, however, other units are added in brackets. An exception to the above is the wind force, which is expressed in the Beaufort scale in the Recreational Craft Directive (RCD). In this User Manual the right side of the hull is called/abbreviated STB and the left side is called Port.

The warnings and precautions in this manual are defined as follows:

DANGER !

Indicates a serious hazard that will most likely result in death or permanent injury unless appropriate precautionary measures are taken.

NOTE !

Indicates a reminder of safe practice or directs attention to a dangerous practice that could result in injury or damage to the boat or its components.

WARNING !

Indicates a hazard that could result in injury or death unless appropriate precautionary measures are taken.

3 WARRANTY

This boat and the equipment installed by the boat builder are covered by a warranty as specified in detail in the enclosed warranty clause. The engine, trim tabs, compass, any navigation devices and other retrofitted devices are subject to any warranty of their respective manufacturers. Separate warranty cards for these devices and appropriate supplier information are included as an attachment. For other warranty issues, please contact your XO dealer indicated on the front cover.

3.1 BEFORE USING YOUR BOAT

3.1.1 Registration

In many countries, even a small motor boat must be registered. Contact the local authorities for the registrtion requirements in your country. To drive a registered boat, one must usually meet the requirements for minimum age and also possibly have a separate boat-driver's license.

3.1.2 Insurance

Boat insurance can cover for damage when the boat is in use, transported or stored. Remember to check the insurance coverage separately for lifting operations. Insurance also has an indirect effect on safety at sea: in the event of a serious accident, you can focus fully on the essential – saving lives above all else. More detailed information on various insurance alternatives is available from insurance companies.

3.1.3 Training

There is a lot of boating literature available, and a great deal of beneficial and practical information can also be gained from boating clubs and by attending navigation courses. These can provide a sound basis for your skills, but sureness in handling, navigating, mooring and anchoring the boat is only acquired through practice.

4 BOAT CHARACTERISTICS

This User Manual is not intended to be a comprehensive maintenance guide or repair manual. Instead, the purpose is to help you familiarize yourself with the characteristics of your new boat and show you how to use it properly.

4.1 PRINCIPAL BOAT DATA

Principal boat data includes the following:

Boat type:	XO CRUISER
Design category:	C
Maximum recommended load:	1646 kg

See also sections ”Load capacity”

CATEGORY A:

This boat is designed for conditions in which the wind force can exceed 8 on the Beaufort scale and the significant wave height may exceed 4 m. (see NOTE! 1), and the boat is mostly independent. Extreme climate conditions are not taken into account. Such conditions can occur in long distances, for example when crossing an ocean, or in the proximity of a shore that is unprotected from wind and waves for a distance of hundreds of nautical miles

CATEGORY B:

This boat is designed for conditions in which the wind force is no higher than 8 on the Beaufort scale and the waves are consistent with the wind force (the significant wave height 4 m at the most). Such conditions may occur in long distances at open sea, or in the proximity of a shore that is unprotected from wind and waves for a distance of dozens of nautical miles. Such conditions may also occur in freshwater in case of an area large enough for the forming of waves of this size.

CATEGORY C:

The boat is designed for conditions in which the wind force does not exceed 6 on the Beaufort scale (about 14 m/s) and waves are consistent with the wind force (the significant wave height must not exceed 2 m, with occasional waves of 4 m maximum). Such conditions can occur in open water on lakes, estuaries, and in coastal-waters in moderate weather.

CATEGORY D:

The boat is designed for conditions in which the wind force does not exceed 4 on the Beaufort scale and waves are consistent with the wind force (the significant wave height must not exceed 0,5 m) Such conditions can occur in freshwater and in coastal waters in decent weather.

4.2 MAIN DIMENSIONS AND CAPACITY

The length, beam, draught, total weight, etc., and fuel tank capacity of the boat are described in Appendix 1 'Technical specifications'.

4.2.1 Builder's plate

NOTE !

The significant wave height is the average height of the highest third of the waves. This roughly corrsponds to an experienced observer's estimate of the wave height. Waves of double this height may occasionally be experienced.

Part of the above information is indicated on the builder's plate attached to the boat in the vicinity of the helm station. More detailed information is given in the appropriate sections of this manual. Please note that, for example, the maximum load capacity indicated on the builder's plate does not include fuel, but the fuel is included in the maximum recommended load specified by the manufacturer.

WARNING !

Never exceed the maximum recommended load when loading your boat. Always load up the boat carefully and distribute the load properly so that the designed waterline is maintained (approximately on an even keel). Avoid placing heavy weight in a high position.

4.3 MAXIMUM RECOMMENDED NUMBER OF PERSONS

The maximum recommended number of persons on this boat is 10. The designated seating arrangement is shown in Figure 1.

WARNING !

Do not exceed the maximum recommended number of persons on board. Irrespective of the number of persons on board, the total weight of the persons and equipment must never exceed the maximum recommended load (see sections "Load capacity") . Always use the seats in the boat. If your boat is not equipped with seats for 10 people, the passenger must sit on the sole in the positions indicated in the figures 1.

4.4 LOAD CAPACITY CATEGORY C

Weight of the boat without load	mLC	4045	kg
The maximum number of persons board:		10	hlö
Total weight of all persons		750	kg
Personal luggage		49	kg
Fresh water		105	kg
Fuel		499	kg
Septic tank		81	kg
Diesel fuel		30	kg
Life raft		32	kg
Margin for future additions		50	kg
Other load of equipment		50	kg
Maximum load allowed	mL	1646	kg
Weight with maximum load	mLDC	6461	kg

The unladen weight of the boat includes the engine.The quantity of fluid in the tank reduces the load the boat can carry.

4.5 ENGINE AND PROPELLER

The maximum rated engine power is 2 x 350 hv (524 kW). When starting the engine, check that the cooling water flows properly and make sure that the gear is in the neutral position. If the engine starts when the gear is not in neutral, contact your nearest service centre.

4.6 DRAINING SYSTEMS

Draining system type in your craft is so called self-draining deck for rain water and splashing or from breaking waves that allow water to drain through the drain holes in the aft deck.

Your craft aren´t equipped and installed with separate draining holes or sea-cocks. Boat is desgined with draining systems for the purpose of draining the craft during normal driving and docking conditions.

NOTE!

The self-emptying open space is meant for the removal of such water that ends up on the deck through rain, splashing or from breaking waves. A part of the rain water as well as water condensation in the bilge may end up in the bilge.

Do not leave the boat unattended in the water for a long time. Observe the floating position of the boat and empty the bilge when necessary. Leaving the boat unattended in the water for a long time may cause damage.

4.7 BILGE PUMPS AND DRAINAGE

The boat is equipped with three bilge pumps. The aft of the boat has one electric and one hand-operated bilge pump.

The location of draining devices is shown in Figure . The bilge pumps are positioned as close to the bottom plate as is practically possible. Despite this, it is completely normal that a small amount of water remains in them bilge so that it cannot be discharged by the bilge pump.

The fore bilge pump (1) is positioned in the technical space and can be accessed by opening the service hatch under the cockpit sofa. The electric bilge pumps are equipped with a float which triggers them automatically if there is water in the bilge space. The electric pumps have direct supply switches, which allow the pump to come on even if the power is switched off in the boat. The pumps can also be used manually via the switches (3) on the switchboard.

The boat's bilge pumps are equipped with an indicator light that notifies the helmsman if any water has accumulated in the bilge. The light is connected to the bilge pump, which ensures that it comes on when the pump switches itself on. The indicator light is positioned in the steering console's switchboard.

The manual bilge pump (2) is meant to be used in case the electric bilge pump is out of use. The pump can be operated by opening the lid and attaching the separate handle located next to the pump to the bilge pump.

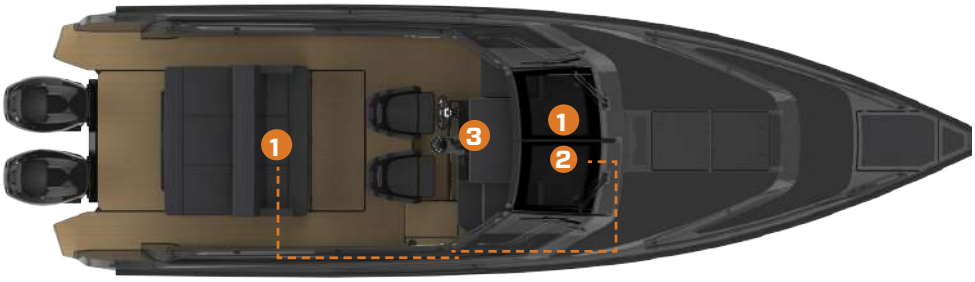
Regularly check all bilge pump inlet and remove any debris.

NOTE!

Regularly check the operation of the bilge pump. If you notice that the bilge pump does not operate properly, remove any debris from the pump inlet and contact your XO dealer if necessary

NOTE!

Check the amount of bilge water by emptying the bilge manually with the spring-loaded switch located on the switch panel every time before use. It is recommended to have at least one bucket or bailer on board



Bilge pump 1

Model:	Ultima Bilge 1000
Efficiency:	64 l/min
Function:	Automatically and manual

Bilge pump 2

Brand:	Whale
Model:	Urchin PB 9013 25-38
Efficiency:	45 l/min (Depending on pumping speed)
Function:	Manual

WARNING !

The bilge pump system is not designed to deal with a leak resulting from running aground or other damage. Do not close the drain holes when using the boat.

4.8 STABILITY AND BUOYANCY

The stability of your XO boat is excellent due to its hull design and weight distribution. However, remember that high breaking waves always represent a serious danger to stability. Also note that the stability of your boat will be compromised if any weight is placed in a high position. Any changes in the positioning of different weights in the boat can have a significant impact on the stability, trim and performance of your boat. If you are planning such changes, please contact the boat manufacturer. The amount of bilge water should be kept at a minimum because freely moving water in the boat always impairs the boat's stability. Also note that stability can be diminished when towing or being towed.

4.9 HATCHES AND SEA-COCKS

There are several inlets through the boat that include taps for opening and closing the inlets. It is recommended to keep these closed if the boat is out of use for a long time, and to open them again when the boat is used again. The taps of the draining systems in the aft and fore decks must be open when the boat is in the water.

It's recommended to keep the windows, doors, deck hatches and vents shut while driving. However, on occasion and depending on the weather they can be kept open. In stormy weather, always keep deck hatches, storage room doors and openings closed to minimize the risk of water getting into the boat.

In certain conditions and speeds it is possible that water is sprayed inside through canopies, hatches or other openings, due to negative pressure or other effects. This can be prevented by closing the canopies, hatches or other openings. The taps and hatches presented in the following picture must be kept shut when under way. Exact location and function of the sea-cocks (2-4) are shown in the section Septic system.

WARNING !

Front cabin door must be close during driving

1. Draining holes
- Manual bilge pump draining
- Automatic bilge pump draining
- Shower pump draining
2. Toilet seat water inlet sea-cock
3. Septic tanks seawater sea-cock
4. Generator water inlet sea-cock
5. Storage room of sofa
6. Midstorage box
7. Cabin door
8. Foredeck hatch
9. Boq anchor box hatch

5 SAFETY

5.1 MINIMIZING RISK OF FIRE AND EXPLOSION

If there is a fire in your craft, it usually starts with an explosion. Most common fire sources are the engine and the stove. Fire spreads usually very fast, so extinguishing the fire mist proceed quickly. Fire should be put down by extinguishing, i.e. stopped the oxygen. Use the fire extinguisher in your craft. The exact location can be found from the General safety diagram. Using water in fuel-based fires does not help.

If the fire starts to get out of control, leave the burning craft to save lives, because if the fire reaches fuel containers, it may cause an explosion and cause even a large area around the boat to burn. Switch the power off when leaving your boat. Fire in the technical place can be extinguish via check hatches which are located front of outboard motors.

Keep the bilge always clean; check it periodically for fuel fumes and oil leakages. Do not drape any curtains or other flammable material near a stove or heater.

We recommend that the owner/user of the boat makes sure that there is easy access to a fire bucket with a line and fire blanket attached to it on the boat. Place of the blanket is shown General safety diagram. Make sure that the fire extinguishing equipment is easily accessible also when the boat is loaded.

Inform all members of the crew are aware of the location and operation of the fire extinguishing equipment. Keep the bilge clear of fuel and check the fuel system for leaks regularly. The smell of fuel is a definite sign of leaking fuel. In case your boat is equipped with a heater, please refer to the heater manufacturer's instructions for its safety instructions.

5.1.1 Responsibility of boat owner/operator

It is the responsibility of the boat owner/operator to ensure that fire-fighting equipment is readily accessible when the boat is occupied, and to inform members of the crew about

- the location and operation of fire-fighting equipment,
- the location of discharge openings into the engine space, and
- the location of routes and exits that is shown section 5.3

5.2 FIRE EXTINGUISHER

The boat is equipped with two 2 kg hand extinguishers and one 5 kg automatic extinguisher (3) in the technical space. The hand extinguisher (4) is located in the portside locker in the front cabin and the position of the extinguishers is marked with a sticker. Other hand extinguisher (4) is located next to driver´s seat. The automatic extinguisher
starts automatically if it detects a fire there. You can check whether the extinguisher is in working order by looking at the indicator light on the steering console. For more information, read the manual for the extinguisher.

Whenever the boat is used, it must be equipped with fire extinguishers with a minimum fire rating of 8A 68B. The minimum fire rating for an individual fire extinguisher is 5A 34B. You must have the hand-held fire extinguishers inspected regularly at specified intervals, depending on the legislation in your country. Contact the local fire authorities for the inspection policy in your country. have your hand-held fire extinguishers inspected once a year.

The manufacturing date of a hand-held fire extinguisher is indicated on a label attached to the fire extinguisher. Fire extinguishers that are more than ten years old will not be approved unless the pressure vessel is pressure tested again. When replacing a hand-held fire extinguisher, it must be replaced with an extinguisher with an extinguishing capacity that is at least the same as the old one.

5.2.1 Servicing of fire-fighting equipment

The boat owner/operator shall have fire-fighting equipment checked at the intervals indicated on the equipment, replace portable fire extinguishers, if expired or discharged, by devices of identical fire-fighting capacity, and have fixed systems refilled or replaced when expired or discharged.

5.3 GENERAL SAFETY DIAGRAM

1. Swim ladders
2. Storage place of liferaft
3. Automatic fire extinguisher
4. Fire extinguisher
5. Place of fire blanket
6. Main switches
7. Switch panel

Emergency exit

5.4 LIFE RAFT STORAGE

Your craft is not equipped with life raft by the manufacturer. If you decide to get one for your craft, we recommend that you stow it to the aft of the craft, so that it is easily accessible in case of emergency.

5.4.1 Use of life raft

In case of an emergency, the life raft should be tied to the stern of the craft and prepared for use. When the life raft is ready and tied to the stern, loading the raft can be done via the swimming deck. Also in an emergency, the life raft is easiest and safest to board from the swimming deck. Switch off the engine when using the life raft. Follow also the life raft manufacturer's instructions.

NOTE!

Also, never

- make changes to your boat's electrical or fuel system, or allow an unqualified person to make changes to any system on the boat
- fill the fuel tank or handle fuel when the engine is running smoke or use a naked flame when handling fuel
- keep fuel in a space that is not designed for such-purpose.
- leave the boat unattended when a cooker or heater is in use.
- obstruct passageways to exits and hatches,
- obstruct safety controls, e.g. fuel valves, gas valves, switches of the electrical system,
- obstruct portable fire extinguishers stowed in lockers
- smoke while handling fuel or gas.

6 ELECTRICAL SYSTEM

6.1 12 V DC SYSTEMS

Your craft is equipped with the 12V electrical direct current (DC) system. The 12-Volt DC-electrical system consist of engines chargers, shore power chargers, batteries and equipment. The power supply happens from charger or alternator via diodes for batteries. Most equipment of the craft uses the 12 V system. 12V equipment is working only when a main switch and a switch in the Main switch panel is switched on. Damaged equipment must be maintained before taking back to use.

The boat's wiring diagram is shown in Appendix 3. The main switch is located on the starboard side, behind the helm station. When the circuit is closed, the various devices can be operated with the switch panel at the helm station.

WARNING !

Never use the hull for earthing. Both the negative and positive sides of all electrical installations must be insulated from the hull.

WARNING !

Never leave the craft unattended with the electrical system energized, except direct supply switches.

WARNING !

Do not alter the electrical system of the boat or any related diagrams; all changes and maintenance must be taken care of by a professional qualified technician specialized in marine electrical systems.

WARNING !

Never do any reparations to the electric circuits when they are connected.

NOTE!

Use the AUX circuit if you are installing optional equipment to the boat. Connect the device to both power supply as well as the negative wire. Never use the hull for earthing.

When leaving the boat for a longer time, turn off the main switch. Detach the battery from the system when doing electrical installation. When detaching or attaching batteries, be careful not to touch the aluminum parts of the boat or both poles of the battery simultaneously with a metal tool.

Charge the batteries only with either the engine, shore power charger* or a battery charger. Charging with too big current may cause danger of explosion. Make sure the battery space is adequately ventilated. The hydrogen that is released while charging the battery may explode if the ventilation is prevented.

6.1.1 BATTERIES

Boat are equipped with five batteries; Two start batteries and two service batteries. Boat thruster have own battery. The recommended battery capacity in the boat is 4 x 100 (Ah).

The boat's electric system is built in such a way that the batteries are positioned in the fore part of the engine compartment. Remove the batteries from the boat for the duration of winter storage.When removing the batteries, detach the negative (-) terminal first.The batteries can be recharged in three ways: by using the engine, shore power or the generator.

The primary battery charger in the boat is the shore power charger, which functions when the boat is connected to the shore power system. The secondary chargers are the boat's engines, which recharge batteries when the boat is not connected to shore power. As an optional extra, the boat may also be equipped with a generator which also recharges the boat's batteries when running.

The recharging sequence of the batteries is prioritised in such a way that the engine batteries are charged first and then the service batteries.

6.2 NAVIOP LOOP SYSTEM

Boat is equippes with Naviop monitoring and control system. System can be control by Simrad chart plotter. Main unit of system is located front of driver´s foot. In the main unit are boat´s remote controlled main switches and main fuses. In the technical space are main switches and other components. Read more information from user´s manual of the system.

When leaving the craft for a longer period of time, please switch off the power from the main switches but, if needed, leave direct supply switched on.

WARNING !

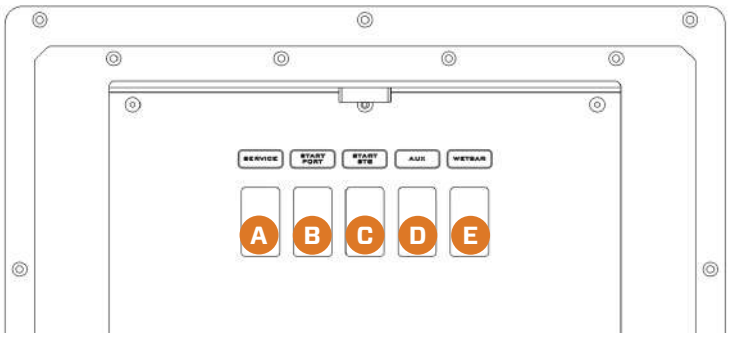
When removing, connecting or loading batteries make sure there are no flammable liquids or materials nearby.

WARNING !

Never switch off the current when the engine is running, because this may cause damage to the alternator.

6.2.1 Technical place main switches

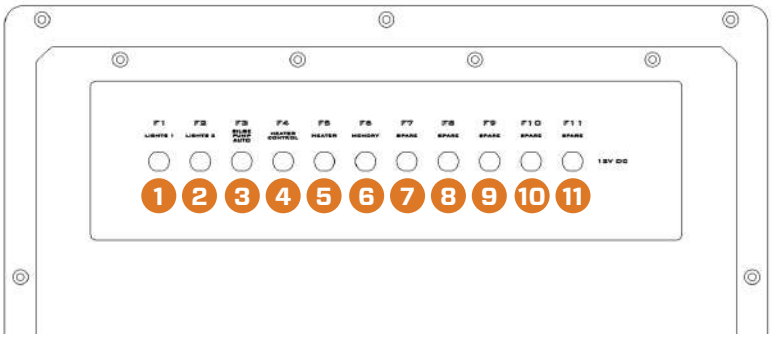
There are switches for power circuits.



A Service batteries
B Port side engine
C STB side engine
D Bow thruster and anchow winch
E Wetbar

6.2.2 Steering console´s panel

Bottom part of steering console is located switch and fuse panel. In the panel are remote controlled main switches and indicator light for bilge pump and automatic fire extinguisher.



In the panel are following fuses:

1. Lights 1
2. Lights 2
3. Automatic bilge pump
4. Heater switch
5. Heater fuse
6. Radio memory

7-11. Spare

6.3 FUSES

The fuses for the electronic circuits are positioned on the switch and fuse panel in the helmsman's footwell. XO-boats utilise fuses that spring up to the "off" position when an overload occurs and that can be switched back on after the overload by pressing the button that has sprung up back down again. Part of fuses has been equipped with power switch function.

The electrical system has additional electronic circuits (F9-F13) equipped with a fuse, and retrofitted optional extras can be connected to these. The conductors for the electronic circuit can be found on the switch panel. Do not change fuses for higher currents and do not install components in the electrical system which cause the electronic circuit's nominal amperage to be exceeded.

WARNING !

Before connecting an electric circuit make sure that the circuit is not damaged and that there will be no short circuit or a fire caused by possible damages in the electric circuit. Any damaged equipment must be maintained or changed before they are again taken into use.

6.4 DIRECT SUPPLY SWITCHES

Some of the boat's devices are supplied with direct supply switches. Switches are located either on the switch panel of the engine compartment or on the lower part of the steering console's switch panel. Direct supply switches are intended for such equipment that need current when main switches are turned off.

The switches in the steering console (F3-F6) are equipped with an automatic fuse and power switch features. All other fuses are meant for devices that constantly need power, so they are not allowed to be switched off.

WARNING !

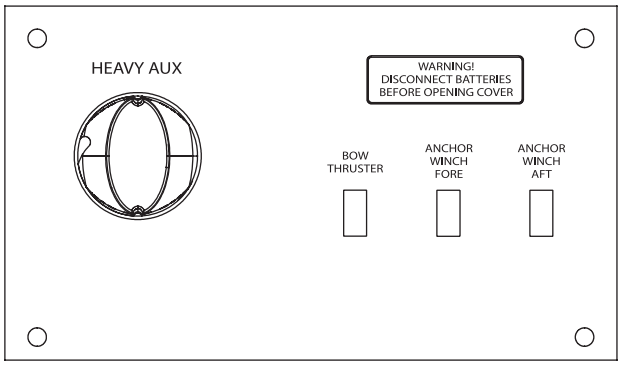
Turning the direct supply switch off too early may cause the device (e.g. heater) to break or catch fire, because the devices have a ventilation feature that works even if the device is otherwise switched off. Make sure the device is cooled down before turning it off completely. For more information, see the manual of the device in question.

6.5 HEAVY DUTY FUSES

Under the berth in the fore cabin is fuce panel for devices that required high current

The panel next to the bow thruster contains fuses for the bow thruster and anchor windlasses. The functioning of fuses can be checked from the holes in the fuse covers. If the metal strip visible in the hole is unbroken, the fuse is operational.

If the metal strip is damaged, meaning that an overload has occurred, contact a qualified nautical electrician. Opening the cover is not recommended, as there is a danger of electric shock and serious injury.



WARNING !

Changing the fuses is not recommended because a damaged electronic circuit may cause an electric shock.

6.6 230 V SYSTEM

The boat is equipped with an AC shore power system which obtains its power from an external supply on shore or dock (shore power), invertor or generator. This system utilises a voltage of 230 V and therefore ordinary mains current devices can be plugged into the boat's sockets.

The system includes battery chargers, which start loading the boat's batteries automatically when the shore power is connected. The location of the components is presented in the section Electrical System diagram.

The shore power system should be checked at least once every other year. Always disconnect the shore power cable when the system is not in use. Metal casings of installed electrical equipment must always be connected to earth in the boat's electrical system. Only use electrical equipment equipped with douple insulation or earth protection.

6.6.1 Shore power

Devices that use shore power can be used when the shore power cable has been connected to the shore power sockets (1) which are located in the both side bay in the cockpit. Boat is equipped with separate charger cable.

The control switch system is located in the technical space. In the same panel you will also find the fuse of shore power.

6.6.2 Inverter

You can choose to equip your boat with an inverter that allows you to use 230V devices even when the boat is not connected to a shore power system. The inverter fuse is located on the front bulkhead of the technical space.

6.6.3 Generator

In the boat technical space is located generator that is supplied power to 230 V system although shorepower is not connected. Control panel of the generator is located Port side of cabin.

Sea-cock of the cooling water is located STB side of the techincal space. Sea-cock must be open when generator in use. Ream more information generator user´s manual.

WARNING !

To avoid electric shock and fire hazard:

- Switch off the shore power switch before connecting and disconnecting the cable.
- Connect the shore power cable to the boat before connecting it ashore.
- Disconnect the shore power cable ashore before disconnecting it from the boat.
- Close the cover of the shore power socket/distribution board carefully (to avoid getting it wet)

WARNING !

- Do not touch the energised high voltage system
- Try to minimize the risk of electric shock, short circuit and fire.
- Do not allow the shore power cable to hang in the water. If it does, a hazardous electric field could be created in the water.
- Never modify the connections on the shore power cable.
- If the earth fault breaker is tripped, disconnect the shore power cable immediately. In such an event- contact a qualified electrician for repairs before the system is used again.

7.1 COMPONENTS OF THE ELECTRICAL SYSTEM

1. Shore power plug
2. Batteries
3. Main switch and high-current fuses
4. Shore power distribution board
5. Generator
6. Inverter
7. Main switch panel
8. Remote control for main switches
9. Bow thruster battery and high-current fuse panel

● 230 V socket
● 12V socket

7 BOAT HANDLING

7.1 HANDLING CHARACTERISTICS

7.1.1 Driving at high speed

Do not use the boat if it has an engine with a higher power rating than that indicated on the builder's plate.

Use the engine's electro-hydraulic power trim feature as follows: When you are lifting the boat to plane, adjust the trim to the 'bow down' position. Once the boat is on plane and if the waves are small, lift the bow until the boat starts to porpoise, the propeller loses grip or the engine reaches the upper limit of its normal adjustment range. Then lower the bow from this position slightly so that the ride feels stable. You can use the speed log to optimise the trim.

When running into a head sea, lower the bow to make the run smoother. In a following sea and a very high head sea, lift the bow slightly to prevent it from diving in. Do not drive the boat at high speed when the trim is negative, i.e. when the bow is low, because the boat can heel and become unstable to steer. To adjust the trim, also refer to the engine manufacturer's instructions.

WARNING !

Handling is impaired at speeds exceeding 40 knots. Rapid turns can lead to loss of control. Slow down before sharp turns in either direction. Avoid rapid movements while driving at high speed. Do not drive at full speed if traffic on the waterway is high or visibility is restricted.

WARNING !

If you drive at high speed, adjust the trim carefully as it will radically change the behavior of the boat. Do not drive with the bow too low because the boat can suddenly turn. Do not drive the boat at high speed when the trim is negative (bow low). The boat can heel or become unstable in turns.

WARNING !

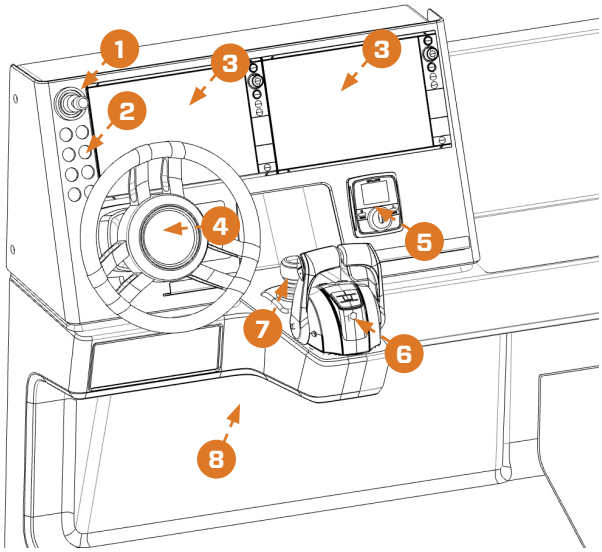
Waves impair the handling of the boat and can cause it to heel. Take this into account and reduce speed when waves become higher.

7.2 HANDLING DEVICES

The boat's handling devices are located optimallyfor the helmsman so that they are easy to useThe amount and positioningof the steering console devices may vary according to the boat's standard of equipment and engine. More information on the boat's devices is given in other sections of this manual and the device manuals.

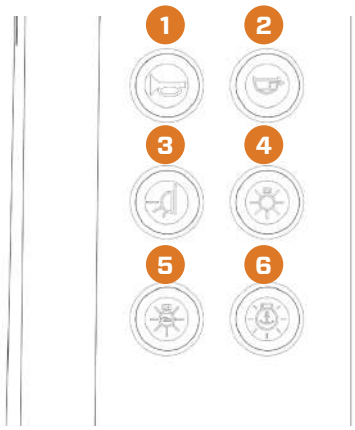
The steering console includes the following devices:

1. Bow thruster operating lever
2. Switch panel
3. Simrad display
4. Rudder
5. Operating panel for trim tabs
6. Engine´s remote control
7. Engine joystick
8. Main switch panel



7.2.1 Steering console's switch panel

The steering console includes switches for devices that may be needed while driving.



1. Horn
2. Manual use for bilge pumps
3. Deck lights
4. Inner lights
5. Driving lights
6. Anchor light

7.2.2 Windscreen wipers

The boat's windscreen wipers are controlled by the switches on the boat's steering console. When pushed forward, the wipers wipe only once, and when pulled back, they wipe continuously. A switch for thewind-screen washer is installed next to the switch for the windscreen wipers. Tank of the windscreen washer is located insideof the sofa.

7.3 NAVIGATION

Learn and obey the rules of navigation on waterways, and also familiarize yourself with the rules known as COLREGs (International Regulations for Preventing Collisions at Sea) that you must follow at all times. According to the rules, every vessel must maintain a proper look-out and obey the giveway provisions at all times.

Navigate carefully and use new or updated nautical charts. Always adjust your speed in relation to the prevailing conditions and environment.

There must always be a compass in the boat, as well as an up-to-date chart, even if the boat is navigated with a GPS chart plotter for example. GPS supports navigation, but it should not be used as primary means of navigation. The commander of the boat should always master basic navigation skills at least. Pay attention to the following:

- Waves (also consult your passengers on their opinion of a comfortable speed)
- Your own wake (highest when rising to plane and lowest at displacement speed, i.e. below 10 knots).
- Always observe no wake zones. Slow down to reduce your wake to be courteous and also for the safety of yourself and others in the area.
- Visibility (islands, fog, rain, blinding sun)
- Knowledge of the route (time required for navigation)
- Narrowness of the route (other traffic, noise and impact of wakes on shore)
- Space required for stopping and taking evasive action.

7.3.1 Visibility from the steering position

Driving in beautiful and calm weather is easy once you ensure proper visibility which also complies with the rules of COLREG. Always ensure that visibility from the steering position is as good as possible:

- Position the passengers so that they do not impair the helmsman's visibility
- Do not drive continuously at planning threshold speed at which high bow rise impairs visibility
- Adjust the engine power trim and possible trim tabs to set the boat position so that the rising bow does not impair visibility
- Remember to keep a good lookout astern as well, especially on fairways in case of approaching ships.
- Use appropriate navigation lights after dark and in limited visibility (fog, heavy rain).

7.4 SAFE OPERATION – OTHER RECOMMENDATIONS AND INSTRUCTIONS

7.4.1 Protection from falling overboard and means of reboarding

The boat's working decks are areas where people can move about when the boat is being manoeuvred. These decks are marked in orange in the picture below. Do not sit, stand or spend time in other parts of the boat while the boat is under way. Moving about on the afterdeck while the boat is under way is not recommended. When moving about the foredeck, always wear a safety harness and attach it to the points in the railing designed for this purpose.

Before you get underway, make sure that the aft rails are in the locked position. If someone falls overboard, the easiest way to reboard is via the bathing/rescue ladder on the stern. A person in the water can also deploy the ladder (1). Keep the gates at the open space closed while driving.

DANGER !

A rotating propeller can be lethal for a swimmer or person who has fallen overboard. Use the dead man's switch and shut down the engine when a swimmer or water skier climbs on board.

7.4.2 Securing loose equipment

Secure all heavy equipment (for example, anchors) before getting underway. Pay attention to lightweight items as well because they can be easily taken away by wind. Keep all hatches closed when underway.

7.5 ANCHORING, MOORING AND TOWING

Always moor your boat carefully, even in sheltered places, because conditions can change rapidly. The mooring lines should be equipped with appropriate absorbers to dampen shocks. For the location of fastening points, see Figure.

Do not use other boat components for fastening, towing or anchor-ing. Use sufficiently large fenders to protect the boat from chafing. The eye on the stem is only designed for docking on a slipway or for fastening the boat to a trailer. It is not to be subjected to lateral forces present when, for example, the boat is secured to a dock.

The owner/user of the boat is responsible for ensuring that the mooring, towing and anchoring lines, as well as the anchors and anchor chains are appropriate for the intended use of the boat, and that the tensile strength of the lines and chains does not exceed 80% of that of the corresponding fastening points.

However, wear and tear of the lines and knots weakening the lines must be taken into account. If you tow the boat, note that the strength ratings for the front cleats differ from those of the aft and centre cleats.

If you are going to beach the boat at an excursion harbour or similar natural harbour, make sure that the depth of the water is sufficient and DROP YOUR ANCHOR AT A SUFFICIENT DISTANCE FROM THE SHORE. A fair holding power is achieved if you pay out anchor rode so that its length is 4 to 5 times the depth of the water at the point where you dropped the anchor. The grip is increased the more anchor rode you deploy. The anchor holding power is also significantly increased if the first 3 to 5 metres of the anchor rode is weighted line or chain.

When you moor your boat, bear in mind the wind-direction changes, rise and fall of water level, wakes, etc. Additional instructions can be provided by your insurance company, for example. If you tow another boat or if your boat is being towed, always drive slowly and use a floating tow line that is sufficiently strong.

WARNING !

Do not try to stop the boat with your hands and do not put your hand or foot between the boat and the quay, shore or another boat. Practise going ashore in good conditions and use engine power in moderation but purposefully.

NOTE !

The tensile strength of the lines or chains should normally not exceed 80% strength of the fastening point.

The hawser must always be tied in such a way that it can be untied when the boat is loaded.

When towing or being towed, always go slowly. If your boat is a displacement craft never exceed hull speed when towing.

The boat's midship cleats are only intended for tying the boat from the jetty and never from the boat, because reaching for the midship cleats may cause you to fall overboard.

Start towing carefully, avoid sudden jerks and do not overload the engine. Make sure that the tow line cannot get caught in the propeller. If the boat you are towing is of the displacement hull type, never exceed its hull speed.

If you tow a small dinghy, adjust the length of the tow line so that the dinghy rides downhill on your wake. However, you should pull the dinghy close to the transom in narrow passages and on high waves to minimize wiggling.

Carefully secure all equipment in the dinghy in case it capsizes. Cover the dinghy if you tow it on waves in open water to prevent it from being filed by splashing water. If you tow another boat or if your boat is being towed, attach the tow line to the fastening points shown in Figure. Attach the tow line so that it can be detached under load.

Always attach the tow line so that it can be detached under load.

The strength rating for the front cleat in towing and anchoring is 26 kN. For mooring purposes, the forward force rating for the front and centre cleats is 21 kN, and the rearward force rating for the aft cleat is 18 kN.

WARNING !

The hawser is under great tension. If it breaks, the snapped end may move at a life-threatening speed. Always use a line that is sufficiently thick and never stand, sit or spend time in the line's travel area.

7.6 TRAILERING

Before lifting your XO boat onto the trailer, make sure that the trailer is suitable for your boat: that there are a sufficient number of supports to distribute the weight properly without excessive point loads, and the capacity and dimensions of the trailer are sufficient to carry the boat and its engine, equipment, battery, boating acce sories and fuel on board.

Commission only a reputable lifting company or a boat-yard with sufficient lifting capacity to lift the boat. In addition to the boat's own weight (see technical details), take into account also the equipment and other possible loads in the boat. The centre of gravity and the location of the lift straps are indicated in the following image.

Before loading the boat on the trailer, remove any unnecessary weight from the boat and drain the bilge water. Adjust the side supports of the trailer so that the most weight of the boat rests on the keel supports and the side supports only offer lateral support. Protect the boat by placing suitable padding between the tie-down straps and the boat if necessary. Refer to the engine manual for any instructions on trailering.

In addition, pay attention to any equipment and acces-sories in the boat during trailering. Make sure you secure all loose items in the boat. Do not use a hood, canopy, tonneau cover or other similar top or cover on the boat during trailering. These hoods and covers can become detached at high speeds and damage the boat and cause a danger to traffic.

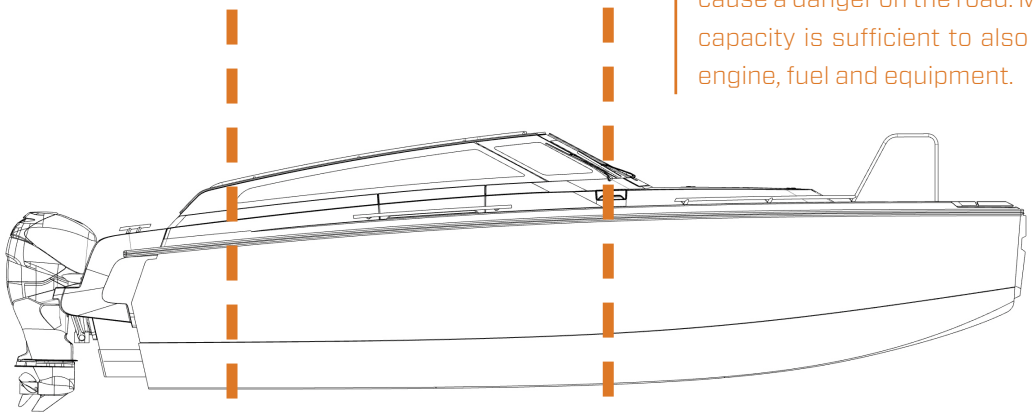
Moreover, a hood or other cover flapping in the wind during trailering can damage the boat surface. Keep the hood in its dedicated storage compartment during trailering, or remove the hood completely if necessary. Also make sure that the boat door is properly closed before trailering.

NOTE !

The trailer must be a little nose heavy. Make sure that the boat is securely fastened to the trailer, that it cannot move into any direction, and that the side supports provide an even support for the weight of the boat. The hull of the boat can be damaged if the boat swings against a single support during transport.

WARNING !

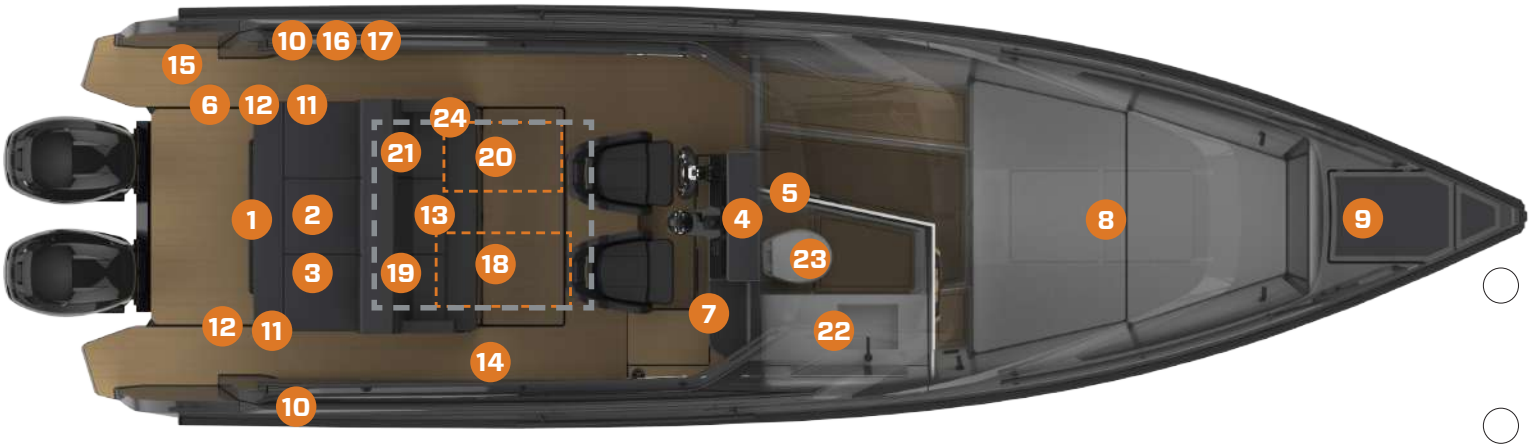
A boat trailer that does not have sufficient capacity or that is poorly maintained can become damaged and cause a danger on the road. Make sure that the trailer capacity is sufficient to also carry the weight of the engine, fuel and equipment.



8 THE BOAT'S DEVICES AND TECHNICAL SYSTEMS

The pictures below present the position of the boat's most important equipment and the components of its technical systems. The amount and position of the components may vary according to the boat's equipment level.

1. Wetbar
2. Grill
3. Refrigerator
4. Steering console equipment
5. Windscreen wipers
6. Heater
7. Radio and multimedia player
8. Bow thruster
9. Fore anchor windlass
10. Fuel fitting
11. Fuel valve
12. Fuel filter
13. Fuel tank
14. Diesel tank
15. Hot-water tank
16. Fresh water inlet
17. Septic tank suction fitting
18. Fresh water tank
19. Fresh water pump and pressure tank
20. Septic tank
21. Septic tank sea water outlet and pump
22. Toilet seat water inlet
23. Toilet
24. Windscreen washer tank



8.1 FUEL SYSTEM

The boat is equipped with a fixed fuel system which includes fuel inlet pipes, fuel tank, fuel filters and fuel cocks. Inlet fitting are located both side of the cockpit. When refuelling, keep an eye on the fuel level in the fuel gauge toprevent it from overflowing. After refuelling, always check that no fuel has flowed into the bilge. Location of the componets have shown page 40.

Fuel tank is located under cockpit. Service hatch and valves of tank located under midstorage box.
The engine's fuel system is equipped with fuel cocks. When using the engines, always check that the cocks are open.

Heater of the boat is used Diesel fuel. Diesel tank is located STB side of the techincal space and inlet is located STB side of the cockpit. Do not use wrong type fuel in the engine and heater.

WARNING !

- Never leave the boat unattended when the stove or heater is on.
- Fuel-powered devices with an open flame consume oxygen and release combustion gasses into the cabin. When using such devices, make sure that the cabin is sufficiently well ventilated and keep ventilation ducts open.
- Never block ventilation ducts.
- Check regularly that the devices function as they should.
- Heater and stove parts may become damaged if using the wrong type of fuel.

NOTE !

Never

- block access to safety devices, extinguishers, fuel valves or the main current switch of the electrical system.
- block any ventilation holes in the boat because these are intended for airing out any fuel vapour.

8.1.1 Fuel system servicing and refuelling

Before refuelling, turn off the engines and put out any cigarettes and naked flames.Do not use any electrical devices.The fuel filling plugs are located on both sides of the boat's aft door. When refuelling at a service station, do not use a plastic funnel because it will prevent the discharge of the static stress between the nozzle and inlet pipe. Before refuelling a boat equipped with composite decking (Esthec or FlexiTeek), the deck must be flushed with water. This prevents any overflow fuel from being absorbed into the material; instead, it will remain on the surface of the water.

After filling the tank, check that no fuel has run into the bilge or engine compartment and clean any fuel spillage immediately.The condition of the fuel hoses can be checked visually through the service hatch.

Do not keep any spare canisters loose or in unventilated spaces, or any equipment containing fuel in spaces where they are not meant to be kept. The condition of fuel hoses must be check once of the year.

8.1.2 Fuel powered devices and ventilation

The exhaust gases of fuel-powered devices are extremely dangerous if exposure is long-term. Over-exposure to carbon monoxide can be lethal.Exhaust gases may enter the interior of the boat in, for example, the following circumstances:

1. The boat's engine is running but the boat stays in place.
2. Exhaust gas systems are blocked.
3. When driving at a high trim angle.
4. Hatches and covers are closed when the engine is running or other fuel-powered devices are in use.

When the boat's engine is running but the boat remains in place, always make sure that the cabin is sufficiently ventilated and keep ventilation ducts open.Never block ventilation ducts.

8.2 WATER SYSTEM

The boat is equipped with a pressure water system.The freshwater system consists of an inlet pipe for the water tank, a fresh water tank, filter, pump, hydraulic accum latorand hot-water tank, a water supply point for the galley and toilet and a shower. The tank is located in the technical space under the helmsman's position.The filter, pump and hydraulic accumulator are positioned right next to the tank. Location of the components is shown page 40.

The fresh water tank is filled via the inlet pipe (16) located on the side deck on the boat's STB side.The pipe is marked with the text "Water". The fresh water pump (19) must be switched on when using the system. Switch of the pump (Pentry pump) is locates switch panel of the steering console. Do not forget to check the pump filter (19) regularly. In connection with the pump there is a hydraulic accumulator which automatically keeps working pressure in the system when the system pump is on.

8.2.1 Hot-water tank

The boat's water system includes a hot water system The boat's hot-water tank heats up service water either with the engine or shore power.The hot-water tank is located on the STB side of the engine compartment.

Heating with shore power occurs automatically when the boat is connected to shore power and the water heater's supply cord is connected to the socket, which located next to heater. If the water system is not in use, unplug the cord from the socket. The tank may be damaged if heated when empty.

The hot-water tank must be emptied before winter storage.Emptying takes place by opening the tank's drain cock and switching on the fresh water pump. Emptying can be eased by blowing compressed air into the tank.

NOTE !

The fresh water system must be emptied carefully before winter storage. We do not recommend the use of antifreeze in the fresh water system.

8.3 SEPTIC SYSTEM

The boat is equipped with a collection system for septic waste.This system includes a toilet seat, shower pump, septic tank and septic crusher. Location of the components is shown page 40. The septic tank meter is located on the toilet switch panel.

The emptying option can be chosen draining way of the septic tank with a selector valve that is located in the technical space. The valve must be emptied of water for the winter and regularly emptied of rubbish.

The septic tank can be emptied by suction into a permanent septic tank ashore via the inlet pipe (17), which is marked with the text “Waste”. Press the suction hose tight against the pipe fitting for the duration of suction to avoid any septic waste spilling onto the deck. Make sure that no septic waste spills onto the water inlet pipe and prevent the suction hose from touching the water inlet pipe.The septic tank’s seacock (21) must be closed during suction.

The contents of the septic tank can be emptied straight into the sea with the septic pump.The pump crushes the contents to be emptied into the sea from the septic tank.

If you (want to) empty the contents of the septic tank into the sea, open the seacock (21) and switch on the pump from the toilet’s switch panel. The pump switch is marked with the text “Septic pump”. Do not forget to close the seacock after emptying the septic tank. Next to the pump switch there is a septic tank meter which shows how full the tank is.

8.3.1 WC

The boat is equipped with an electric toilet. It uses seawater for flushing and so the water intake cock must be opened when using the flush function. The cock is positioned in the middle of the boat’s technical space. The cock must be closed after use. The toilet’s operating switch is to the right of the toilet seat. The contents of the toilet empty out into the septic tank. An electric toilet flushing pump is located behind the service hatch on the aft bulkhead of the WC.

8.3.2 Shower trough

From the boat’s sink and shower, the water flows to the toilet´s trough which is equipped with a drainage pump. Pump starting automatically then water flows to trough. The pump must be emptied of water for the winter and regularly emptied of rubbish.

NOTE !

Emptying the septic tank into the sea is against the law and good practice of seamanship.

8.4 BOW THRUSTER

Bow thruster is located under the bow cabin bed, and can be reached through the maintenance hatch. The Service battery gives power to the bow thruster. The switches of the bow thruster are located in the control panel. Use the equipment only for short periods at a time, and don't exceed the maximum amount of four periods of use (30sec periods during 25 minutes). Wrong use may cause the bow thruster to overheat and short-circuit.

The main switch (Aux Heavy) is located next to the bow thruster and its remote-controlled switch on the steering console's switch panel. The main fuse of 200 Ah is located next to the bow thruster.

In case of overloading the fuse happens please contact professional boat service. It is not recommended to open the lid, because of the danger of serious injury by electric shock. All batteries must be detached from the circuit before changing the fuse. For more information, see manufacturer's manual.

WARNING !

Use the bow thruster only short periods at a time. A long period of use may result in overheating and a risk of fire.

8.5 ANCHOR WINDLASS

You can choose to equip your boat with fore and aft anchorwindlasses as an optional extra. The remote-control switches for thewindlasses are located next to the helmsman.The main switch for the windlasses(Aux Heavy) is located next to the bow thruster and the remote-controlled switch on the steering console's switch panel.

The anchor windlasses use the bow thruster's battery and its 200 Ah fuse is located next to the bow thruster. Always before using an anchor windlass check that the windlass is in working order and that the anchor chain can move freely. It is also important to check that the anchor and chain cannot damage the craft when lowered. While under way, an anchor windlass must be fixed mechanically to prevent it from releasing. For more information, see manufacturer's manual.

DANGER !

Always fasten the anchor wing into its position while the boat is moving. If the anchor winch is detached while the boat is moving, it can cause substantial damage to the boat, its passengers as well as others.

DANGER !

Do not touch the bow thruster, anchor windlass or their fuses if the main switch Aux is switched on. Even if the current is switched off, we do not recommend changing the fuse, because the high current may cause an electric shock, which may be fatal.

8.6 HEATING

8.6.1 Heater

Boat is equipped with following heater:

Heater:	Webasto AT5500
Heating power:	1,7-5,5 kW

Heater´s control panel is located in the steering console.

The heater is equipped with a direct supply switch. For more information see the section on direct supply switches.

Heater running with Diesel fuel. Inlet fitting of tank is located STB side of the cockpit. Heater unis is located in the technical space.

9 SERVICE, REPAIRS AND WINTER STORAGE

For information on your boat's maintenance, winter storage, service and repairs, please consult your local XO dealer. If you detect any major damage on the aluminium or surface finish, it should be repaired by an authorized XO dealer. In case of a problem with the engine or retrofitted equipment, is damaged, please contact the supplier of the component in the first instance.

Always check the functioning of the most important equipment regularly. These include for example bilge pumps, headlights and the engine. The zinc anodes should be checked every year. The anodes are located in the badge and must be changed when they are more than 50% worn out.

NOTE !

If not carried out properly, many installation and modification operations can damage the structures of the boat or create a safety hazard. Please contact the manufacturer before doing any of the following: construct new earthing points or hatches, fasten or install new equipment on the boat, or mount other metal alloys to aluminum.

NOTE !

If you are installing new equipment to the boat, make sure to use dielectric boards under the surface (the installing surface of the equipment or the socket of the screw) that is touching the finished aluminum surface.

9.1 INSTALLATION OF OPTIONAL EXTRAS

The boat can be equipped with many electrical optional extras, for which all the necessary electrical circuits and cables have been prepared and run in advance in the correct places. The electric diagram lists the positions of all the possible cables. Look for more detailed installation and user instructions in the man facturers' manuals.

9.2 RESPECT FOR THE ENVIRONMENT

Archipelagos and lakes are unique, and their conservation is a matter of honour for all boaters.
Do your best to avoid the following:

- Fuel or oil spills
- Disposing rubbish or waste into the water or on shore
- Discharging detergents or solvents into the water
- Loud noise both out on the water and in harbours
- Generating high wakes, especially in narrow passages and shallow waters.

Observe the local environmental legislation and regulations. Familiarize yourself with the international regulations on the prevention of marine pollution (MARPOL) and comply with these regulations as far as possible.

NOTE !

Please make sure that the detergents, surface finishing products or conserving agents are suitable for aluminum or other surface materials. Make sure to observe the instructions by the manufacturer of the chemicals in question.

10 APPENDIX 1 TECHNICAL SPECIFICATIONS

The boat is marked with a running serial number known as the CIN (Craft Identification Number). The CIN is marked on the hull, on the starboard side of the stern, on the outer surface of the transom beside the edge strip. You can record the CIN of your boat in the table below. When contacting the builder or a dealer, indicate the CIN and the boat type to make it easier to supply the correct spare parts.

Type identification:	XO CRUISER
CIN:	
Engine make and model:	
Engine serial number:	
Hull material:	Marine aluminium AlMg4,5/ 5083

10.1 TECHNICAL INFORMATION

Main dimensions:

Overall length:	9,60 m
Waterline length:	8,65 m
Beam:	2,75 m
Height above waterline:	1,92 m
Draught:	0,90 m

Weights:

Weight, without load:	4045 kg
Weight, fully loaded:	6461 kg
Manufacturer's maximum recommended load:	1646 kg

Maximum capacity on the fixed fuel tank:	700 l
Maximum capacity on the fixed diesel tank:	40 l
Maximum capacity on the fixed fresh water tank:	110 l
Maximum capacity on the fixed septic tank:	85 l

CE Category:	C

Capacity:

Maximum recommended number of persons:	10
Performance:	
Maximum rated engine power, kW (hp):	2 x 350 hp (524 kW)
Speed at the max. rated power:	46 knots

Additional load components:

Basic equipment:	50 kg
Contents of the fixed fuel tanks:	499 kg (700 l)
Batteries:	120 kg

Due to reasons associated with the production technology, the main dimensions and capacities may vary slightly. Please note that the specified tank capacity is not always available, depending on the trim and heel angle of the boat.

NOTE !

The specified tank capacity is not necessarily fully available, depending on the trim and load on board. The tank should always be kept at least 20% full.

MANUFACTURER

XO-boats Oy
Pulttitie 18
00880 Helsinki
Finland
Module used: B (EY-type examination)

10.2 NOTIFIED BODY

DNV GL SE
Identification number: 0098
Brooktrokai 18
20416 Hamburg
Germany

10.3 CERTIFICATION DATA:

Boat make and model: XO CRUISER
Design category: C
Type examination certificate No:
Boat type: Open, monohull sterndrive/outboard motor boat
Construction material: Aluminium alloys, fibre-reinforced plastic, PE-HD

The references to relevant harmonised standards and requirements are listed on the next page.

I declare that the recreational craft mentioned above complies with all applicable essential safety requirements in the way specified overleaf, and is in conformity with the type for which the above-mentioned EC type examination certificate has been issued.

XO Boats Oy

_____

Dan Colliander, Managing Director
Date: 1 March 2017

11 APPENDIX 2 GENERAL REQUIREMENTS

Principal data:	EN ISO 8666:2002
Craft identification:	ISO 10087:1996 / A1:2000
Builder's plate:	RCD annex I, 2.2, 2.5
Owner's manual:	EN ISO 10240:2004

Layout and equipment:

Man-overboard prevention:	EN ISO 15085:2003/ A1:2009
Life raft storage:	RSG Guidelines
Escape:	EN ISO 9094-1:2003
Anchoring and towing:	EN ISO 15084:2003

Navigation lights:	1972 COLREG
Discharge prevention	-

Installations:

Engines and engine compartments:	EN ISO 11105:1997
Fuel system:	EN ISO 10088:2001, EN ISO 11105:1997
Electrical system:	EN ISO 10133:2000
Steering system:	EN ISO 10592:1994/A1:2000
Gas systems:	-
Fire protection:	EN ISO 9094-1:2003

Dimensioning:

Construction:	EN ISO 12215-3:2002, EN ISO 12215-5:2008, EN ISO 12215-6:2008

Hydrostatics:

Stability and freeboard:	EN ISO 12217:2013
Buoyancy and flotation:	EN ISO 12217:2013
Maximum load capacity:	EN ISO 14946:2001/AC 2005
Opening in the hull, deck and superstructure:	EN ISO 9093-2:2002, EN ISO 12216:2002
Flooding:	EN ISO 11812:2001, EN ISO 15083:2003, EN ISO 8849

Handling characteristics:

Flooding:	EN ISO 11812:2001, EN ISO 15083:2003, EN ISO 8849
Handling characteristics:	EN ISO 11592:2001
Visibility from the steering position:	
RSG Guidelines:	EN ISO 11591:2000
Engine identification:	Engine CE-marked
Noise emission levels:	Engine CE-marked

12 APPENDIX 3 ENGINE INFORMATION

ENGINE 1

MAKE: _____

MODEL: _____

SERIAL NUMBER:_____

ENGINE 2

MAKE: _____

MODEL: _____

SERIAL NUMBER:_____

PROPELLERS

MAKE: _____

MODEL: _____

SERIAL NUMBER:_____

13 APPENDINX 4 ELECTRICAL DIAGRAMS

Separate document

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