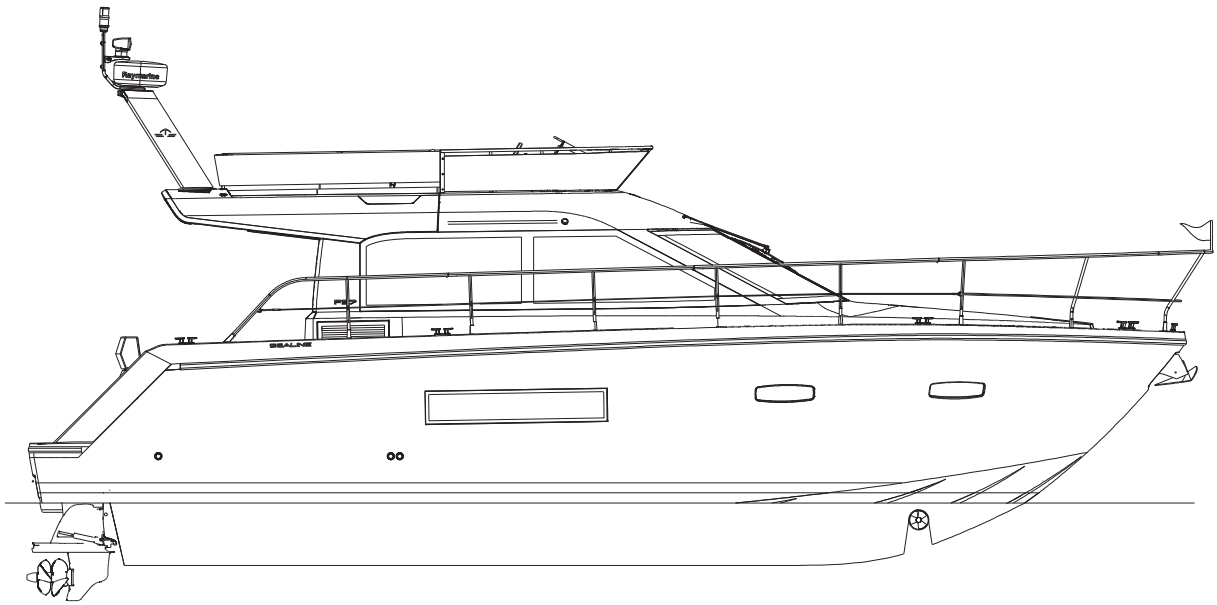
F380

SEALINE

OWNER'S MANUAL

SEALINE

WELCOME



Welcome to the world of Sealine, we know that you will enjoy your new craft. Before putting to sea we strongly recommend you take time to read this manual and any other literature provided with this craft carefully and thoroughly before use.

The Owner's Manual Packet, to be kept on board your Sealine, gives you important information on all the features of your Sealine, for years of trouble-free boating take the time to carefully review the information in your Owner's Manual Packet and really get to know your boat.

Have everyone who will operate this boat read this manual.

The Owner's Manual Packet contains the following:

- Owner's Manual: The Owner's Manual gives you important operating and safety information, as well as reminding you about your responsibilities as a boat owner/operator.
- Original Equipment Manufacturer (OEM) Information: This section of your Owner's Manual Packet contains information from the manufacturers of equipment installed on your boat. Examples include the engine, engine control and steering system. Throughout the Owner's Manual you will be referred to information provided by manufacturers of specific systems.

Because your purchase represents a substantial investment, we know you will want to take the necessary measures to protect its value. We have outlined a program for proper operation, periodic maintenance and safety inspections. We urge you to follow these recommendations. If you have questions which are not fully covered by the Owner's Manual Packet, please consult your authorised dealer for assistance.

Thank You For Selecting A Sealine.

INTRODUCTION

THIS MANUAL

The material here and in the rest of the Owner's Manual Packet:

- Gives you basic safety information;
- Describes the features of your boat;
- Describes the equipment on your boat;
- Describes the fundamentals of boat use; and
- Contains service and maintenance information

This manual has been compiled to help you to operate your craft with safety and pleasure. It contains details of the craft, the equipment supplied or fitted, its systems and information on their operation. Please read it carefully, and familiarise yourself with the craft before using it.

This Owner's Manual is not a course on boating safety or seamanship. If this is your first boat, or if you are changing to a type of boat that you are unfamiliar with, for your own comfort and safety, please ensure that you obtain handling and operating experience before "assuming command" of the boat.

YOUR RESPONSIBILITIES

It is the duty of the skipper/owner to ensure that the safety of others using the craft is met. If you are the skipper or owner please ensure that you have read carefully the Safety section.

For your safety, the safety of your passengers, other boaters and people in the water, you must:

- Take a boating safety course;
- Get instruction in the safe and proper handling of your boat;
- Understand and follow the "COLREGs";
- Learn how to navigate

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

⚠WARNING

Regular Inspections - Attached to this handbook are instruction manuals for the components and appliances fitted to your boat. Ensure you carry out inspections regularly in accordance with their instructions. In addition ensure you regularly check the systems described in this handbook.

Maintain an up to date log book and ensure that the insurance covers you for the intended use. Keep all relevant documents on board showing proof of ownership in a secure place and remove when going ashore.

This manual includes the Declaration of Conformity to the EU Recreational Craft Directive 94/25/EC as amended by the Directive 2003/44/EC. This document is boat model specific and may be required to be seen by maritime authorities.

IMPORTANT

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

INTRODUCTION

DEALER RESPONSIBILITIES

In addition to a pre-delivery check and service of the boat, your dealer is to give you:

- A description and demonstration of the safety systems, features, instruments and controls on your boat;
- An orientation in the general operation of your boat;
- A review of all warranty information and how to obtain warranty service;
- The complete Owner's Manual Packet.

WARRANTIES

Your boat comes with several warranties. Each component and/or system on your boat has its own warranty that will be found with the specific information and manual for that component. These are included with your Owner's Manual Packet. Locate and read the individual warranties; then put them together for easy future reference.

Always use trained and competent people for maintenance, fixing or modifications. Modifications that may affect the safety characteristics of the craft shall be assessed, executed and documented by competent people. The boat builder cannot be held responsible for modifications that he has not approved.

SERVICE, PARTS AND REPAIR

This owner's manual is not a detailed maintenance or trouble-shooting guide. In the case of difficulty, refer to the boat builder or their representative. If a maintenance manual is provided, use it for the craft's maintenance.

⚠CAUTION

Contact a reputable boatyard or specialist installation manufacturer for the best advice and adapted parts or materials for the repairs you can carry out by yourself. Professionals should preferably carry out large repairs on the hull or on the engine (see Warranty Conditions sections).

⚠DANGER

Contact a reputable boatyard or specialist installation manufacturer about the possibilities of what you can do by yourself. You could endanger your own safety and lose your warranty.

CRAFT IDENTIFICATION NUMBERS

Hull, engine and gearbox identification

The Craft Identification Number (CIN) is engraved into the transom and is unique to your craft. Engine and Gearbox serial numbers are also unique and can be found on their outer casings.

INTRODUCTION

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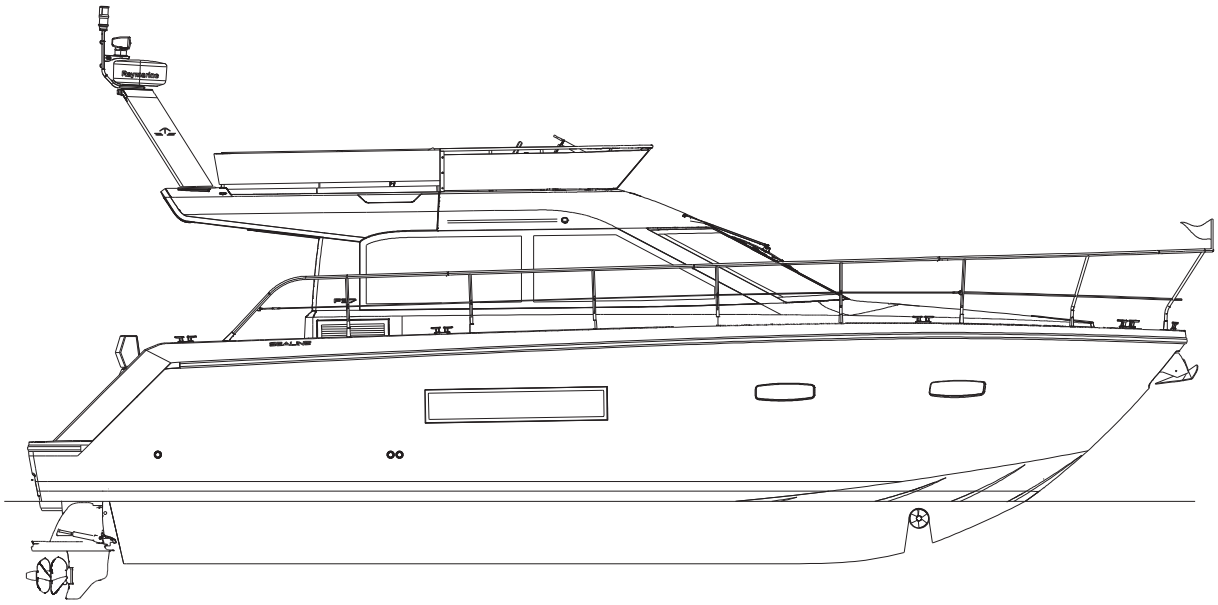
TABLE OF CONTENTS

Information in this publication is based upon the latest product specifications available at the time of printing.
Sealine GmbH, reserves the right to make changes at any time, without notice, of the colours, equipment, specifications, materials and prices of all models, or to discontinue models.
Should there be a conflict between any of the information contained herein and that provided by the OEM then the latter shall prevail.
Should changes in production models be made, Sealine is not obligated to make similar changes or modifications to models sold prior to the date of such changes.

F380 Motor Yacht Owner's Manual.

Internet www.sealine.com
Version 9.0



Dimensions	Metric	Imperial	to ISO 8666
Length Overall (Lmax)	11.40 m	37' 4"	
Length of Hull (L_H)	11.28 m	37' 0"	LH = 11.28 m
Length at Waterline	9.61 m	31' 5"	
Beam (Bmax)	3.77 m	12' 4"	BH = 3.77 m
Air Height	4.85 m	15' 1"	
Hull - Draught (T_c)	0.70 m	2' 3"	T_c = 0.70 m
Max. Draught (T_{max})	1.19 m	3' 9"	T_{max} = 1.19 m
Headroom	1.93 m	6' 5"	
Capacity	**Metric**	**Imperial**	
Fuel Tank	2 x 450 L	2 x 99 Gal	
Water Tank	1 x 315 L	1 x 69 Gal	
Black Waste Tank	1 x 103 L	1 x 22 Gal	
Gas Bottle	2 x 1.8 kg	2 x 4 lb	
Weight	**Metric**	**Imperial**	
Light craft mass (m_{LCC})	10.167 kg	10.01 tons	
Maximum persons	12	12	
Mass of the fully loaded boat (m_{LDC})	14.148 kg	13.93 tons	
(Including all optional additional equipment)			
Power	**Metric**	**Imperial**	
Maximum Rated Engine Power	2 x 243 kW	2 x 330 bhp	
Engine	Stern drive		
Electrical	**Metric**		
Batteries:	12 volt DC System		
Engine	2 x 95 AH		
Domestic Supply	4 x 160 AH		
Shore Supply	Single Phase 220v AC 50 Hz		

EU RECREATIONAL CRAFT DIRECTIVE EXPLANATION

Module Aa

In accordance with the EC Directive, the certification module Aa was chosen for this yacht. The boat was built while taking the internal production control into account. The manufacturer has confirmed the conformance with the European Recreational Craft Directive.

The stability and watertight integrity have been tested by a notified body using the applicable standards.

The Germanischer Lloyd AG, located in Hamburg, was commissioned as a notified body according to the EC Recreational Craft Directive (see Declaration of Conformity).

The design categories applicable are defined in the EU Recreational Craft Directive as: -

Category A "Ocean" : Craft designed for extended voyages where conditions experienced may exceed wind force 8 (Beaufort Scale) and include significant wave heights of 4m, for vessels that are largely self-sufficient.

Category B "Offshore" : Craft designed for offshore voyages where conditions up to and including wind force 8 and significant wave heights up to and including 4m may be experienced.

Category C "Inshore" : Craft designed for voyages in coastal waters, large bays, estuaries, lakes and rivers, where conditions up to and including wind force 6 and significant wave heights up to and including 2m may be experienced.

Category D "Sheltered Waters" : Craft designed for voyages on small lakes, rivers and canals, where conditions up to and including wind force 4 and significant wave heights up to and including 0.5m may be experienced.

A maximum load = **3.981 Kg** has been used for assessing stability and buoyancy comprising :-

Mass of Light Craft Condition (m_{LCC})	10.167	Kg
Factory fitted optional extras	1.086	Kg
Mass of liquids in installed tanks	1.187	Kg
Basic equipment*)	133	Kg
Life raft*)	95	Kg
Tender*)	65	Kg
Stores and cargo*)	285	Kg
Provisions*)	230	Kg
Number of persons (12 persons)*)	900	kg
Mass of the fully loaded boat (m_{LDC})	14.148	Kg

*) Included in the load capacity on the builder's plate

EU RECREATIONAL CRAFT DIRECTIVE EXPLANATION

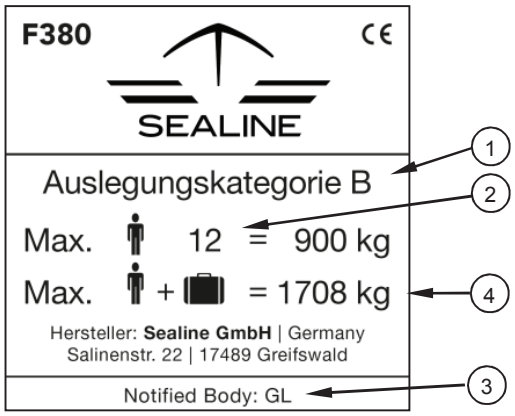
This boat has been given Design Category B with a crew limit of 12 in accordance with ISO 12217-1. This Category is considered to be suitable for use in waves up to 4m significant height and a typical steady wind force of Beaufort Force 8 or less, subject to :-

- The crew having suitable skill and experience
- Satisfactory maintenance of the boat and equipment.

⚠WARNING

Users of this boat are advised that:-

- all crew should receive suitable training
- the boat should not carry more than the Maximum Persons or Load (see CE plate description - below)
- bilge water should be kept to a minimum
- stability is reduced by any weight added high up
- in rough weather, hatches, lockers and doorways should be closed to minimise risk of water ingress
- stability may be reduced when towing or lifting heavy weights using the crane
- breaking waves are a serious stability hazard, they should reduce speed in waves and avoid sudden manoeuvres at speed



1 Boat Design Category.
2 Maximum Person Capacity.
3 Notified Body.
4 Manufacturer's recommended maximum load. (excluding the mass of the contents of fixed fuel and water tanks when full)

All Sealine boats are being updated & improved constantly; therefore although every endeavour has been made to ensure the accuracy of the information in this handbook, no liability can be accepted for any omissions or discrepancies that may occur.

YOUR SAFETY

Your safety is our concern, therefore on taking delivery of your craft, every owner or professional skipper must understand and appreciate that:

a Competence - No skipper/owner should commence any voyage unless they consider themselves to have the necessary competence and experience to handle and navigate the craft safely, without endangering the craft, its crew or other vessels;

b Know your craft - A good skipper checks the fundamentals for himself and does not put to sea without first hand knowledge of the craft's vital gear, systems and their condition This is especially relevant with a newly commissioned craft.

c Know your crew - The skipper/owner must take full responsibility for the suitability, fitness and safety of the crew (and guests) for the voyage ahead and for the craft in its entirety.

d Safety at sea - Ensure that your guests and crew have been informed about safety gear and it's location before going to sea. Check the following:

- Weather forecast
- Do you have sufficient life jackets;
- Is crew conversant with the location and launching of the life raft;
- Location of flares/distress equipment and usage;
- Apart from yourself can anyone else operate your radio equipment;
- Ensure there is a rescue procedure for a person overboard and that others are aware of it;
- Do the crew know the location of the First Aid and fire fighting equipment? Do they know how to use it in an emergency?

Motor sailing and being on or around boats can be potentially dangerous. Motor yachts have many moving parts such as passerelle cranes, windlasses and other equipment which should only be operated by competent crew with the utmost vigilance.

Any craft, no matter how strong it may be, can be severely damaged if not used properly. This is not compatible with safe boating. Always adjust the speed and direction of the craft to sea conditions.

If this is your first craft, or you are changing to type of craft you are not familiar with, or you have any doubts about your competence to handle your craft. We suggest that for the comfort and safety of you and your crew, you gain some handling and operating experience before assuming command.

- Get hands-on training on how to operate your boat properly.

In addition:

- Maintain your boat and its safety and other systems as recommended in this manual.
- Have the boat inspected by a qualified mechanic or dealer, at least annually.
- Ensure that the Coast Guard required safety equipment is on board and functions.

SAFETY LABELS

Safety precautions are given throughout this manual and labels are mounted at key locations throughout the boat. This safety information advises the owner/operator and passengers of imperative safety precautions to follow when operating and/or servicing equipment.

See the boat specific pages at the end of this section for the location of the safety labels on your boat.

- Do not remove or obstruct any safety label.
- Replace any label which becomes illegible.
- Replacement safety labels can be obtained by calling your dealer.

The meaning associated with each of the four basic types of label is:

⚠DANGER

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

⚠WARNING

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

⚠CAUTION

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

⚠NOTICE

Information which is important to proper operation or maintenance, but is not hazard-related.

Audible alarms and warning lamps - Alarms and/ or warning lamps are fitted for specific items of equipment to warn of their operation and for any malfunction, such as with the main engine systems, automatic bilge pumps and if fitted, the generator and DPS.

RECOMMENDED MINIMUM EQUIPMENT

Sealine motor yachts are fitted with standard equipment such as automatic and manual bilge pump systems, fixed automatic engine room fire extinguishers, a VHF radio telephone and basic navigational equipment including magnetic compass, boat speed indicator/log and depth sounder.

It is the skipper/owners responsibility to ensure that sufficient life saving and safety equipment is provided for the total number of crew being carried and to check that all safety equipment such as fire extinguishers, distress rockets, flares and life rafts are properly maintained, including renewing equipment as necessary or recharging of extinguishers at the pre-determined intervals.

The following list details the minimum safety equipment to be carried on board at all times However, the actual equipment you are required to carry is laid down by the Marine Administration of the country where you registered the craft.

a Suitable life jackets (fitted with light and whistle for attracting attention) must be provided for each person/child onboard. All lifebuoys, life slings, life rafts and life jackets should be fitted with marine grade retro-reflective tape.

b A life aft suitable for accommodating the total number of persons onboard, stowed on deck as to be readily transferable to water.

If your craft is fitted with a life raft, carefully read its operating manual. The craft should have onboard the appropriate safety equipment (life jackets, harness, etc) according to the type of craft, weather conditions, etc.

c A grab bag stowed in such a way that it is easily accessible in emergencies (the items below may already be carried as part of this list) and should contain:

- Life raft sea anchor and line
- Safety tin opener
- Waterproof hand-held VHF
- First aid kit
- Plastic graduated drinking cup
- 2 x light sticks or throwable floating lamps
- Daylight signalling mirror
- Signalling whistle
- 2 x Red parachute flares
- 3 x Red hand-held flares
- Non-thirst provoking rations
- Freshwater at the rate of 0.5L per person
- Illustrated life-saving signals card
- Nylon string and polythene bags
- Seasickness tablets

d An EPIRB (Emergency Position Indicating Radio Beacon)

e Rocket parachute flares, distress rocket signals and hand-held smoke flares as applicable for inshore and offshore usage

f 25m (75ft) floating heaving line kept close to the cockpit

g Suitably equipped first aid kit

h Second anchor

i Up-to date charts covering the intended cruising waters

j Water resistant torch & set replacement batteries)

k Engine toolkit, as recommended by OEM

VHF radio - VHF radio should only be used by competent qualified operators. The radio needs to be licensed and should not be used for unnecessary or prolonged usage. Only use channel 16 for emergencies and for the hailing of other craft.

LIFEJACKETS

Even strong swimmers can tire quickly in the water and drown due to exhaustion, hypothermia, or both. The buoyancy provided by a life jacket will allow the person who has fallen overboard to remain afloat with far less effort and heat loss, extending survival time necessary to find and retrieve them, it is recommended that you wear a life jacket or buoyancy aid unless you are sure you don't need to.

All persons should wear a suitable life jacket when on deck. Note that, in some countries, it is a legal requirement to wear a buoyancy aid that complies with their national regulations at all times.

Life jackets should be readily accessible, if not worn. "Readily accessible" means removed from storage bags and unbuckled. However, children and non-swimmers should wear life jackets at all times when aboard.

It is common sense to have everyone on board wearing life jackets. A throwable device must also be right at hand and ready to toss.

Test life jacket buoyancy at least once a year.

The crew should be familiar with the use of all safety equipment and emergency manoeuvring (man overboard recovery, towing, etc), sailing schools and clubs regularly organize drill sessions.
The equipment is mandatory in some countries.

FIRE FIGHTING EQUIPMENT

The actual equipment you are required to carry is laid down by the Marine Administration of the country where you registered the craft. Local bylaws of the country where you keep the craft may differ and may require you to carry additional equipment.

⚠WARNING

When replacing parts of the fire fighting installation only use matching components, which bear the same designation or are equivalent in their technical and fire resistant capabilities.

IMPORTANT! - SEE BOAT SPECIFIC FIRE SAFETY INFORMATION AT THE END OF THE SAFETY SECTION AND IN THE FIRE PROTECTION SYSTEM DRAWING IN THE DATA SHEETS SECTION OF THE MANUAL.

Ensure all hatches to the engine room are closed.

⚠WARNING

FIRE CONTAINMENT DOOR

ENGINE ROOM FIRE EXTINGUISHER SYSTEM WILL BE COMPROMISED IF DOOR LEFT OPEN
CLOSE DOOR IMMEDIATELY AFTER USE

AUTOMATIC EXTINGUISHING SYSTEM

Your boat is equipped with an automatic fire extinguisher system, located in the engine compartment.

REFER TO THE OEM EQUIPMENT MANUAL SUPPLIED IN THE DOCUMENT PACK.

It can also be manually set-off by means of the pull toggle at the helm station(s).

In the event of a fire, the heat sensitive automatic head in the engine compartment will release a fire-extinguishing vapour, totally flooding the area.

The dashboard contains an indicator light for the automatic fire extinguishing system. The light will be ON when the ignition is on and indicates that the system is ready If the light goes out while the ignition is on, the system has discharged.

⚠WARNING

AUTOMATIC EXTINGUISHING SYSTEM

ACTIVATING THE FIRE EXTINGUISHING SYSTEM WILL SHUT DOWN ALL ENGINES, GENERATORS AND POWERED ENGINE ROOM VENTILATION.

ENSURE ALL ENGINES, GENERATORS, POWERED ENGINE ROOM VENTILATION HAVE BEEN SHUT DOWN.

MANUALLY SHUT DOWN GAS SYSTEMS.

EXTINGUISH ALL SMOKING MATERIALS.

DO NOT OPEN THE ENGINE COMPARTMENT! THIS FEEDS OXYGEN TO THE FIRE AND THE FIRE COULD RE-START.

Engine Shut Down Safety Label

In case of fire in the engine room:

In case of a fire the engine has to be stopped immediately if the nautical safety is not reduced!

Do not open the hatches!

- Turn off the engine!
- Shut the fuel valves! (in front in the cockpit seats)
- Do not open the hatches!
- Activate the fire extinguishing system at the helm station provided it has not automatically been activated.
- Open the engine room only, if you are sure that the fire is put out, the temperature has been dropped and you are be able to fight flaring up fire again.

DO NOT inhale fumes or vapours caused by the fire.

Wait at least fifteen (15) minutes before opening the engine compartment. This permits the fire extinguishing vapour to 'soak' the compartment long enough for hot metals and fuels to cool. Have portable extinguishers at hand and ready to use in case the fire re-ignites.

⚠DANGER

Fire on a yacht can turn into a nautical distress. Try to establish radio contact (mayday or pan pan). Keep the distress signals ready.

In case of fire in the engine room, persons not directly involved in firefighting should leave the inside area via the escape hatch in the forward cabin.

FIRE PREVENTION

A fire at sea is the most hazardous and intrinsic danger you may ever face, therefore the following items should be strictly followed.

⚠WARNING

NEVER:

- obstruct passageways to exits or hatches
- obstruct safety controls, eg fuel valves, gas valves, switches of the electrical system
- obstruct portable fire extinguishers stowed in lockers
- leave the craft unattended when cooking and/or heating appliances are in use
- use gas lights in the craft
- modify any of the crafts systems (especially electrical & fuel) or allow unqualified personnel to modify any of the craft's systems
- fill any fuel tank when machinery is running or heating appliances are in use
- smoke whilst handling fuel

⚠WARNING

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

⚠WARNING

Combustible material (eg petrol) must not be stowed in the engine space. If non-combustible materials are stowed in the engine space they shall be secured against falling into the machinery and shall cause no obstruction to access in or from the space.

⚠WARNING

Avoid carrying petrol on board unless it is completely necessary; reduce the risk by keeping petrol containers, outboard motors and petrol generators secured in the open air or in a drained locker outside the cabin space and never use an open container to hold or transfer petrol.

DO NOT fit free-hanging curtains or other fabrics in the vicinity of, or above, cookers or other open-flame devices.

CARBON MONOXIDE (CO)

Symptoms of carbon monoxide poisoning are dizziness, ears ringing, headaches, nausea and unconsciousness. A poisoning victim's skin often turns cherry red. Because carbon monoxide gas (CO) is odourless, colourless and tasteless, it is unlikely to be noticed until a person is overcome.

⚠WARNING

CARBON MONOXIDE (CO) CAN CAUSE BRAIN DAMAGE OR DEATH.

SIGNS OF CARBON MONOXIDE POISONING INCLUDE NAUSEA, HEADACHE, DIZZINESS, DROWSINESS, AND LACK OF CONSCIOUSNESS.

GET FRESH AIR IF ANYONE SHOWS SIGNS OF CARBON MONOXIDE POISONING.

Dangerous concentrations of carbon monoxide will be present if:

- the engine and/or generator exhaust systems leak;
- insufficient fresh air is circulating where people are present; and
- fumes move from the rear of the boat into the cockpit and cabin areas

To minimize the danger of CO accumulation when the engine and/or generator are running, or using burning fuel applications.

- Be sure to have sufficient ventilation when using canvas or window-type side curtains when underway, anchored, moored or docked.
- If the canopy is fitted, operate with the forward hatch open and leave cabin door open.
- Operate all burning fuel appliances, such as charcoal, propane, LPG, CNG or alcohol cooking devices in areas where fresh air can circulate. Do not use such devices where there is no noticeable air movement, especially in the cabin, when anchored, moored or docked.
- Do not idle engine without moving boat for more than 10 minutes at a time
- Inspect the exhaust system regularly

If CO poisoning is suspected, have the victim breath fresh air deeply. If breathing stops, resuscitate. A victim often revives, then relapses because organs are damaged by lack of oxygen. Seek immediate medical attention.

⚠WARNING

As with all styles of motor yacht DO NOT motor your boat with the cockpit canopy side panels in place and with the canopy aft panel stowed or with the accommodation access door open. This will cause the airflow around the boat's aft end to fill the accommodation with exhaust gasses and sea spray.

⚠WARNING

Ventilation Grilles - It is important that engine vents and grilles remain unobstructed. By leaving the vents clear air can run unrestricted to the engines ensuring efficient operation. This also applies to all other vents/inlets/ grilles on the boat such as those used for gas, air conditioning and refrigeration systems which all require the ventilation provided to operate as best possible.

Sticker located next to LPG ventilation grilles:

⚠WARNING

DO NOT Obstruct grille as ventilation is required to provide sufficient supply of oxygen for flame based devices in the galley. (Where fitted.)

YOUR SAFETY

IMPAIRED OPERATION

Drugs and/or alcohol will prevent you from operating your boat safely. This single factor is involved in more marine accidents and deaths than any other. The detrimental effects of alcohol and drugs are increased by the wind, waves and sun, quickly impairing your ability to react properly and promptly in an emergency.

⚠WARNING

Drugs and/or alcohol impair the operator's ability to control the boat safely.

Death or serious injury can result from improper boat operation.

LOAD CAPACITY

The certification plate located near the helm indicates maximum weight and number of persons your boat can handle.

⚠WARNING

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

POWER CAPACITY

⚠WARNING

Do not install or operate this craft with engines of rated power larger than shown on the technical data page.

Your Sealine has been equipped with a propeller which our tests have shown to be the best suited for general use with our engine under normal conditions and load. Do not change the pitch of your propeller without getting your dealer's recommendations first. If you change to a different propeller pitch, under no circumstances use a propeller which allows the engine to operate at higher than recommended RPM (your engine manual specifies the maximum recommended (RPM).

To maintain rated power, propellers should be free of nicks, excessive pitting and any distortions that alter them from their original design. Badly damaged propellers should be replaced, but those that are chipped, bent or merely out of shape can be reconditioned by your marine dealer.

It is advisable to carry spare propellers aboard in case you damage one in use.

STABILITY

Your boat is manufactured to specific stability and flotation standards for the capacity shown on the certification plate. Any increase from the recommended load capacities will put your boat in jeopardy of capsizing, swamping and/or sinking, the following may cause the stability and buoyancy to be compromised:

- Stability may be substantially reduced if equipment is added above the deck.
- Stability is substantially reduced by loose fluids or weight within the hull. Keep bilge area as dry as possible, and close all openings, hatches and windows in rough weather.
- Any change in the disposition of the masses aboard (eg the addition of radar, stowing mast, change of engine) may affect stability, trim and performance of the craft.
- In rough weather, hatches, lockers and doorways should be closed to minimize the risk of flooding.
- Stability may be reduced when towing or lifting heavy weights using the crane/ passerelle.
- Breaking waves are a serious stability hazard.
-

NOTICE

All information about weight and trim calculations, have been calculated according to a boat with standard specification. Additional options and loading will increase the weight of the yacht, thus affecting the trim angle.

In extreme cases this must be compensated by adding trim ballast to the boat to correct the trim angle.

Handling in heavy weather - Always pay attention to the prevailing weather conditions and reduce speed accordingly, as dictated by good seamanship and common sense. You should always adjust your course and speed to avoid the hull slamming off the back of waves.

CHART YOUR COURSE

To avoid boating in unsafe areas where there are underwater obstructions, shallow water, unnavigable conditions such as dangerous currents, and others, you must chart a course.

This means having the relevant and up to date charts for coastal waters, observing and understanding all navigational aids, using the knowledge and guidance of experienced boaters, and being aware of the tide times where appropriate.

If you are in an unfamiliar area without knowledge of the hazards, proceed very slowly and have someone watch for hazards.

Let others know where you are going. A passage plan describes your intended cruising course and itinerary, boat description, and your expected time and date of return. Give the passage plan to a friend or relative, so they can give the information to a national boat agency, like the Coast Guard, in the event you fail to return.

INTERNATIONAL REQUIREMENTS

In some countries, a driving licence or authorisation is required, or specific regulations are in force.

The crew should be familiar with the use of all safety equipment. This equipment is mandatory in most countries.

MAINTAIN CONTROL

The main helm station is on the flybridge for this boot!

⚠WARNING

Handling your craft - You are reminded of your responsibility under the International. Regulations for the prevention of Collision at Sea (COLREGS) to navigate your craft at a speed that is suitable for the prevailing conditions

⚠WARNING

VISIBILITY FROM THE INBOARD HELM STATION IS LIMITED! MAINTAIN A LOOKOUT AS REQUIRED.

AVOID SERIOUS INJURY OR DEATH FROM COLLISIONS OPERATION FROM A STANDING POSITION MAY BE NECESSARY TO MAINTAIN LOOKOUT AS REQUIRED BY "COLREGs" READ THE OWNER'S MANUAL

Under normal load and a trim angle of 4 degrees from the helmstand, the area of approximately 1.3 boat lengths in front of the boat cannot be seen.

Specific to this craft you should take due account that vision from the helm can be obstructed by high trim angles and other factors caused by one or more of the following conditions:

- Propulsion unit trim angles
- Hull trim plane angles
- Loading and load distribution
- Boat speed
- Rapid acceleration
- Transition from displacement to planning mode
- Sea conditions
- Rain and spray
- Darkness and poor visibility conditions, such as fog and sea mists
- Interior lights
- Position of tops and curtains
- Persons and moveable equipment in the helmsman's field of vision

The COLREGS require that a proper lookout be maintained at all times and that you observe the steering and sailing rules.

On the water there are no marked traffic lanes, no traffic signs or lights, and boats have no turn signals. The boat operator must keep her or his attention focused not only on what's ahead but what's on the left, right and behind the boat.

The operator must always be alert to approaching boats (from the rear, right and left sides, as well as those ahead). There can be people in the water, partially submerged debris, and other navigational hazards such as rocks, sand bars, dangerous currents, to name a few.

Your passengers are relying on you to operate and manoeuvre the boat safely so that they are not in danger of going overboard. If you turn to quickly, increase or decrease speed abruptly, your passengers are at risk of being thrown overboard or thrown about the boat.

⚠WARNING

AVOID PERSONAL INJURY. STAY INSIDE DECK RAILS (AND GATES) WHEN BOAT IS UNDERWAY

When visibility becomes impaired because of weather, time of day or high bow angle you must slow down so that you have sufficient time to react if an emergency occurs. Nearby boats face similar risks in avoiding a collision with you.

WORKING DECK

The working deck consists of all areas that must be accessed to operate the boat under normal conditions. The bathing platform do not belong to the working deck.

⚠WARNING

Never enter the areas that do not belong to the working deck when the boat is underway. There is a risk of falling overboard.

We recommend that all persons are seated in their seats while the boot is moving. A sudden change of course or hitting waves can severely throw persons and objects about on deck.

It is generally recommended to secure persons on deck with personal rescue and safety equipment (e.g. life jackets, safety belts).

⚠DANGER

Please make sure that you do not enter between the bulwark and the quay wall or other boats.

The passage to the bathing deck can be closed by a grp door. Persons who remain in this area can fall over board during sudden astern acceleration.

⚠CAUTION

Do not leave loose objects lying in the area of the working deck or the emergency hatches. Secure all pieces of equipment against sliding!

⚠WARNING

During the voyage, the passages to the bathing deck must be closed.

⚠CAUTION

THE FLYBRIDGE IS PERMIT FOR MAX. 7 PERSONS!

GUARDRAIL

The boat has a surrounding stainless steel guardrail.

HANDRAILS AND BOARDING LADDER

Additional handrails and the arrangement of the deck fittings provide protection against falling overboard.

The boarding ladder is fitted in the stern. It extends below the waterline. Re-boarding is ensured by the boarding ladder. Familiarize yourself with the handling of the boarding ladder and practice re-boarding, e.g. in a man overboard manoeuvre (MOB).

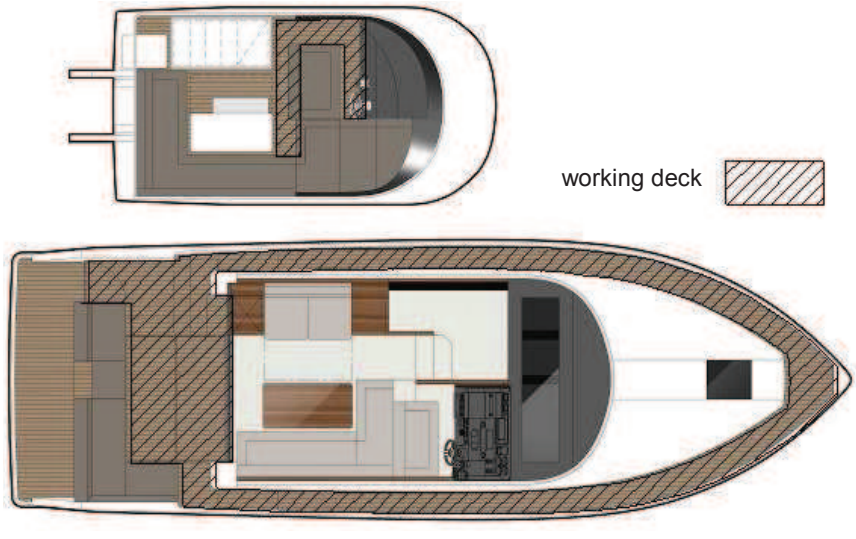
Additional a bathing ladder is on board. The bathing ladder should be always in the same place (cockpit locker) and always ready to use!

In an emergency to rescue, put the ladder in the fittings and fold it down in the water.

⚠CAUTION

Instruct the crew before you start the voyage! We advise you against using the yacht alone (single-handed yachtsman).

One should furthermore take precautions to comply with the "rules of good seamanship" (lifebelt, life lines, connecting belt as short as possible ...).



YOUR SAFETY

GENERAL CONSIDERATIONS

- Know how your boat handles under different conditions. Recognize your limitations and the boat's limitations. Modify speed in keeping with weather, sea and traffic conditions.
- Instruct passengers on location and use of safety equipment and procedures.
- Instruct passengers on the fundamentals of operating your boat in case you are unable to do so.
- You are responsible for passenger's actions. If they place themselves or the boat in danger, immediately correct them.

WEATHER

The wind speed and wave height specified as the upper limit for your category of boat does not mean that you or your passengers can survive if your boat is exposed to these conditions. It is only the most experienced operators and crew that may be able to operate a boat safely under these conditions. You must always be aware of weather conditions and head for port or protected waters in sufficient time to avoid being caught in high winds and rough water. Do not take chances!

Getting caught in severe weather is hazardous. Bad weather and/or rough sea or water conditions can cause an unsafe situation. Consult local weather information, or listen to the marine weather forecast for the latest weather conditions or any impending deterioration of the weather before setting out and while underway. Following are a few basic weather-related rules:

- Check the weather forecast and the water conditions before leaving and while underway.
- A sudden change in wind direction or speed or an increase in wave height indicates deteriorating weather.
- Have everyone wear a life jacket.
- If a storm approaches, immediately seek a safe harbour.
- If a storm hits, have everyone sit in the cabin or on the cockpit deck in the boat. Head the bow into the wind with enough power to maintain slow headway.
- If you encounter fog, determine your position, set a safe course, slow down and alert other boats of your presence with a sound signal.
- If a lightning storm approaches, the safest action is to dock and disembark. If you cannot return to shore, have passengers go inside the cabin and remain there until the storm passes.
- Lightning seeks a ground when it strikes. The best protection is a properly grounded lightning rod placed high enough over the deck to provide a protective umbrella over the hull. Depending upon the likelihood of your being in a lightning storm, consult your dealer for installation of a lightning rod. Stay clear of the lightning rod, all attached wiring and all metal parts of the boat.
- Stay out of the water during a lightning storm. If caught swimming during a storm, get back into the boat and remain there until the storm passes.

WATER SPORTS

Swimming - Do not allow anyone to swim from a moving boat, or a boat with an engine running. Switch off engines before allowing people to swim anywhere near your boat. Switch off engine and remove key to avoid engines being started accidentally. Switch off engine when taking on board swimmers or skiers or are entering water. Slow down in areas where swimmers or skiers are visible.

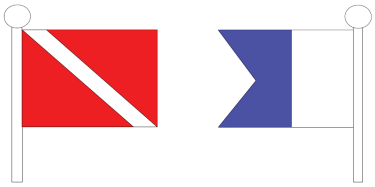
⚠DANGER

Swimming near a boat operating on AC electrical system can lead to severe shock and death. Never swim or allow swimming when AC system is in use.

Diving - Recognize and respect diving flags. Keep at least 30 metres (100 feet) away.

Sport Divers Flag - Red flag with diagonal white strip marks a diver in the water.

Code Alpha Flag - Blue and white pennant designates being used in dive operations.



DIVER'S FLAGS

Bathing Ladder - When boat is stationery at sea, deploy boarding ladder to allow person(s) in water, to gain access to the boat.

⚠CAUTION

SWIM LADDER MUST BE STOWED BEFORE RUNNING BOAT

The bathing ladder can only be used to re-board after falling overboard if it is in place.

- Turn off engines when taking swimmers or skiers aboard or when they are entering the water. Never permit use of the transom or swim platform while engines are running.

⚠WARNING

ROTATING PROPELLER MAY CAUSE SERIOUS INJURY OR DEATH DO NOT APPROACH OR USE LADDER WHEN ENGINE IS RUNNING

- Slow down and look for swimmers or skiers when cruising in an area where there might be persons in the water.

Skiing - While it is unlikely that anyone would ski behind your Sealine, it is advised that you become familiar with water skiing safety and hand signals. You will, on occasion, find yourself in the vicinity of water skiing activity.

- Anyone who water skis must know how to swim.
- Never drive the boat directly behind a water skier. At 22 knots, it takes only 5 seconds to overtake a fallen skier who was 60 meters in front.
- Keep a downed skier in sight and on the operator's side of the boat when approaching the skier. Never back up to anyone in the water.
- Learn the signals to communicate with a skier. The skier is to control the boat through hand signals.

EMERGENCY SITUATIONS

All boaters have a legal obligation to help other boaters who are in distress, as long as rendering assistance does not endanger you, your passengers or your boat. If you are in an emergency situation, it is imperative that you know how to react, in order to protect the lives in your care.

⚠CAUTION

Towing - Always tow or be towed at a slow speed. A tow line should always be made fast in such a way that it can be released when under load. It is the owner's/operators responsibility to ensure that towing lines, mooring lines, anchor chains and anchor are adequate for the vessel's intended use

Refer to Deck Plan for location of the towing cleat.

Medical emergency - You may be far from professional medical help when you are boating. At least two people on board your boat should be CPR certified and should have taken a first aid course.

Water rescue - A person who has fallen overboard will die from hypothermia in water temperatures below 15°C if not rescued quickly. Water rescue consists of three steps: returning to the victim: making contact: getting victim on board.

⚠WARNING

ROTATING PROPELLER MAY CAUSE SERIOUS INJURY OR DEATH. SHUT OFF ENGINE WHEN NEAR PERSONS IN THE WATER

Returning to victim -

- Immediately make everyone aware of the incident and keep the victim in sight.
- Slow the boat and keep pointing towards the person overboard. At night, direct the best available light source at the person.
- Throw a life preserver, even if the person is wearing a life jacket. It will serve as another marker.

Making contact -

- Stop or slow the boat and circle towards the victim.
- Try to approach heading into the wind or into the waves.
- Keep the victim in constant sight.
- When almost alongside, stop engines in gear to prevent propeller "windmilling"

Getting aboard

- Try to reach the victim with a pole, or by throwing a life preserver. Do not swim to rescue victim, except as a last resort.
- Assist the person in boarding the boat. The person should normally be brought aboard over the stern.
- If the person is injured or cannot get into the boat, a rescuer should put on a life jacket with safety line attached to the boat and enter the water to assist.
- Handle the victim with care as spinal injuries may have occurred.

Fire - Fire is a serious hazard. Do not remain on board and fight a fire for more than a few minutes.

- Extinguish all smoking materials, shut off blowers, stoves, gas valves, engines and generators.
- Throw burning materials overboard, if possible.
- If the fire is accessible, empty the contents of the extinguisher at the base of the fire. If the fire is in the engine department and you have an automatic extinguisher wait 15mins before opening the engine room hatch, and have a portable extinguisher at hand.
- Signal for help.
- Grab distress signals and survival gear. Put on life jackets. Prepare to abandon ship.

If the fire cannot be controlled abandon the boat.

Flooding, swamping and capsizing - In the event of the above:

- Try to shut off engines, generators and blowers, before leaving the boat.
- Have all person put on life jackets'.
- Account for all who were on board.
- If the boat is floating stay with the boat. Hang on, or climb on the boat and signal for help.
- Only as a last resort should you attempt to swim to shore.

ENVIRONMENTAL CONSIDERATIONS

Boat users must observe safe boating and environmental practices and be aware of local restrictions and special zones. These topics are governed by local regulations and international maritime law and will vary from country to country. Skippers/owners are required to exercise the appropriate regulations and 'Codes of Practice' recognised and approved in the areas where the craft is operating.

⚠CAUTION

The discharge of fuel oils, foul waste and even food can affect water quality by locally increasing the biochemical oxygen demand and releasing microbial pathogens into the environment. Quantities discharged maybe small, but in areas where a large number of vessels operate this can be very apparent

Fuel oil spillages - Diesel fuel and lubricants are the most common causes of pollution. The following points should be observed when dealing with fuel oil spillages:

a Never discharge engine oil or fuel overboard. Spillages should be cleared up and placed in sealed container for disposal at approved oil disposal points ashore. Do not mix solvents with oil for disposal, this combination cannot be recycled and increases the risk of the stored mixture.

b If washing down be aware that the overuse of detergents when mixed with oil emulsifies and becomes a greater problem than the oil itself.

c Avoid fuel spills at the dock by filling slowly and not overfilling tanks, giving rise to fuel leaking from tank breathers.

Discharge and waste disposal - Many countries have legislation controlling the disposal of waste coupled with heavy fines. Be aware that MARPOL regulations regulate the prevention of pollution of the marine environment by ships.

Non-biodegradable waste - Whenever possible this should be retained aboard and jettisoned only in approved disposal or recycling points ashore

Biodegradable waste - 'Biodegradable' a common justification for throwing food scraps overboard. There is a high chance that this will affect the oxygen levels in a high volume vessel area. Where food has to be disposed of overboard it should be cut-up as small as possible to speed up the breakdown (Many European countries restrict such disposal within 17 km (12 miles) of their coastline)

Sewage/foul waste - As raw untreated sewage this will increase pathogens into the water posing a potential public health risk to swimmers and those who consume shellfish. Where you craft is fitted with holding tanks you should use them in preference to pumping sewage overboard in coastal waters. Sewage should only be discharged when over 17 km (12 miles) offshore or at a pump out point provided in marinas and harbours.

Noise - Generator designs now incorporate soundproofing and shields of various types, however, generator noise can still be heard in quiet anchorages.

Exhaust emissions - It is essential to service engines regularly to keep them operating at their optimum efficiency. Regular servicing will reduce the engine's potential to create adverse environmental impacts. When the main engines have started and warmed up, check the emissions from the exhausts, if the emissions are smoky grey or black in colour, then the engine(s) may need attention.

Apart from being harmful to the environment, such emissions indicate that the engine is not performing efficiently, increasing fuel consumption and reducing performance. The most common cause of poor exhaust emissions are dirty or un serviced injectors and fuel pumps.

Refrigeration and freezer gasses - To comply with legislative changes all fridge and freezer systems now contain specialist refrigerant gasses. In order that your fridge freezer functions correctly you must:

a Ensure that the system is refilled with the same gas or an OEM approved alternative.

b Avoid damage to the pipe work which could cause loss of gas to atmosphere.

c Ensure that only certified individuals work on your system.

Wake, wash and environment damage - Excessive wake from your craft can impact on the shoreline, eroding soft riverbanks and causing failures of flood and sea defences.

Coral - If you must anchor in a reef area choose a flat bottom and avoid coral heads which could be fouled by the anchor chain as the craft swings.

ANTIFOULING

Antifouling paint keeps away unwanted marine growth on the underwater parts of the craft. However the very action of the paint is damaging to the environment because of the poisons incorporated in the paint. Tributyl-tin (TBT) antifouling has been banned and has been replaced with copper based products which have less harmful effects to the ecosystem.

The following point should be observed when using antifoul paint:

a Select the right antifouling that does not contain TBT and that it has the appropriate level of toxicity for local conditions, the number of coats needed and the active life of the product.

b Follow the manufacturer's instructions for application and disposal.

c Clean off antifouling as far from the waters edge as possible to prevent ingress of scraping or dust blowing into the water. Place a dust sheet under the craft's hull or use a vacuum scraper.

d Collect and dispose of the scrapings and used antifoul containers safely in designated bins or disposal points.

SOLVENTS

Under EC regulations all EU countries should have phased out the use of CIFC and Trichloroethylene solvents containing Hydrochlorofluorcarbons (HCFC's) by the year 2015.

When handling solvents the following points should be observed:

a Tight fitting seals should be used on all storage containers to prevent evaporative loss of any Volatile Organic Compounds from substance such as solvents and paint thinners.

b This should also include containers used for soiled rags/cloths.

c Clean off unwanted paint before it dries.

d When cleaning engine and machinery parts try to use paraffin based agents as opposed to organic solvents.

FIRE EXTINGUISHER INFORMATION

⚠NOTICE

The owner/skipper is responsible for providing portable fire extinguishers. Your sailing yacht must be equipped with appropriate portable fire extinguishers in compliance with the recommendation below at the places marked with the opposite symbol. Please pay attention to regional regulations regarding the number of and provision with portable fire extinguishers. Don't start a voyage before conforming requirements!

Your boat is equipped with two fire extinguishers with a combined capacity of 10A/68B. They are in the following locations;

In all cabins	Fire Rating:..... 5A/34B
in the galley (max. 2m from the cooker)	Fire Rating:..... 8A/64B
main helm station	Fire Rating: 5A/34B
galley	fire blanket

Please complete the equipment with an additional fire blanket in the nearest range of the stove. Fire blankets are very effective to put out burning grease.

It is the responsibility of the owner to:

- Have fire fighting equipment checked at intervals indicated on the equipment.
- Replace fire-fighting equipment, if expired or discharged, by devices of identical or greater fire fighting capacity.

Fixed fire extinguishing system must be suitable for compartment volume of

8.08 m^3 (285) cu ft.

This is based on gross compartment volume less permanently installed tanks.

- Inform members of the crew about the location and operation of fire fighting equipment.
- The location of routes and exits.
- Ensure that fire-fighting equipment is readily accessible when the boat is occupied.

IMPORTANT! - SEE BOAT SPECIFIC FIRE SAFETY INFORMATION IN THE FIRE PROTECTION SYSTEM DRAWING IN THE DATA SHEETS SECTION OF THE MANUAL.

⚠WARNING

When replacing parts of the fire fighting installation only use matching components, which bear the same designation or are equivalent in their technical and fire resistant capabilities.

ACTIVE FIRE FIGHTING

⚠DANGER

Each fire is danger for you, the crew and the boat. All persons on board must start fighting the fire with all means and without hesitation immediately after the alarm.

All persons who cannot actively engage in fire fighting should go above deck using the escape hatches and put on their personal life jackets. The burning compartments have to be separated from the atmosphere as much as possible by closing the relevant appliances.

In case of fire in the galley:

- Shut the gas supply valve! (in the locker under the cooker)
- Smother flames with fire blankets!
- If the fire has reached parts of the furniture use the fire extinguishers!

In case of fire in the engine room:

In case of a fire the engine has to be stopped immediately if the nautical safety is not reduced! Do not open the hatches!

- Turn off the engine!
- Shut the fuel valves! (in front in the cockpit seats)
- Do not open the hatches!
- Activate the fire extinguishing system at the helm station provided it has not automatically been activated.
- Open the engine room only, if you are sure that the fire is put out, the temperature has been dropped and you are be able to fight flaring up fire again.

⚠DANGER

Fire on a yacht can turn into a nautical distress. Try to establish radio contact (mayday or pan pan). Keep the distress signals ready.

In case of fire in the engine room, persons not directly involved in firefighting should leave the inside area via the escape hatch in the forward cabin.

In case of fire in the other areas

Try to extinguish the fire with the fire blanket or with water if no inflammable liquids are involved. Otherwise, use the fire extinguisher to fight the fire.

USING YOUR BOAT

PREPARING TO DEPART

As the owner/operator of a Sealine, you are responsible for the safe operation of your boat and the safety of your passengers. Always be sure that required documents, navigational equipment and Coast Guard required safety equipment is aboard and in proper working order.

⚠CAUTION

Equipment - Make sure all equipment is stored properly.

GENERAL

⚠CAUTION

Before leaving sheltered waters, always check the weather forecast.

⚠CAUTION

It is fundamental to good seamanship to avoid extreme weather conditions whenever possible by the heeding of gale warnings when in port or at sea.

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

- Passengers/Crew - Instructed in duties for getting underway and fitted for a correct size life jacket. One (1) life jacket for every person aboard.
- Tool Box - Stocked with a variety of appropriate tools.
- Lines, Fenders and Anchor - Ready for use.
- Passage Plan - shared with friend or relative not on trip.
- Navigation Charts - Available for trip.

⚠WARNING

FOREDECK SUN PADS SHOULD NOT BE USED WHEN VESSEL IS UNDERWAY.

BOAT SYSTEMS

- Equipment - Make sure all equipment is stored properly.
- Radio and Navigation Equipment - Check for proper working condition.
- Bilge/Engine Compartment - Check the bilge/engine compartment for fuel odour.
- Run the engine blowers for at least Four (4) minutes. Confirm air flow through hull vents.
- Bilge Pumps - Assure that all bilge pumps function properly.
- Shore Power Cable - Disconnected from dockside power inlet.
- Trim Tabs - Full range of motion. No excessive play or binding.
- Fresh Water Tank - Filled and sanitized.
- Head System Holding Tank - Empty.
- Engine and Generator Seacocks - Open (handle parallel to hose).

ENGINE

- Fuel - Be sure that you have sufficient recommended fuel for the trip.
- Fuel Filters - Check that filters are clean, tight and free of water.
- Fluid levels - Check engine oil and steering fluid levels.
- Coolant Drain Plugs - Secured.
- Batteries - Fully charged.
- Battery Switches - Check for proper working condition.
- Fuel valves - Open.
- Engine Alarm - Test (If Fitted). Should sound after a few seconds.

NAVIGATIONAL EQUIPMENT

The use of electronic navigational equipment should not be used as a substitute for good seamanship. Electronic equipment can fail, it is therefore fundamental that the individual charged with the craft's command be familiar with traditional navigation methods.

Magnetic steering compass - Magnetic steering compasses are fitted at the helm, however, a hand-held compass should be carried as standard equipment. All compasses are prone to variations which deflect the indicated heading from the 'True North' position.

a Variation is caused by earth's magnetism.

b Deviation is caused by the craft's magnetism.

Variation - The amount of variation changes with time and geography. All navigational charts give information on the amount of variation that exists.

To allow for the error it is only necessary to:

c Look up the variation on the appropriate chart and make the necessary allowances due to the annual changes on the chart.

d Apply the correction due to the variation to the compass reading.

Deviation - The amount of deviation experienced will vary depending upon the heading of the craft and can be as much as 30°.

⚠CAUTION

Never leave any metallic or electrical equipment close to the compass as this will induce errors. A small metal object in your pocket can be sufficient to deflect the compass heading.

Boat speed indicator/log - The boat speed indicator/log is used to determine the craft's speed through the water and also the distance travelled. Information can be accumulative or current and can include additional data such as maximum speed, average speed.

Depth sounder - The depth sounder is possibly the most important single piece of instrumentation with regards to safe navigation. This will give you accurate depth information in all sea states and provides an invaluable aid to anchoring.

Radar - A rotating antenna aboard the craft transmits a beam of energy into the ether and if there are any solid objects in the way the beam deflects back. The antenna picks up these returning signals which are then translated into picture form and displayed on a screen as a map of the area around the craft.

Global positioning system (GPS) - The GPS receiver converts signals given by the satellites into position, velocity and time estimates. Four satellites are required to compute the four dimensions of X, Y, Z (position) and time.

Navigation and anchor lights - Navigation lights MUST be on while underway from sunset to sunrise or in conditions of reduced visibility. "Underway" means the boat is not docked or at anchor. Drifting with engine off is considered "underway" and navigation lights must be used.

USING YOUR BOAT

WHILE UNDERWAY

Port Lights & hatches - It is important that all port-lights, hatches and apertures are firmly fastened before journeys or when leaving the boat unattended for an extended period.

GENERAL

Skipper/owner should inform the local Coastguard station of impending departures from port and report safe arrival at the next port or safe anchorage.

Passengers/crew - Safely seated with life jackets on or immediately accessible. Keep passengers safe.

- Lines, fenders and anchor - Safely stowed.
- Operation - Gradual acceleration/ deceleration and turning.
- Surroundings - Be aware of other boats, swimmers, floating debris, etc at all times.
- Carbon Monoxide (CO) - Operate so as to prevent build-up.
- Weather - Monitor frequently.
- Navigation - Adhere to navigational aids in the water and on shore.
- Fuel - Check consumption regularly.

BOAT SYSTEMS

- Navigation Lights - On at night or in reduced visibility.

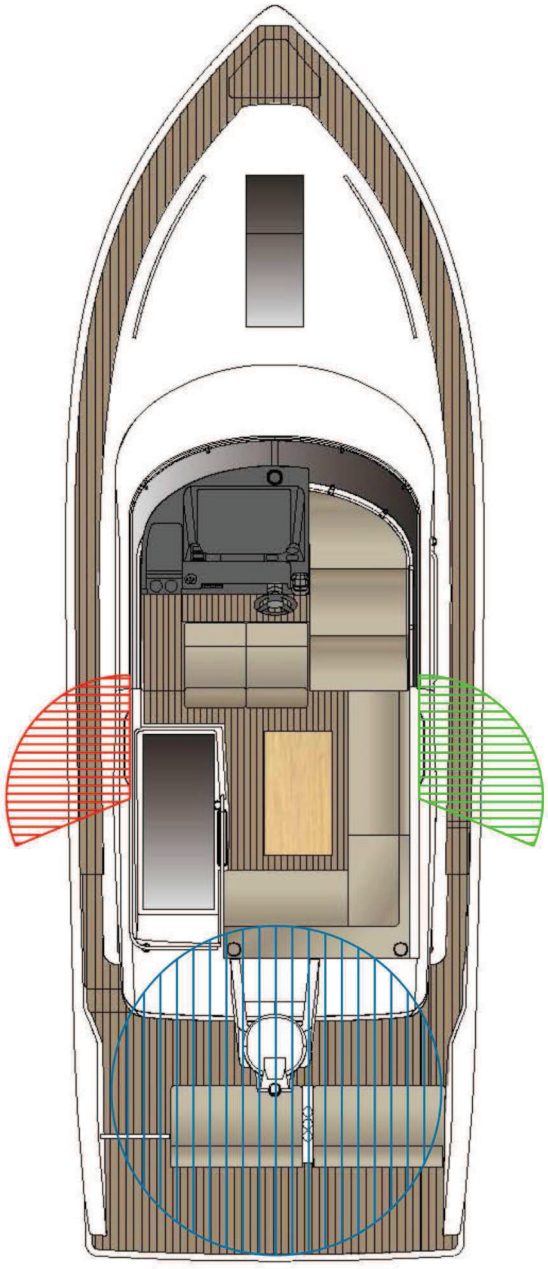
ENGINE

- Tachometers - Engines operating in safe RPM range (refer to the Engine Owner's Manual for your specific engine).
- Engine Gauges - Monitor continually.
- Engine Operation - Check idle and shift Listen for abnormal noises and visually check the engine compartment while underway.

NAVIGATION AND ANCHOR LIGHTS

⚠CAUTION

On flybridge models only. The Masthead Light is obscured by the Bimini cover when planing at night.



A	Port Side Light	Red	(Visible 2	Nautical	miles)
B	Stbd Side Light	Green	(Visible 2	Nautical	miles)
C	All-round Light	White	(Visible 2	Nautical	miles)

USING YOUR BOAT

RETURNING TO PORT

GENERAL

- Passengers/crew - Instructed in duties for line handling.
- Lines, fenders and anchor - Ready for use.

BOAT SYSTEMS

- Anchor Light - ON if necessary.
- Run the engine room extraction ventilator fans if necessary to cool the engine compartment.
- Check for water in the bilge, run bilge pumps if necessary.

ENGINES

- Gearshift & Throttle Controls - Bring to NEUTRAL and IDLE positions.
- Tachometers - Idle the engines for five (5) minutes to cool down.
- Ignition - when engines are cooled down:

  STOP BUTTON OPERATED - Depress and hold in the engine STOP switches until engines stop.

SECURING THE BOAT

GENERAL

- Fenders and Lines - Fenders in place, lines tied securely to dock.
- Equipment - Dry and stored.
- Passage Plan - Notify person who had passage plan that you have returned.
- Canvas - Properly install canvas covers.
- Hull - Inspect for damage.

BOAT SYSTEMS

- Seacocks - Closed (handle perpendicular to hose).
- Helm Switch Panel - All switches in the OFF position.
- Gearshift/Throttle Controls - In the NEUTRAL and IDLE position.
- Navigation Lights - Turned OFF.

ENGINES

- Ignition - Switched in the OFF position.
- Battery Switches - In the OFF position.
- Fuel Valves - Closed.

FUELLING THE BOAT

Certain precautions must be carefully and completely observed every time a boat is fuelled, even with diesel fuel. Diesel fuel is non explosive but it will burn.

GENERAL

- Avoid filling at night unless under well-lighted conditions.
- Fire extinguisher - close at hand.
- Mooring - boat tied securely to fuelling pier.
- Crew - at least one knowledgeable person present.
- Passengers - unnecessary people off the boat.
- Engines - stopped.
- Electrical equipment, including engine room extraction ventilator fans - power off.
- Close all hatches, doors and keep engine compartment closed to prevent fumes from entering the cabin or cockpit areas.
- Smoking material - extinguished.
- Inboard tanks - grounded.
- Filler pipe - marked DIESEL or PETROL.
- Fuel nozzle - in contact with filler pipe to prevent static sparks.
- Avoid spills - fill less than rated capacity of tank; allow for fuel expansion.
- Trim - fuel weight distributed equally.

FILLING THE TANKS

Electrostatic discharge - Your craft whilst in the water has an effective bonding system which dissipates any induced spark whilst refuelling.

⚠DANGER

DO NOT refuel your craft whilst in dry dock or on land without first ensuring the adequate grounding of the boat, the fuel filling container and ancillary equipment. Failure to do so will result in a high probability of explosion and fire.

- Check the fill plate label to ensure that fuel is placed ONLY in the fuel tank.
- Know your fuel capacity and consumption. Record the amount of fuel used since your last fill up, and compute the engine's hourly fuel usage. As a fuel gauge backup check, deduct the average hourly fuel usage from fuel tank capacity.

⚠CAUTION

The fuel gauges mounted at the helm should only be used as an indication to the amount of fuel remaining in the tanks. Dependant on the craft loading and the trim all of the tank capacity may not be usable. Therefore a 20% reserve should be kept.

- Allow an additional 15 percent fuel reserve when operating in rough seas.
- Listen as the tank fills and stop adding fuel before it spills from the fuel fill opening.
- When taking on fuel reduce the rate of fill well before you sense the tank is full. Overfilling will flush the surplus fuel from the tank and out through the breather.
- Fuel tanks should be filled, allowing a minimum of 2% of the tank space for expansion. The space allowance should be 6% if the temperature of the fuel taken on board is 0°C or lower.

⚠CAUTION

Refuelling

1 DO NOT smoke or strike matches.

2 Switch off engines and all electrical equipment.

3 Switch off all galley appliances.

4 Close all portholes, door and windows adjacent to the fuel filling point.

5 Be sure the correct type and grade of fuel is used. Check your engine owner's manual.

6 Keep the fuel nozzle in contact with the metal fuel opening at all times to guard against static sparks. There is a serious hazard posed by static discharge unless this practice is observed.

7 Regularly check fuel vent fittings whilst filing as fuel may spurt out when the tank is almost full.

AFTER FILLING

- Windows, doors, hatches - open.
- Wipe up any spillages completely and dispose of rags or waste on shore in appropriate waste containers.

⚠CAUTION

If by accident fuel is pumped into a freshwater tank or vice-versa, then the tank and system in question will need to be reinstated by a suitably qualified person.

- Ventilate all spaces, and check for gasoline vapours before starting any engines or operating any appliances.
- Ensure the seal ring on the filters are free from grit and undamaged before screwing them down, or salt water may enter the tanks while at sea. Screw down tightly.

Do not allow the tanks to run low as there is a real risk, that the motion of the craft will cause the remaining fuel to surge, allowing air into the engine feed causing the engine to be starved of fuel. Thereafter it will be necessary to bleed the fuel system to the affected engine.

⚠WARNING

In the event of fuel odour being present, switch off engine(s) and trace the source immediately. Check fuel tank lines and joints visually. DO NOT smoke or use naked lights. Switch off all electrics at source. The bilges should be well ventilated and spillage dried out as soon as possible. DO NOT use the engines until all vapour has been removed. Fuel vapour is highly explosive.

USING YOUR BOAT

BOARDING

- DO NOT overload the boat. Refer to builder's plate. Load to less than capacity in adverse conditions.
- Board one person at a time and give assistance as needed. Transfer gear and equipment by handing it from a person on the dock to a person on board. You can lose your balance and be injured if you attempt to board while carrying equipment or gear.
- Distribute the weight of equipment and passengers as evenly as possible to keep the boat balanced.
- Stow gear and equipment so that it is accessible, but everything is to be stored in places so as to prevent it from flying about if the boat encounters rough water or weather.

LIFEJACKETS

Operator must instruct all passengers on location and use of life jackets.

- Children under sixteen (16) years of age and all non-swimmers, adults as well as children, must wear properly sized life jackets at all times when aboard.
- ALL passengers should wear life jackets. By the time someone falls overboard, it can be too late for them to put on a life jacket and fasten it properly. This is especially true in colder waters, below 15°C, where survival time, before hypothermia sets in, is measured in minutes.

If there are passengers not wearing life jackets, then:

- Life jackets must be readily accessible. "Readily accessible" means out of the storage bag and unbuckled.
- All throwable flotation devices (cushions, rings, etc) must be right at hand.

PASSENGER INSTRUCTION & LOCATION

⚠CAUTION

THE FLYBRIDGE IS PERMIT FOR MAX. 7 PERSONS!

Everyone on board must be told about the boat's behaviour from starting to getting up on plane.

Before the operator does any high-speed manoeuvres or rapidly accelerates or decelerates the boat, passengers must be warned to sit and hold on and must heed the warning.

The operator may have to make rapid changes in speed and/or direction to avoid a problem, with little or no time for alerting passengers. It is critical that all passengers be seated in the designated seating areas and holding on to prevent falling overboard or getting knocked about in the boat at all times when the boat is underway.

When persons are on the working deck area, for anchoring, mooring or in emergencies, they must be holding on and be positioned so as to prevent falling. In bad weather and/or rough water, if it is essential to be on deck, persons should be closely tied to cleats, railing stanchions or other securely fastened boat hardware.

⚠WARNING

Boat motion can be erratic. You can fall overboard or be injured by hitting something in or on the boat. All persons must be in cockpit area or cabin and be prepared for sudden boat movement. Use front or bow deck area only during anchoring, mooring or emergencies.

STARTING AND STOPPING THE ENGINES

Neutral Safety Switch - Craft are fitted with dual-lever throttle controls for acceleration and gear changing. Every control system has a safety switch incorporated into it. This device prevents the engine from being started whilst the gearshift lever is in any other than the neutral position. If the engine will not crank over, slight movement of the gearshift lever may be necessary to locate the neutral position and disengage the safety cut out switch.

After starting main engines:

- Check all panel warning lamps are extinguished.
- Oil pressure is OK
- Alternator charging OK Check ammeters located on main electrical control panel.
- Check engine cooling system is operating. (sea water will be splashing out of the exhaust or water separator outlets, if fitted)

⚠WARNING

In the event that the operating temperature of an engine begins to rise unduly, the engine should be immediately turned off and the cooling system checked for correct levels and that there are no leaks from the raw water or enclosed freshwater cooling circuits, including that part that serves the calorifier.

Stopping main engines - In addition to the procedures listed in the OEM's literature you should be aware of the following:

- If engines have been run at high speed, allow them to idle for several minutes before switching off the ignition.
- Never turn the battery master switches off when the engines are running this will damage the alternators.
- Never attempt to stop the engines by turning off the engine fuel taps.

⚠CAUTION

IF SWITCH IS TURNED OFF WHILE ENGINE IS RUNNING ALTERNATOR WILL BE DAMAGED

SEE THE BOAT SPECIFIC PAGES AT THE END OF THIS SECTION.

USING YOUR BOAT

STARTING THE GENERATOR

Sealine strongly urges you to fully comply with the manual provided by the generator manufacturer. The generator is warranted separately by the generator manufacturer, NOT Sealine. Follow the recommended maintenance and warranty schedule in your Generator Operator's Manual included in the Owner's Manual Packet. Generator abuse or improper maintenance may adversely affect claims made under generator manufacturer separate warranty.

Perform the following checks prior to starting the generator:

1 Check fuel tank levels.

2 Check remote fuel valves making sure the feed and return valves are operating on the same fuel tank.

3 Check oil and coolant levels for proper readings.

4 Open the generator seacock.

START the generator.

READ THE GENERATOR'S OWNER'S MANUAL IN THE OWNER'S MANUAL PACKET.

SHIFTING FROM SHORE POWER TO GENERATOR POWER.

1 Turn all AC systems and branch circuit breakers OFF. Turn main breakers on the main distribution panel OFF.

2 START the generator.

3 Select Generator on changeover switch.

4 Turn the individual system breakers ON.

STOPPING THE GENERATOR

1 Prior to generator shut down turn OFF all AC equipment and breakers including main breakers and allow the generator to run a few minutes to cool down. If desired, transfer to shore power.

2 STOP the generator.

REFER TO OWNER'S MANUAL PACKET FOR FURTHER INSTRUCTIONS AND WARRANTY INFORMATION.

STEERING SYSTEMS

SEE THE BOAT SPECIFIC PAGES AT THE END OF THIS SECTION.

Steering Failure - In the event of total steering failure whilst underway, the boat may still be controlled. By creating differential thrust between the 2 propellers, one can control the direction of the boat. To achieve this, the throttle controls for each engine should be utilised independently.

REFER TO OWNER'S MANUAL PACKET FOR FURTHER INSTRUCTIONS AND WARRANTY INFORMATION.

ANCHORING

To anchor, bring the bow into the wind or current and put the engine in neutral. When the vessel comes to a stop, lower the anchor from the bow. The anchor line should be 5 to 7 times the depth of the water.

ANCHORING ARRANGEMENT

Veering and retrieving the anchor is controlled using an electric windlass fitted directly above the self-stowing chain locker.

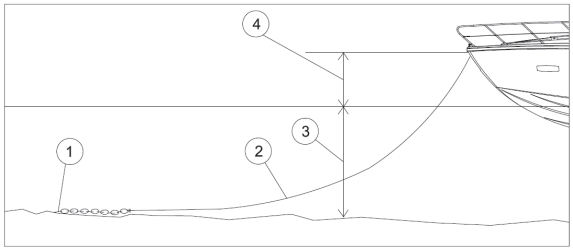
The windlass is operated by a remote control in the anchor locker and a master circuit switch at the helm.

The anchor man should ensure that the chain is coming up on the right line to the stem head and that the anchor beds home properly in the stem head fitting and is secured using a leash.

See Manufacturer's Operator/Owners Manual for specific details.

⚠CAUTION

The anchor has a secondary safety restraint which should be engaged until the anchor is deployed. The clip should be moved to the eyebolt when not securing the anchor, to avoid fouling the chain as it is run out. After retrieving the anchor engage the clip in the anchor chain before moving the boat.



1	ANCHOR	2	RODE
3	WATER DEPTH	4	BOW HEIGHT

Proper anchoring requires knowledge of RODE and SCOPE. Read this section carefully, understanding the relationship between rode, scope and anchor performance. The rode is the line connecting the anchor to the boat. All Sealines are equipped with an all-chain anchor rode.

The scope is technically defined as the ratio of the rode length to the vertical distance from the bow to the sea floor. Since you want to know how much rode to use when anchoring, the formula is:

- Rode Length = (Bow Height + Water Depth) x scope.
- Scope depends on the type of anchor, bottom, tide, wind and sea conditions.
- Minimum is 5:1 for calm conditions; norm is 7:1; severe conditions may require 10:1.

EXAMPLE:

Rode Length = (1m + 3m) x 7

Rode Length = 4m x 7

Rode Length = 28m

LOWERING ANCHOR

- Be sure there is adequate rode.
- Secure rode to both the anchor and the boat.
- Stop completely before lowering anchor.
- If using windlass, refer to windlass operator's manual.
- Turn on anchor light when at anchor or drifting (not under power).

SETTING ANCHOR

- There is no best way to set an anchor. Experiment to see how your anchor performs.
- One method is to turn the rode around a bit and slowly pay out as the boat backs from the anchor site. When the proper scope has been reached, snub the rode quickly, causing the anchor to dig into the bottom.
- Reverse engine slowly to drive the anchor in and prevent it from dragging.
- Engage chain stop if fitted.

⚠CAUTION

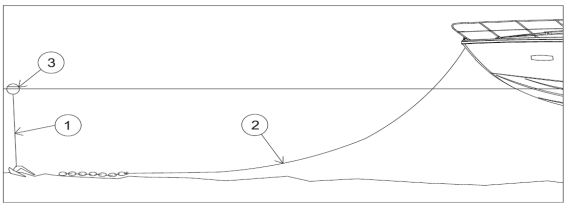
When the craft has settled use the depth sounder to obtain the water depth, plot the craft's position on the chart and check the position at regular intervals. Set the depth sounder to **Anchor Watch.**

RETRIEVING THE ANCHOR

- Start the main engines to avoid running down the batteries - windlasses especially under load will drain batteries extremely quickly.
- Check that the windlass master switch is set to the 'ON' position and that the anchor is ready to be raised.
- Give the engines a light rev ahead to take the weight off the anchor chain. As the weight on the chain decreases, haul the chain in on the windlass.
- If the anchor chain appears to be causing excessive strain on the windlass, with the anchor pulling immediately under the bow, you should stop the windlass and secure the chain before giving the engines a further light rev astern to break out the anchor. To avoid any damage being caused to the windlass motor an overload circuit breaker is incorporated within the windlass electrical circuit. Should this trip it will need to be reset.
- To avoid the risk of fouling another craft's anchor or chain when moving away from the anchorage, never move ahead until the anchor is safely stowed away and secure.
- Run the boat slowly up to the anchor, taking in the rode as you go.
- The anchor will usually break out when the rode becomes vertical.
- Be careful that trailing lines do not foul in the propeller.
- Use water to hose down the chain in the locker after haul-in.

CLEARING A FOULED ANCHOR

A fouled anchor can test your patience and ingenuity. One of the best methods of breaking free is to set a trip-line before you lower anchor.



1	TRIPLINE	2	RODE
3	FLOAT		

- Attach a line to the crown or head of the anchor and the other end to a float.
- The line should be just long enough to reach the surface of the water allowing for tides.
- A polypropylene line is a good choice because it is light, strong and floats.
- If the anchor snags, pull vertically on the trip line to lift the anchor by the crown.

A FINAL WORD

An anchored boat is affected by wind and sea conditions. Because there is no headway, there is no control. Be alert! If leaving the boat, be sure the anchor will hold under all circumstances. We suggest you read this section on anchoring again and fully understand rode and scope and their affect on anchor performance.

WINDLASS

The electric windlass is operated from the foredeck or from either helm panel. The on/off switch on the main power panel isolates all windlass switches. This will prevent the windlass from accidentally being operated by someone standing on the foredeck etc.

A great deal of power is required to operate the electric windlass, it is therefore advised that you have your engine running to prevent unnecessary drain on your batteries. It is good seamanship to assist the windlass by motoring very slowly towards the anchor during recovery.

Should the windlass fail to operate check the circuit breaker mounted on the main electrical panel in the saloon.

Unless specifically permitted by the OEM the windlass should only be used to veer and recover the anchor chain. The windlass should not be used as a point to secure the craft.

⚠WARNING

READ THE INSTRUCTIONS BEFORE OPERATING THE WINDLASS.

KEEP HANDS AND FEET AWAY FROM GYPSY AND CHAIN AT ALL TIMES. WHEN WINDLASS IS NOT IN USE, OR BEFORE USING THE HANDLE, TURN OFF THE WINDLASS AT THE MAIN SWITCH. WINDLASS MUST NOT BE USED AS SOLE MEANS OF SECURING ANCHOR IN BOW FITTING. ANCHOR MUST BE SECURED USING THE ANCHOR SAFETY LEASH TO PREVENT ACCIDENTAL RELEASE

TO OPERATE FROM THE HELM:

- Make sure that the safety leash and chain stop (if fitted) are disengaged from the anchor chain.
- Turn the WINDLASS breaker ON.
- Press the switch down at the FWD indicator arrow to lower the anchor.
- Press the switch down at the AFT indicator arrow to raise the anchor.
- Engage the chain stop (if fitted) and ensure the anchoring loads are not on the windlass.

TO OPERATE FROM THE BOW:

- Make sure that the safety leash and chain stop (if fitted) are disengaged from the anchor chain.
- Connect the remote control and depress UP or DOWN switch for the desired result.
- Engage the chain stop (if fitted) and ensure the anchoring loads are not on the windlass.

REFER TO WINDLASS OPERATOR'S MANUAL IN YOUR OWNER'S PACKET FOR DETAILED OPERATING AND MAINTENANCE INSTRUCTIONS.

MAINTENANCE

Windlasses are virtually maintenance free; only occasional inspection and greasing of moving parts is necessary. The solenoids, which operate the winch, should occasionally have their electrical connections checked for tightness. They should also be sprayed with a suitable moisture repellent spray.

If the fault appears to be of a physical nature, an exploded view of the windlass is provided in the OEM's literature. Alternatively you can call an appointed OEM service engineer.

DOCKING

When docking the craft should be secured in the first instance by warps utilising the cleats on the toe rails distributed around the deck edge. Fenders should be used to prevent damage to the hull, dock and other vessels. The windlass should not be used as a cleat to secure the craft

⚠CAUTION

The docking lights are designed for docking purposes only and are not to be used for extended periods or as running lights.

USING YOUR BOAT

OPERATION OF SHIFT AND THROTTLE

Operation of shift and throttle is controlled by the movement of the Electronic Remote Control (ERC) handle. Push the control handle forward from neutral to the first detent for forward gear.

Continue pushing the handle forward to increase speed. Pull the control handle from the forward position to the neutral position to decrease speed and eventually stop. Pull the control handle back from neutral to the first detent for reverse gear. Continue pulling the handle back to increase speed in reverse.

A single-lever control operates both gearshift and throttle functions with the same lever. The engine can only be started with the control lever in the neutral position.

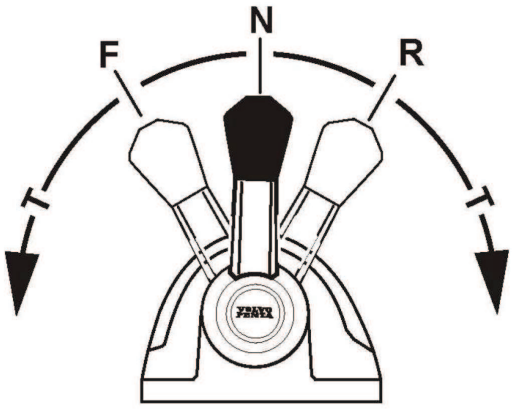
N Neutral position. Reverse gear/drive disengaged and engine at idle.

F Reverse gear/drive engaged for forward motion.

R Reverse gear/drive engaged for rearward motion.

T Engine rpm control (throttle).

Engine and drive features are controlled with push buttons on the control. What buttons and functions available is depending on the installation.



REFER TO THE ENGINE OPERATOR'S MANUAL FOR MORE DETAILED INFORMATION

ENGINE INSTRUMENTATION

Instruments will vary according to the different engine manufacturers. The normal operating condition for each individual gauge should be noted from the engine handbook. Generally the following instruments are fitted as standard:

Tachometer - The tachometer gives an accurate indication of engine speed in revolutions per minute (rpm). It is also essential for the 'running in' period and economical cruising.

Oil Pressure Gauge - This indicates the engine oil pressure. Should low oil pressure be noted, switch off the engine and check the engine oil level. If this is correct seek professional advice - serious damage may otherwise occur.

Temperature Gauge - This indicates the coolant water temperature If, after running the engine for a period of time, a high reading is evident, switch off the engine and check the raw water coolant system.

As the engine is fitted with a fresh water system the coolant level should be checked remembering that the coolant becomes pressurised when heated and the cap must be removed with great care. Should this level be low, fill the system, run the engine for a short period of time and then check the system for leaks.

Volt Meter - This indicates the relevant engine battery condition. The normal reading with the ignition switched on a 12v system should be 1112 or 23-24 volts on a 24v system. When the engines are running at or above fast idle the reading should increase to 13-14v for 12v and 25-26v on a 24v system, as the alternator charges the battery banks.

Fuel Gauge - This indicates the amount of fuel onboard. The most accurate reading will be given when the boat is static.

Engine Hour Meter - This is used for recording engine operating times and obtaining maintenance and cruising information.

REFER TO ENGINE OPERATOR'S MANUAL FOR MORE DETAILED INFORMATION.

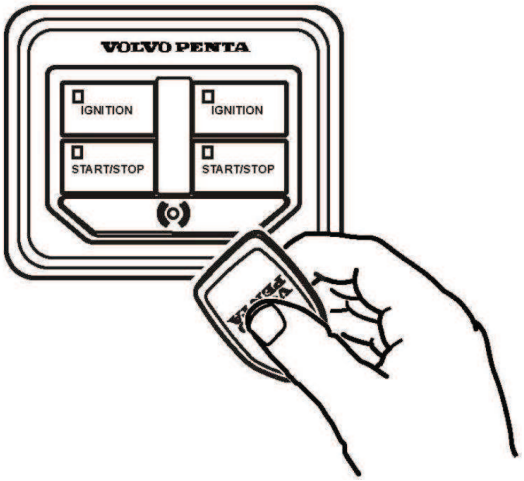
STARTING AND STOPPING THE ENGINES

BEFORE STARTING THE ENGINES

- Check the engine and transmission oil level.
- Check the coolant level.
- Open the sea cock where fitted.
- Open the fuel cock.
- Turn the main switch(es) on.

  IMPORTANT!

  Never disconnect the current with the main switches when the engine is running. The alternator and electronics could be damaged.
- Unlock the EVC system with the e-Key.



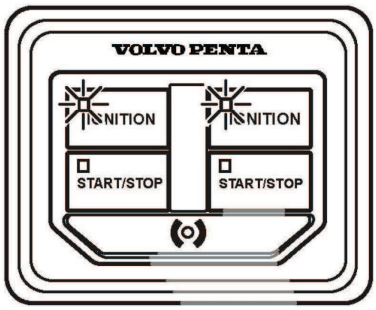
- Start the engine bay fan, where fitted, and allow it to run for at least four minutes.
- Check that there is sufficient fuel for the planned trip.
- Lower the stern drive if it is up.

START THE ENGINES

Make sure the ignition is on.

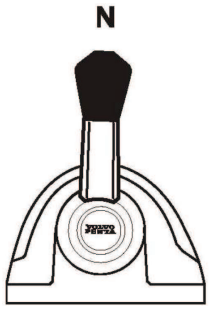
A green light in the IGNITION button indicates to ignition is on.

The ignition is switched on via the e-Key panel. Press the IGNITION button to switch the ignition on.



Put the gear in neutral

Put the drive/reverse gear in neutral by moving the control lever(s) to neutral at all stations.



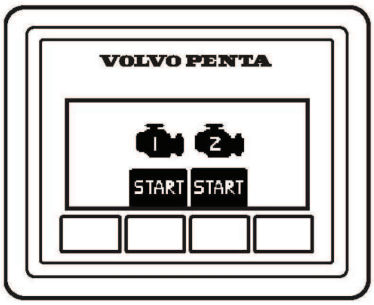
Starting with the e-Key panel

To start, press the START/STOP button once for each engine.

If the starter motor is engaged for its maximum activation time (30 seconds), the starter motor circuit is cut automatically to protect the starter motor from overheating. If possible, leave the starter motor to cool for at least five minutes before making a new start attempt.

Starting with the start/stop panel

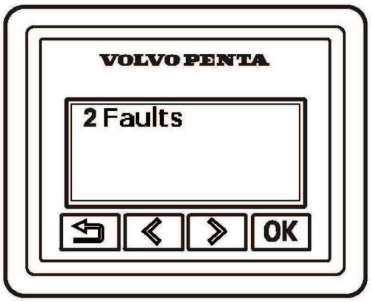
Press the starter button for each engine. Release the button as soon as the engine has started.



Read the instruments and warm the engine up

Allow the engines to idle for the first ten seconds. Check that instruments and warning displays show normal values.

Check that no messages are displayed and no warning signs are showing.



Warm the engine up at low speed and low load, so normal operating temperature is reached before full power is used.

⚠WARNING

To avoid serious engine damage, never race the engine when it is cold.

STOPPING THE ENGINES

Allow the engine to run at low idle, in neutral, for a few minutes after operations are completed. In this way after-boiling is avoided at the same time as temperature equalization takes place. This is especially important when the engine has been run at high rpm or under heavy load.

IMPORTANT!

Never disconnect the current with the main switches when the engine is running. The alternator and electronics could be damaged.

Stopping with the e-Key panel

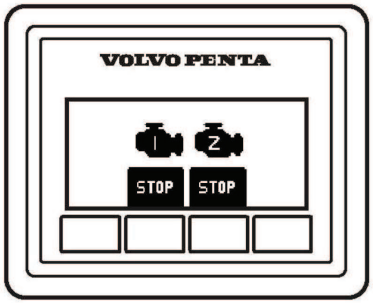
1 Disengage the drive/reverse gear by putting the control lever in neutral.

2 Stop the engine(s) by pushing the START/STOP button (s).

Stopping with the start/stop panel

1 Disengage the drive/reverse gear by putting the control lever in neutral.

2 Push the stop button(s). Release the button(s) when the engine(s) has/have stopped.



Turning the ignition off and locking the EVC system

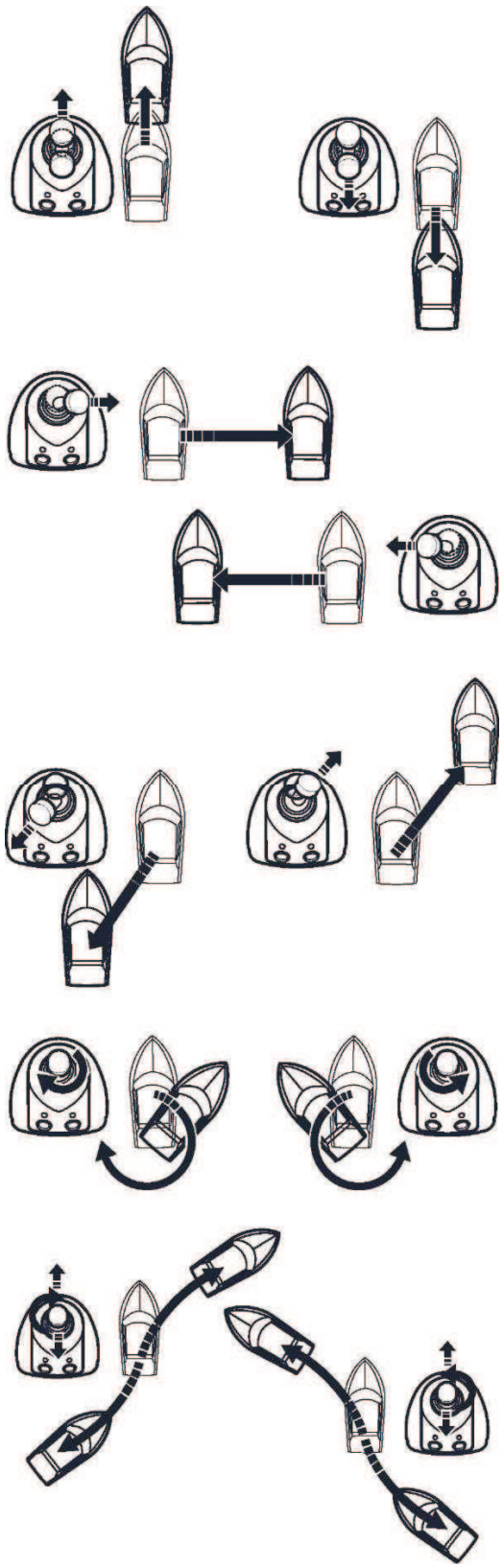
To turn the ignition of, press the IGNITION button. The green lamp in the IGNITION button goes out to indicate the ignition is off.

To lock the EVC system, hold the key fob in front of the symbol on the e-Key panel.

A flashing red light indicates the system is locked.

REFER TO THE ENGINE OPERATOR'S MANUAL FOR MORE DETAILED INFORMATION

MANOEUVERING WITH THE JOYSTICK



Joysticks - Readers must refer to the OEM's literature before attempting to operate equipment.

The joystick provides an intuitive driver interface to manoeuvre the vessel.

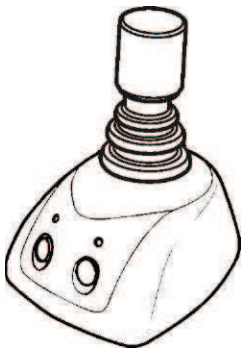
Operating the vessel with the joystick is well suited for close quarter operations and when docking.

The joystick causes the computer control system to automatically calculate the steering angle of each drive, the throttle level, the proper shift and clutch slip percentage to push or rotate the boat in a direction corresponding to the joystick movement or twist. For example, if you move the joystick sideways, the computer control system applies a thrust to the boat in the sideways direction.

The joystick can be moved in any direction, and the boat moves in that direction without turning. For example, moving the joystick to port causes the boat to move sideways to port.

Rotating the joystick creates forces that cause the boat to rotate around its centre. The joystick can be moved and rotated at the same time, allowing for very intricate movements for manoeuvring in tight quarters.

The computer control system automatically attempts to dampen bow swinging during joystick operation. If the joystick is not twisted, the computer measures the yaw rate of the boat and actively try to counteract the yaw motion of the boat.



Typical Volvo joystick

To manoeuvre the boat with the joystick:

1 Move both throttle levers to the neutral position.

2 Move the joystick in the direction that you want the boat to move, or twist the joystick in the direction that you want the boat to rotate. The joystick can be moved and rotated at the same time.

TRIM SYSTEM INSTRUCTIONS

⚠CAUTION

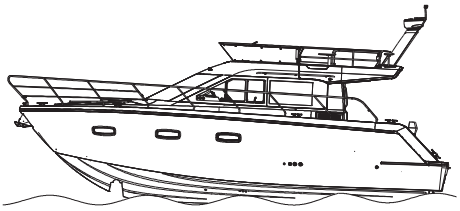
STEERING & HANDLING DIFFICULTIES MAY RESULT IF TRIM TABS ARE USED FULLY DOWN ABOVE 20 KNOTS

At the start of the trim always the higher side trim down and not vice versa!
When making adjustments, use short momentary taps of the switch.

GETTING ON PLANE

During initial acceleration, the tabs can be dropped (bow down) to bring the boat on plane faster, to improve forward visibility, and use less power. As the boat comes on plane, the tabs are brought up so the bow does not plow. The tabs can be further manually adjusted for the best performance when the boat conditions are temporarily outside the norm-like when fully loaded.

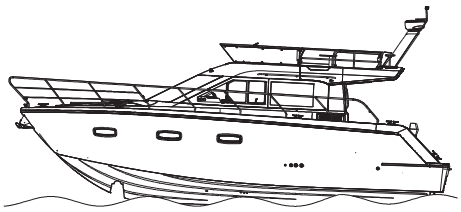
WHEN PLANING



SMOOTHING THE RIDE

In heavier water, a head sea can create an uncomfortable, jarring ride. Put the tabs to a mid-position. As the wave throws the bow up, tabs dampen the boat's reaction, levelling and smoothing the ride. In a following sea, put the tabs up. This allows the bow to lift, offsetting the waves which lift the stern. In milder water, some boats gently porpoise. Drop the tabs, a little at a time, until the lope disappears.

CONDITION



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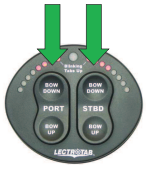

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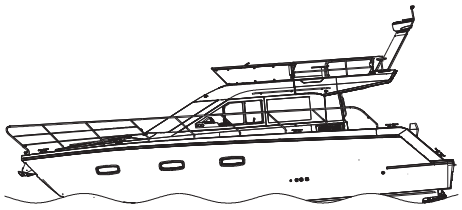

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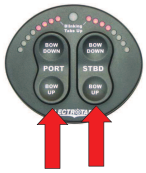
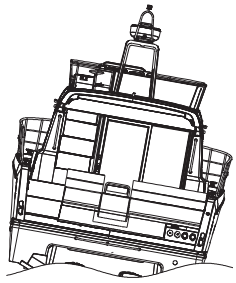


CORRECTING A LIST

Listing may be caused by an unbalanced load. A little down tab on the side of the heavy load levels the ride. List may also occur in a quarter following sea. Waves lift the stern unevenly, causing the boat to pitch forward and roll opposite the lift. If the starboard transom is lifting, drop the port tab a little. This removes the listing and produces a dryer, more level ride.

CONDITION



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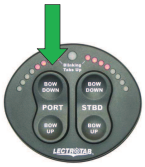


LOW SPEED TRIM

In controlled speed zones, many boats start to fall off plane as the speed decreases, thereby reducing visibility. Lowering both trim tabs keeps a boat on plane longer at legal, lower speeds, while maintaining a level boat attitude. At idle speed, bow steering (wandering side to side) requires constant correction to maintain a heading. Dropping both tabs creates stern drag which improves tracking. Tabs can also help reduce roll. When a boat is at rest, a wave which normally would cause rolling must first move water out of the way-from above one tab and below the other. This dampens rolling.

ELECTRICAL

ELECTRICAL SYSTEM

The yacht is equipped with an electrical system with 12V direct current (DC) and a 230V alternating current (AC) system.

Do not modify the craft's electrical systems or relevant drawings. Installation, alterations and maintenance should be performed by a competent marine electrical technician. Inspect the system at least biennially.

⚠DANGER

Open the switchboards only when they are current free, because you might contact live elements that are not protected by fuses. There is a risk of electric shock.

⚠DANGER

There is a risk of fire and explosion when handling electrical direct current (DC) and alternating current (AC) systems in an improper manner.

Information on the scope and the equipment can be found in the operating instructions and the contract specification. Take note of the operating instructions that include circuit diagrams for the electrical systems and devices!

The electrical systems can be switched and controlled via the respective main control panels.

DC SYSTEM

Batteries supply the current for the 12V installation on board.

The direct current system is in charge of starting the engine and supplying power to the navigation instruments, the lighting and part of the electrical equipment on board.

Distribution occurs via the distribution fuse panel (Powerboard) in the engine room. If required, your dealer can provide the circuit diagram.

The main switches for the engine batteries and service batteries, the main fuses and additional fuses are located in the engine room.

The power is distributed via the switchboard in the saloon. The circuits have switches so that the consumers can be switched on and off centrally. All power circuits within the system must be protected against overload by fuses. The fuses located on the DC back side indicate whether there is a failure in the system. The circuit diagram can be made available by your dealer if required.

Pay attention because the battery capacity is restricted. If the voltage is less than 10.5 Volt a recharging of the batteries is necessary.

The essential circuits of the direct current consumers are:

- navigation lights
- interior and deck lighting
- electrical devices
- 220 V devices via inverters (according to the contract specification)

The interior and deck lighting consists of energy-saving halogen or fluorescent lamps and requires relatively little power. The navigation electronics also require very little power. Nevertheless, you should turn off the consumers you no longer need as soon as possible. This can also be done centrally from the main control panel.

Is it not possible to recharge the batteries you must reduce the power consumption by switching off of not necessary consumers. Nautical lighting has absolute priority. In case a capacity bottleneck occurs due to a failure in the supply, all other consumers must be switched off first.

We recommend you to switch on the consumers according to their importance:

- By night only the navigation lights;
- Lighting of the chart table only if used;
- Navigation instruments, if necessary switch to ‚stand by';
- FM radio station only in critical situations.

⚠NOTICE

If an autopilot is installed, it can consume a lot of power, especially when navigating in heavy sea, because the hydraulic control pump may have to carry out significant steering corrections depending on the swell conditions.

The general lighting should also only be switched on when necessary. One should dispense with the refrigerator box, the heating and other consumers that require a great amount of energy.

In case of malfunctions, you should check the electrical systems and installations to find out the reason for insufficient charging.

BATTERIES

The engine batteries are used to start the engines and are located in the engine room also the services batteries.

BATTERY MAIN SWITCH

The engine battery switches are in engine room on the port side and the service battery switches are on the starboard side.

The battery main switches are remote controlled from switches in the navigation area.

⚠WARNING

When operating the engine the main switches may not be switched off, since this would destroy the diodes of the alternator.

MAINTENANCE

The AGM batteries require low maintenance and should be well charged at all times. Please check this regularly.
In the winter season it is necessary to store the well-charged batteries in a dry and frost-free place. Take care that the poles are clean and protected against corrosion with pole grease.

Changing the batteries

When removing the batteries, always disconnect the negative pole first and make sure that the pole terminal does not come in contact with other parts of the electrical system! Take care not to simultaneously touch both poles with the tool you are using, thus establishing an electric circuit.

⚠DANGER

Only use insulated tools to detach or fasten the pole terminals at the batteries.

There is a risk of fire and injuries!

When connecting the batteries, take care to first plug in and secure the positive poles before subsequently attaching the negative poles.

⚠WARNING

Only use AGM- or gel batteries with same or higher capacity!

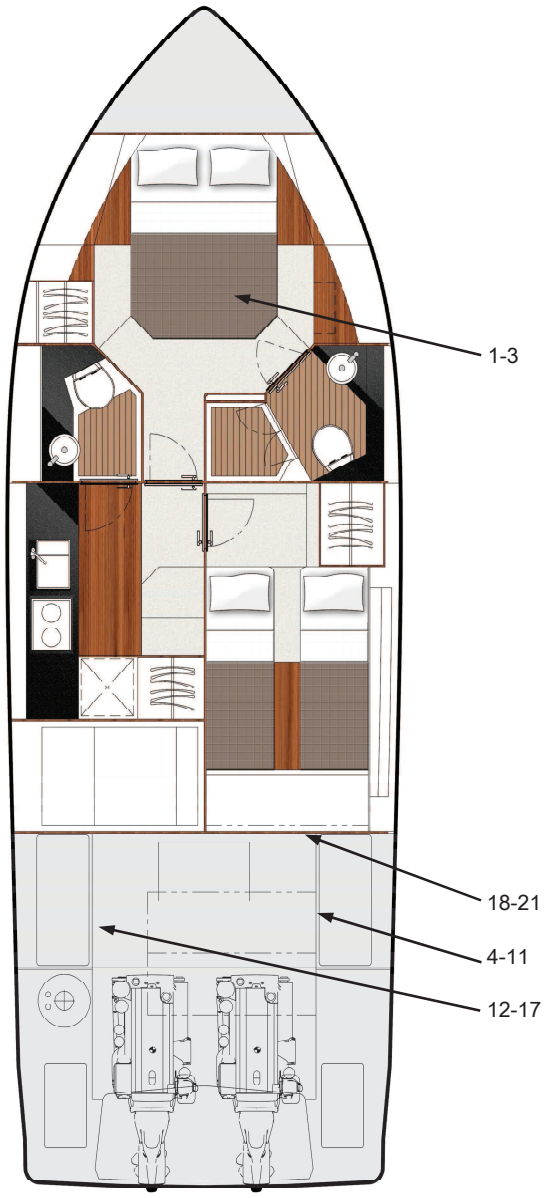
FUSE ASSIGNMENT POWERBOARD

Label power panel	Appliance	fuse
F100	Pre fuse for X12.5 – X12.7	50A
F101	Pre fuse for X12.1 – X12.3	50A
X8.1	DC-panel	50A
X8.2	passarelle	80A
X8.3	windlass	100A
X8.4	amplifier (stereo)	50A
X9.1.3	bilge pump engine room	10A
X9.1.4	bilge pump engineering room	10A
X9.2.8	radio saloon	15A
X9.2.9	VolvoRelais	5A
X9.2.10	gas leak detector	5A
X9.2.11	VHF	10A
X9.2.13	radio fwd	15A
X9.3.15	sense service battery	2A
X9.3.16	radio saloon	10A
X9.3.17	12V socket dashboard	15A
X9.3.18	12V socket flybridge	15A
X9.3.20	shower pump fwd	15A
X9.3.21	elec. Toilet stbd	20A
X9.4.23	trim taps	20A
X9.4.24	LP gas remote switch	10A
X9.4.25	supply power helmstation	30A
X9.4.26	wiper supply	20A
X9.4.27	12V socket cockpit	20A
X9.4.28	elec. toilet port side	20A
X9.6.36	shower pump aft cabin	15A
X9.6.41	bow thruster control	10A
X9.7.49	radio fwd	10A
X9.8.50	antenna splitter	5A
X9.8.53	extractor hood	15A
X9.8.54	searchlight	15A
X9.8.55	subwoofer	20A
X9.9.61	antenna amplifier	10A
X9.9.62	SAT antenna	10A
X12.1	under water light port	20A
X12.2	under water light starboard	20A
X12.3	vent engine room mid	20A
X12.5	vent engine room starboard	20A
X12.6	vent engine room port	20A
X12.7	charge splitter	10A

ELECTRICAL

OVERVIEW FUSES

1. 500 A bow thruster
2. 2 A sensor bow thruster-battery
3. 30 A bow thruster battery - charger
4. 200 A charge current service-batteries
5. 100 A standard-charger 80A
6. 40 A option charger 30A
7. 80 A service-batteries (direct)
8. 250 A service-batteries (main switch)
9. 250 A generator
10. 160 A option inverter 1200W / charger
11. 250 A option inverter 2500W / charger
12. 125 A charge current engine battery 1
13. 2 A sensor engine battery 1
14. 100 A standard-charger engine battery 1 (40 A if option inverter)
15. 125 A charge current engine battery 2
16. 2 A sensor engine battery 2
17. 100 A standard-charger engine battery 2 (40 A if option inverter)
18. 25 A charge current bow thruster battery
19. 20 A heater
20. 5 A control heater
21. Powerboard

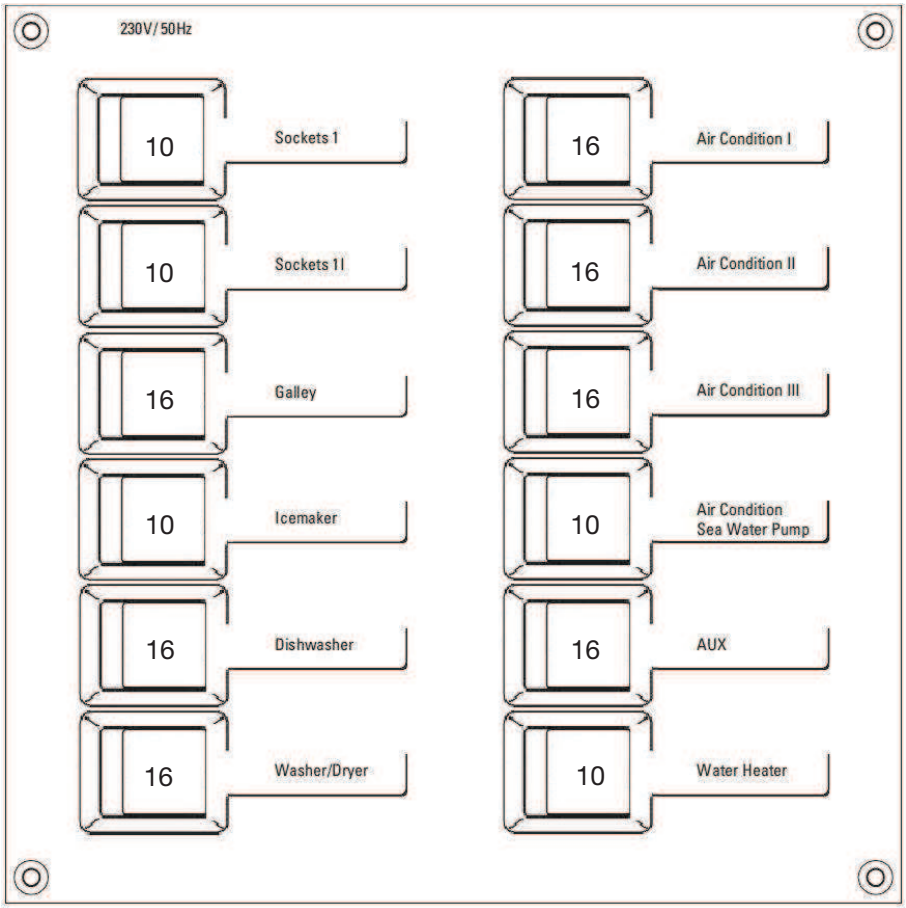


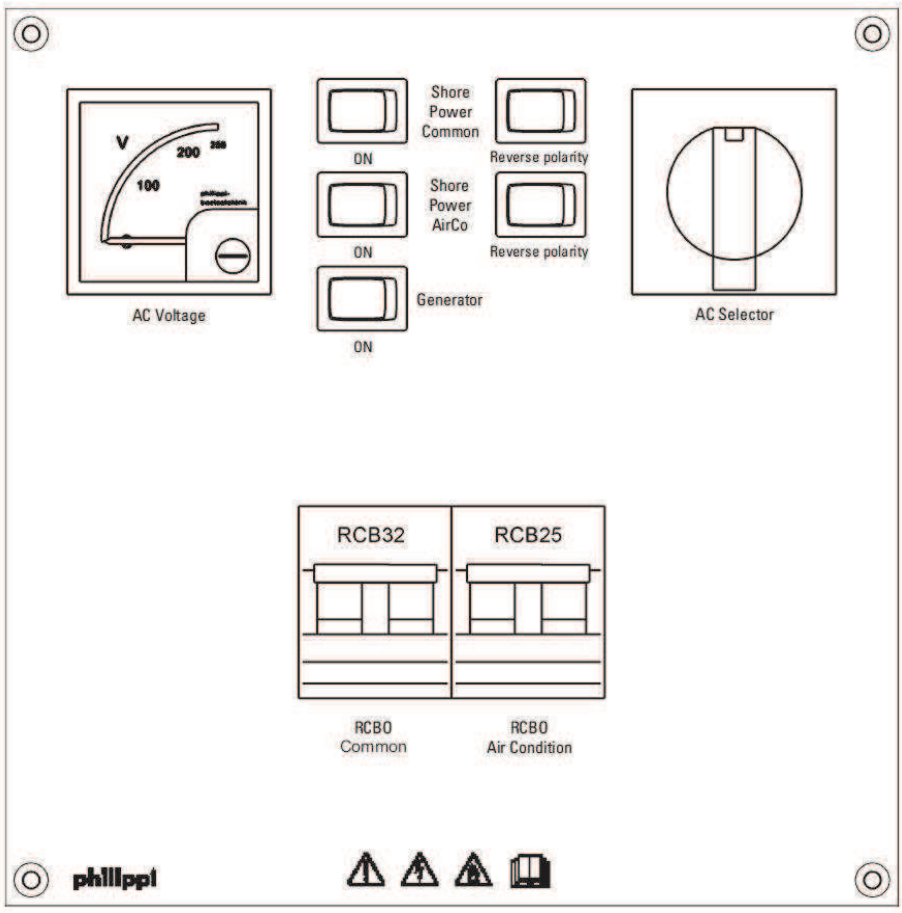
ELECTRICAL

DC PANEL

Interior lights	Reserve
Reserve	Reserve
Reserve	Reserve
Reserve	Reserve
Refrigerator / freezer	Reserve
Freshwater pump	Reserve
Bilge pump – manual override	Reserve
Navigation electronics	Black water pump
Anchor winch	
Reserve	

AC PANEL


230V/50Hz
10
Sockets 1
10
Sockets 1I
16
Galley
10
Icemaker
16
Dishwasher
16
Washer/Dryer
16
Air Condition I
16
Air Condition II
16
Air Condition III
10
Air Condition
Sea Water Pump
16
AUX
10
Water Heater


V
200
100
AC Voltage
ON
Shore
Power
Common
Reverse polarity
ON
Shore
Power
AirCo
Reverse polarity
ON
Generator
AC Selector
RCB32
RCB25
RCBO
Common
RCBO
Air Condition
phillppi

ELECTRICAL

AC SYSTEM

The 230 V installation on board is supplied with current via the shore connection, the batteries via an inverter or the generator (option).

In case there is no shore connection or a generator at your disposal, you should use the 230 V devices via the inverter in a very energy-conscious way, because the capacity of the batteries is limited. You may have to start the engine to recharge the consumer batteries. Therefore: Use the 220 Volt system when connected to shore power.

When several 230 V devices are used simultaneously in generator mode, it must be ensured that an overload of the generator is avoided.

The display of the generator needs to be observed when high current consumers are switched on (e.g. air con, e-cooker, washing machine); a disconnection of such consumers may be necessary.

The current is distributed via the switchboard in the saloon. The circuits are provided with switches so that the consumers can be switched from a central location. Fuses protect all electrical circuits within the system against overload. The fuses indicate whether there is a failure in the system. If required, your dealer can provide the circuit diagram.

⚠WARNING

Never perform work on a live alternating current system.

Heed the following notes:

- If possible, only use electrical consumers with earthed conductors.
- Connect metal housings or systems of installed electrical devices to the earthed conductor in the boat (green or green with yellow stripes).

⚠WARNING

Never leave the shore-connecting cable hanging in the water. This could injure or result in the death of persons swimming nearby!

⚠WARNING

To avoid electric shocks and to reduce the risk of fire

- Do not modify the electrical system. Allow work to be done on the electrical system only by qualified specialists for marine electrical equipment!
- If possible, only use devices that are insulated twice or triple braided!
- Switch the shore connection switch off first before plugging or unplugging the shore connecting cable.
- Connect the shore-connecting cable to the boat first before connecting it to the shore source of power.
- First separate the connection at the shore source of power.
- If the reverse polarity display is activated, disconnect immediately!
- Close the cap of the shore connector box.
- Do not modify the shore connections, only use compatible circuit connectors.

SHORE CONNECTION

If the yacht is equipped with a shore connection socket, you have 230 V at your disposal. With the appropriate shore-connecting line you can ensure power supply in a way that spares the batteries.

The shore connection socket is protected by a fuse. The connection is established by means of a compatible shore-connecting line.

Please consider that on the shore there is usually a limitation of connecting power so that this shore current cannot be used for heating.

⚠CAUTION

Plug the shore connection cable first aboard and then ashore. Terminate the connection first ashore and then aboard

Pay attention that the shore cable and the connectors have no contact to the water. The connectors shall be water protected or watertight (rain water).
For your safety the shore power is protected with a GFCI device that is switching off the system immediately at a malfunction.

⚠NOTICE

This functionality of the switch must be tested regularly by pressing the release button or with the help of an electric tester.

BATTERY CHARGERS

The batteries can be charged with the installed chargers while the shore power is available or the generator is working (option). Make no changes at the charger installation without consultation by the yard. The batteries can be damaged. Take note of the operating instructions of the battery charger.

SOCKETS

On board there are sockets for 220 V alternating current at several places.

Navigation systems

Some navigation devices will be installed optionally. The main switchboard is prepared for additional installations.
All navigation lights are in a fixed position. They include the side, stern, top and anchor lights.
Make sure that spare bulbs are aboard.

⚠CAUTION

All navigation aids and instruments (Plotter, Radar, Autopilot, AIS,…) are only intended to be supplementary and don’t guarantee safety at sea.

The owner has sole responsibility for the correct use of the navigation aids and instruments, to avoid the risk of injury or damage.

The owner has sole responsibility for the safe operation of the yacht.

BILGES

Bilge compartments are not interconnected and are pumped out separately. The anchor/chain locker, which technically constitutes a small bilge, drains directly over the side of the craft via drain holes at the base of the compartment.

Each of the other main bilge compartments can be pumped out either by using the electric or manual bilge pump system. Water is pumped out of the bilges through skin fittings located in the hull above the waterline.

Bilge Pumps/Float Switches - All bilge pumps fitted to your Sealine have float switches. Should a leak occur when the vessel is unattended these float switches have a permanent source of power from the Powerboard in the engine room.

Pumps are activated either automatically when the water in the bilge reaches a predetermined level or manually.

The two modes of operation are explained as follows:

a On the 'MANUAL' setting the pump will come into operation whilst the relevant switch is held in that position. When released, the switch will automatically return to the 'AUTO' setting.

b When in the 'AUTO' setting, the pumps will be controlled by the float switches.

In the interest of safety, the operation of the float switches on these pumps should be checked from time to time to ensure that they operate smoothly. An occasional check should be made on the condition of the bilge pump strainer; this should be kept clear of debris and other foreign matter.

The pump itself is not affected by freezing temperatures.

Manual bilge pump system - Manual bilge pumps are fitted to each craft as a safety feature should the electric pumps fail. The two pumps are located in the cockpit. They will evacuate the bilge area of the engine room and the accommodation.

⚠WARNING

The combined capacity of the bilge pump system is not intended to drain the craft in the case of damage.

ENGINES AND ANCILLARY EQUIPMENT

The instructions below will help you obtain the maximum output and life from your pump:

Symptom	Possible Cause	Cure
Repeatedly tripping circuit breaker	Faulty wiring	CONSULT QUALIFIED ELECTRICIAN.
Reduced flow	Blocked strainer	Clean out side of strainer and clean debris from around impeller.
	Discharge line blocked with trash	Clean out hose by back flushing.
	Low battery voltage	Check battery condition and charge if necessary.
	Kinked discharge hose	Repair or replace hose.
No water pumped	Wire connections	Make sure wire connections are not corroded. Visual check is not enough - a slight pull on each wire should tell if the wires are still joined. Check to be sure no wire joints are hanging down into the water.
	Tripped breaker	Reset circuit breaker. If breaker still blows, check impeller through inlet opening to be sure it is not jammed or stuck with debris.
	Float switch failure	Lift end of float switch up - if pump runs, switch is OK. If pump does not run, turn Manual Switch to ON position - if pump runs, automatic switch has failed.
Pump won't shut off	Something under float	Clean under float to make sure that debris is not holding the float up.
	Stuck float	Check to see that the float is loose and free of gummy oil. If float action appears sluggish and/or the float does not move freely, intermittent or sporadic operation of the pump may occur. This condition is usually the result of oil and/or dirt accumulating in and around the movable parts of the switch. To correct try soaking the entire switch in the bilge cleaner for ten minutes agitating several times and checking for smooth and free operation of the float. Repeat if necessary.
	Switch mounted too low	If the pump is sucking air and the automatic switch has not reached the OFF position, then the switch may be mounted too low for the pump and should be re-installed higher than the pump base.

ENGINES AND ANCILLARY EQUIPMENT

ENGINES

General - The engines and drive system fitted in your Sealine are designed for running in a hostile environment. Engine owner's manuals should be studied thoroughly. It is recommended that the manufacturer's service schedule be followed due to the specialised nature of the engines.

A general maintenance program consists of proper lubrication, cleaning and/or replacement of fuel and air filters.

SEALINE STRONGLY URGES YOU TO FULLY COMPLY WITH THE MANUAL PROVIDED BY THE ENGINE MANUFACTURER.

The engines are warranted directly by the engine manufacturer, not by Sealine.

Running In - Your new engines and stern drives must be run in. Care should be taken during the first 20 hours not to operate engines on full load. Details of this can be found in the engine owner's manual. After running in, the engines must be serviced or the manufacturers warranty may be become invalid. It is good practice even after the running in period not to use the engines at peak revolutions for sustained periods.

Never run the engines continuously at full throttle. For normal use engines should be 'cruised' at approximately 10% below maximum rpm.

⚠CAUTION

Never crank (turnover a main engine for more than 15 seconds continuously. If the engine fails to start, leave 30 seconds before trying again.

⚠WARNING

In the event that the operating temperature of an engine begins to rise unduly, the engine should be immediately turned off and the cooling system checked for correct levels and that there are no leaks from the raw water or enclosed freshwater cooling circuits, including that part that serves the calorifier.

⚠DANGER

Never attempt to remove the filler cap on the header/expansion tanks when the engines are hot. Hot water and/or steam will almost certainly be ejected under pressure.

Engine system alarms and lamps - Audible alarms and/or warning lamps are fitted to specific equipment to warn of their operation and/or any malfunctions.

Alarms are fitted to the main engine systems, automatic bilge pumps and the generator. The engine alarm monitors engine temperature, alternator and oil pressure.

Should the alarm (a high pitched signal) keep sounding or sound during use, stop the engine and investigate the problem, if in doubt refer to the engine manufacturer's manual.

For the generator refer to OEM manual.

COOLING

Overheating - If you suspect a cooling problem, e.g. debris in the raw water intake strainer or a failed impeller, or any other warning indicators light-up/sound, shut down the engine, or engines, immediately. Failure to do so may cause severe damage and will invalidate the OEM's warranty.

STEERING

Autopilot - Autopilot systems may be fitted as an option. These will vary in operation depending on the model; many smaller systems operate using heading information from a compass and feeding back to the steering. More sophisticated pilots process a multitude of data received via an interface and the craft's navigation equipment. Readers must refer to the OEM's literature before attempting to operate or maintain equipment.

PROPELLERS

The propellers fitted on your Sealine will be matched to the engine installation to gain the best compromise of performance and economy. Pitch and diameter or code size as with a duo prop, is stamped on the propellers.

If your propeller becomes damaged, slight nicks and bends can easily be repaired. Should the damage be more serious it will be necessary to seek professional repairs.

⚠WARNING

Be sure that the remote control is in neutral position and ignition key is removed from switch prior to installing the propeller.

⚠WARNING

Place a suitable piece of wood between the propeller and floor (shaft drive) or between the propeller and anti-ventilation plate (stern drive) to avoid injury from propeller blades and to prevent the propeller from rotating whilst loosening or tightening propeller nut.

⚠NOTICE

Small nicks or bends in the propeller blades will greatly reduce performance.

ENGINES AND ANCILLARY EQUIPMENT

CORROSION PROTECTION

The protection system protects the shafting, propeller and those parts of the craft that are most likely to be affected by galvanic corrosion, such as the main engines, gear boxes, generators, rudders, fuel system and stern gear.

Corrosion appears as pitting and deterioration of metal surfaces. Every metal has its own electrical potential or EP, if metals of differing potential are submerged in water, then the one with the lowest EP will corrode. The system inhibits the bronze and stainless steel parts of the stern gear and trims tabs from corroding.

Zinc or magnesium anodes are favoured metals depending on the location of your boat.

We recommend that all sacrificial anodes be checked regularly, failure to do so may cause serious corrosion problems.

⚠CAUTION

DO NOT ANTIFOUL ANODES.

Zinc Saver - Electrolysis can also be caused by "stray currents" due to a fault in an electrical item, even though correctly grounded. A galvanic current blocker (zinc saver) is fitted to your craft. It is installed between the shore power ground and the boat's AC ground connection and the safety ground from the dockside power, thus stopping the back-flow of DC corrosive currents.

⚠CAUTION

It's important that the cathodic protection system operates efficiently, as components will otherwise become badly corroded risking the safety and integrity of the craft.

ENGINE ROOM

⚠WARNING

STAY CLEAR OF MOVING PARTS WHILE ENGINE IS RUNNING

⚠WARNING

To avoid injury from moving parts, switch off the engines, windlass, passarelle or any other machinery before inspecting.

When entering a machinery space the equipment therein should be isolated, so that it cannot be accidentally switched on.

ENGINES MAY BE HOT

⚠WARNING

Neck ties, scarves and safety lanyards are hazardous as they can become drawn into rotating machinery. Remove loose items of clothing before entering the engine room.

⚠CAUTION

Care and refinishing materials may contain ingredients that are flammable or explosive. Do not use such materials in the engine compartment.

⚠WARNING

Combustible material (e.g. petrol) must not be stowed in the engine space. If non-combustible materials are stowed in the engine space they shall be secured against falling into the machinery and shall cause no obstruction to access in or from the space.

Engine Room Extraction Ventilation system

The extraction ventilator fan system is designed to cool the engine space by expelling the heat radiating from the engines via the ducting to air vents at the aft end of the deck. The fans are activated when engine is switched on. It is important that engine vents and grills remain unobstructed. By leaving the vents clear air can run unrestricted to the engines ensuring efficient operation.

⚠DANGER

In the event of a fire starting in the main engines space, the gas flooding system should be activated by means of the pull toggle at either helm station, which will also shut down the engines and blowers.

ENGINE EXHAUST SYSTEM

The emissions are discharged under water through the z-drive. This considerably reduces the emission load and sound emission.

It is very important that the cooling circuit is running. As already mentioned in the section on the cooling system, check whether the cooling water temperature is within the range specified by the engine manufacturer.

REFER TO THE ENGINE OPERATOR'S MANUAL FOR MORE DETAILED INFORMATION.

BOW THRUSTER (IF FITTED)

If your yacht is equipped with bow thrusters (option), please read the operating instructions.

The batteries, the main switch and the fuses are located next to bow thruster.

Do not leave any objects in the range of the bow thrusters. Loose objects left near the electric motor may cause problems with electric lines and may even result in short circuit. Secure all pieces of equipment to prevent them from shifting!

Switch off the main switch on leaving the boat.

⚠NOTICE

Observe the operating instructions of the bow thrusters and the notes on operation, maintenance and care therein.

The bow thruster is operated using a joystick control located at the helm(s). The thruster motor battery power is hungry and should where ever possible only be operated in short bursts. The bow thruster motor runs warm and requires clear air space for cooling. Do not store any goods in the motor space area.

FUEL SYSTEM

The fuel system undergoes stringent quality checks during production and then again before the boat leaves the factory. All fittings are of the compression type and meet stringent European standards. Where two fuel tanks are used provision has been made to use any one tank to run both engines etc (For fuel tap positions and diagrams please refer to the back of this manual - FUEL SYSTEM).

Fuel Filters - The fuel filters are mounted on the front of the lazarette. They have drain taps mounted at their bases for draining any water that may have accumulated in the system. This should be checked regularly, particularly when you fill your tanks with fuel of doubtful quality.

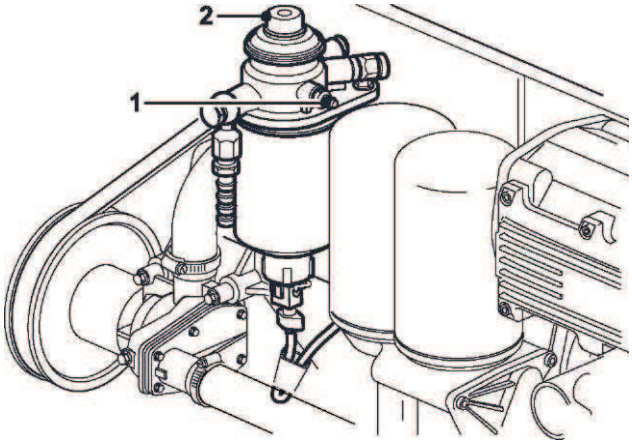
⚠WARNING

Replace the water separator filters annually. Periodically check the pipe work and fittings for corrosion or wear. Check that the flexible hoses in the engine compartment are not damaged or perished. Replace if necessary Clean the fuel deck vent gauze if required.

Venting the Fuel System - It will be necessary to vent (bleed) the fuel system should any work be carried out or the fuel tank has been run empty.

Connect a transparent hose to the bleed nipple (1). Feed the hose to a container to avoid spillage. Open the bleeding nipple and pump fuel with the hand pump (2) until the fuel is free from bubbles. Close and tighten the bleed nipple.

Pump a further 10 times on the hand pump. Resistance in the hand pump can feel heavy, but this is completely normal and necessary to bleed the system.



Fuel Valves - Fuel valves are located in seat bench in the cockpit. They control fuel flow to their respective engine(s). Fuel valves should be turned off when leaving the boat to prevent fuel siphoning from the tank.
Be Aware that the valve for balancing the fuel tank level between the tanks should be closed during normal operations. The purpose of the valve is to balance out extreme differences in fuel tank levels and to self-level the fuel amounts, for instance in circumstance where a Generator is run for a long period of time or only one fuel tank is filled. IT is important to self-level the fuel level when the boot is at rest, or when in movement not in a hard corner or in heavy seas.

Fuel Fillers - The fuel fillers are located on the starboard and port side deck. When filling with fuel take care not to confuse them with the water fillers. The fuel vents are located next to the filler. When the tanks are nearly full, fuel may spill from them. Inside the mouth of the fuel vent there is a fine wire mesh, this must not become blocked or you will experience problems filling your tanks and possible difficulty with your engines.

Fuel Tanks – The fuel tanks with a capacity of approx. 450 l are located in the engine room. They are equipped with electrical transmitting devices, inspection hatch and ventilation.

⚠CAUTION

Prevention of damage to fuel lines.

Avoid damaging fuel lines, wherever possible fuel lines are protected by rigid conduit, do not tamper. Ensure the snap on covers are replaced after inspection or work.

FUEL SYSTEM

⚠WARNING

In the event of fuel odour being present, switch off engine(s) and trace the source immediately. Check fuel tank lines and joints visually. DO NOT smoke or use naked lights. Switch off all electrics at source. The bilges should be well ventilated and spillage dried out as soon as possible. DO NOT use the engines until all vapour has been removed. Fuel vapour is highly explosive

⚠WARNING

Avoid carrying petrol on board unless it is completely necessary; reduce the risk by keeping petrol containers, outboard motors and petrol generators secured in the open air or in a drained locker outside the cabin space and never use an open container to hold or transfer petrol.

⚠WARNING

LEAKING FUEL IS A FIRE AND EXPLOSION HAZARD, INSPECT SYSTEM REGULARLY. EXAMINE FUEL TANKS FOR LEAKS OR CORROSION AT LEAST ANNUALLY

FUEL FILTER MAINTENANCE

A major cause of poor starting or power loss is the result of a clogged filter element or a fuel system air leak. Check that the filter lid and drain plug are properly tightened. Check for water in the bottom of the filter body daily, by opening the tap and drain any water into a container.

TO REPLACE THE FILTER

1 Shut down the engine.

2 Remove the lid.

3 Remove the old rubber lid seal and dispose of the old seal properly.

4 Apply a coating of clean fuel or motor oil to the rubber lid seal supplied with the new element.

5 Place the new seal in position on the lid.

6 Remove the filter element by holding the moulded handle and slowly pulling upward with a twisting motion.

7 Insert the new filter element with a slow downward twisting motion.

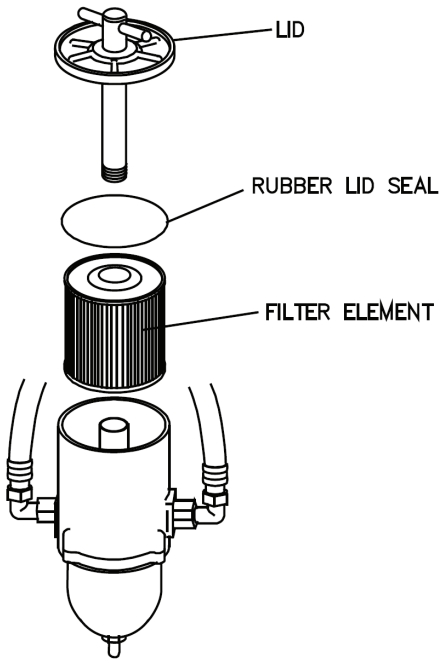
8 Fill the filter with clean fuel, then replace the lid.

9 Tighten the lid T-handle by hand only. Do not overtighten. Start the engine and check for any leaks.

10 Correct any leaks with the engine shut down.

It is recommended that spare filter elements be carried aboard as contaminated fuel can easily plug a filter.

REFER TO THE ENGINE OPERATOR'S MANUAL FOR MORE DETAILED INFORMATION.



GAS SYSTEM

General – The yacht is equipped with an LPG unit. The LGP system for the cooker is installed in accordance with the European standard EN ISO 10239. The operating pressure of the LPG system is 30mbar.

Please heed the special regulations of the state under which flag you are driving!

The gas cylinder locker for the max. 1.8 kg gas cylinders is situated in the port seat in the cockpit.

The cylinder box is ventilated outboard. Possible water that has penetrated is drained through the opening.

⚠NOTICE

Keep the ventilation opening free of blockages. Check regularly the state of the opening!

⚠WARNING

Never:

- Change the state of the cylinder box.
- Create openings to the inside of the boat from the cylinder box.
- Install electrical systems or conduits in the cylinder box.
- Use the cylinder box as a stowage space.

⚠WARNING

Do not modify the craft's LPG system. Installation, alterations and maintenance shall be performed by a competent person. Have the system inspected at regular intervals or as required by national requirements.

Please observe the following notes when operating it.

⚠WARNING

If a leak is detected shut off the main LPG supply valve and do not use LPG appliances..

Action in case of a smell of gas

If you smell gas, shut the valve of the gas cylinder and ventilate the boat intensively. The presence of gas fumes can be checked for by means of gas detectors.

Have a specialist examine and remedy the cause before using the gas system again!

Notes on preventing malfunctions of the LPG unit:

- LPG supply line valves and cylinder valves shall be closed when appliances are not in use, before refuelling and immediately in an emergency.
- Make sure that the valves of the appliances are shut before opening the valve of the cylinder!
- Check the LPG unit for possible leakages before each use:

  Shut the valves of the appliance;

  Open the valve of the cylinder;

  Wait for stabilization from the pressure;

  Shut the valve of the cylinder;

  Watch on the manometer for 3 minutes; the pressure should remain constant!

  If pressure gauge reading falls, leak is present: do not use LPG appliances!

⚠WARNING

Do not use an installation that has leaked until it has been inspected and repaired by a competent person.

- Manual leak testing with foam-producing, soapy water or detergent solutions (with appliance burner valves closed and cylinder and system valves open); foam-producing solutions for leak detection on gas installations in accordance with EN 14291 meet these requirements;
- If there are leakages, shut the valve of the cylinder and have the system repaired by a specialist before using the appliance again.

GAS SYSTEM

⚠WARNING

Fuel burning open flame appliances consume cabin oxygen and release products of combustion into the craft; Do not use the stove or oven for space heating. Ventilation is required when appliances are in use. Open designated vent and openings while appliances are in use. Never obstruct ventilation openings. The ventilation requirements have been calculated to suit the LPG appliances as installed. Additional ventilation might be required if other appliances are operated simultaneously.

⚠WARNING

- Never block access to the LPG system.
- Valves on empty cylinders shall be kept closed and disconnected. Protective covers, caps or plugs shall be kept in place. Reserve or empty cylinders shall be stored in LPG cylinder lockers or housings which are vented to the outside and intended for that purpose or on the boat exterior, protected from the weather and mechanical damage, and where escaping vapours can only flow overboard!
- Never use the lockers or boxes meant for the gas cylinders to store other equipment!

⚠WARNING

Never leave craft unattended when open flame LPG consuming appliances are in use.

- Check the hose assemblies of the LPG system on a regular basis, at least once a year. Have them replaced if they are damaged.
- If you replace the stove, make sure that the new one has the same working pressure.
- Never use the stove in case of high waves or large heel angles (if the boat is not equipped with a gimballed stove)!

⚠NOTICE

Comply with the inspection intervals of the entire system! The inspection should only be carried out by a maintenance firm specialised in LPG systems on boats.

⚠NOTICE

If the boat is sailing under the German flag, you, as owner, are obliged that the gas system will be inspected every two years by a specialist of the "Deutsche Verband der Gas- und Wasserinstallateure mit der Zulassung für Caravane und Boote".

Please observe the following notes and the manuals or operating instructions of the appliance manufacturers!

⚠DANGER

Escaping gas is heavier than air. It accumulates in the hull. In this case there is a risk of suffocation and explosion. If you smell gas, never use fire or unsafe light or electrical devices!

⚠CAUTION

Never use solutions containing ammonia to check the conduit.

Never use an open flame to search for leakages.

⚠WARNING

Never smoke or use open fire whilst replacing the cylinder.

GAS SYSTEM

Replacement of the gas cylinder

Replace the gas cylinder as follows:

- First, switch off all gas consumers.
- Switch off the engine.

⚠DANGER

Never smoke or use open fire whilst replacing the cylinder.

- Shut-off the valve at the cylinder.
- Remove the pressure regulator at the valve of the cylinder. Only use appropriate tools so that you don't damage the connection and the fitting.
- Detach the empty cylinder from the mounting and take the cylinder from the cylinder box.
- Insert the new cylinder in the mounting.
- Fasten the mounting to the cylinder.
- Check if the connector thread at the cylinder is damaged.

⚠DANGER

Cylinders with damaged threads may not be used. There is a danger of leaking gas.

- Carefully place the union nut and screw it hand-tight.
- Screw the union nut tight with an appropriate tool.
- Check whether the connection is tight.

⚠DANGER

Never use grease at the cylinder connection or the valves.

Operating the gas system

When operating the LPG system ensure sufficient fresh air circulation by opening the deck portlights, deck hatches or the companion way.

Check the LPG unit for possible leakages before each use:

- Shut the valves of the appliance
- Open the valve of the cylinder and wait for stabilisation from the pressure;
- Shut the valve of the cylinder;
- Watch on the manometer for 3 minutes; the pressure should remain constant!

The gas system must be operated with great care. You should therefore keep to the following sequence:

- Check if the cooker valve is shut.
- Open the valve in the cylinder box.
- Open the valve in front of the cooker. It is inside the cabinet under the cooker.
- Open one of the burner valves, keep it pressed (safety pilot) and ignite the gas.
- Keep the valve pressed until the flame burns stably!

When turning off, keep to the following sequence:

- Shut the valve at the cylinder; the flame extinguishes.
- Then shut the valve in front of the cooker and the burner valve!

WATER SYSTEM

The yacht has 1 water tank with a total capacity of approx. 315 l. The tank is located amidships under the galley and the aft cabin.

The fresh water tank is equipped with an inspection lid, valves and ventilation.

The pressure water pump (12 V) in the engineering room on the port side draws the water from the tank and feeds cold water to the taps. When taps are opened, the pump is activated. When they are shut, the pump is switched off by the counter-pressure.

Should the pump continue to run, the system must be checked for leakage.

⚠NOTICE

If air bubbles come from a water tap, immediately switch off the corresponding pressure water pump at the distribution fuse panel. The pumps are safe to run dry for a short period of time. When running dry for a longer period of time, the pump may be damaged.

Hot Water System – An 40 l electric boiler is installed to make hot water. The cold fresh water is supplied via the pressure pump. Due to the pressure drop in the cold water system when filling the boiler, the pressure water pump automatically switches on.

The water can be heated in two ways, either using the engine or the electric water heater. The first uses the engine coolant, which is pumped around the calorifier's integral heat exchanger. Water heats more quickly when cruising than when moored, this is due to the extra heat generated when the engines are put under load.

⚠WARNING

Hot water under pressure is extremely hazardous. Never attempt any repairs to the calorifier or the hot water system whilst its contents are hot.

The second way water can be heated is using the domestic type water immersion heater that is fitted into the calorifier. The heater is thermostatically controlled to maintain the water temperature. For safety reasons, there is a pressure relief valve mounted on top of the immersion heater that will trip if the water starts to get too hot.

⚠CAUTION

Do not switch the electric boiler on if there is no water in the system. Otherwise, the heating element can be damaged!

The water pump switch can be left in the "on" position when moored but it is advised that you turn it off when underway.

Water quality - Care must be taken especially in warmer climates that the water is potable. If the water is suspect the Skipper/Owner should use a proprietary water treatment before use.

WATER PUMP PROBLEMS: -

Motor will not start: - Replace upper housing or motor.

Motor runs but no water: - Replace diaphragm/ jammed check valve.

Low pressure and flow: - Replace pump diaphragm or motor.

Pump very noisy: - Replace lower housing.

Pump cycles too much: - Replace upper housing.

Pump will not shut off: - (Note not for T60)

Should the water in the fresh water system develop a slight taint, we recommend the use of water tank cleaner/deodoriser.

Bleeding the Water System - Should you empty your water tank completely, you should fill the water tank, open all the taps and turn on the water pump. As the water starts to flow cleanly through the taps, turn them off. Turning off the final tap will shut off the water pump. Please refer to the OEM literature for details of maintenance and service procedures.

WATER SYSTEMS

FRESH WATER TANK and FILLING

The freshwater tank is filled through deck filler marked 'WATER' and is located on the port side.

Ensure when filling that you select the correct filler and NOT THE FUEL TANK by mistake. You cannot overfill the tanks as the vent in the hull side acts as an overflow.

Check before filling that the correct water supply has been selected as many marinas/ports provide more than one water supply.

Ensure the seal ring on the filler is free from grit and is undamaged before screwing back down, as salt water may enter the tanks from the deck when at sea.

Water Tank Level Gauge - The water gauge is located on the main power panel.

Delivery - The pressure water system is operated by an electric pump. The pump has its own master switch on the main electrical distribution panel and should be switched off when ever the pressurised water supply is not required.

⚠CAUTION

Empty the complete system, the electric boiler and the tanks if there is a risk of temperatures below freezing.

Windscreen washers - The windscreen washer system is supplied by the pressure water system via a solenoid valve, which is activated by the dashboard rocker switch

GREY WATER DISCHARGE SYSTEM

Shower- / Washbasin / Sink discharge

Water drains from the shower compartment, wash basin and sink in a grey water sump tank.

The grey water sump tank from the shower, wash basin and sink is located in the forward cabin under the floor boards.

When the level becomes high enough the float switch will turn on the pump and empty the tank. Should you experience difficulties with the water draining away from the shower or toilet compartment or sink, check the grey water sump tank.

Maintenance - Pre-season checks should be carried out on the pressurised water, the toilet waste and shower waste systems.

TOILETS

Black water designates all sewage from the toilets. Sea water is used for flushing. It is pressed into the bowl and pumped into the black water tank with the contents of the bowl.

Operating the system

Observe the symbols at the toilet to use the WC. Never throw solid or clogging materials or objects into the toilet.

⚠NOTICE

The electric toilets are not usable in case of insufficient battery capacity or of faulty electrical system.

In the case of marine toilets, you should be aware that it is inevitable that the smell of effluent will permeate through the craft if soil is left unattended within the pipe work for any length of time.

To minimise this effect it is important to flush the pipe work through regularly, especially if the craft is not used for extended periods. From time to time place a suitable marine-grade toilet cleaner/ disinfectant in the bowl and flush through. This is particularly important in the warmer climates.

See also supplied manufacturer’s instructions.

WASTE TANKS

Black Waste Tank - The 103 l waste tank stores all toilet waste. The waste tank is located in the galley under the floor boards.

If the "waste tank full" light on the main power panel illuminates the tank is approximately 75% full. The tank can be emptied in different ways:-

a Deck suck out for shore disposal - the suck out fitting location is shown on the 'Deck Plan' later in this manual.

b Pump out to the Sea:

Emptying using deck nozzles

The pump-out deck fittings are located on starboard deck and marked “Waste”.

⚠NOTICE

Please make sure that the ventilation of the black water tank is ensured; otherwise the system could be damaged when emptying the tank.

⚠NOTICE

When pumping out the tank, keep to the following sequence:

- Open the deck screwing, insert the suction nozzle
- Suck out/pump out
- Fasten the deck screwing.

Emptying via seacock

1 Open the discharge seacock - the location is shown on the 'System Control Points' plan later in this manual.

2 Operate the pump by pressing the spring loaded switch located on the main DC distribution panel.

3 When the pump note changes the tank is empty, release the switch and close the discharge seacock.

⚠NOTICE

Please note that there are regulations for certain ports and shipping routes where it must be ensured that no sewage can be pumped outboard (e.g. the Baltic Sea Convention). Instruct your crew and guests how to deal with this.

⚠CAUTION

The toilets and the black water tanks may not be drained near the coast or in any protected area

In this case, the outboard discharge can be locked and sealed.

⚠NOTICE

Keep discharge sea cocks CLOSED except when discharging to sea or the holding tank will refill with sea water.

BOAT CARE

EXTERIOR CARE

General - Sealine boats are constructed from low maintenance glass reinforced resin, more commonly known as fibreglass or GRP. The outer skin, or gel coat, is hand painted onto the boat mould and covered by layers of glass fibre, each of which are rolled to expel any air trapped between the layers; a process continued until the required thickness is reached. The hulls are an immensely strong, one-piece construction incorporating complex foam and timber bulkheads and stringers. The timber cored and reinforced decks are then mechanically fastened, bonded and sealed at deck level to form a one-piece monocoque construction.

Glass fibre Surfaces - Glass fibre surfaces should be kept clean using a soft deck brush, fresh water and possibly a small amount of mild detergent. Wax can be applied which will maintain the shine and help to prevent fading. When waxing glass fibre surfaces they will become very slippery, therefore it is not recommended that non-slip deck areas be waxed. DO NOT use solvents or chemicals to clean stubborn stains. The use of "T" cut or one of the special glass fibre cleaners will help.

Canopy Maintenance - Frequent washing with soapy water and a sponge will keep your canopy in good condition Stubborn stains can be removed using a proprietary type of cleaner suitable for this purpose. DO NOT use scouring type cleansers on the vinyl windows Allow canopy to dry thoroughly before storing. An occasional application of household candle wax to the zips will assist their easy running.

Cockpit Upholstery - Vinyl upholstery should only be cleaned using warm soapy water or car type vinyl upholstery cleaner. Although water resistant, the vinyl upholstery should not be subjected to continual soaking as the foam filling will become saturated and will be difficult to dry.

Windows and Frames - These are toughened glass with heavy gauge aluminium or stainless steel frames. Aluminium frames are anodised during manufacture to withstand the rigours of salt water Seals are tough weather resistant rubber or marine silicone Frames and windows should be washed frequently with warm soapy water to clear salt deposits, dirt, etc Proprietary cleaner can then be used to polish and remove any smears.

Door and Window Guides - Sliding door and window guide runners should be kept clear of all foreign matter by frequent cleaning with a small brush Should the door or window become difficult to slide, a thin smear of waterproof grease on the runners will remedy the problem. Hinges on opening windows should be treated with thin oil or similar, sparingly applied and wiped clean afterwards.

Deck Fittings - The fender rubber, aluminium and stainless steel fittings can be treated in much the same way as glass fibre surfaces. Although most of the external fittings are stainless steel it is possible that some superficial rusting may occur in certain conditions. This can easily be controlled using "T - Cut", or similar, and applying a coat of wax.

Additional Fittings - Care should be taken if attempting to fit additional equipment to your boat. Lining material and panels inside the boat may have to be removed to gain access. Glass fibre drills quite readily. We recommend a blunt drill bit and use of silicone type mastic to ensure a good seal. If the fitting is subject to loading, reinforcement should be added.

INTERIOR CARE

General - Construction of the interior is mainly timber or fibreglass, maintenance of which is minimal. The work surfaces are a laminate and the lining throughout is durable polyester fabric.

Compact Laminate Surfaces - The galley and heads work surfaces are made of Compact Laminate and should be cleaned with water and ordinary cleansing agents, more persistent stains can be removed with detergent and a Scotch-Brite™ pad, do not use an abrasive cleaner. Compact Laminate withstands heat better than many materials, but very hot cookware straight from ovens or hobs can damage the surface. Table mats or trivets should be used.

Corian Work Surfaces (if applicable) - The galley and heads work surfaces are made of DuPont "Corian" and should be cleaned with water and ordinary cleansing agents, more persistent stains can be removed with an abrasive cleaner and a Scotch-Brite pad. Deeper blemishes should be sanded away with progressively finer grades of abrasive paper and finished by buffing with a fine cutting paste. Corian withstands heat better than many materials, but very hot cookware straight from ovens or hobs can damage the surface. Table mats or trivets should be used.

Wooden Surfaces - The natural wooden surfaces are treated with polyurethane based coating that is very hard wearing. To maintain a quality finish a suitable household polish may be used. Scratches should be lightly rubbed down and treated with a clear polyurethane varnish. The cupboard and cabin doors are laminated and they only require an occasional polish with a suitable household polish.

Fibreglass Surfaces - The fibreglass surfaces can be treated much the same as the wooden surfaces using a household wax type polish to maintain their shine. If any of the surfaces become scratched they will require specialised repair depending upon the extent of the damage.

Upholstery - All linings, carpets, curtains and upholstery should be treated the same way as normal household furnishings. Should any of the upholstery or linings become soiled, sponge clean with a dry foam type cleaner. Do not use excessive amounts of water.

Primma - Primma can be handled roughly and stained, yet it always keeps its appearance. Primma is a fabric as soft as velvet and as strong as leather, water repellent and soil resistant.

Painted Surfaces - The non reflective surface finish in front of the helm area is spray painted and should be cleaned with fresh water and a mild detergent only. Do not use solvents or chemicals.

Sliding Roof Mechanism - Ensure the rain channels are clear of leaves and debris, wash dirt from the rain channels with soapy water and soft brush. The stainless steel track should be lubricated sparingly with a silicone based lubricant at least every six months. The vinyl roof should be cleaned with soap and water only. Do not use chemicals.

SERVICE INFORMATION

LAYING UP AND MAINTENANCE

Due to the hostile environment in which your motor cruiser has to spend most of its life, you should be very thorough when it comes to laying up or winterising. Listed below with descriptions are some of the most important areas, which need your attention. This is only a guide; refer to individual manufacturers manuals for more detailed instructions. Your motor cruiser should be removed from the water at least once every twelve months for inspection, hull cleaning and application of fresh antifouling paint. In warm waters and areas of heavy fouling, cleaning of marine growths from the hull bottom and stern gear will be required at shorter intervals. When you crane your Sealine from the water, remember to remove the log paddle wheel (if fitted) and fit the blank supplied. This will prevent the possibility of it becoming crushed by the straps used for craning.

a **Engines** - We recommend that your engines are winterised and serviced by your local engine dealer. Failure to follow the engine service schedule may invalidate your engine manufacturer's warranty.

b **Trim Tabs** - The anodes fitted to your trim tabs should be carefully inspected If they appear to be more than 50% corroded it is advisable to change them.

c **Propellers and Shaft drives** - Whenever your Sealine is removed from the water, a thorough inspection of all under water stern gear should be made. Look for corrosion, wear and check the tightness of all bolts. A thorough inspection of the propellers should be made for corrosion or damage caused during the season. Any serious propeller damage should be repaired professionally, but small chips etc, can usually be filed out adequately. Annually check that all stern gear is electrically bonded to the hull anodes. Failure of this bonding system to the hull anodes may result in corrosion damage to part of the stern gear.

d **Steering Gear** - The various steering linkages and tie bar should be checked for tightness and lubricated where necessary. The rudder housing grease levels should be checked, this involves connecting a suitable grease gun to the grease nipple and filling the housing until grease appears at either end.

e **Fuel System** - The fuel filters should be drained to remove any water, which may have entered the system during the season. The filter elements should be changed but this can depend on the amount of use they have had. It is a good idea to check all fuel line connections for tightness and wear and rectify as necessary. The fuel tanks should be filled to reduce the risk of water entering the system through condensation, which forms quite easily in half filled fuel tanks. There are fuel additives, which reduce corrosion on fuel lines, injectors, etc, due to water in the system.

f **Gas System*** - A registered gas installer should check your gas installation for leaks and pipe work wear or corrosion.

g **Water Tank** - The fresh water tank should be drained. There are various cleaning fluids that can be added to the system, but draining the system should be your primary objective. Running all the taps until they are dry and then disconnecting the pipes from the water pump is the best way to achieve this. This will drain the water pump and allow any water left in the system to drain away.

h **Calorifier** - When draining the water system, all of the water taps will have been turned on. However, the calorifier will still need draining even though the hot water tap may have run dry. This is quite simple as there is a drain tap mounted towards the bottom of the calorifier. If the boat is out of the water, the speed log paddle wheel can be removed and a length of pipe pushed through and connected to the calorifier drain, to prevent the problem of removing gallons of water from the bilge.

i **WC, Sea cocks & Holding Tanks** - These need to be pumped dry to reduce the risk of freezing and cracking of the various parts. Toilet conditioner, which lubricates, cleans and deodorises your toilet is available If you intend to leave your boat afloat, you should firstly close the inlet seacock, pump the toilet dry and then close the outlet seacock. If you are removing your boat from the water, leave sea cocks open and pump the toilet dry, to allow any remaining water in the system to drain away. When draining the toilet, check for leaks and the condition of hoses and their clamps. Sea cocks should be checked for corrosion and leaks and lubricated internally. Holding tanks (if fitted) should be emptied and then flushed through with a suitable sanitary fluid. A check should also be made on all hose connections.

j **Accommodation** - Special attention should be made of the fridges and galley. Fridges should be thoroughly cleaned and their doors propped open. The galley should be thoroughly cleaned, especially in areas where food has been stored or prepared. Bedding and curtains can be left but make sure that the boat is well ventilated to prevent mould forming. The bilge should be checked and if it needs cleaning, wiped over with one of the bilge cleaners that are available to prevent unwanted odours.

k **Bilge Pumps** - The bilge pump strainers fitted to the base of the pump should be checked, as it is possible over a period of time for them to become blocked. This can stop the pump from operating See manufacturer's instructions.

l **Anchor Locker & Windlass** - Remove all the chain from the anchor locker and thoroughly wash off checking for corrosion and wear, the depth marking can also be checked to see that they are all intact. Give the anchor locker a good clean out removing all the salt from the season's use. Windlasses are virtually maintenance free, only greasing of mechanical parts is necessary. Electric windlasses do require a little more maintenance. All solenoid connections and deck switches should be checked for tightness and cable supports should be checked to prevent them from becoming tangled with the chain. Finally all electrical connections should be sprayed with moisture repellent spray.

m **Antifoul** - Antifouling the hull is one of the less popular aspects of motor cruising. Luckily antifoul works very well these days. There are various types available; Sealine favour the soluble antifoul. This type erodes at a controlled rate taking fouling with it. Annual antifouling is unfortunately unavoidable and will have to be carried out at the beginning of each season. When choosing antifoul for maximum protection you should take into consideration your mooring area and decide which level of protection you require. Antifoul can be hazardous, when using follow manufacturers instructions.

DO NOT ANTIFOUL:

- Over anodes, as this will render them ineffective as galvanic corrosion inhibitors.
- Drain holes.
- Speed sensing paddle wheel.

n **Hull & Deck** - The hull and deck should be washed off with soap and water to remove salt and grime that can scuff the fibreglass surfaces. A coat of wax can be applied to add a protective layer. An overall cover will offer the best protection for your boat.

o **Anodes** - Regularly inspect the anodes where possible to check their rate of corrosion. The rate of corrosion will vary depending upon the location of your Sealine. These anodes are supposed to corrode in order to protect the stern gear. Anodes should be replaced when approximately 50% of original size.

p **Heating/Air con unit** - The unit needs to be pumped dry to reduce the risk of freezing and cracking of the various parts. Various methods can be used to pump a 50/50 solution of antifreeze through the system. However, by pumping this solution through the system it will ensure that it displaces any water that is trapped and eliminate the possibility of freezing in hidden areas. A zinc anode has been fitted to the seawater manifold in the air conditioning system. This needs to be checked on a regular basis depending on the area you are and the time in use, exchange if necessary.

DRAINING THE BOAT

In climates where freezing occurs, it is important that the bilge be completely drained and dried out when the boat is laid up for the winter. Some compartments of the bilge may not drain completely because of the position of the boat. These areas should be pumped out and wiped dry or add sufficient antifreeze solution to the standing water to prevent freezing. The boat's entire fresh water system must be drained completely. Open all taps, including the shower controls, throughout the boat. Open a water connection at the lowest point in the fresh water system to drain all pipes. Break the connections at each side of the water pump, drain the heads. Drain the water heater.

The engine cooling system and the exhaust system must be free of water if there is a danger of freezing. Drain plugs are provided in the engine for this purpose. If it is necessary to break connections in the exhaust system these must be reconnected immediately after draining is completed.

CONSULT YOUR ENGINE AND GENERATOR OPERATORS MANUAL FOR DETAILED INFORMATION ON PREPARING FOR STORAGE AND WINTERISING.

WINTERISING CHECK LIST

Boat Storage

- Store boat in a bow high attitude.
- Pour sufficient antifreeze solution mixed to the manufacturers recommendations into the bilge areas.

Water system

- Turn ON all taps and shower controls.
- Open all taps, let system drain completely and leave taps open.
- Remove hoses from water pump.
- Remove hoses from water heater and open drain plug.
- Blow out all lines to clean.
- Pour antifreeze mixture to fill shower sump.

Fridge/Freezer

- Turn OFF power.
- Allow unit to defrost, wipe dry all internal surfaces.
- Leave door slightly open to allow air circulation.

Shower Sump(s)

The only maintenance required on the sump system is to drain the unit during the winter months when not in use.

To drain;

- Disconnect and drain all lines to the unit.
- Remove hold down screws and empty the unit.

In some installations it may be impossible to completely drain the system.

As a result of this it is recommended that non-toxic Marine antifreeze be added to the shower drain and circulated throughout the system.

SERVICE INFORMATION

STORAGE AND LAUNCHING

Engines

- Flush engines with fresh water.
- Remove engine drain plugs If boat is left in the water, close the engine seacocks. If the boat is removed from the water, open the engine seacocks.
- Consult your Engine instruction manual for detailed information on storage and winterising.

Generator

- Flush generator with fresh water.
- Remove generator drain plugs. If boat is left in the water, close the engine seacocks. If the boat is removed from the water, open the engine seacocks.
- Remove the drain plugs from mufflers and strainers.
- Consult your Generator instruction manual for detailed information on storage and winterising.

Batteries

- Remove from boat.
- Remove dirt and grease from top and terminals.
- Grease terminal bolts.
- Store batteries on wood or thick plastic in a cool dry place. Do not store on concrete.
- Keep under a trickle charge.
- When replacing battery in service, remove excess grease from terminals, recharge as required and re-fit into boat.

Inverter

- The inverter must be switched off directly at the device, if the boat have no external power supply.

Head system

- Flush entire system through with fresh water.
- Pump out the holding tank.
- Switch OFF water pump on main panel and remove hoses from each side of pump.
- Remove inlet fitting.
- Flush 5 litres of antifreeze with 5 litres of water through toilet.
- Pump out holding tank.

Air conditioning

- Close the through hull seacock, remove hoses from the seawater pump.
- Flush with fresh water through hose sea water pump.
- Blow out water lines with air pressure.
- Loosen the screws on the pump head, allowing water to drain from the pump.
- Remove hoses from condensing unit.
- Remove strainer plug.

Fuel System

- Diesel fuel must be treated with Biocide, which prevents bacteria and fungi from contaminating diesel fuel that contains some water.
- Fill tanks with the treated fuel.
- Run engines for fifteen (15) minutes to ensure that all diesel fuel lines and system is treated.
- Consult your instruction manual for detailed information on storage and winterising.

SERVICE INFORMATION

REFIT AFTER STORAGE (GENERAL)

Check and refit all items removed or loosened in preparation for winterising.

FUEL SYSTEM

Check the entire fuel system for leaks, damaged or worn hoses, repair/replace as required. This is a primary safety precaution.

EXHAUST SYSTEM

Check the complete exhaust system. It is imperative that the system be vapour proof and water tight. If a cover or plug was used at the exhaust port, remove it. Also check the drain plugs, retighten if required. Recheck all when engines are running.

BATTERIES

Before installing the batteries, clean the terminal posts with a wire brush or steel wool and then attach the cables. After the cable clamps are tightened, smear grease on the terminals and clamps to exclude air and acid. Do not smear grease before attaching and tightening terminal clamps. Examine all wiring connections.

MISCELLANEOUS

Check all through hull fittings for unobstructed water passage. Be alert for any deterioration in hoses and/or fittings below the water line which may fail in service and admit water.

- Check all through hull fastenings.
- Test the navigation lights.
- Check all wiring for connections.
- Check all switches and equipment for proper operation. Anchor lines and gear should be inspected and replaced if required.
- Clean bilge.
- Check all engine and generator fluid levels.
- Carry out a complete service check.

SHOWER SUMP(S)

Trouble shooting:

- Pump will not turn on:

  Line is blocked.

  Line is broken
- No power to the pump:

  Circuit breaker tripped.

  System improperly wired.

  Air is trapped in the box - vent box.
- Pump output is low:

  System is incorrectly wired.

  Outlet is blocked or restricted.
- Pump will not turn off:

  Float switch is jammed in the ON position.

  Air is trapped in the pump.

  Output pipe is blocked or restricted.

Periodic cleaning of the filter for improved performance is recommended. Ensure the cover gasket is in place when reinstalling the filter and cover.

LIFTING THE CRAFT

Lifting the craft - To lift the craft from the water it should be slung in a travel hoist or in a purpose built lifting frame attached to a suitable single point lifting device. The points where it is safe to pass slings around the hull are illustrated in Principal Dimensions.

The lifting equipment must be capable of lifting the dry weight of the craft, with a calculated allowance for any water, fuel and additional equipment stowed. The dry weight of the craft is identified in the Declaration of Conformity, see Technical Data.

When lifting the craft you should ensure that the following procedures are observed:

a The craft is lifted in a level fore-and-aft position to prevent any ingress of water into the engines, which could occur if the craft is lifted bow up and stern down.

b When lifting the craft in a travel hoist the slings should pass round the hull so that they are located as illustrated above. In any event always ensure that the slings are clear of the stern gear (propeller shaft, propellers, rudders and impellers).

c When lifting the craft in a crane or any other single point lifting equipment the slings should be positioned as illustrated in 'Principal Dimensions'. In addition the lifting slings should be secured against slippage using suitable restraining ropes secured to the fore and aft cleats.

⚠DANGER

Never stand directly under the craft whilst it is suspended solely by a crane or travel hoist/ straddle cradle.

⚠WARNING

To avoid structural damage to the craft it is vital that it is lifted correctly adhering to the information given in this paragraph and should only be undertaken by suitably experienced personnel.

With fibreglass boats, severe gel coat crazing or more serious damage can occur during launching and hauling if pressure is created on the hull sides by slings. Flat, wide belting-type slings and spreaders long enough to keep pressure from the hull sides are required.

Cable type slings must not be used. Do not place slings where they may lift on the propeller shaft or other underwater fittings.

The slings should be in accordance with the designated areas identified just below the hull to deck joint to assure the least amount of stress on the hull.

Never hoist the boat with an appreciable amount of water in the bilge.

⚠DANGER

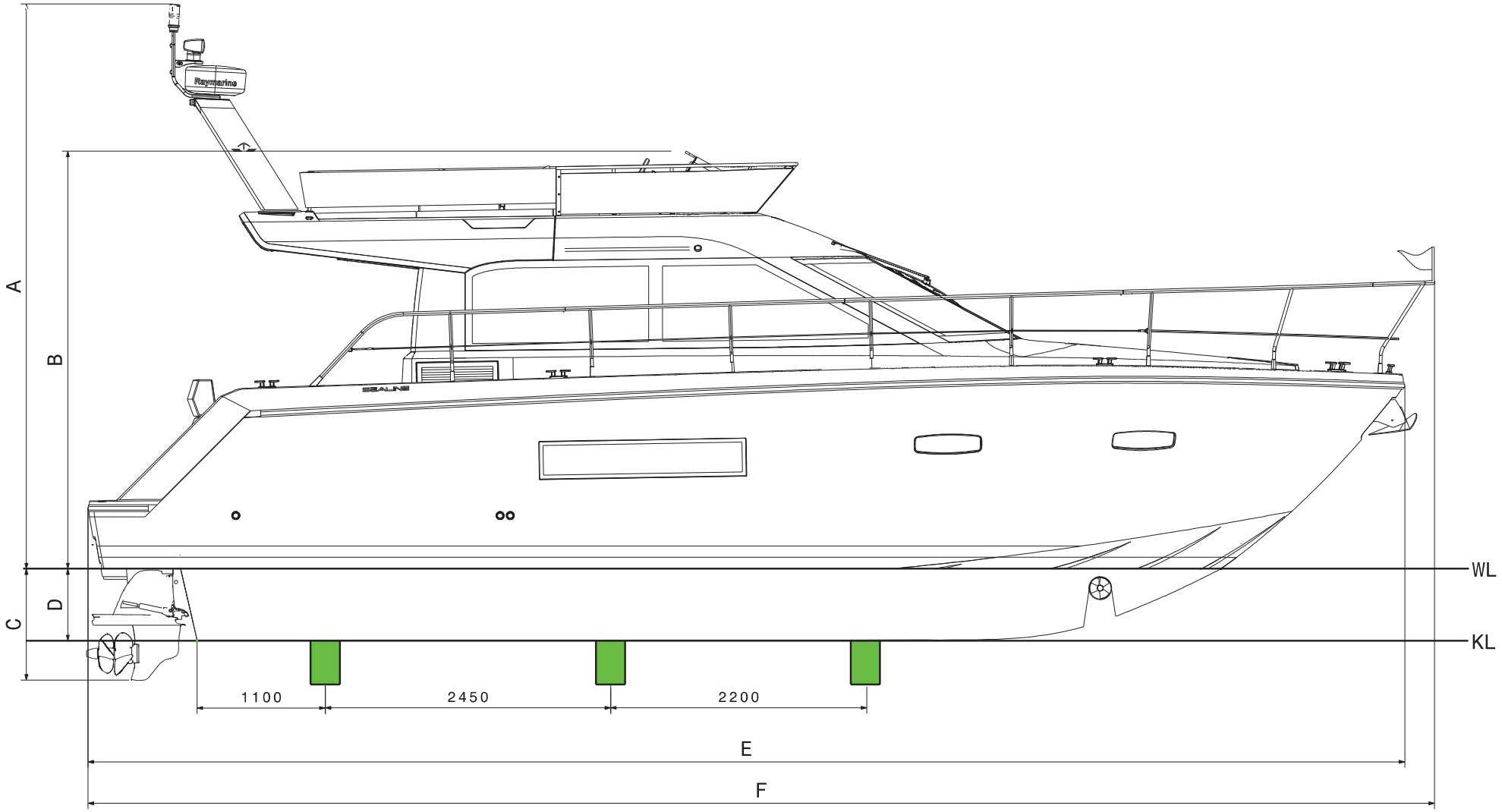
DO NOT USE CLEATS FOR LIFTING.

⚠DANGER

LIFTING - ENSURE A QUALIFIED CRANE OR HOIST OPERATOR WITH EXPERIENCE OF LIFTING BOATS. POSITION STRAPS IN LINE WITH THE MARKS SEALINE HAVE FIXED TO THE HULL, AND ENSURE THE POINT OF BALANCE OF THE BOAT IS BETWEEN THE STRAPS. USE SPREADERS AND PADDING TO ENSURE THE HULL IS NOT PINCHED BY THE STRAPS. DO NOT REMAIN UNDER OR INSIDE THE CRAFT WHEN LIFTED.

SUPPORTING THE BOAT

A cradle is the ideal support for the boat whenever it is not in the water. Properly designed and constructed, it will provide support at the proper points, which is essential to avoid stress on the hull. Boat placement on the cradle should line up as closely as possible to the sling tags on the side of the deck. Do not rest boat on underwater fittings.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PRINCIPAL DIMENSIONS

NOTE: ALL DIMENSIONS ARE TAKEN WHEN BOAT IS AT 50% LOAD.

A	HEIGHT FROM WATERLINE TO TOPLIGHT	- 4.85 m (15' 1")
B	HEIGHT FROM WATERLINE TO HELM STATION FLYBRIDGE	- 3.65 m (11' 9")
C	WATERLINE TO TIP DRIVE LEG	- 0.95 m (3' 1")
D	WATERLINE TO KEEL LINE	- 0.70 m (2' 3")
E	LENGTH OF HULL (L_H)	- 11.28 m (37' 0")
F	LENGTH OVERALL	- 11.40 m (37' 4")
WL	WATERLINE	- 9.61 m (31' 5")
	BEAM	- 3.77 m (12' 4")
	FUEL CAPACITY	- 2 x 450 L (2 x 99 Gal)
	WATER CAPACITY	- 1 x 315 L (1 x 69 Gal)
	CHOCK POSITIONS	- 


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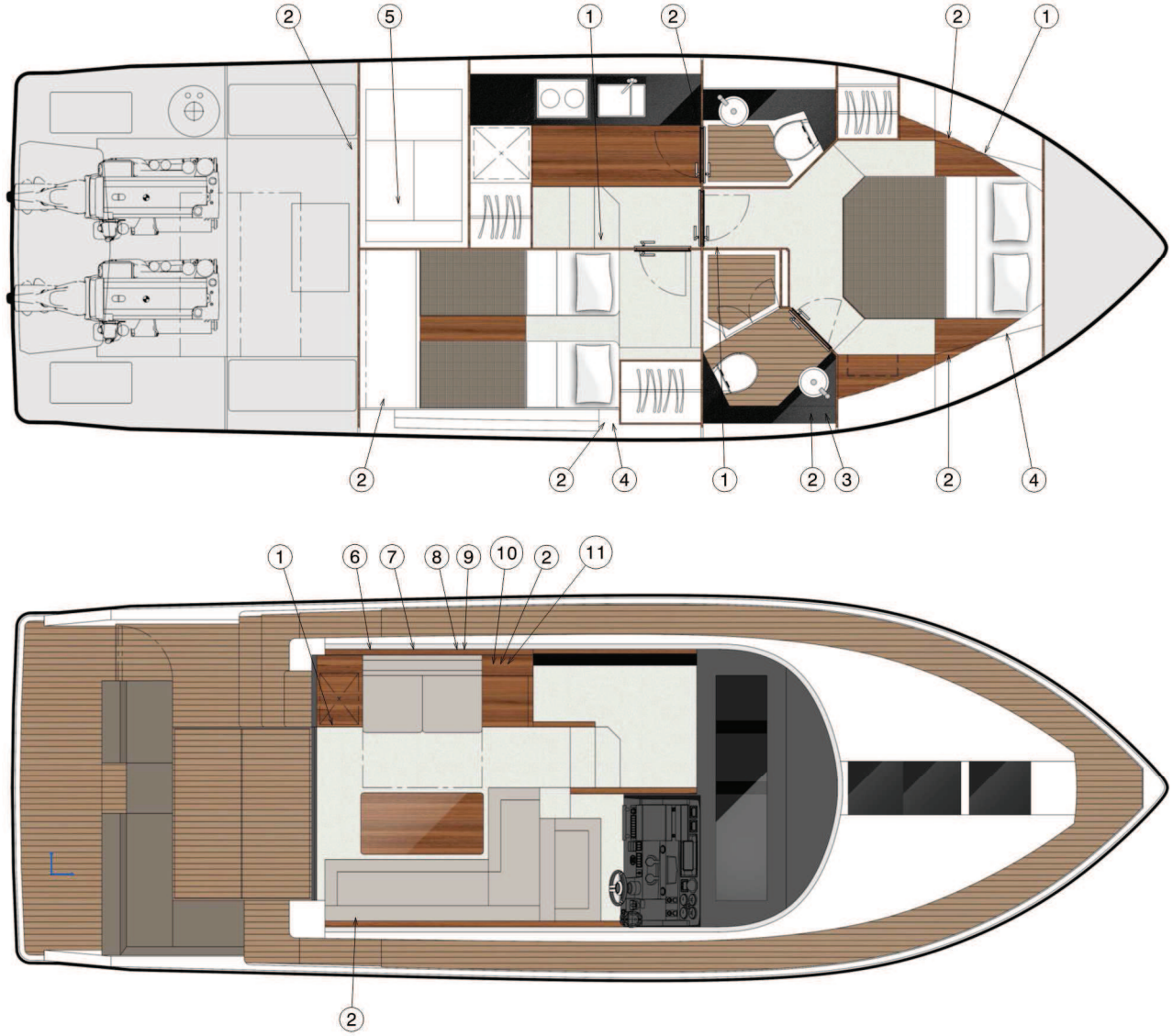
DECK PLAN

1	12" TOWING CLEAT
2	ANCHOR LOCKER WITH WINDLASS
3	12" FWD MOORING CLEAT
4	DECK WASH SYSTEM IN ANCHOR
5	WINDLASS REMOTE CONTROL
6	OPENING HATCH
7	SKYLIGHTS
8	FWD HANDRAIL
9	10" SPRING CLEATS
10	BLACK WASTE
11	FUEL FILLER
12	VENT FUEL TANK
13	12" AFT MOORING CLEAT
14	DINGHY CHOCKS
15	WATER FILLER & VENT
16	MANUAL BILGE PUMPS
17	BATHING LADDER SOCKET
18	SHORE POWER SOCKET
19	DECK WASH SYSTEM
20	GAS LOCKER
21	LIFE RAFT STORAGE
22	COCKPIT SHOWER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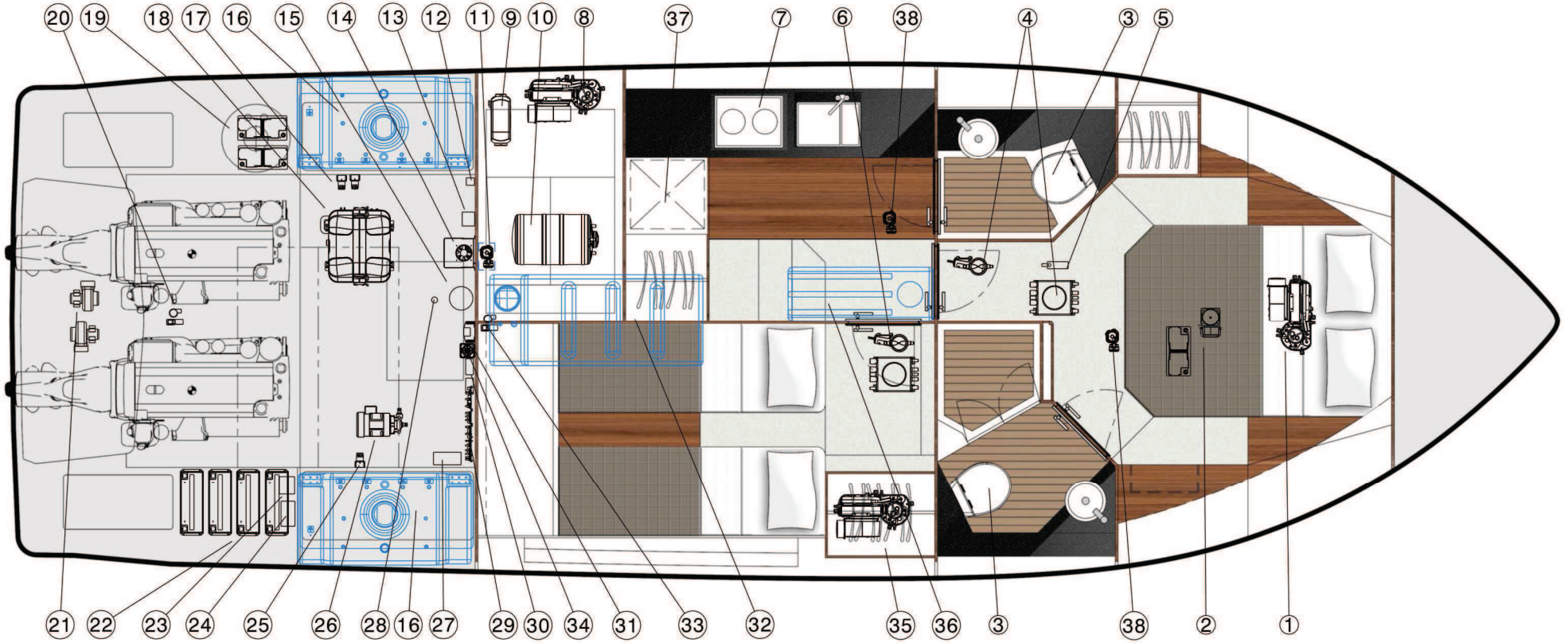
EQUIPMENT LOCATION – SYSTEM CONTROL POINTS

1	SCENARIO LIGHT SYSTEM PANEL
2	ELECTRICAL SOCKET
3	LIGHT SWITCH
4	AIR CON CONTROL
5	ELECTRICAL SOCKET (CALORIFIER)
6	DC PANEL
7	AC PANEL
8	BATTERY MAIN SWITCHES
9	GENERATOR CONTROL
10	RADIO
11	HEATING CONTROL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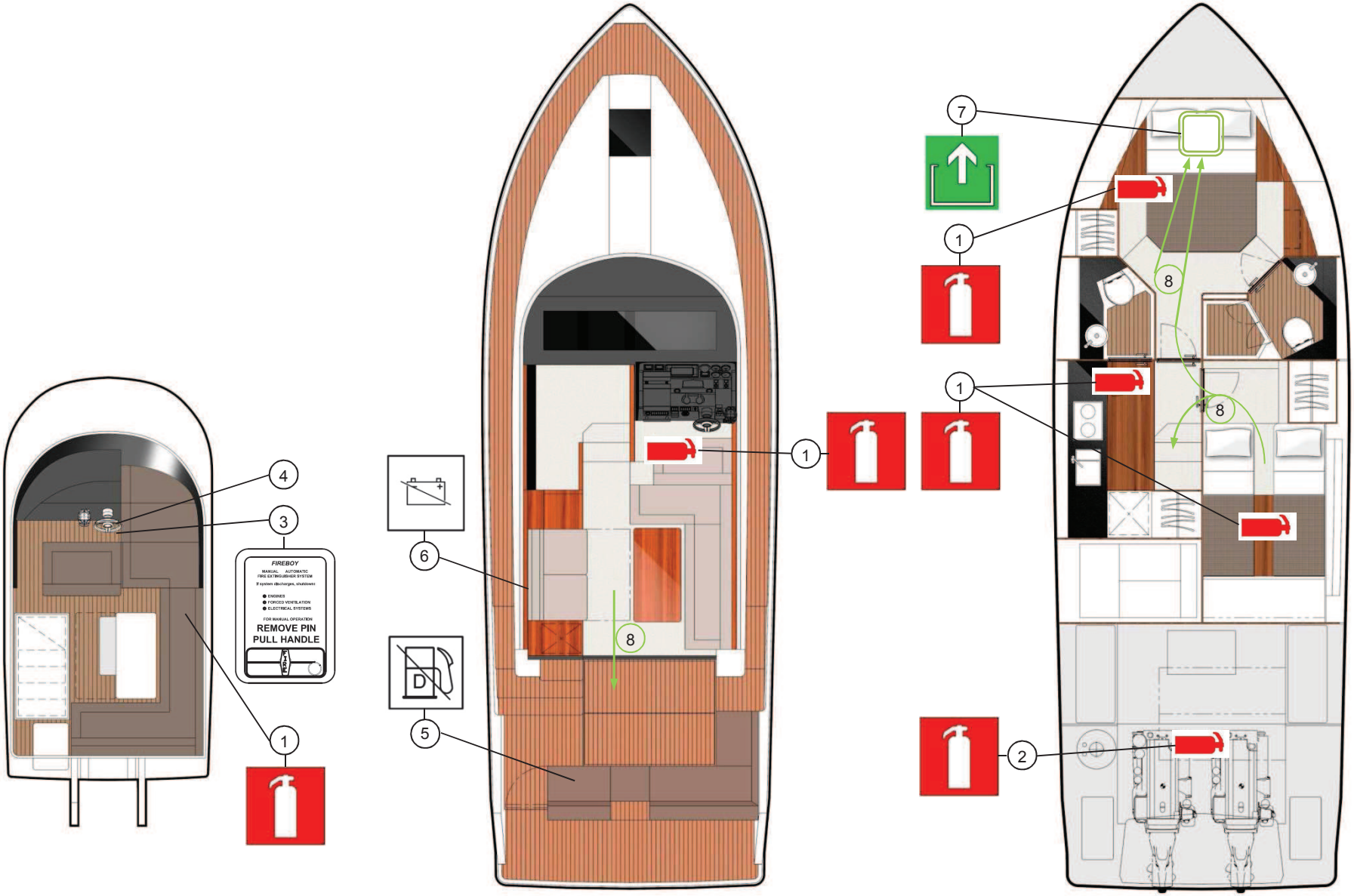
EQUIPMENT LOCATION - UNDER DECK

1	AIR CONDITIONING UNIT (FORWARD CABIN)	20	ELECTRIC BILGE PUMP
2	BOW THRUSTER, BATTERY, MAIN SWITCH, FUSE	21	ENGINE ROOM FANS
3	ELECTRICAL TOILET	22	SERVICE BATTERIES
4	GREY WATER TANK, PUMP (WASH BASINS, SHOWER, SINK)	23	ELCB
5	MACERATOR	24	GALVANIC ISOLATOR
6	GREY WATER TANK, PUMP (CONDENSED WATER A/C FWD CABIN, AFT CABIN & SALOON)	25	SERVICE BATTERIES MAIN SWITCH
7	COOKER	26	SEA WATER PUMP (A/C)
8	AIR CONDITIONING UNIT (SALOON)	27	BATTERY CHARGER
9	DEMISTER	28	SPEED & DEPTH TRANSDUCERS
10	CALORIFIER	29	POWERBOARD
11	FRESH WATER PUMP	30	RAYMARINE PARTS
12	230 V SOCKET	31	DC – DC CHARGER
13	ELCB (GENERATOR)	32	FRESH WATER TANK
14	INVERTER (GENERATOR)	33	ELECTRIC BILGE PUMP
15	FIRE EXTINGUISHER	34	COMPASS AUTOPILOT
16	FUELTANK	35	AIR CONDITIONING UNIT (AFT CABIN)
17	ENGINE MAIN SWITCHES	36	BLACK WATER TANK
18	GENERATOR	37	FRIDGE, MIRCOWAVE
19	ENGINE BATTERIES	38	PUMP TOILET WATER SUPPLY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FIRE PROTECTION SYSTEM

Installed to ISO 9094-1

Insulating material (if any) inside engine space shall be non-combustible. (Materials are considered as non-combustible if the Oxygen index is at least 21 when measured in accordance with ISO 4589 or ASTM D 2863). In addition, the material shall present a non fuel absorbent surface to the engine.

1 PORTABLE FIRE EXTINGUISHER

2 AUTOMATIC FIXED FIRE EXTINGUISHER (ENGINE ROOM)

3 MANUAL ACTIVATION OF ENGINE ROOM EXTINGUISHER SYSTEM

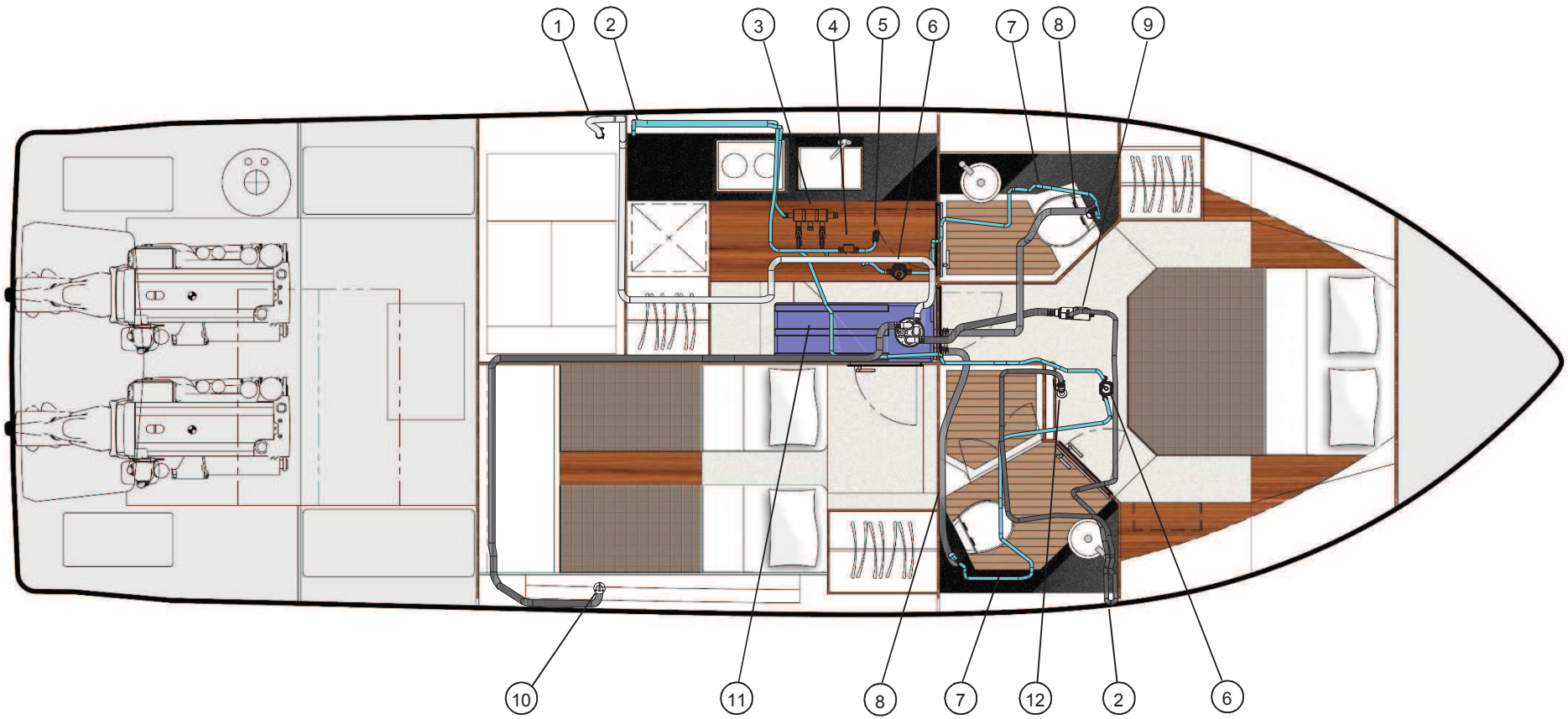
4 ENGINE SHUTDOWN OVERRIDE SYSTEM

5 FUEL VALVES

6 BATTERY SWITCHES

7 EXIT HATCH

8 EXIT ROUTES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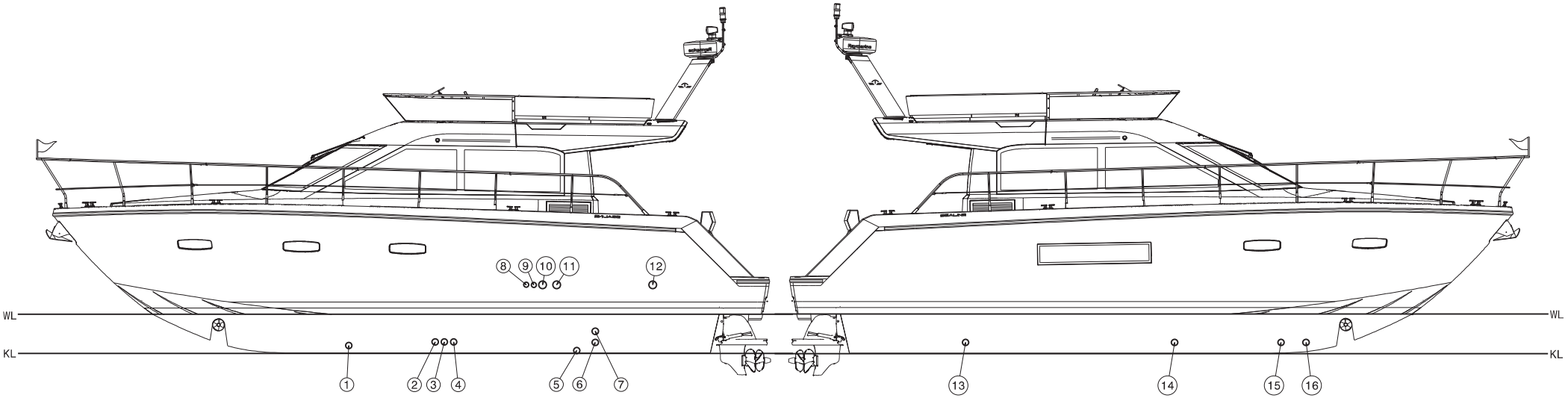
BLACK WASTE DISPOSAL SYSTEM

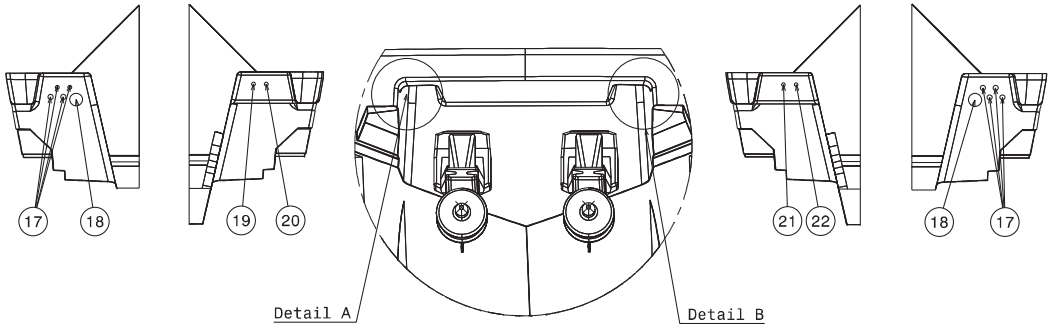
NOTE: KEEP HOLDING TANK DISCHARGE SEACOCKS SHUT EXCEPT WHEN DISCHARGING TO SEA TO PREVENT BACK SIPHONING

1	VENT BLACK WATER TANK
2	GOOSE NECK
3	MANIFOLT
4	SEAWATER FILTER
5	SEACOCK – SEA WATER INTAKE
6	WATER PUMP
7	SUPPLY PIPE
8	BLACK WATER PIPE
9	MACERATOR PUMP
10	DECK SUCKOUT FITTING
11	BLACK WASTE WATER TANK
12	SEACOCK – BLACK WATER OUTLET



Port view

Starboard view



Detail A

Stern view

Detail B

SKIN FITTINGS

FUNCTION OF THROUGH-HULL FITTINGS AND CUTOUTS

1	INLET TOILET	12	GENERATOR EXHAUST
2	A/C OUTLET FWD-CABIN	13	INLET A/C
3	A/C OUTLET GUEST CABIN	14	OUTLET A/C CONDENSED WATER
4	A/C OUTLET SALOON	15	OUTLET BLACK WATER
5	LOG / ECHO SOUNDER	16	OUTLET GREY WATER
6	GENERATOR SEAWATER INLET	17	DECK DRAINAGE
7	GENERATOR SEAWATER OUTLET	18	ENGINE ROOM VENT
8	BLACK WATER TANK VENT	19	ELECTRICAL BILGE PUMP – ACCOMMODATION
9	GREY WATER TANK VENT	20	MANUAL BILGE PUMP – ACCOMMODATION
10	HEATER EXHAUST	21	MANUAL BILGE PUMP – ENGINE ROOM
11	DEMISTER EXHAUST	22	ELECTRICAL BILGE PUMP – ENGINE ROOM