

**XO 250**

WWW.XOBOATS.FI

## XO BOATS

### FOREWORD

Dear XO boat owner, thank you for selecting the XO, a superb boat made in Finland. We wish you enjoy your time on the waves.

The purpose of this manual is to help you learn to use your boat safely and comfortably. The following chapters will provide a detailed account of the systems and equipment of your boat as well as information about its use and maintenance. We strongly recommend that you read the manual carefully and get to know your boat before launching it. Naturally, this owner's manual does not provide the seamanship or boating safety skills necessary for operating a boat. For your own safety and comfort, if the XO is your first boat or you are not yet familiar with this specific boat type, we recommend getting some experience in handling and operating the boat before taking command. Your boat dealer as well as boat clubs and national motor boat and yacht associations are more than happy to tell you about local boat training programmes and recommend competent teachers. Please make sure that the current wind and swell conditions correspond to your boat's design category and that you and your crew are able to control the boat in the conditions. The wind and swell conditions corresponding to design category C range from storm conditions to high winds with the risk of exceptionally strong gusts and high waves. Such conditions are dangerous and only competent and fit crews using a well-maintained boat should face them. This owner's manual is not intended as a detailed

maintenance or troubleshooting guide. If you have any problems with the boat, please contact your XO dealer. For repairs, please use only companies recommended by the XO dealer.

**PLEASE STORE THIS MANUAL IN A SAFE PLACE AND PASS IT OVER TO THE NEXT OWNER WHEN YOU SELL THE BOAT.**



## CONTENTS

|   |           |  |           |
|---|-----------|--|-----------|
| <b>1 BEFORE YOU GO</b>                      | <b>9</b>  | 5.10 Correct use – other recommendations and instructions        | 25        |
| <b>2 GENERAL</b>                            | <b>11</b> | 5.10.1 Protection from falling overboard and means of reboarding | 25        |
| <b>3 WARRANTY</b>                           | <b>12</b> | 5.10.2 Securing loose equipment                                  | 25        |
| <b>4 BEFORE PUTTING THE BOAT IN SERVICE</b> | <b>12</b> | 5.10.3 Environmental considerations                              | 25        |
| 4.1 Registration                            | 12        | 5.10.4 Anchoring, mooring and towing                             | 27        |
| 4.2 Insurance                               | 12        | 5.10.5 Trailer transport   | 29        |
| 4.3 Training                                | 12        | 5.10.6 Navigation  | 29        |
| <b>5 BOAT PROPERTIES AND OPERATION</b>      | <b>13</b> | <b>6 MAINTENANCE, REPAIRS AND WINTER STORAGE</b>                 | <b>30</b> |
| 5.1 General                                 | 13        | <b>7 OPTIONAL ACCESSORIES</b>                                    | <b>31</b> |
| 5.2 Basic specifications                    | 13        | 7.1 General  | 31        |
| 5.3 Maximum recommended number of persons   | 13        | 7.2 Installing optional accessories                              | 31        |
| 5.4 Loading                                 | 14        | 7.2.1 Radio/CD player  | 31        |
| 5.5 Engine and propeller                    | 14        | <b>APPENDIX 1 TECHNICAL SPECIFICATIONS</b>                       | <b>33</b> |
| 5.6 Stability and preventing water intake   | 14        | <b>APPENDIX 2 XO 250 OPEN / GENERAL ARRANGEMENT</b>              | <b>35</b> |
| 5.6.1 Openings in hull and deck             | 14        | <b>APPENDIX 3 GENERAL REQUIREMENTS</b>                           | <b>36</b> |
| 5.6.2 Bilge pumps and draining              | 14        | <b>APPENDIX 4 ELECTRICAL WIRING DIAGRAM</b>                      | <b>37</b> |
| 5.6.3 Stability, buoyancy and flotation     | 17        |  |           |
| 5.7 Fire or explosion risk prevention       | 17        |  |           |
| 5.7.1 Engines and fuel systems              | 17        |  |           |
| 5.7.2 Fire protection and prevention        | 18        |  |           |
| 5.8 Electrical system                       | 19        |  |           |
| 5.9 Steering properties                     | 23        |  |           |
| 5.9.1 Driving at high speeds                | 23        |  |           |
| 5.9.2 Emergency switch                      | 24        |  |           |
| 5.9.3 Visibility from the steering position | 24        |  |           |

**BOAT MODEL: XO 250 OPEN**

Craft identification number - CIN: .....

Engine make and model: .....

Engine serial number: .....

**I OWNER**

First name:

Surname:

Municipality of domicile:

Year of purchase:

**II OWNER**

First name:

Surname:

Municipality of domicile:

Year of purchase:

**III OWNER**

First name:

Surname:

Municipality of domicile:

Year of purchase:

**IV OWNER**

First name:

Surname:

Municipality of domicile:

Year of purchase:

**V OWNER**

First name:

Surname:

Municipality of domicile:

Year of purchase:

**VI OWNER**

First name:

Surname:

Municipality of domicile:

Year of purchase:

## 1 BEFORE YOU GO

### **Please read this owner's manual.**

Before taking your boat out on the water, check at least the following:

### **Current weather and weather forecast**

Consider whether the wind, swell and visibility conditions are suitable. Is the boat's design category, size and equipment as well as the commander's and the crew's proficiency sufficient for the intended waters?

### **Loading**

Do not overload the boat, distribute the load appropriately. Do not place heavy items too high, since this would compromise the boat's stability.

### **Passengers**

Make sure to include life jackets for all persons onboard. Assign the tasks required during the trip together before setting off.

### **Fuel**

Check that there is sufficient fuel as well as an additional reserve in case of poor weather or other adverse conditions. Reserve at least 20 percent more fuel than required in case of exceptional and unforeseen circumstances.

### **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 that the boat is seaworthy in other ways: no fuel or water leaks, safety equipment is onboard, etc. Check that the bilge water level is at minimum.

### **Ventilation**

To reduce the risk of fire, make sure that areas where fuel is stored are ventilated.

### **Securing loose items**

Check that all loose items have been secured so that they will stay in place also in heavy swell and wind.

### **Nautical charts**

If you are not completely familiar with the route, does your nautical chart cover a sufficient area?

### **Unberthing maneuvers**

Decide with your crew who takes care of what, for example, who detaches which line. Check that the mooring or other lines do not get tangled in the propeller during berthing or unberthing.

**REFER TO THE SEPARATE ENGINE MANUAL FOR ADDITIONAL INSTRUCTIONS ON THE ENGINE.**

## 2 GENERAL

The owner's manual will help you learn the properties of your new boat. Additional manuals for equipment installed in the boat are also attached, and will be referred to throughout this manual. If you decide to purchase optional accessories, the manual will, of course, be complemented with their manuals. There is also space for your own notes at the end of the manual.

The following warning and caution notices appear in this manual and are defined as follows:

### DANGER!

If appropriate precautions are not taken, there is a serious risk which will very probably lead to death or permanent injury.

### CAUTION!

If the appropriate precautions are not taken, there is a serious risk of injury or death.

### NOTE!

This text reminds users of safe conduct or indicates dangerous actions which may lead to injury to persons or damage to the boat or its components.

All units used in this manual correspond to the SI system. In some cases, additional units have been included in brackets. The exception to the above is wind speed, which is indicated according to the Beaufort scale as required by the EC Recreational Craft Directive.

### 3 WARRANTY

This boat and the equipment installed by the boatbuilder are covered by a warranty as specified in detail below. 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.

### 4 BEFORE PUTTING THE BOAT

#### IN SERVICE

#### 4.1 REGISTRATION

In many countries, even small motor boats must be registered. Ask the local authorities about the registration provisions in your country of residence. Typically, there is also a minimum age requirement for operating registered craft. A separate boat operators license may also be required.

#### 4.2 INSURANCE

A boat insurance may compensate for damage occurring on water and during transport. Check the coverage especially before lifting the boat off water. The insurance may also have an indirect effect on safety on water: if there is a shipwreck, you will be able to focus specifically on saving lives. Insurance companies will provide detailed information of the different insurance options available.

#### 4.3 TRAINING

There is a wide range of boating literature available, and boat clubs and navigation courses are an excellent source of useful and practical boating information. These provide a solid base for your boating skills, but proficiency in boat handling, navigation, mooring and anchoring can be achieved only through extensive practical training.

### 5 BOAT PROPERTIES AND OPERATION

#### 5.1 GENERAL

The owner's manual is not intended as a complete maintenance guide or repair manual; instead, its purpose is to help the user get familiar with the properties of the boat and operate the boat appropriately.

#### 5.2 BASIC SPECIFICATIONS

The basic specifications of the XO 250 Open are as follows:

Boat type: XO 250 Open

Design category: C (inshore)

Maximum allowed load: 848 kg

Please refer also to section 5.4: Loading

#### Design category C is defined as follows:

Category C: the boat is designed for voyages in waters where conditions up to, and including, wind force 6 (approx. 14 m/s) and significant wave heights up to, and including, 2 m (infrequently up to 4 m) may be experienced. These conditions may occur in coastal waters, estuaries, open lakes and rivers in reasonable weather conditions.

#### NOTE!

The significant wave height is the mean height of the top third of the swell, which corresponds closely to the wave height estimate of an experienced observer. Some individual waves may be twice as high.

#### Main dimensions and capacity:

Boat length, beam, draught, total weight and other dimensions as well as tank capacities are indicated in appendix 1. Technical specifications.

#### Builder's plate:

Attached close to the steering position, the builder's plate includes some of the above information. Supplementary information has been provided in relevant parts of this manual. Please note that unlike the manufacturer's recommended maximum load, the maximum load specified in the builder's plate does not include fuel. The load specified in the plate is 675 kg, which includes the weight of persons (600 kg) and other stowage (75 kg).

#### 5.3 MAXIMUM RECOMMENDED NUMBER OF PERSONS

The maximum recommended number of persons for the boat is 8. The location of their seats are indicated in figure 1.

#### CAUTION!

The recommended number of persons must not be exceeded. Regardless of the total number of persons onboard, the total weight of the persons and the stowage must not exceed the maximum recommended load (see section 5.4: Loading). Always use the seats provided in the boat. If the boat is not equipped with seats for seven passengers, the rest must sit on the deck in positions indicated in the figure.

## 5.4 LOADING

The maximum recommended load for the XO 250 Open is 848 kg. An adult person is considered to weigh 75 kg and child 37,5 kg. The maximum total weight of persons onboard is 600 kg. In addition to the maximum recommended total weight of persons, the boat can be loaded with the following: basic equipment (25 kg) and fuel intended for consumption stored in the fixed fuel tank (175 kg). Only the above weight components are included in the recommended load.

### CAUTION!

When loading the boat, do not exceed the maximum recommended load. Always load the boat carefully and distribute the load appropriately so that the design water line is retained (close to even keel). Avoid placing heavy loads high up on the boat.

## 5.5 ENGINE AND PROPELLER

The maximum rated outboard engine power for XO 250 Open is 221 kW (300 hp). For the inboard engine, the value is 192 kW (260 hp). Normally, outboard engines are designed to be installed so that the cavitation plate above the engine propeller is level with the boat's keel line. Always follow the engine manufacturer's instructions when installing the engine and choosing the propeller. In addition, read the engine manual carefully. 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.

## 5.6 STABILITY AND PREVENTING WATER INTAKE

### 5.6.1 Openings in hull and deck

The XO boat does not have a plug for draining the cockpit. Instead, the cockpit is drained through scupper valves attached to drain pipes, see figure 2. The XO 250 Open has a self-draining cockpit with two drain wells. The drain wells must be kept uncovered at all times and they must be regularly cleaned of any debris to avoid clogging. There is also a screw-on plug at the bottom corner of the transom, allowing the boat to be drained on trailer or otherwise when out of water.

### NOTE!

The self-draining cockpit is intended for channelling most of the rainwater caught in the cockpit out of the boat. However, some of the rainwater, as well as some condensate, may accumulate in the bilge. **DO NOT LEAVE THE BOAT UNATTENDED IN WATER FOR EXTENDED PERIODS OF TIME. CHECK HOW THE BOAT SITS IN THE WATER AND DRAIN THE BILGE IF NECESSARY. Leaving the boat unattended for extended periods of time may lead to damage.**

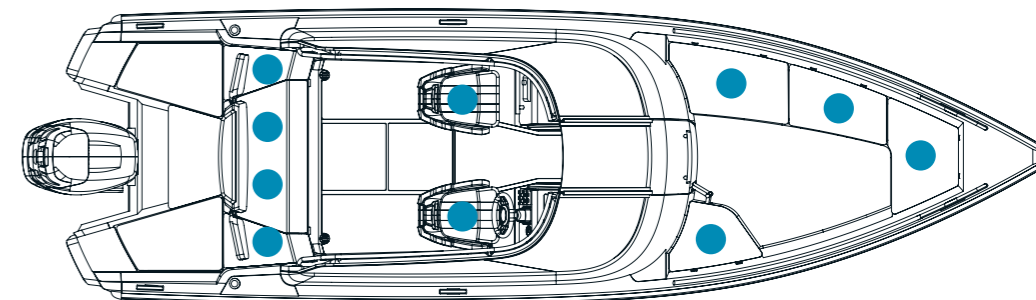
### 5.6.2 Bilge pumps and draining

Draining equipment positions are indicated in figure 2. Bilge pumps have been placed as close to the bottom shell plate as practically possible. However, it is normal that the bilge pump cannot drain the bilge completely and therefore there is always a small amount of water in the bilge. The XO 250 Open is equipped with an automatic electrical bilge pump.

## Loads and seating arrangement

(Figure 1)

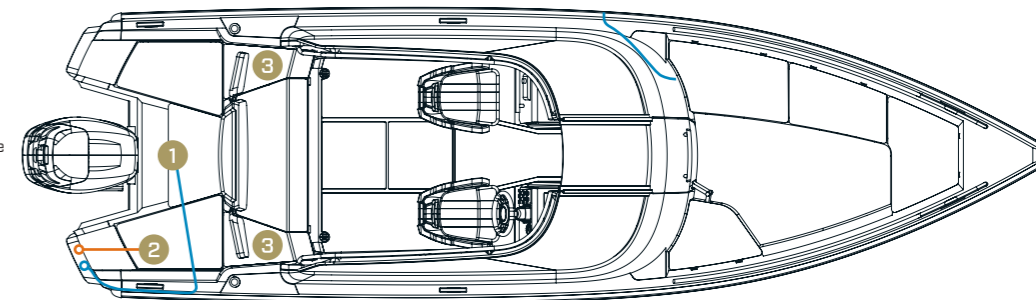
● Seat



## Bilge pumps and draining

(Figure 2)

- ① Electrical bilge pump
- ② Manual bilge pump
- ③ Cockpit drain scupper valves
- Bilge pump suction inlet and hose
- Bilge pump outlet hose

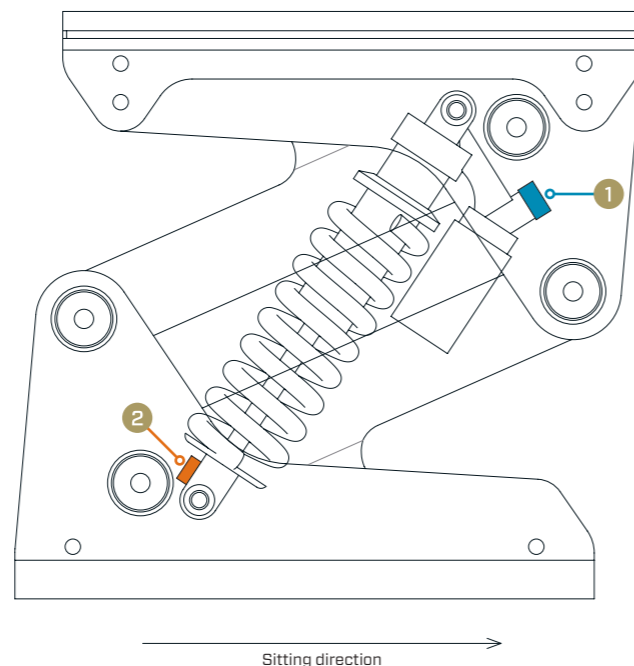




## Seat suspension adjustment

(Figure 3)

- 1 Suspension stiffness adjustment
- 2 Suspension rebound speed adjustment



The pump drains the bilge when its surface sensor detects water in the bilge. As long as the battery is connected and regardless of the position of the main power switch, the automatic pump is always on standby. The bilge pump will start only after the sensor has been completely submerged for 5 seconds and stop once the water level has fallen completely below the sensor. You can also activate the pump manually from a spring-loaded switch on the control panel. The suction inlet of the electrical bilge pump must be checked regularly and cleaned of debris when necessary. You can access the pump through the service hatch in the engine well.

### CAUTION!

The bilge pump system is not intended for managing leaks resulting from running aground or other damage.

### NOTE!

Before setting off, check the amount of bilge water by draining the bilge manually using the spring-loaded switch on the control panel. It is the user's responsibility to keep at least one bucket or bail in the boat.

### NOTE!

Check the operation of the bilge pump regularly. If you find that the bilge pump does not work correctly, clean the pump suction inlet of debris and, if necessary, contact your XO dealer.

## 5.6.3 Stability, buoyancy and flotation

Thanks to its optimal hull shape and weight distribution, the XO boat has an excellent stability. However, please remember that large crashing waves pose a significant danger to stability. Note also that the boat's stability will decrease if any large load is positioned high up in the boat. All changes in weight distribution can seriously affect the boat's stability, trim and performance. If you are planning on such changes, please contact the manufacturer. The amount of water in the bilge must be kept to a minimum, as water flowing freely within the boat will always reduce stability. Possible loss of stability when towing or being towed should also be taken into account.

## 5.7 FIRE OR EXPLOSION RISK PREVENTION

### 5.7.1 Engines and fuel systems

The XO 250 Open has a fixed fuel tank amidships in the boat's bilge compartment. Before refuelling, turn off the engine and put out cigarettes and any open flames. Do not use any electrical equipment. There is a fuel fill inlet on both sides of the boat above the scuppers. Lift reserve fuel canisters from the boat for filling to avoid spilling fuel in the bilge. When refuelling at a fuel station, do not use a plastic funnel, as it would prevent static electricity between the dispenser nozzle and tank inlet from releasing. After filling the tank (for the tank capacity, see Appendix 1 'Technical specifications'), check that no fuel has leaked into the bilge or engine compartment, and immediately remove any spilled fuel. Do not store reserve fuel canisters in unventilated spaces or without securing them, nor any equipment containing petrol in areas not intended for fuel storage. Check the fuel hoses for wear annually.

### 5.7.2 Fire protection and prevention

When in operation, the XO 250 Open must be equipped with fire extinguishers (minimum rating: 8A/68B). The minimum rating for each individual fire extinguisher is 5A/34B. The portable fire extinguisher is stored in the console's left storage compartment as shown in figure 3. Depending on local legislation, portable fire extinguishers must be inspected at regular intervals. Please contact your local fire authorities for inspection practices in your country.

If you are unsure of local inspection practices, have the portable fire extinguishers inspected annually. The manufacturing date of the portable fire extinguisher is indicated on the label glued on the fire extinguisher. If the fire extinguisher is more than ten years old, it must undergo pressure vessel pressure testing before it can be used again. Replacements for old portable fire extinguishers must have at least the same rating as the originals. Additionally, the boat's owner or user is responsible for ensuring there is at least one easily accessible fire bucket onboard with a rope attached. Make sure that the fire fighting equipment remains easily accessible also once the boat is loaded. Show all crew members where the fire fighting equipment is located and how to use it. Keep the bilge clean of fuel and check regularly for fuel leaks. The smell of petrol is a clear sign of a fuel leak.

If the boat has a heater, read its safety notice from the instructions provided by the heater manufacturer.

### SPECIAL WARNINGS

#### Never

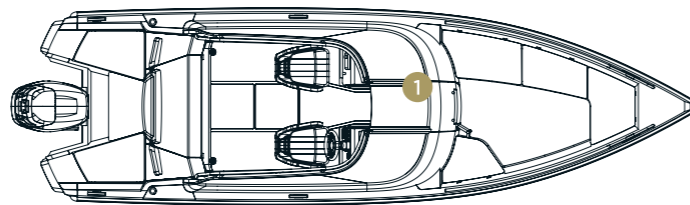
- block access to safety equipment, fire extinguisher, fuel valves or the main power switch of the electrical system.
- block any ventilation openings of the boat, as these are intended for clearing out fuel fumes.

#### Additionally, never

- alter the boat's electrical or fuel system or allow any person without appropriate qualifications to make any changes in the boat's systems.
- fill the fuel tank or handle fuel when the engine is running.

#### Location of fire extinguisher

(Figure 5)



1 Fire extinguisher

- smoke or keep an open flame when handling fuel.
- store petrol in areas not intended for its storage. If your boat is not equipped with a heater, the reserve fuel canister can be stored in the position reserved for the heater's reservoir.
- leave the boat unattended when the boiler or heater is on.

### 5.8 ELECTRICAL SYSTEM

The wiring diagram for the boat's electrical system is included in appendices 4 and 5. The main power switch is located behind the steering position on the right side of the boat. However, the automatic bilge pump will always remain on standby as long as the battery is connected. When the electric circuit is closed, the devices used for controlling the boat can be operated from the driver's seat. Navigation lights are switched on from the navigation light switch, see figure 6. Remember to mount the detachable masthead light in its place. There is a windscreen wiper on both sides of the boat, operated from their individual switches. The bilge water level can be checked by activating the pump manually from its switch, see figure 5. If you cannot hear the gurgling of water from the aft over the side, the automatic system has already taken care of draining the bilge. The electrical system is also accessory-ready: the connectors and wiring required for a radio/CD player and two loudspeakers are already in place. The boat can also be equipped with certain types of fuel-powered heaters. The boat's steering and electrical control arrangement is shown in figure 5.

Instead of traditional fuses, the XO model utilises circuit breakers which can be reset after overload by pressing down the stud which

has sprang up during overload. The circuit breakers for the electric circuits are in a separate fuse box within the steering console, see figure 5. The electrical system includes two auxiliary electrical circuits with their own circuit breakers (Extra 1: 10 A and Extra 2: 10 A; positions F13-F14 and F17-F19 in the electrical diagram) for retrofitting the boat with optional accessories. The wires for these circuits are in the control panel. Do not replace the circuit breakers with ones rated for a higher current nor install components exceeding the nominal amperage of the electrical circuit.

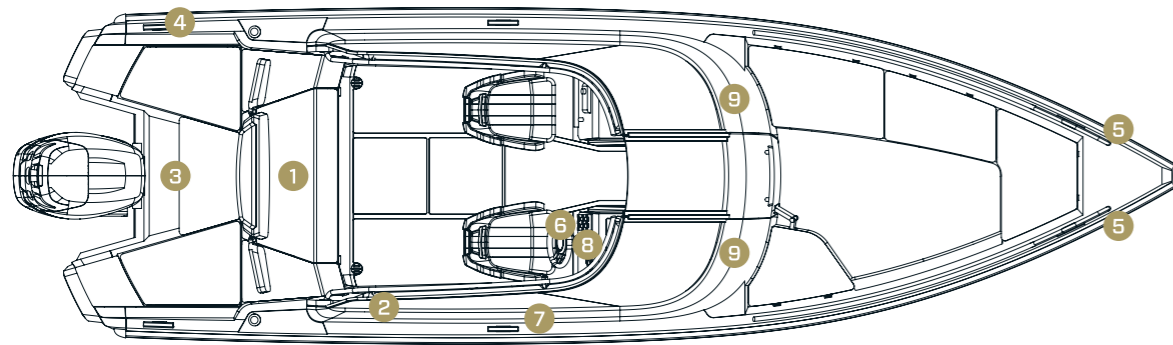
Anodes are mounted on the transom. They must be replaced if more than 50% of the material has dissolved. Please select the anode material according to the boat's conditions of use.

#### CAUTION!

Never ground the hull. All installations must be insulated from the hull (both from the ground and the plus side).

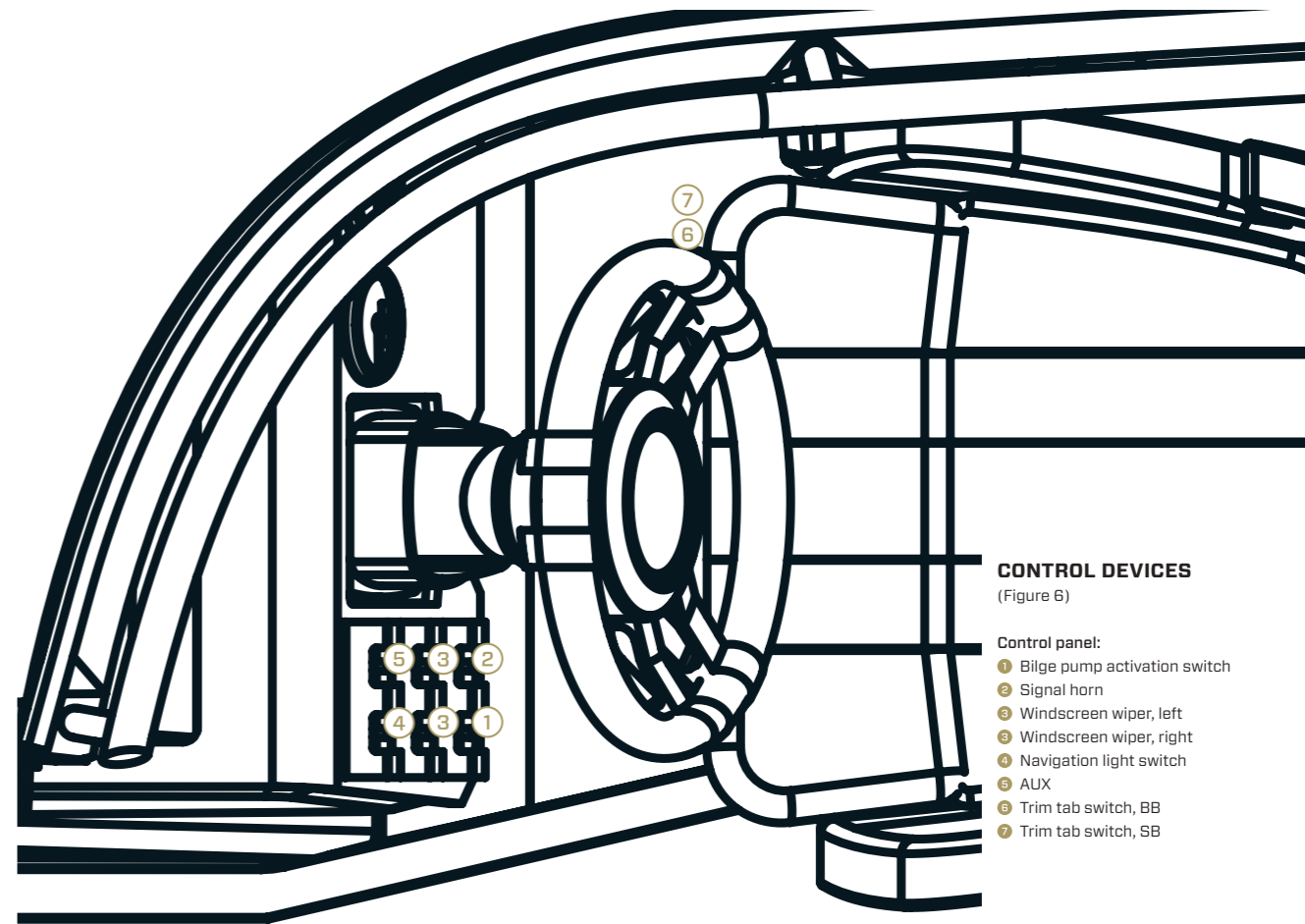
## Electrical equipment

(Figure 5)



Location of electrical equipment:

- |                     |                                    |                                 |
|---------------------|------------------------------------|---------------------------------|
| 1 Battery box       | 4 Masthead light: white, 360°      | 7 Power socket: 12 V, 10 A max. |
| 2 Main power switch | 5 Navigation lights: red and green | 8 Fuse box (see figure 7.)      |
| 3 Bilge pump        | 6 Control panel                    | 9 Windscreen wiper              |



## CONTROL DEVICES

(Figure 6)

Control panel:

- 1 Bilge pump activation switch
- 2 Signal horn
- 3 Windscreen wiper, left
- 4 Windscreen wiper, right
- 5 Navigation light switch
- 6 AUX
- 7 Trim tab switch, BB
- 8 Trim tab switch, SB

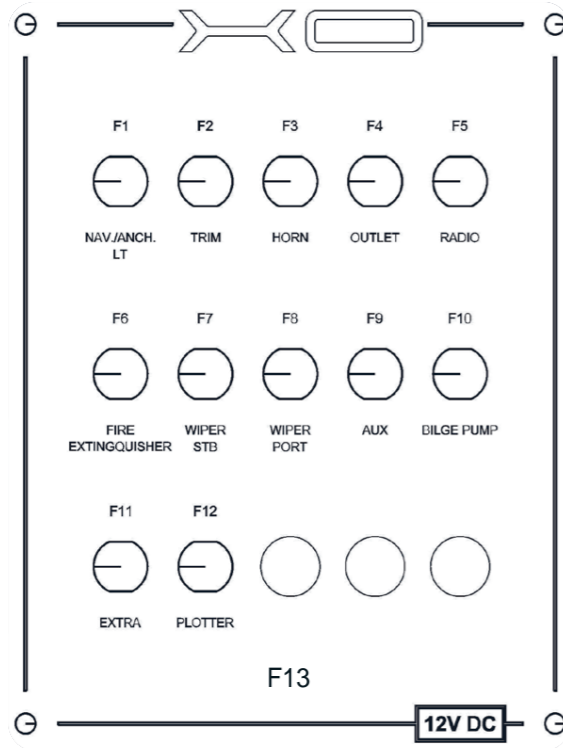
## FUSE BOX

(Figure 7)

- F1 Navigation lights
- F2 Trim tabs
- F3 Signal horn
- F4 12 V power outlet
- F5 Radio

- F6 Automatic fire extinguisher
- F7 Windscreen wiper, right
- F8 Windscreen wiper, left
- F9 Aux
- F10 Bilge pump

- F11 Extra
- F12 Plotter
- F13 Reserve



## NOTE!

- When retrofitting the boat with accessories, use the circuit Extra 1 or Extra 2. Connect both the power supply wire and the minus wire to the new device. Never use the boat hull as ground.
- When alighting from the boat for a longer period of time, switch off the power from the main power switch. Detach the battery from the system before conducting any electrical work. When disconnecting or connecting batteries, be careful not to touch both poles of the battery or the boat's aluminium components with a metal wrench.
- Use only the engine or a battery charger to charge the batteries. Using an excessively high current may cause the battery to explode. Make sure the battery compartment is sufficiently ventilated. If ventilation openings are blocked, hydrogen released during charging may explode.
- Never turn the main switch to the off position when the engine is running, because this can damage the engine. Altering the boat's electrical system or the related diagrams is forbidden; only a qualified boat electrician may conduct maintenance or alteration work on the boat's electrical system.

## 5.9 STEERING PROPERTIES

### 5.9.1 Driving at high speeds

The maximum rated engine power of the boat is 221 kW (300 hp). 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 getting up on plane, use the "bow down" mode.

- 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. Once this happens, lower the bow slightly until the ride is stable. The log (speed indicator) can be used to optimise the trim angle.
- When riding into waves, lower the bow down for a smoother ride. When driving with a tailwind or driving into extremely high waves, lift the bow slightly to avoid ploughing.
- 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.

## CAUTION!

When driving at high speeds, adjust the trim very carefully; small changes have a large impact on the boat's handling. Make sure that the boat is not excessively trimmed in, as the boat might make an unexpected turn. Do not drive the boat at high speeds when trimmed in (bow down). The boat may start banking or its directional stability when turning may be compromised.

## CAUTION!

In speeds over 40 knots, the boat has limited controllability. Rapid turning motions may cause the boat to run out of control. Slow down before taking steep turns regardless of the turning direction. Avoid rapid control movements at high speeds. Do not drive at full speed on busy lanes or in limited visibility.

#### CAUTION!

Waves reduce the boat's controllability and may cause the boat to bank. Take this into account by reducing speed when swell increases.

Learn the rules of marine waterways and follow the provided instructions as well as the requirements of COLREG (International Regulations for Preventing Collisions at Sea), which must be followed by all vessels at sea. According to the rules, a proper look-out must be maintained at all times and right of way must be observed. Navigate carefully and use new or updated nautical charts. Always adapt your speed to the current conditions and environment.

Consider the following:

- Swell (also ask whether your passengers find the current speed comfortable)
- Your own wake wash (largest when getting up on plane, smallest at hull speed, i.e. at speeds below 10 knots). Observe wake wash restrictions. Reduce speed and wake wash formation as a courtesy as well as in order to improve the safety of yourself and others.
- Visibility (islands, fog, rain, viewing towards the sun)
- Familiarity with the route (time required for navigation)
- Crowding on the waterways (other traffic, noise and wake wash hitting the shore)
- Space needed for stopping and evasion maneuvers.

#### 5.9.2 EMERGENCY SWITCH

Once the mooring lines have been detached, attach the cord of the emergency cut-off switch to yourself. For more detailed instructions, refer to the engine manual. If you fall overboard or stagger in the boat, it is extremely important that the boat stops, especially if you are alone in the boat. However, remember to detach the lanyard from your wrist before docking or beaching operations to prevent the engine from stopping unintentionally.

#### DANGER!

A spinning propeller can be lethal to anyone fallen overboard or swimming close to the boat. Use the emergency switch and shut down the engine when a swimmer or water skier climbs on board.

#### 5.9.3 Visibility from the steering position

When the weather is calm and beautiful, the boat is easy to operate. Just remember to arrange the proper look-out as required by the COLREG regulations. Always make sure that visibility from the steering position is as good as possible:

- Position the passengers so that they do not limit the driver's field of vision.
- Do not drive constantly at the planing threshold, as the raised bow would block the front view.
- Adjust the engine power trim and possible trim tabs to set the boat position so that the rising bow does not impair visibility.
- Also remember to look behind for ships especially on fairways. Use appropriate navigation lights after dark and in limited visibility conditions (fog, hard rain).

#### 5.10 CORRECT USE - OTHER RECOMMENDATIONS AND INSTRUCTIONS

##### 5.10.1 Protection from falling overboard and means of reboarding

The working decks of the boat are indicated in figure 6. Do not sit, stand or linger in other parts of the boat when the boat is moving. Before setting off, make sure the aft railings are locked. The easiest way to climb back onboard after falling overboard is via the swimming ladder in the aft. The ladder can also be extended from the water.

##### 5.10.2 Securing loose equipment

Stow anchors and other heavy equipment securely before setting off. Additionally, light items can be carried off by air gusts, which should be considered when securing items. When moving, keep all hatches in the boat closed.

##### 5.10.3 Environmental considerations

Archipelagos and lakes are unique environments and protecting their environment is a matter of honour for boaters.

Therefore, the following should be avoided:

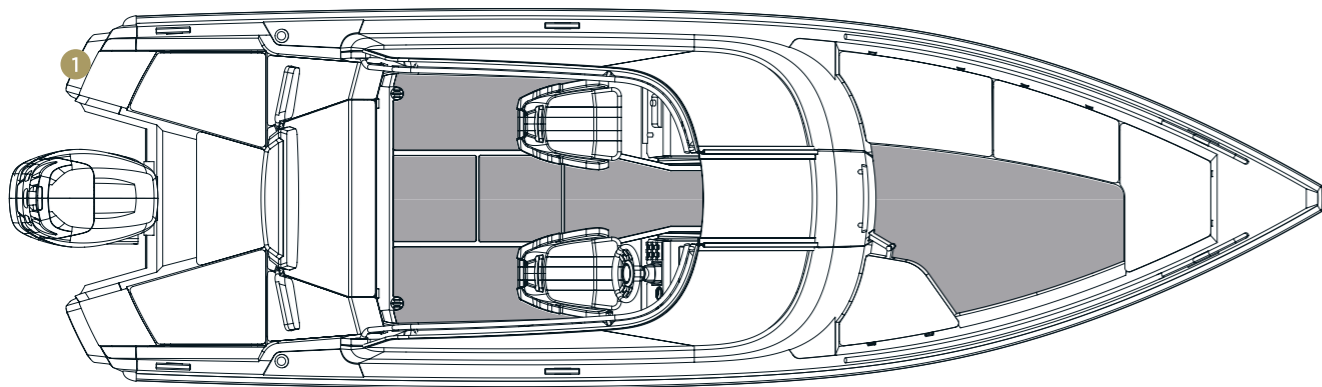
- Fuel and oil leaks
- Discharge of waste into water or littering the shores
- Releasing washing agents or solvents into waters
- Causing a lot of noise both out on the water and in harbour
- Wake wash formation especially in straits and shallows

Remember to adhere to local environmental laws and regulations. Learn the international rules for the prevention of marine pollution (MARPOL) and respect them as much as possible.

## WORKING DECKS AND SWIMMING LADDER

(Figure 7)

- 1 Swimming ladder
- Working decks



### 5.10.4 Anchoring, mooring and towing

Always moor your boat carefully even in sheltered docking, as weather conditions may change rapidly. Mooring lines should be equipped with snubbers for damping shocks. Mooring points are indicated in figure 7. Do not use other parts of the boat for anchoring, mooring or towing. Use sufficiently-sized fenders to prevent marring. They loop in the stem is intended only for use with a trailer or at a slipway. It is not designed for perpendicular traction (such as mooring the boat in a slip). Mooring point strengths are indicated in figure 7. It is the owner's or user's responsibility to make sure that mooring, towing and anchor lines and anchor chains are suitable for the boat and that the tensile strength of chains does not exceed 80% of that of the relevant mooring points. Line wear and loss of strength due to knots must also be taken into account. When towing, make sure that the front cleats have a different strength than those amidships and aft. When anchoring in a natural harbour, make sure the depth is sufficient and LOWER THE ANCHOR SUFFICIENTLY FAR FROM THE SHORE. The anchor will have a reasonable hold when the length of rope is 4-5 times the water's depth at the anchor point. Having more rope out will further improve traction. The anchor will also have substantially better traction, if the first 3-5 meters of the anchor line is made of either chain or weighted rope.

#### CAUTION!

Do not try to stop the boat with your hands only nor place your hand or foot between the boat and the slip, shore or other boat. Practice mooring in good conditions using engine power sparingly but resolutely.

When mooring your boat, consider wind shift, variations in water level, wake wash and other similar factors. Additional information is available from insurance companies and other similar sources. When towing another boat or being towed, use small speeds and a sufficiently strong, floating towing line. Start towing carefully, avoiding sharp motions, do not overload the engine. Make sure the towing line does not get tangled in the propeller. If the other boat has a displacement hull, do not exceed its hull speed. If you are towing a small dinghy, adjust the length of the towing line so that the dinghy rides along the downhill slope of your wake. In straits and heavy swell, pull the dinghy in closer to the transom, preventing it from worming. Stow all equipment in the dinghy securely so that it will not be lost if the dinghy capsizes. When on open sea in a reasonable swell, cover the dinghy to prevent flooding due to spray. When towing or being towed, fasten the tow line to the mooring points indicated in figure 8. Fasten the towing line so that it can be unfastened under load.

The yield strength of ropes or chains should not exceed that of the relevant mooring points.

Always fasten the towing line so that it can be unfastened under load.

**NOTE!**

- The yield strength of ropes or chains should not exceed that of the relevant mooring points.
- Always fasten the towing line so that it can be unfastened under load.
- Use small speeds when towing or being towed. If the boat has a displacement hull, do not exceed its hull speed.

**CAUTION!**

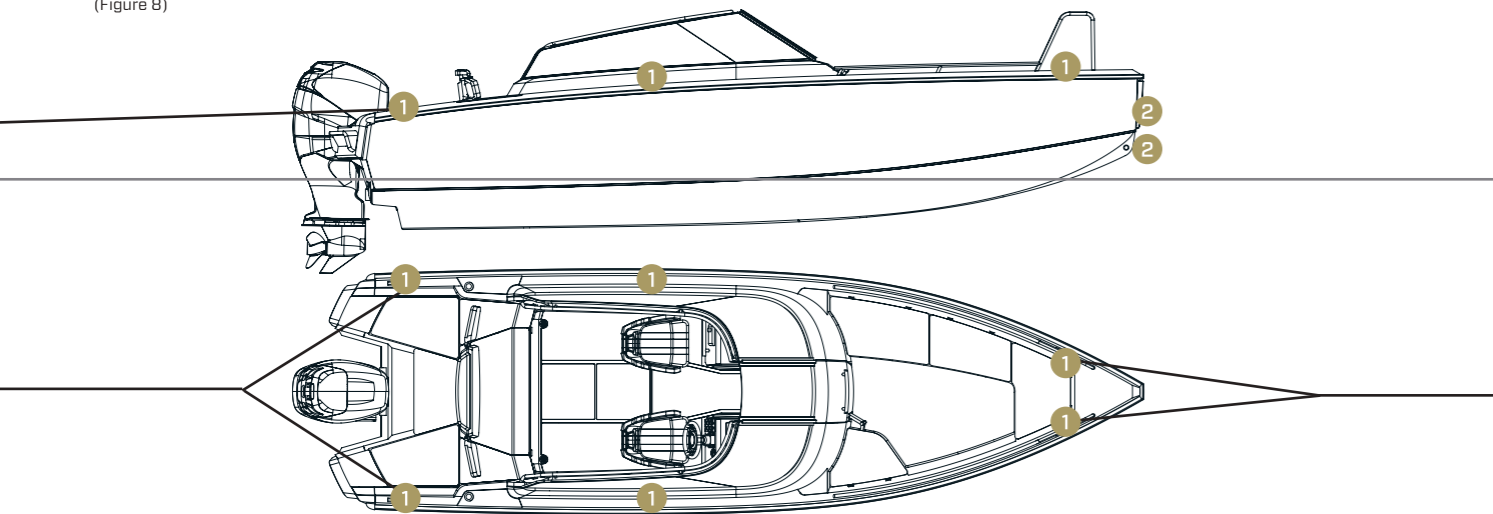
The towing line is under heavy tension. If the line snaps, the line end may lash out at fatal speeds. Always use a line with sufficient thickness and do not linger along its path.

For the purposes of towing and anchoring, the yield strength of the bow cleats is 22 kN.

The forward mooring force for cleats in the bow and amidships is 18.1 kN and, for aft cleats, 15.4 kN.

**TOWING AND MOORING**

(Figure 8)



1 Cleats used for towing, mooring and anchoring 2 Trailer loop

**5.10.5 Trailer transport**

When lifting the XO boat on a trailer, make sure the trailer is suitable for the boat: there are sufficient supports for avoiding concentrated loads and its load-bearing capacity and dimensions are sufficient to carry the boat and its engine, equipment, battery, boating accessories and fuel on board. Carefully consult the national road traffic regulations concerning combined transport and the related driver's license requirements. Check also that your car has sufficient towing capacity for pulling the trailer. Remove excess items and bilge water from the boat before lifting the boat onto the trailer. Adjust the side supports of the trailer so that the keel supports bear the bulk of the weight and the side supports only provide support for the boat. Use only the loop in the stem for lifting the boat onto the trailer; the cleats cannot take the boat's weight during lifting. Leash the boat securely onto the trailer before transport. Protect the boat by placing padding between the boat and the straps where chafing may occur. Check the engine's manual for additional instructions concerning trailer transport.

Also remember the boat's accessories during trailer transport. Make sure loose items in the boat are stowed securely. Do not cover the boat with any kind of hood, canopy or boat cover during trailer transport. At high road speeds, the canopy or cover may become loose and damage the boat or become a hazard to the boat or other road users. During trailer transport, the canopy would start flapping due to air draught and may cause surface damage to the boat. Store the boat canopy in its locker or detach the canopy completely for transport. Also, make sure the boat's door is properly secured for transport.

**NOTE!**

The weight of the trailer should rest slightly on the towing bar. Make sure that the boat is securely lashed to the trailer and that the boat's weight is distributed evenly against the side supports. If loose, the boat may roll during transport and hit one of the supports, potentially damaging the hull.

**CAUTION!**

A poorly maintained boat trailer, or one with insufficient load-carrying capacity, may break down during transport, causing a hazard. Make sure that the trailer's load-bearing capacity is sufficient for the combined weight of the boat, engine, fuel and equipment.

**CAUTION!**

Do not cover the boat with any kind of hood, canopy or boat cover during trailer transport. At high road speeds, the canopy or cover may become loose and damage the boat or become a hazard to the boat or other road users.

**5.10.6 Navigation**

The boat must always have a compass and an up-to-date nautical chart, even if you generally use a GPS chart plotter for navigation. GPS should only be considered a navigational aid, not the primary means of navigation. The craft's commander should have at least rudimentary navigation skills.

## 6 MAINTENANCE, REPAIRS AND

### WINTER STORAGE

For information concerning the boat's maintenance, winter storage, servicing and repairs, please refer to the closest XO dealer. Major aluminium or surface treatment repairs should be referred to an authorised XO dealer. If there is a fault in the engine or retrofitted equipment, the primary point of contact is the original equipment supplier.

#### NOTE!

Make sure that the cleaning, surface treatment and protection agents are suitable for aluminium and other surface materials in the boat. Follow the manufacturer's instructions when using such chemicals.

## 7 OPTIONAL ACCESSORIES

### 7.1 GENERAL

#### NOTE!

Incorrect retrofits or other alterations may damage the boat's hull or compromise safety. Please contact the manufacturer before making or commissioning any of the following alterations: adding new hatches or electrical groundings, attaching or installing equipment or introducing new alloys in the boat's aluminium components.

#### NOTE!

If accessories are to be installed in the boat, place non-conductive washers between the surface-treated aluminium surface and the surface in contact with the aluminium (either the accessory's installation surface or screw head).

### 7.2 INSTALLING OPTIONAL ACCESSORIES

There is a wide range of electrically powered accessories available for the XO 250 Open. The required electrical circuits and wires are already in place. The positions for optional accessories and their wiring are indicated below. Detailed installation and user instructions will be provided by the accessory's manufacturer.

#### 7.2.1 Radio/CD player

The boat comes pre-installed with the wiring required for mounting a car-stereo-type audio system. The slot for the player is located under the grip on the left console. The wire assembly includes two wires for loudspeakers and an Euro connector for the player. The Euro connector includes the primary power terminal for the player (connected to the main power switch) as well as a terminal connected to a circuit bypassing the main power switch (providing power for the player's memory). Each of the consoles has its own loudspeaker wire. The slots for embedding the loudspeakers are in the footwell wall.



## APPENDIX 1 TECHNICAL SPECIFICATIONS

Each boat is identified by a CIN code (Craft Identification Number), which is a running serial number. The CIN code is marked on the craft's hull either on the aft starboard side or on the outer surface of the transom next to the edge strip. You may enter the CIN code of your boat in the table below. When contacting the boat builder or dealer, please state the CIN code and boat type, as this will make it easier to deliver the correct spare parts.

Type designation: XO 250 Open

CIN code:

Engine make and model:

Engine serial number:

Boat hull material: marine aluminium (AlMg 4.5/5083)

### XO 250 Open

#### Main dimensions:

Total length: 7.52 m

Length on load waterline: 5.70 m

Maximum beam: 2.28 m

Height above waterline: 1.60 m

The height with targa arch above waterline: 2.40 m

(the exact vertical clearance should be checked for each individual boat)

draught: 0.90 m

#### Weight specification (outboard model)

Light weight: 1,897 kg

Displacement at full load: 2,745 kg

Maximum total load recommended by the manufacturer: 848 kg

Dry weight (without outboard motor or equipment): 1,440 kg

Total weight of persons: 600 kg (8 persons)

Maximum recommended outboard motor weight: 365 kg

Weight on trailer: 2145 kg

Other cargo or equipment: 75 kg

Volume of fixed fuel tank (both models): 230 l. NOTE: The specified fill volume of the tank may be limited due to the boat's trim and load balance. The tank should always be at least 20 percent full.

#### CE CATEGORY C

#### Buoyancy

Maximum recommended number of persons: 8

#### Bilge pumps

Electrical bilge pump: 28 l/min

Manual bilge pump: 25 l/min @45 strokes/min

#### Electrical system

Voltage: 12 V DC

Recommended battery capacity: 100 Ah

### Control circuit cables and hoses

Hydraulic steering hoses: 4.50 m (15 ft)

Remote steering device cables: 4.50 m (15 ft)

### Manufacturer

XO Boats Oy

Pulittitie 18

FI-00880 Helsinki

Finland

Applicable module: B (EC type-examination)

### Notified body

VTT Expert Services Oy

Identity number: 0537

P.O. Box 1001

FI-02044 VTT

Finland

### Recreational craft specifications

Boat make and model: XO 250 Open

Design category: C - Inshore

Type-examination certificate no:

Boat type: Open, single-hull inboard/outboard motor boat.

Construction materials: Aluminium alloys, reinforced plastic, PE-HD

Maximum engine power, kW: 224

Length/beam/draught, m: 7.52/2.28/0.90

References to the relevant harmonised standards and provisions are provided on the following page.

I hereby declare that the recreational craft specified above satisfies the relevant safety requirements according to the specification provided on the following page and the EC type inspection certificate provided.

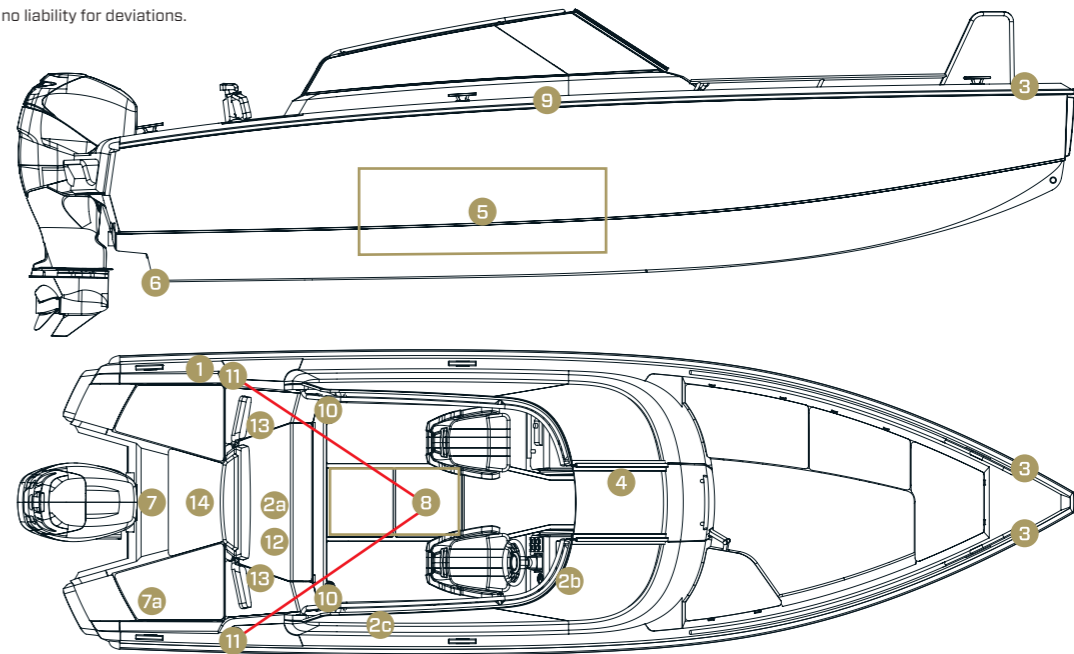
### XO Boats Oy

Henrik Thelen, CEO

Date: 15 Jan 2015

## APPENDIX 2 XO 250 OPEN / GENERAL ARRANGEMENT

The general arrangement drawings of the boat are not in scale. Due to continuous product development, the manufacturer assumes no liability for deviations.



- 1 Masthead light: white, full coverage, power: 10 W
- 2 a) Battery box, b) fuse box and c) main power switch
- 3 Navigation lights: 112.5° red and 112.5° green, power: 10 W
- Fuel tank filler hose
- 4 Powder extinguisher: 2 kg, rating: 13A/89BC
- 5 Fuel tank

- 6 Drain plug
- 7 Bilge pump 7a) Automatic bilge pump
- 8 Fuel tank service hatch
- 9 Fuel tank breather
- 10 Cockpit drain well
- 11 Fuel tank inlet

- 12 Fuel filter/water separator
- 13 Cockpit drain valves
- 14 Life raft (optional)

## APPENDIX 3 GENERAL REQUIREMENTS

### General requirements, outboard motor model

Basic specifications: EN ISO 8666:2002

- 2.1 Hull identification marking: ISO 10087:1996 / A1:2000
- 2.2 Builder's plate: RCD Annex I, 2.2
- 2.5 Owner's manual: EN ISO 10240:2004

### Arrangement and equipment

- 2.3 Protection from falling overboard and means of reboarding: EN ISO 15085:2003
- 3.7 Life raft stowage: RSG Guidelines
- 3.8 Emergency exit: n/a
- 3.9 Anchoring, mooring and towing: EN ISO 15084:2003
- 5.7 Navigation lights: 1972 COLREG
- 5.8 Emission prevention: n/a

### Installations

- 5.1 Engines and engine spaces: n/a
- 5.2 Fuel system: EN ISO 10088:2001, EN ISO 11105:1997
- 5.3 Electrical system: EN ISO 10133:2000
- 5.4 Steering system: EN ISO 10592:1994/A1:2000
- 5.5 Gas equipment: n/a
- 5.6 Fire safety: EN ISO 9094-1:2003

### Dimensions

- 3.1 Structure: ISO 12215-3:2002, ISO 12215-5:2008, ISO 12215-6:2008

### Hydrostatics

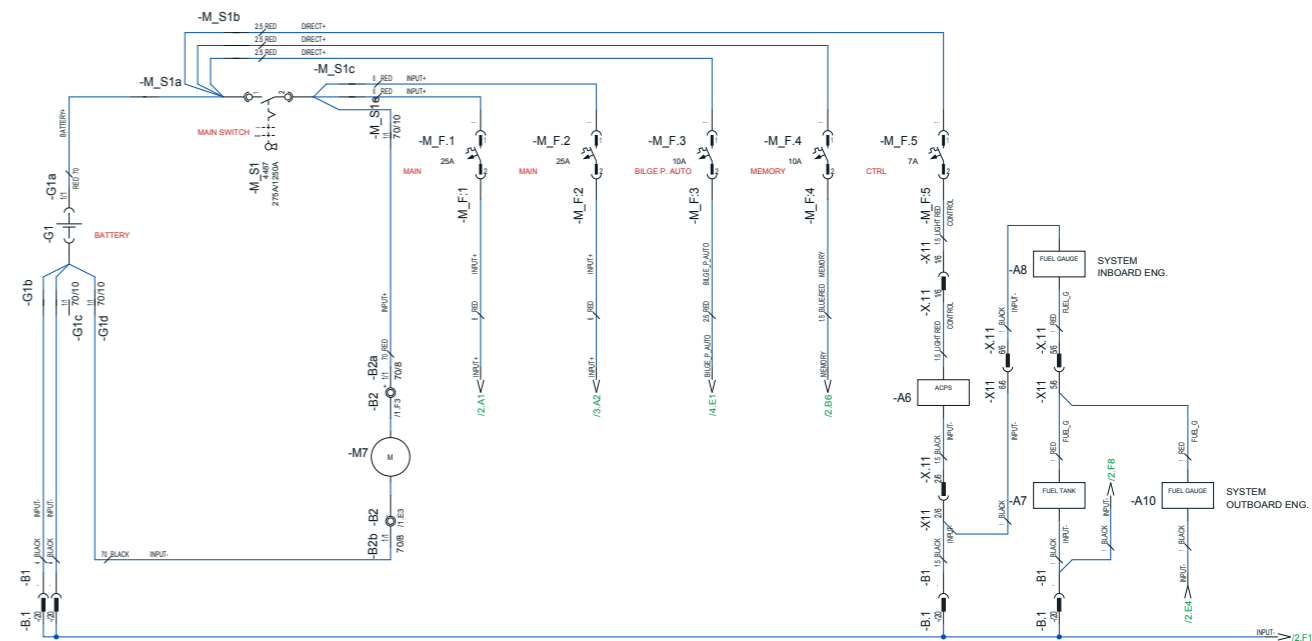
- 3.2 Stability and freeboard: EN ISO 12217:2002
- 3.3 Buoyancy and flotation: EN ISO 12217:2002
- 3.6 Maximum allowed load: EN ISO 14946:2001/AC 2005
- 3.4 Openings in the hull, deck and superstructure: EN ISO 9093-1:1997, EN ISO 12216:2002
- 3.5 Flooding: EN ISO 11812:2001, EN ISO 15083:2003, ISO 8849

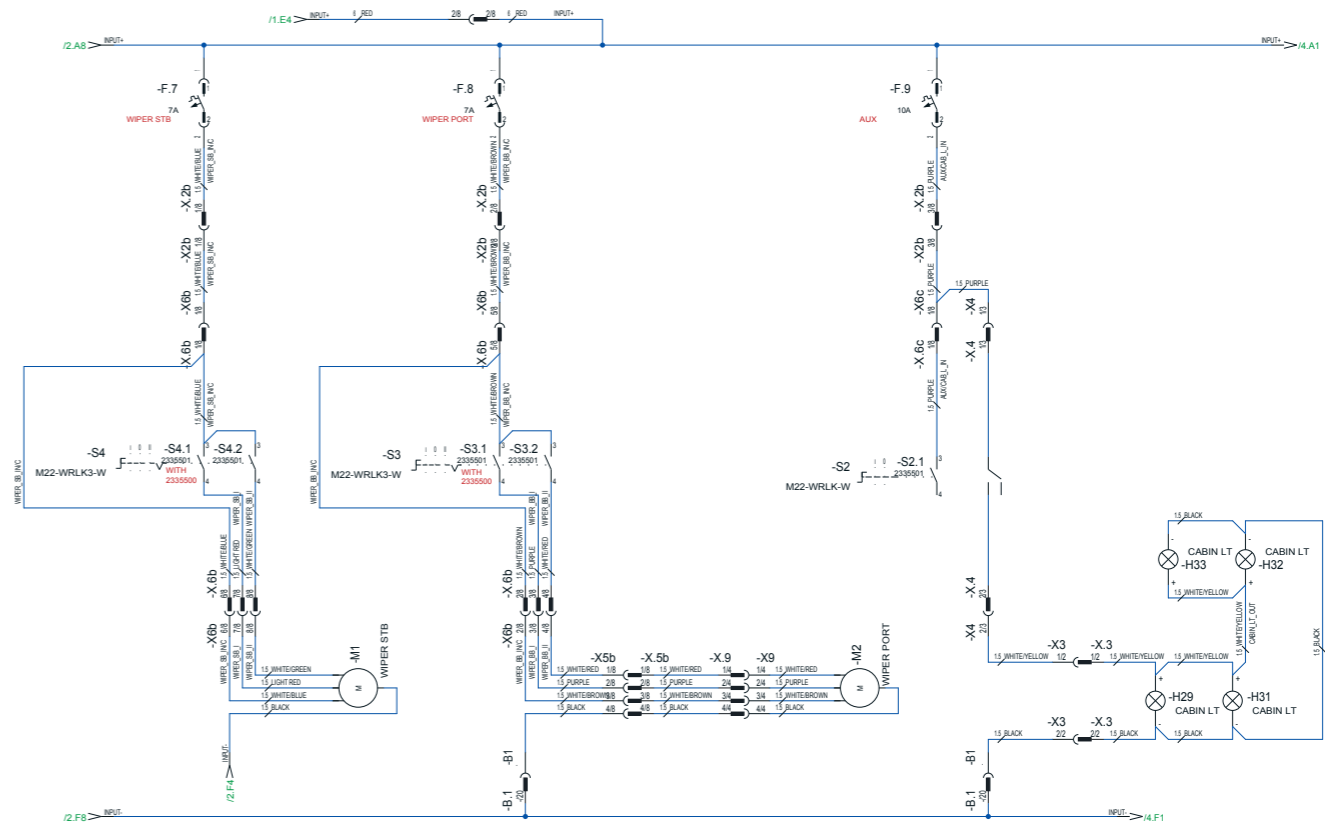
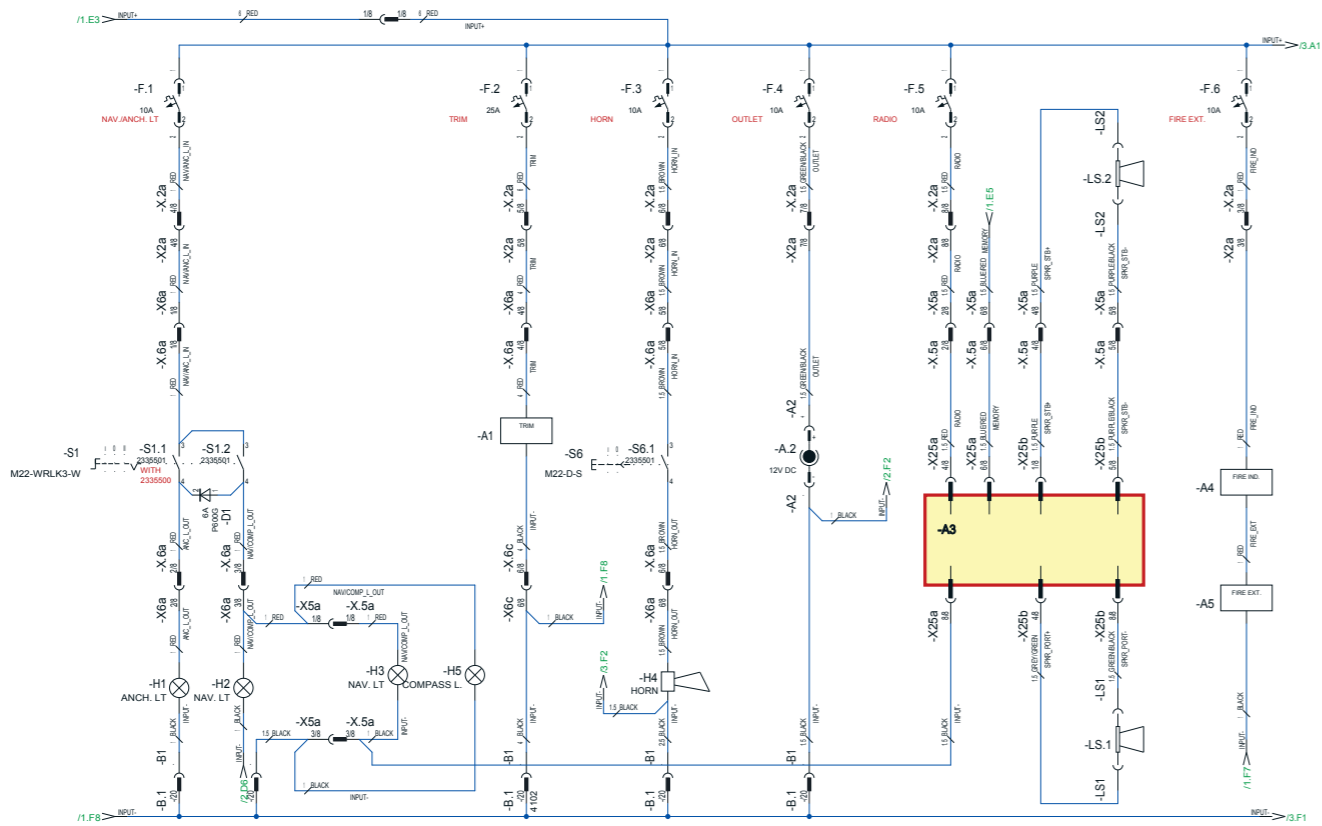
### Steering properties

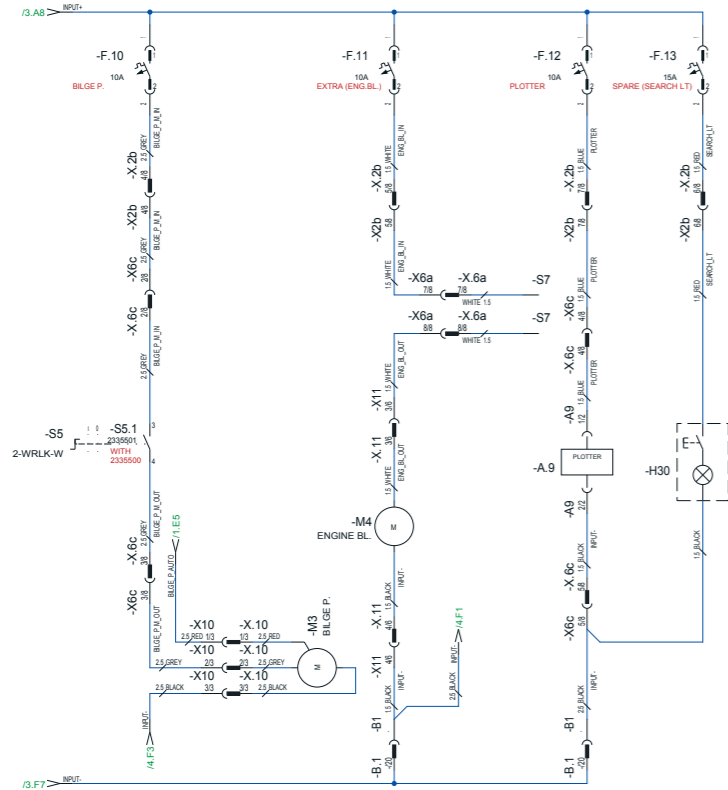
- 3.5 Flooding: EN ISO 11812:2001, EN ISO 15083:2003, ISO 8849
- 4 Steering properties: EN ISO 11592:2001, EN ISO 8665:2006
- 2.4 Visibility from steering position: RSG Guidelines, EN ISO 11591:2000

Engine identification; Engine CE-marked  
Noise emission level; Engine CE-marked

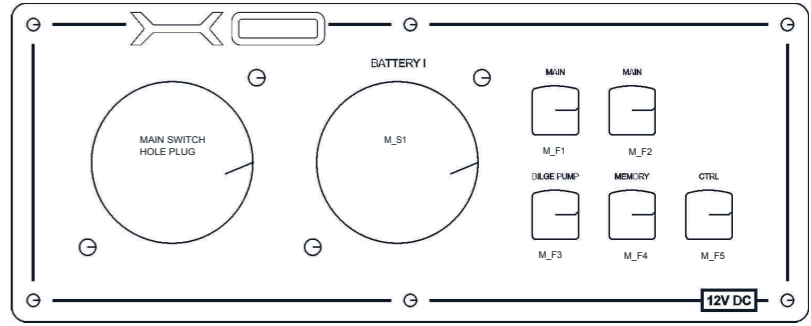
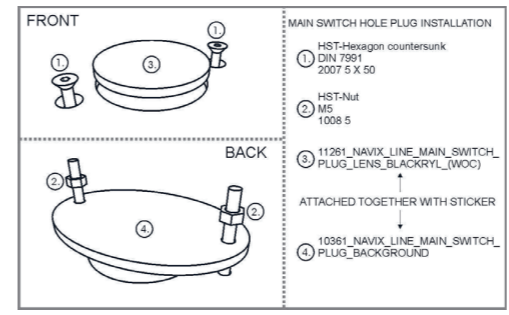
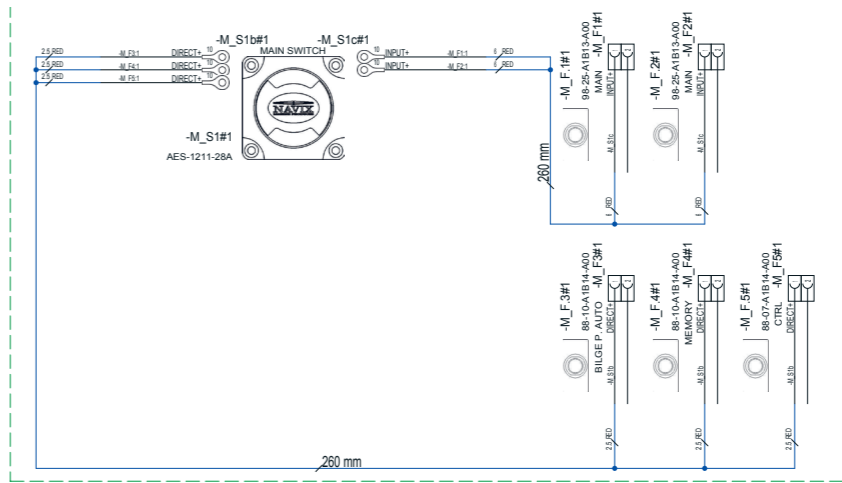
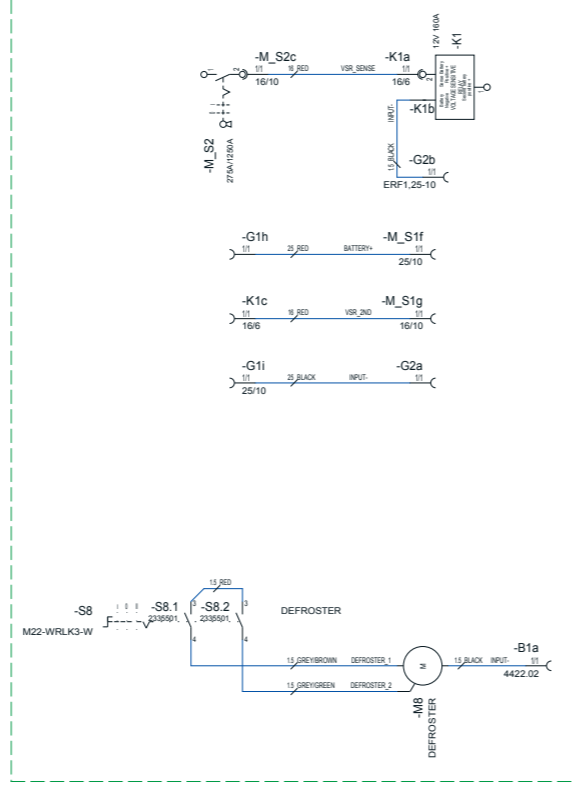
## APPENDIX 4 ELECTRICAL WIRING DIAGRAM

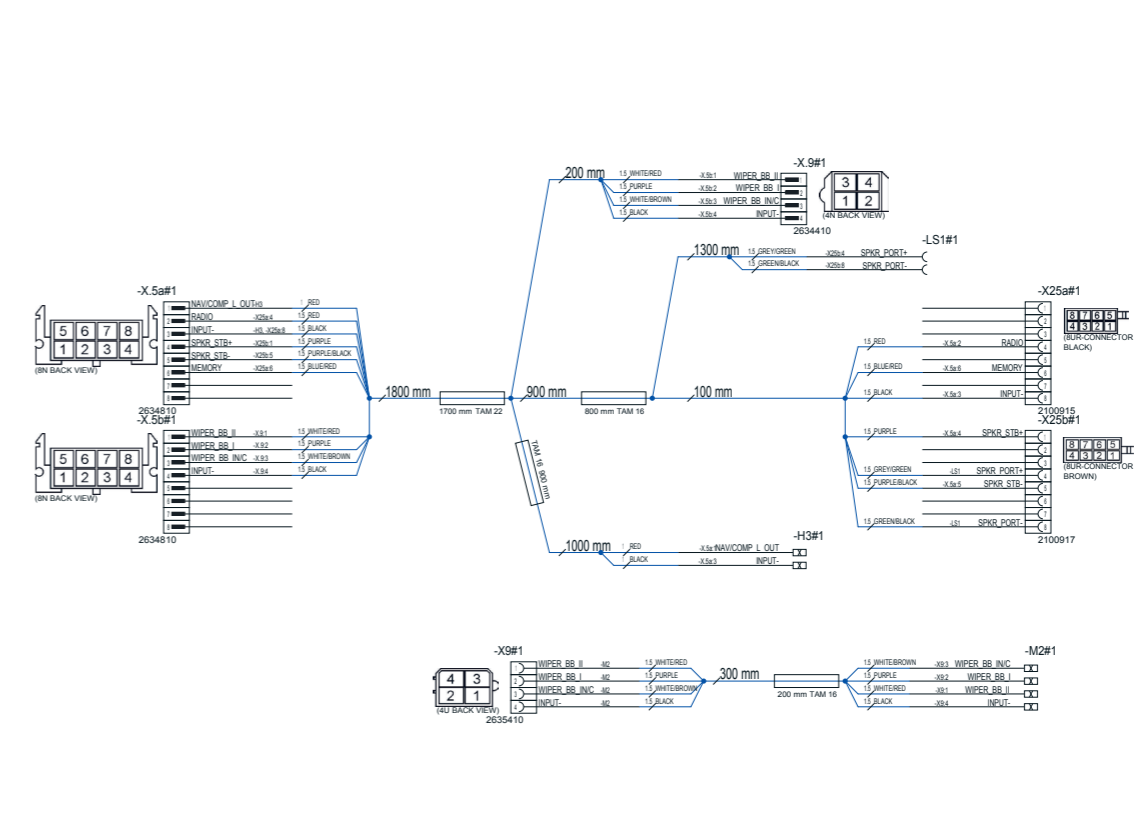
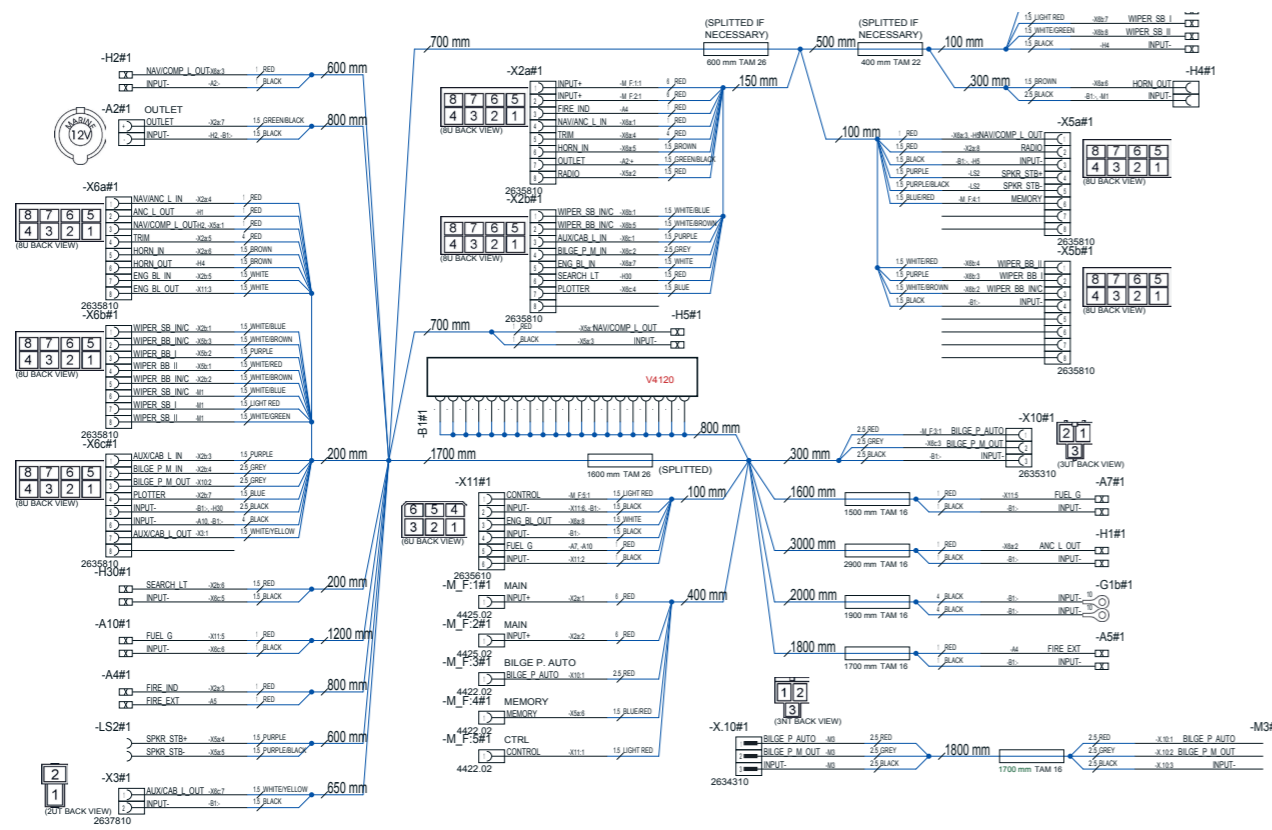


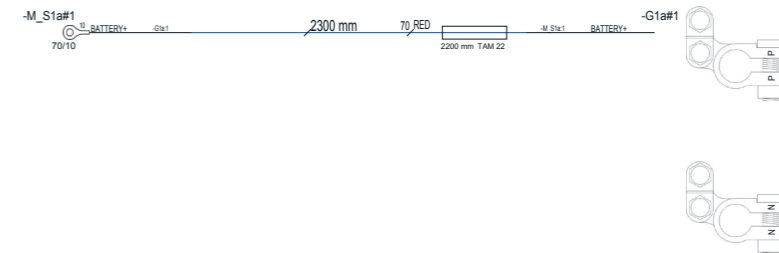
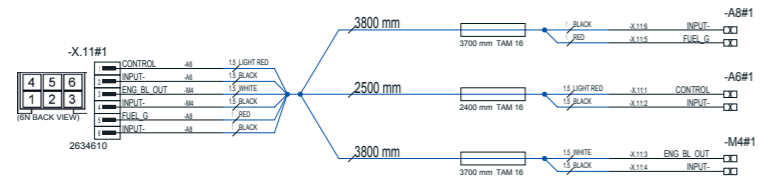


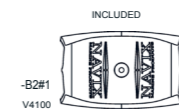
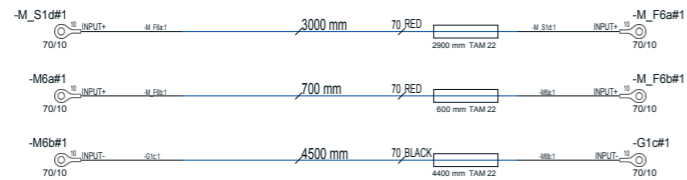


ADDITIONAL ACCESSORIES DUAL BATTERY

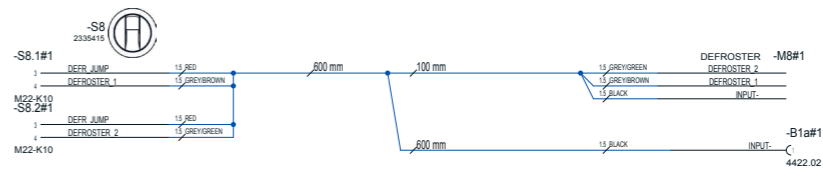
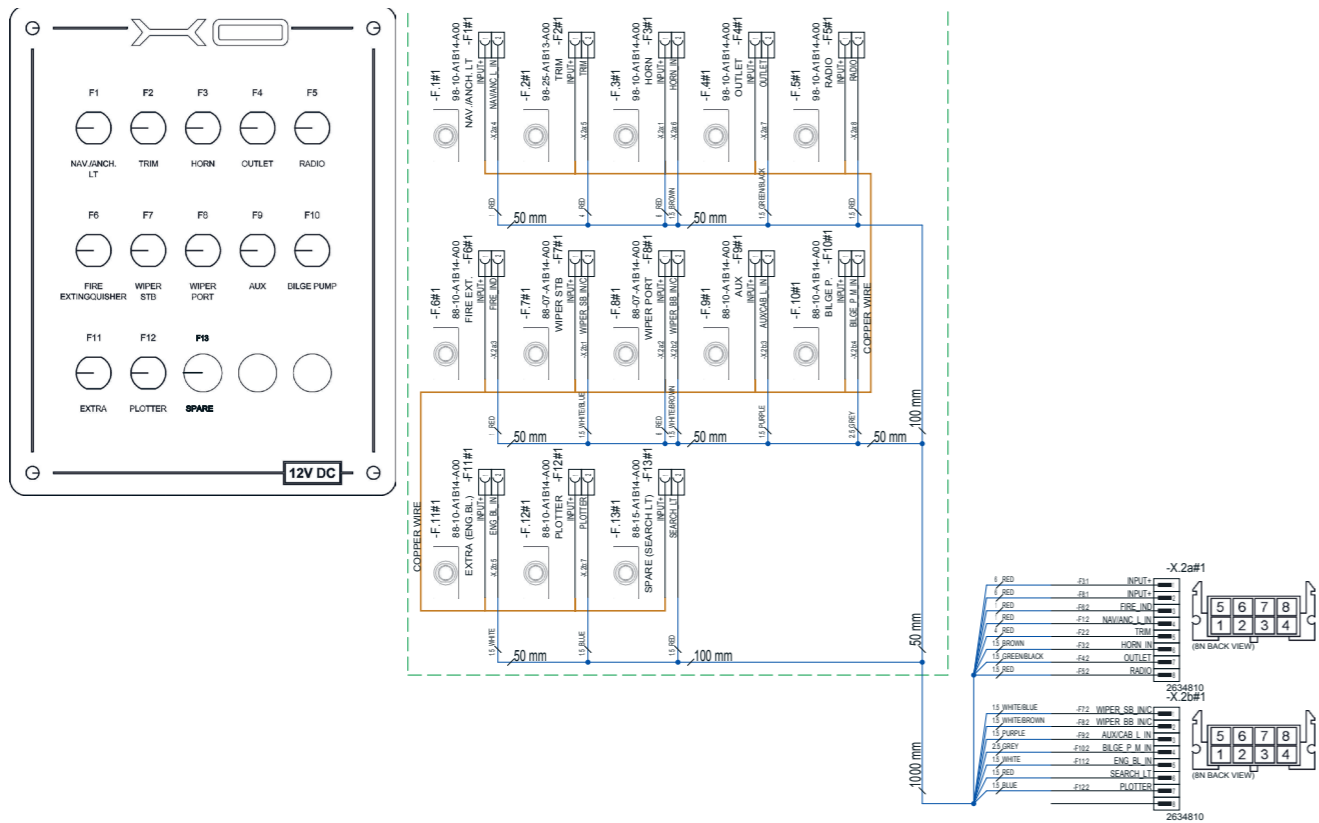


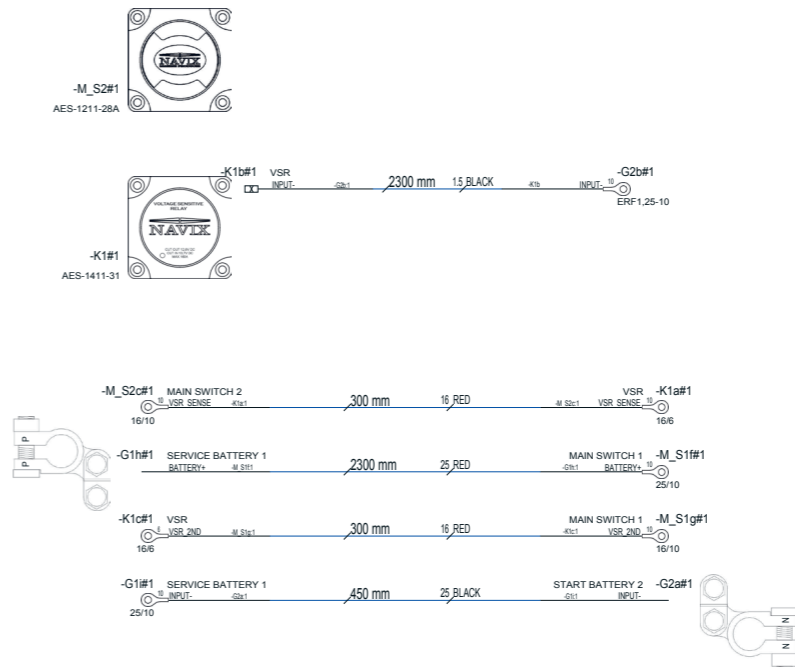
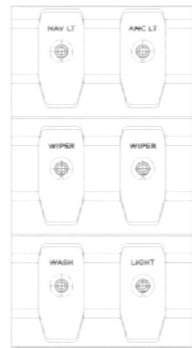
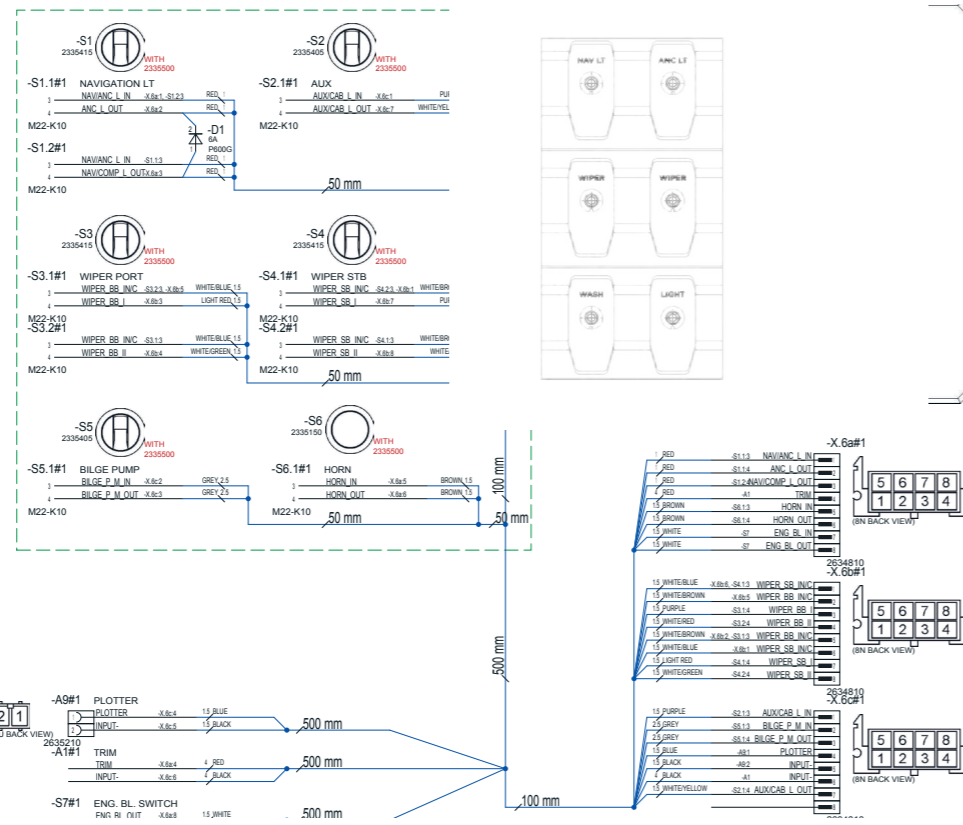


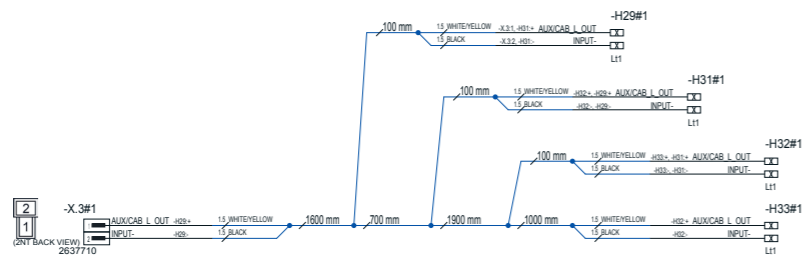












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