



SARGO 28

THE ALLSEASON BOAT

Owner's manual



PREFACE

Dear SARGO owner! We congratulate you on choosing a SARGO boat and wish you many wonderful experiences on your boat.

The purpose of this manual is to make it easier for you to use your boat safely and without any problems. The manual contains descriptions of the boat and its systems and equipment, as well as advice regarding its use and maintenance. We advise you to read the manual carefully and to get to know your boat before using it.

In this owner's manual you will find important information that will help you to handle and maintain your boat in a safe and easy way. Furthermore, it contains detailed information about the boat and the systems installed, as well as general information about handling and taking care of your boat.

We advise you to read the manual carefully and familiarise yourself with your boat before you start to use it. Naturally, this owner's manual is not a substitute for safe boating skills or good seamanship. If this is your first boat, or if this type of boat is new to you, we ask that for your own comfort and safety you make sure that you can handle the boat properly before you set out for the first time. Your boat dealer, local boat clubs and national motorboat or yacht federations will gladly help you find local sea schools or recommend approved instructors.

You should ensure that the anticipated wind and wave conditions correspond to the design category of your boat, and that you and

your crew are able to handle the craft in these conditions. Design category B corresponds to wind and wave conditions that can vary from strong to storm force winds. Category C indicates an inshore risk of exceptional swell and gust. Even though your boat is designed for such conditions, they are still very dangerous. Only a capable, fit and trained crew, using a well maintained craft, can satisfactorily operate in such conditions.

This owner's manual is not a detailed maintenance or troubleshooting guide. If problems occur, you should contact the boat manufacturer or their representative. If the boat is equipped with a maintenance manual, please use it in connection with all boat maintenance.

When you are in need of maintenance or repair and alteration work, you should always turn to competent and trained workshops. Changes that can affect the boat's security features must be assessed, carried out and documented by competent professionals. The boat manufacturer cannot be held responsible for unauthorised modifications. Every change to the boat's centre of gravity (from highly mounted heavy equipment or a new engine type, etc.) will significantly affect the stability, trim and performance of the boat.

The boat owner must take local and international regulations into consideration concerning the boat crew, equipment and handling of the boat. In some countries, a boat licence or a separate authorisation is required for driving the boat, and in some countries special regulations might also be in force.

Always maintain your craft properly and make allowance for any deterioration that will occur over time and as a result of heavy use or misuse of the craft. Any craft, no matter how strong it may be, can be severely damaged if not used properly. Inappropriate use of this boat, i.e. use which is not compatible with safe boating, is not allowed. It is always important to adjust the speed and direction of the craft to the sea conditions and to keep within your own boating skills.

If your boat is fitted with a life raft, carefully read its operating manual. On board, the craft should have the appropriate safety equipment according to the type of craft, weather conditions, etc. This equipment is compulsory in some countries. The crew should be familiar with the use of all safety equipment and the most important actions to take in various emergency situations (man overboard recovery, towing, etc.). Sailing schools and clubs regularly organise rescue drills.

All persons on deck should wear the appropriate floatation devices (life jacket/personal floatation device). Please note that some countries stipulate by law that floatation devices which correspond to national regulations must be worn at all times.

PLEASE STORE THIS MANUAL IN A SECURE PLACE AND PASS IT ON TO THE NEXT OWNER WHEN SELLING THE BOAT.

YOUR OWN NOTES

TABLE OF CONTENT

PREFACE.....	2
YOUR OWN NOTES	4
1 GENERAL	8
2 BOAT CHARACTERISTICS.....	9
2.1 PRINCIPAL BOAT DATA.....	9
2.2 BOAT LOADING.....	10
2.2.1 MAXIMUM ALLOWED NUMBER OF PERSON	11
2.3 APPROVALS	11
2.3.1 BUILDER’S PLATE.....	11
2.4 MANUFACTURER’S CONTACTS	12
2.4.1 MANUFACTURER	12
2.5 WARRANTY	12
2.6 REGISTRATION	12
2.7 INSURANCE	12
3 BEFORE DEPARTURE	13
3.1 TRAINING	14
3.2 SAFETY ON DECK	15
3.2.1 PREVENTING FALLING OVERBOARD AND HOW TO GET BACK ON BOARD	15
3.2.2 SECURING LOOSE EQUIPMENT	15

4 STABILITY AND BUOYANCY.....	16
4.1 STABILITY	16
4.2 SELF-DRAINING SYSTEM	16
4.3 BILGE PUMPS	17
4.4 HATCHES AND SEA-COCKS.....	20
5 BOAT HANDLING.....	22
5.1 NAVIGATION	22
5.2 DRIVING	22
5.3 ROOF HATCH.....	24
5.4 ADJUSTING THE TRIM TABS	24
5.5 VISIBILITY FROM THE MAIN HELM	24
5.6 MOORING AND ANCHORING.....	25
5.6.1 RECOMMENDATIONS AND REQUIREMENTS	26
5.7 TOWING	26
6 BOAT EQUIPMENT AND SYSTEMS	28
6.1 STEERING CONSOLE CONTROLS	28
6.1.1 TOP PART SWITCH PANEL	29
6.1.2 CONSOLE SIDE CONTROLS	30
6.1.3 STEERING CONSOLE SWITCHES	30
6.1.4 WIPERS CONTROLS.....	31
6.2 ELECTRICAL SYSTEMS.....	31
6.2.1 12 V SYSTEM	31

6.2.2	MAIN SWITCHES.....	32
6.2.3	FUSES.....	33
6.2.4	HEAVY DUTY FUSES.....	34
6.2.5	BATTERIES.....	34
6.2.6	230 V SYSTEM.....	34
6.3	ELECTRICAL SYSTEM DIAGRAM.....	37
6.4	FUEL SYSTEM	38
6.4.1	REFUELLING.....	38
6.4.2	SYSTEM COMPONENTS.....	38
6.4.3	FUEL POWERED DEVICES AND VENTILATION	38
6.5	WATER SYSTEM.....	41
6.5.1	WATER HEATER	41
6.5.2	SEA WATER SYSTEM.....	42
6.6	SEPTIC SYSTEM	44
6.6.1	TOILET	45
6.6.2	SHOWER PUMP	45
6.7	HEATING SYSTEM	47
6.7.1	HEATER.....	47
6.7.2	DEFROSTER	47
6.8	BOW THRUSTER.....	47
6.9	ANCHOR WINDLASSES	48

7 SAFETY 50

7.1 MINIMISING THE RISK OF FIRE AND EXPLOSION.... 50

7.2 FIRE EXTINGUISHER AND SMOKE ALARM..... 51

7.3 LIFE RAFT STORAGE

7.3.1 USE OF A LIFE RAFT

8 BOAT MAINTENANCE 53

8.1 ENVIRONMENTAL CONSIDERATIONS..... 53

8.2 MAINTENANCE AND WINTER STORAGE..... 53

8.3 EXTENDING YOUR SEASON AND MEASURES BEFORE DOCKING..... 53

8.4 WASHING AND CLEANING..... 54

8.5 WINTER STORAGE AND CLEANING..... 54

8.5.1 MEASURES BEFORE LAUNCHING

8.6 REPAIRS

9 TRANSPORTATION AND DOCKING 57

9.1 DOCKING

10 TECHNICAL DETAILS 60

10.1 MAIN DIMENSIONS AND CAPACITIES

10.2 DIMENSIONS..... 62

1 GENERAL

The purpose of this Owner's Manual is to help you familiarise yourself with the characteristics of your new boat. Separate manuals for the equipment installed on the boat are attached and also referred to in a number of sections in this manual.

Naturally, you can complement this manual with those of any device installed later on. There is also space reserved for your own notes at the beginning of this manual.

The units used in this manual are in accordance with the SI system. In some cases, however, other units have been added in brackets. An exception to the above is wind force, which is expressed in the Beaufort scale for the Recreational Craft Directive (RCD). In this User Manual, the right side of the hull, looked at from the stern, is abbreviated to STB and the left side is referred to as Port.

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

DANGER!

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

WARNING !

Denotes that an extreme inherent hazard exists which very likely could result in death or serious injury if proper precautions are not taken.

CAUTION !

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

2 BOAT CHARACTERISTICS

2.1 PRINCIPAL BOAT DATA

Principal boat data includes the following:

Boat model: Sargo 28

Design category: B

Maximum recommended load: **1140** kg

See also section "Loading"

Category A:

A recreational craft given design category A is considered to be designed for winds that may exceed wind force 8 (Beaufort scale) and significant wave height of 4 m and above but excluding abnormal conditions, such as storm, violent storm, hurricane, tornado and extreme sea conditions or rogue waves.

Category B:

A recreational craft given design category B is considered to be designed for a wind force up to, and including, 8 and significant wave height up to, and including, 4 m.

Category C:

A watercraft given design category C is considered to be designed for a wind force up to, and including, 6 and significant wave height up to, and including, 2 m.

Category D:

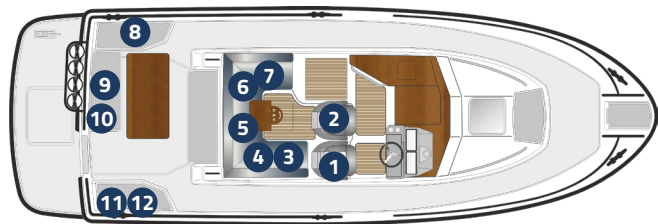
A watercraft given design category D is considered to be designed for a wind force up to, and including, 4 and significant wave height up to, and including, 0,3 m, with occasional waves of 0,5 m maximum height.

2.2 BOAT LOADING

Boat weight without load, mLC	4400 kg
Number of person	12 person
Weight of person	900 kg
Personal luggage	240 kg
Fresh water	95 kg
Fuel	400 kg
Septic tank	48 kg
Life raft	38 kg
Marginal for possible weight increase	280 kg
Maximum load ,mL	1720 kg

Boat weight with maximum load,mLDC..... 6400 kg

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



WARNING !

When loading your boat you must never exceed the maximum allowed load for the boat. When loading you must be careful and cautious and always distribute the load to prevent capsizing. Avoid placing heavy objects high up in the boat. Exceeding maximum load weight can damage the engine, even when it's not running.

WARNING !

Never exceed the maximum number of persons on board. Also, make sure that the total weight of the persons on board and their personal luggage never exceeds the maximum load allowed on the boat. When out on the water, always use the seats intended for passengers.

2.2.1 MAXIMUM ALLOWED NUMBER OF PERSON

The maximum allowed number of persons on board is 12. The designated seating arrangement is shown in the section Safety on Deck, chapter 2.2.

WARNING !

Never exceed the maximum number of persons on board. Regardless of how many people are on board, always make sure that their total weight and the weight of their personal luggage does not exceed the maximum load allowed on the boat (see the chapter 2.2 Boat Loading). When out on the water, always use the seats intended for passengers. If your boat is not equipped with seats for 12 people, they must sit on the floor in the positions indicated in the chapter 3.2 Safety on Deck.

2.3 APPROVALS

The boat meets the EU requirements for recreational crafts (Directive 94/25/EC of the European Parliament and of the Council). The boat has been certified by the International Marine Certificate Institute for stability and flotation as an external and impartial actor. This is shown in the declaration of conformity for stability and flotation.

2.3.1 BUILDER'S PLATE

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

The manufacturer's plate gives the following information:

BOAT TYPE	Boat model
DESIGN CATEGORY	Boat class. See additional information in the chapter Principal boat data.
MAX. NO	Maximum number of persons on board
MAX. LOAD	Buoyancy. Total weight of persons including personal luggage (excluding tank contents).

A comprehensive explanation of the information given on the plate is presented in each chapter respectively in this manual. (Load and max. engine power, chapter 2.2)

2.4 MANUFACTURER'S CONTACTS

2.4.1 MANUFACTURER

Sargo Oy Ab

Isokarintie 4

67900 KOKKOLA, FINLAND

FINLAND

info@sargoboats.fi

www.sargoboats.fi

2.5 WARRANTY

The boat and the equipment installed in it by the boatyard are given a 2-year warranty according to the enclosed terms of guarantee. The following equipment are covered with a separate warranty by the manufacturers themselves:

- Engine and drive unit
- Stove, refrigerator and heater
- Navigation instruments

The separate certificates of warranty for these devices and the manufacturer's addresses are enclosed. In other warranty related issues, you are advised to contact your dealer or the factory.

2.6 REGISTRATION

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

2.7 INSURANCE

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

3 BEFORE DEPARTURE

Please read this Owner's Manual before your first journey. Always, before going out to sea, check at least the following things:

Prevailing weather and weather forecast

Consider the wind, visibility and the roughness of the waves. Are the size of your boat, its equipment and your skills adequate for the waters where you intend to go? In strong wind and heavy seas the hatches must be closed to ensure that water cannot fill the boat.

Loading

Do not overload your boat; instead, distribute the load in the correct way. Do not put heavy items high up as this will make the boat less stable.

Passengers

Make sure that there is an appropriate life jacket for each person on board. Before you leave, agree upon the tasks of the crew during the voyage.

Fuel

Check that you have got enough fuel on board; also keep an adequate amount of reserve fuel in case of bad weather etc.

Engine and equipment

Check the operation and condition of the steering and electrical equipment and the battery and make the daily checks according to the engine manual. Check the seaworthiness of your boat; there must be no fuel or water leakages, etc. Make sure that all necessary safety equipment is on board. Check also the bilge water level.

Fastening of cargo

Check that all items of cargo are stowed in such a manner that it cannot get loose even in rough seas and high winds.

Charts

Unless you are thoroughly familiar with the route, check that you have the charts covering the route, and a wide enough area around it, on board.

Departure maneuvers

Plan the necessary tasks with the crew. For example, who will untie the mooring ropes and so on. Check that no ropes get tangled with the propeller during departure or arrival.

You will find additional instructions regarding the engine in a separate manual.

3.1 TRAINING

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

WARNING !

Because your SARGO is a fast boat, careless handling may cause sudden motions that put the crew at risk or may cause somebody to fall overboard.

Carelessness may lead to collisions and cause substantial damage. Slow down in narrow passages, follow the international rules for avoiding collisions at sea (COLREG) and keep a look out constantly.

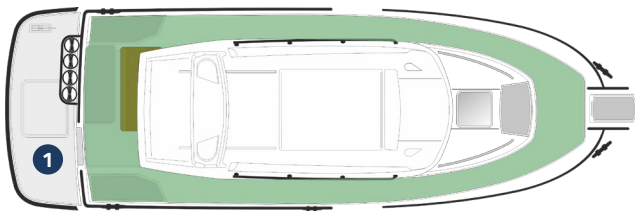
3.2 SAFETY ON DECK

3.2.1 PREVENTING FALLING OVERBOARD AND HOW TO GET BACK ON BOARD

The boat's working decks are areas where people can move about when the boat is being manoeuvred. These decks are shown in green in the picture. Do not sit, stand or spend time on other parts of the boat while the boat is under way. Do not sit, stand or move around in other parts of the boats while the boat is moving.

Before setting off, make sure that the aft and side gates are closed securely. If a person has fallen into the water, the easiest way to get back on board is to use the swim ladder (1) at the stern. The ladder can be pulled down also from the water.

For safety reasons, remaining on the fore deck is not allowed in speeds exceeding 30 knots.



DANGER!

A rotating propeller is life-threatening to a swimmer or a person who has fallen overboard. Turn off the engine when someone is climbing on board.

WARNING !

Never go onto the roof of the boat. The roof is not designed to carry a person's weight.

3.2.2 SECURING LOOSE EQUIPMENT

Secure all heavy equipment (for example, anchors) before getting underway. Pay attention also to lightweight items because they can be easily swept away by the wind. Keep all hatches closed when underway. Do not let loose equipment block the drain holes.

4 STABILITY AND BUOYANCY

4.1 STABILITY

The stability of your Sargo boat is excellent due to its hull design and weight distribution. However, do not forget that high breaking waves always represent a serious danger to stability. Also note that the stability of your boat will be compromised if any weight is placed in a high position.

Any changes in the positioning of different weights in the boat can have a significant impact on the stability, trim and performance of your boat. If you are planning such changes, please contact the boat manufacturer. The amount of bilge water should be kept at a minimum because freely moving water in a boat always impairs its stability. Also note that stability may be diminished when towing or being towed.

4.2 SELF-DRAINING SYSTEM

The boat is equipped with self-bailing systems that allow water to drain through the drain holes in the side deck and the rear part of the engine hatch. You can find the position of these drain holes is given in the picture in chapter 4.3.

In addition to rainwater, the drain holes are intended to drain water ending up on the deck through splashing or from breaking waves. The drain holes must be open at all times and the holes regularly cleaned of any accumulated debris to

prevent clogging.

The system is built so as it drains the water from the deck in normal use. Do not close the taps when using the boat or even when the boat is moored to the dock.

CAUTION !

The self-draining open space is meant to deal with the removal of such water that ends up on the deck from rain, splashing or breaking waves. However, some rain water and water condensation may end up in the bilge.

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

WARNING !

Do not close or block the drain holes when using the boat.

4.3 BILGE PUMPS

The boat is equipped with two bilge pumps. In the engine room there is one electric and one hand-operated bilge pump.

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

The electric bilge pump (3) in the engine room is positioned in front of the engine.

The electric bilge pump are equipped with a float which triggers it automatically if there is water in the bilge space. The electric pump are directly connected to the batteries, which allows the pump to work even if the power is switched off in the boat. The pump can also be used manually via the switches on the switchboard of the steering console.

The switches of the bilge pump are equipped with an indicator light that notifies the captain if any water has accumulated in the bilge, activating the bilge pump. The light is connected directly to the bilge pump, which ensures that it comes on when the pump switches itself on.

The manual bilge pump (3) are meant to be used when the electric bilge pump are out of use. To operate the manual pump, follow these steps:

1. Pull outwards from the grey part of the pump until the pump opens.
2. Lift the grey part to pull the handle to its full length.
3. Start pumping by making a to-and-from motion with the handle.
4. Regularly check all bilge pump inlet and remove any debris from there.

CAUTION !

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

CAUTION !

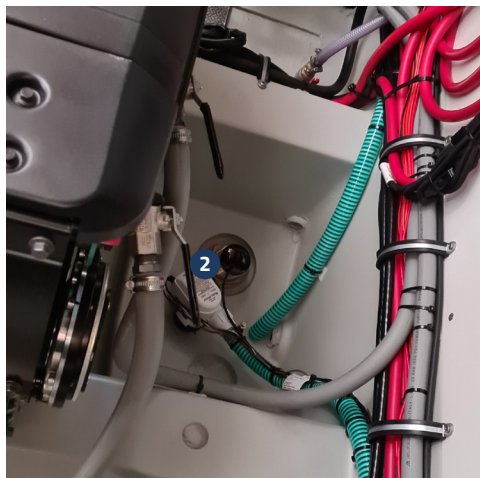
Check the amount of bilge water every time before using the boat. It is recommended to have at least one bucket or bailer on board

WARNING !

The combined capacity of the bilge pump system is not designed to empty the boat in the event of hull damage. The pumps are constantly activated and empty water from the boat when required. The pumps can also be started manually from the steering console panel.

1. Side deck's draining holes
2. Engine room's electric bilge pump
3. Engine room's manual bilge pump
4. Switches of the bilge pump





4.4 HATCHES AND SEACOCKS

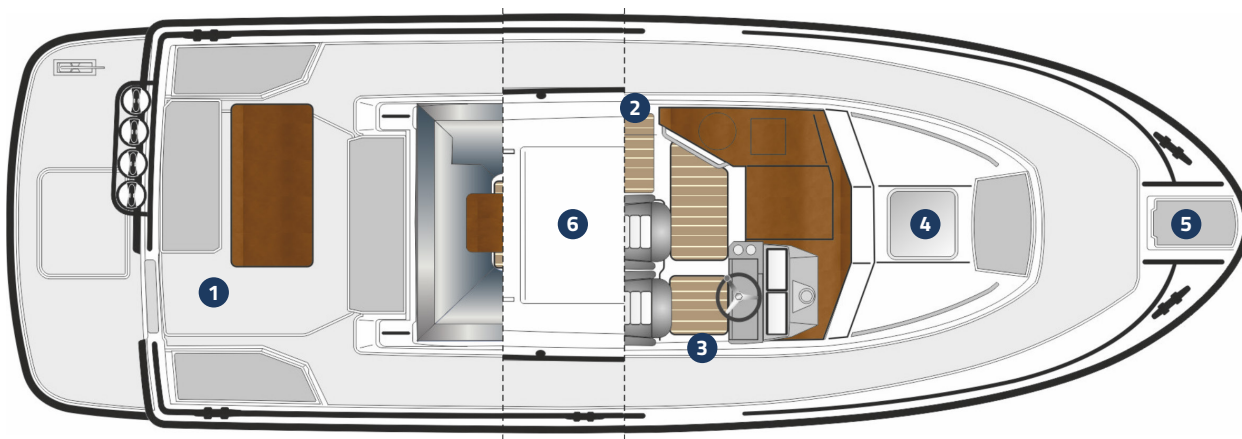
There are several inlets through the hull that include seacocks for opening and closing them. It is recommended to keep these closed if the boat is out of use for a long time, and to open them again when the boat is used again.

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

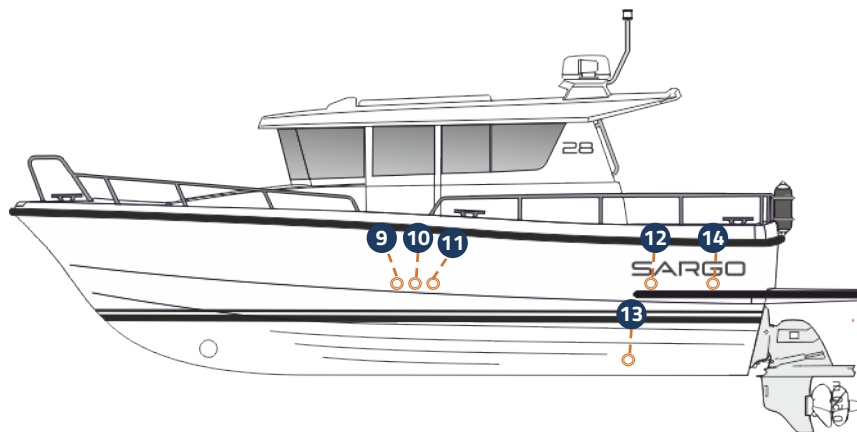
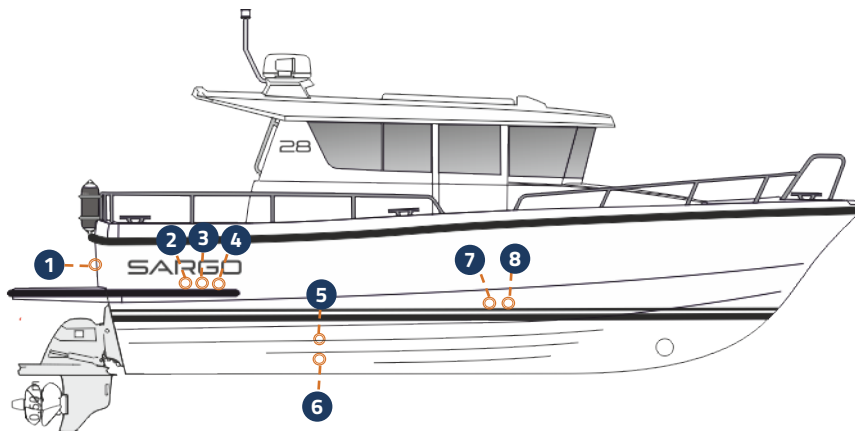
In certain conditions and speeds it is possible that watermist can get inside through canopies, hatches or other open-

ings, due to negative pressure or other effects. This can be prevented by closing the canopies, hatches or other openings.

1. Engine hatch
2. Port side door
3. STB side door
4. Deck hatch
5. Fore anchor compartment hatch
6. Roof hatch



1. Heater exhaust
2. Septic tank ventilation
3. Engine room electrical bilge pump draining
4. Aft deck draining
5. Septic tank seawater outlet
6. Toilet seat inlet
7. Shower floor draining
8. Front-cabin Toilet sink draining
9. Stove exhaust
10. Pentry sink draining
11. Fresh water tank ventilation
12. Side deck draining
13. Deck shower inlet (additional equipment)
14. Engine room manual bilge pump draining



5 BOAT HANDLING

In the following chapter you can find instructions for using, mooring and towing your boat.

5.1 NAVIGATION

Learn and obey the rules of navigation on waterways, and also familiarize yourself with the rules known as COLREGs (International Regulations for Preventing Collisions at Sea) that you must follow at all times. Navigate carefully and use new or updated charts.

According to the rules, every vessel must maintain a proper look-out and obey the giveaway provisions at all times. Always adjust your speed to the conditions and to the environment.

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

5.2 DRIVING

Do not use the boat if the engine power is greater than the allowed engine power on the CE- sign. Driving in fine weather and a calm sea is easy, provided you ensure for sufficient look

out. Ensure that the visibility from the helmsman's position is as good as possible:

- Position the passengers so that the field of vision is not restricted
- Use the wipers if necessary.
- Adjust your speed according to visibility.
- Keep a look out also astern, particularly in ship fairways.
- Use the navigation lights after dark and in restricted visibility (fog etc.)

Take the following into account:

- Roughness of the sea (ask also the passengers for their opinion about a comfortable speed)
- Visibility (Islands fog, rain, driving, counter sun)
- Your own stern wave (greatest when beginning to plane; smallest at displacement speed, i.e. under 6 knots)
- Knowledge of the route (the time needed for navigation tasks)
- The narrowness of the route (other seafarers, noise and stern wave)
- Room needed for stopping or giving way.

The running trim affects both the handling characteristics and the fuel consumption of the boat substantially. You can adjust

the running trim by:

- Positioning of the load
- Adjusting the trim tabs

A proper running trim combined with the proper speed will ensure a safe and comfortable ride even in rougher seas.

WARNING !

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

WARNING !

High speed in combination with sudden movement of the helm may cause loss of control and substantial heel in big waves.

WARNING !

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

CAUTION !

The directional stability of a planning craft is reduced when operating at low speed. Be careful in narrow channels and when encountering other boats.

DANGER!

A rotating propeller is life-threatening to a swimmer or a person who has fallen overboard. Turn off the engine when someone is climbing on board.

5.3 ROOF HATCH

WARNING !

When you want to keep the hatch open while running, always secure the hatch in the open position with the hatch stopper. A hatch which closes accidentally due to a sudden motion can cause injury. Lock also the other hatches and doors in their closed or opened positions.

5.4 ADJUSTING THE TRIM TABS

Your boat is equipped with two separate trim systems: adjustment of the engine's vertical angle (PTA) and automatic trim tabs. As a rule, trim systems work automatically.

For more information about using trim tabs, read the relevant manual. Read also the engine manufacturer's instructions on adjusting the vertical angle.

5.5 VISIBILITY FROM THE MAIN HELM

The driver's visibility from the main driver's console can decrease due to high trim angle and one or more of the following reasons:

- Engine's trim angle
- Hull's trim line

CAUTION !

Trim tabs do not work at speeds below 10 knots.

WARNING !

Adjust trim tabs carefully at high speeds – they change the boat's behaviour radically. Do not drive with the bow too low as this may cause the boat to turn unexpectedly.

- Load and distribution of load
- Speed
- Fast acceleration
- Transition from displacement speed to planning speed
- Conditions at sea
- Rain and water splashes
- Darkness and fog
- Interior lights
- Position of curtains and covers
- Personal and unfixed equipment in driver's field of vision

Always make sure that the visibility from the helm is as good as possible by taking the following into account:

- Passengers should sit so that they do not interfere with the driver's visibility
- Do not drive continuously on the edge of planing speed, where visibility is limited due to the raised bow
- During poor visibility, use the windscreen wipers when necessary
- During poor visibility, observe the surroundings through the side door
- Always adjust your speed to the circumstances and your surroundings
- Position boat equipment, and especially curtains, in such a way that they do not obstruct the captain's vision.

Study carefully the International Regulations for Preventing Collisions at Sea (COLREG) and obey them. These regulations and rules on courses and headings require appropriate lookout and the observation of right of way at all times. It is imperative that these rules are followed.

5.6 MOORING AND ANCHORING

Because weather conditions can change quickly, you should always moor your boat carefully even in a sheltered place. The mooring ropes should be equipped with springs to soften sharp tugs. For the location of fastening points, see next figure.

Do not use other components than bollards for fastening, towing or anchoring. Use sufficiently large fenders to protect the boat from chafing.

The captain of the boat is responsible for ensuring that the mooring, towing and anchoring lines, as well as the anchors and anchor chains are appropriate for the intended use of the boat. The tensile strength of the lines and chains can not exceed 80% of that of the corresponding fastening points. However, through wear and tear the lines is weakening and this must be taken into account.

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

When mooring your boat, bear in mind possible changes in wind-direction, the rise and fall of water levels, tides, wakes, etc. Additional instructions can be obtained for example from your insurance company. When towing another boat or being towed, always drive slowly and use a floating tow line that is sufficiently strong.

5.6.1 RECOMMENDATIONS AND REQUIREMENTS

The tensile strength of the lines or chains should normally not exceed the tensile strength of the fastening point in question. Always attach the tow line so that it can be detached under load.

It is the owner's/captain's responsibility to make sure that there are enough lines and they meet their requirements:

- The strength rating for the front cleat in towing and anchoring is 34 kN.
- For mooring purposes, the forward force rating for the front and centre cleats is 28 kN,
- Rearward force rating for the aft cleat is 24 kN.

For this reason we recommend that:

- Polyamidi and nailon ropes 16 mm
- Polyester ropes 14 mm
- Main anchor 15 kg, High holding anchor; Bruce, Delta, etc. Stock anchor or drag
- Anchor chain 8 mm Length 3-5 m

The chain must be the correct type for the windlass. Always follow the boat manufacturer's recommendations!

WARNING !

Do not try to stop the boat by hand and do not place your hand or foot between the boat and the quay, the shore or another boat. Practice landing manoeuvres when conditions are good and use engine power sparingly but purposefully.

CAUTION !

When mooring, take into consideration possible changes in wind direction, variation of the water level, wash from other boats, etc. For additional information, contact your insurance company. Never leave the boat unattended for long periods of time.

5.7 TOWING

When towing another boat, use a sufficiently strong floating towing line. Start the towing carefully, avoid sharp tugs and do not overload the engine. Be careful to avoid the towing cable getting caught in the propeller. If the boat is a displacement craft never exceed hull speed when towing.

When towing a small dinghy, adjust the length of the towing cable so that the dinghy is travelling behind your stern wake. In narrow passages and rough seas keep the dinghy close to the transom to prevent it wandering. Fasten all equipment well in case the dinghy should capsize. When in open sea, cover the dinghy to avoid water spray filling it up.

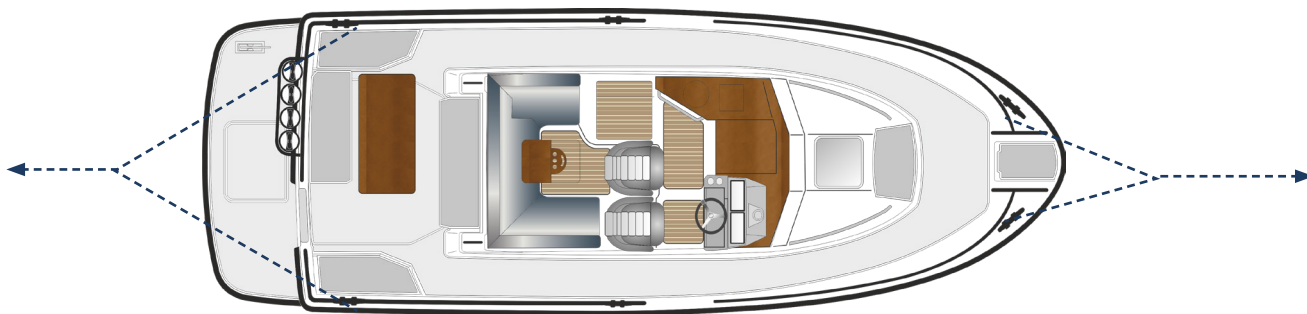
When towing or being towed, fasten the towing hawser according to the figure below. Note that the stability of the boat decreases if you use the boom for towing or lifting heavy items. The mooring rope must be fastened so that there is plenty of slack to make it easy to untie the boat even when carrying a heavy load.

CAUTION !

The tensile strength of the lines or chains should not exceed the strength of the fastening point in question. The hawser must always be tied so that there is plenty of slack to make it easy to untie the boat even when carrying a heavy load. When towing or being towed, always go slowly.

WARNING !

The tension in the towing hawser is substantial. If it breaks, it may fly towards you with dangerous speed. Always use a sufficiently thick rope and keep away from its line of travel.



6 BOAT EQUIPMENT AND SYSTEMS

Before using your new boat, we urge you to get to know its equipment and systems by carefully following the instructions in this manual.

6.1 STEERING CONSOLE CONTROLS

You will quickly learn how to control your SARGO boat, but the ever changing weather conditions will always bring new challenges to the captain.

Along with the helm, the throttle is the most important control on your boat. The lever combines the throttle and gears. The position of the handling devices may vary boat-specifically. More detailed information can be found in the engine manual (enclosed).

1. Top part switch panel
2. Radio and multimedia player*
3. Engine display**
4. Compass
5. Chartplotter*
6. VHF radio*
7. Console side controls
8. Search light control unit
9. Trim system control unit
10. Steering console switches
11. Bow thruster control unit
12. Chartplotter remote control
13. Engine control unit**
14. Engine EVC panel**
15. Engine remote control**
16. Defroster temperature control
17. Fuse panel
18. Engine room extinguisher indicator

* Additional equipment

** Depending on the model and number of engines



6.1.1 TOP PART SWITCH PANEL

The position of the switches may vary boat-specifically.

1. Map light
2. Cabin light
3. Aft Deck light
4. Curtain cover lights
5. Fresh water pump
6. Macerator
7. Navigation equipment
8. Engine room bilge pump
9. Remote Mainpower switch

Temperaturemeter uses 2x LR-44 batteries



6.1.2 CONSOLE SIDE CONTROLS

1. Heater control unit
2. Septic tank gauge



6.1.3 STEERING CONSOLE SWITCHES

The position of the switches may vary boat-specifically.

1. Windscreen wipers control switches
 - See chapter 6.1.4
2. Anchor and navigation light switch
 - Function of switch:
 - Position 1. Anchor lights
 - Position 2. Navigation lights
3. Signalhorn
4. Defroster
5. Light panel operating switch



6.1.4 WIPERS CONTROLS

The wipers are equipped with a multi-function switch. The switch functions in the following way:

1. With one push, the wiper goes into the interval mode where it pauses between wipes.
2. One more push makes it move slowly. Another push makes it move quickly.
3. You get back to the beginning by pushing the switch one more time.
4. The windscreen washer is turned on by pushing the switch and keeping it pressed down for one second.
5. The wiper is turned off by pushing the front part of the switch.

The wiper always returns to the initial position automatically.

Read more information of other functions from owner's manual.

6.2 ELECTRICAL SYSTEMS

6.2.1 12 V SYSTEM

Your craft is equipped with a 12V electrical direct current (DC) system. The system consists of engine chargers (alternators), batteries and equipment. The power supply travels from charger or alternator via diodes to the batteries. The majority of the boat's equipment uses the 12V system. The 12V equipment only works when the remote control main is switched

CAUTION !

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

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



on. Damaged equipment must be serviced before taken back to use. You can find the boat's wiring diagram in the owner's bag. The remote-control main switch (1) is located in the upper panel above steering console.

WARNING !

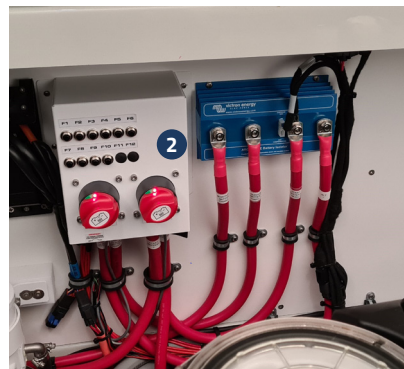
- Never switch off the main switch when the engine is running because this may cause damage to the alternator.
- Never perform any work on the electrical circuits when they are connected.
- Never alter the electrical system of the boat or any related diagrams; all changes and maintenance must be taken care of by a qualified professional technician specialised in marine electrical systems.
- Never alter or modify the rated current amperage of the over-current protective devices.
- Never reset or replace electrical appliances with components exceeding the rated current amperage of the circuit.
- Never leave the boat unattended with the electrical system switched on except the automatic bilge pump, fire protection and alarm circuits.

6.2.2 MAIN SWITCHES

With the main switches you control the boat's various 12V electric circuits. These switches allow the batteries to be disconnected from all devices that consume electricity. When the main switches are in the ON position, the current is conducted to the distribution board and from there to different parts of the boat.

The main switches (2) are located on the front wall of the engine room. All the boat's main switches can be turned on or off at the same time from the remote-controlled main switch (1) (see picture in chapter 6.2.1) in the panel above the steering console.

When the power circuit is switched ON the background color



is green and when it is switched OFF there is no indication light.

Power supply to the engines can also be manually enabled by turning the switch START into ON position. The power supply to the boat's devices can also be enabled manually by turning the switch SERVICE into ON position. Power supply to the bow thruster and anchor windlasses can also be enabled manually by turning the switch BOW THRUSTER to ON position.

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

WARNING !

Before connecting an electric circuit make sure that the circuit is not damaged and that there will be no short circuit or a fire caused by possible defects in the circuit. Any damaged equipment must be serviced or replaced before being put back in use.

CAUTION !

Use the EXTRA circuit when installing optional equipment to the boat. Connect the device to both the power supply and the negative cable.

heater and bilge pump still operates.

6.2.3 FUSES

The boat has fuses in four different locations. The fuses for everyday control units are located in the helmsman's footwell, the fuses for the steering console equipment are behind the console, the fuses for some of the navigation devices are above the steering console behind the panel and the fuses for the electrical system components are in the engine room. You can access the fuses behind the steering console by removing/opening the mirror in the front cabin toilet. And behind the panels above the steering console by opening the screws on the edges of the panels. The locations of individual fuses can be found in the wiring diagram.

Sargo boats utilise trip switches that spring up to the "off" position when an overload occurs and that can be switched back on after the overload by pressing the button that has sprung up back down again.

The electrical system has additional electric circuits equipped with a fuse, and retrofitted optional extras can be connected to these.

The conductors for the electric circuit can be found on the switch panel. Do not change fuses for higher currents and do not install components in the electrical system which cause the electronic circuit's nominal amperage to be exceeded.

DANGER!

We do not recommend to open the cover on the fuses as there is danger for electric shock and serious injury.

6.2.4 HEAVY DUTY FUSES

In various parts of the boat there are fuses intended for equipment and electronic circuits that require large currents, such as windlasses. The functioning of the fuses can be checked from the holes in the fuse covers. If the metal strip visible in the hole is unbroken, the fuse is operational. The location of the fuses can be found in the boat's electrical wiring diagram.

If the metal strip is damaged, meaning that an overload has occurred, contact a qualified nautical electrician. Opening the cover is not recommended, as there is a danger of electric shock and serious injury. If it is necessary to open the cover, make sure that all the current cables from the batteries are disconnected.

6.2.5 BATTERIES

Your boat is equipped with three batteries, of which the START battery supply current to the engine and power steering, SERVICE battery to the other appliances and equipment on the craft and BOW THRUSTER battery to the bow thruster. The batteries placement can be found in the electrical wire diagram.

CHARGING THE BATTERIES

Make sure that the battery compartment is always well ventilated when charging batteries. Only charge batteries in the boat with the boat's own chargers. In other cases, remove the batteries from the boat for charging. Do not forget that the batteries discharge an explosive gas at a voltage of 14.4 volts. The voltage of a normal battery in unloaded status is 12.3-12.7 V. During charging, the voltage increases gradually and the charging regulator stops the charging process automatically at a preset level. There is a voltmeter above the boat's steering console which shows the battery level.

WINTER STORAGE

During winter storage keep the boat connected to shore power (if a shore power system* is installed in the boat) and the batteries are charged with a shore power charger. If a connection is not possible during winter storage, the batteries' minus (-) terminal must be disconnected.

When removing batteries, disconnect the negative pole first and make sure that there are no flammable or explosive materials or liquids nearby. When putting the batteries back in place, connect them in reverse order (positive pole first).

6.2.6 230 V SYSTEM*

You can choose to equip the boat with an AC shore power system which obtains its power from an external supply on shore or dock (shore power).

This system utilises a voltage of 230 V and therefore ordinary mains current devices can be plugged into the boat's sockets. Devices that use shore power can be used when the shore power cable has been connected to the shore power socket (4) which is located in the starboard side in the stern.

The main fuses for shore power are located in the engine room.

If one chooses to have the 230-v system the charger for the engine's batteries is located in the engine room and the charger starts to charge batteries automatic when the AC shore power is connected.

The system functions when one end of the shore power cable is connected to a shore power socket, located in the aft corner of the boat's STB side, and the other to a separate power supply. For more information, read the manual for the system.

Connect the shore power cable to the craft before connecting it to shore power. Disconnect the shore power cable from shore power before disconnecting from the craft. After use, close the hatch of the boat's shore power connection.

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

WARNING !

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

Components of the shore power system

The number and position of the components may vary according to the boat's equipment level.

8. Fuse panel

- A. Water heater* / battery chargers fuse
- B. Front cabin and WC socket fuse
- C. EXTRA
- D. Battery chargers socket
- E. Battery charger

9. Shore power cable plug



WARNING !

To avoid electric shock and fire risk:

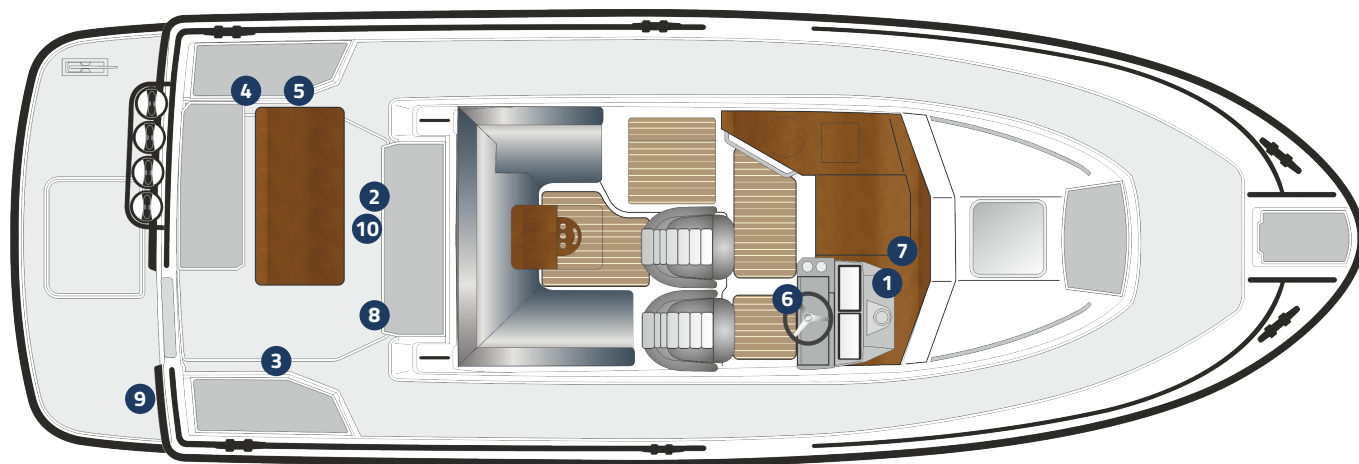
- Switch off the shore power switch before connecting and disconnecting the cable.
- Connect the shore power cable first to the boat and only then to the electrical network
- Disconnect the shore power cable first from the electrical network and only then from the boat
- Close the cover of the shore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

6.3 ELECTRICAL SYSTEM DIAGRAM

1. Remote controlled main switch
2. Engine room fuses
3. Engine battery
4. Service battery
5. Bow thruster battery

6. Steering console fuses
7. Fuses above the steering console
8. Shore power system components
9. Shore power cable plug
10. Battery charger for service batteries

Placement of the different components is only approximant placement. Correct placement can be seen in the Electrical Wire Diagram. This you can find in the SARGO-bag that comes with the boat.



6.4 FUEL SYSTEM

6.4.1 REFUELLING

Before you begin to refuel shut off the engines, the stove and the heater and, of course, extinguish cigarettes. Do not operate switches or other devices that may generate sparks while refuelling.

The fuel filling cap (DIESEL) is located on the STB side of the aft deck under the storage bay. When refilling at a filling station, do not use a plastic funnel, which prevents the discharge of static electricity between the refilling pistol and the filloopening.

After refilling (see technical details for the volume of the fuel tank), check that no fuel has leaked into the bilge or the engine space , and if it has, clean it up immediately.

6.4.2 SYSTEM COMPONENTS

The engine's fuel system is equipped with fuel cocks. When using the engine, always check that the cocks are open. The fuel cocks (1) are located behind the front bulkhead of the mid- cabin.

The boat has a fixed fuel system. The fuel tank (2) is located under the berths of the mid-cabin. In the forward part of the engine room there are separate fuel filter

(4), which have separate water extractor in the aft corner.

Protect the fuel hoses from damage.

Get acquainted with the care and maintenance instructions for the engine's fuel system in the engine manual.

Do not forget that fuel must not be stored in spaces that are not designed for it. Because this boat has no ventilated storage space, any spare canisters must be kept on deck.

6.4.3 FUEL POWERED DEVICES AND VENTILATION

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

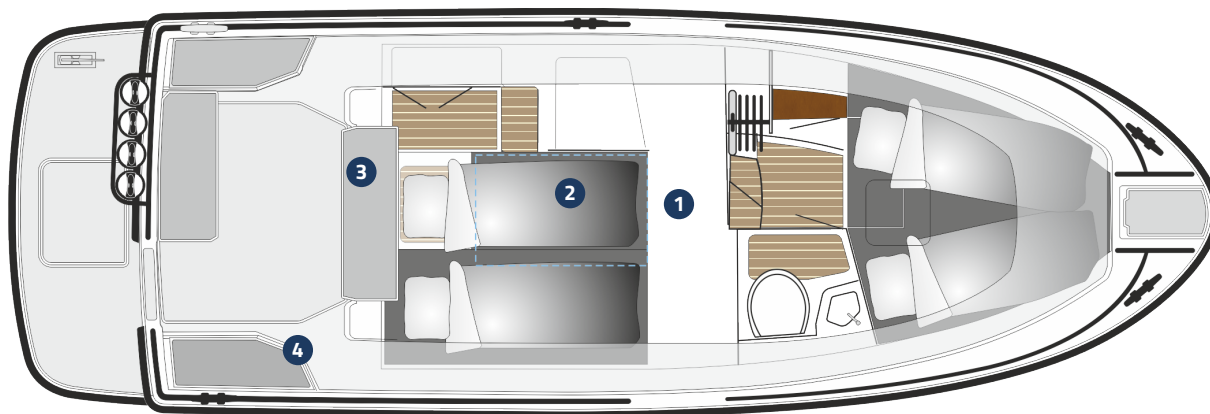
1. The boat's engine is running idle.
2. Exhaust gas systems are blocked.
3. When driving at a high trim angle.
4. Hatches and covers are closed when the engine is running or other fuel-powered devices are in use.

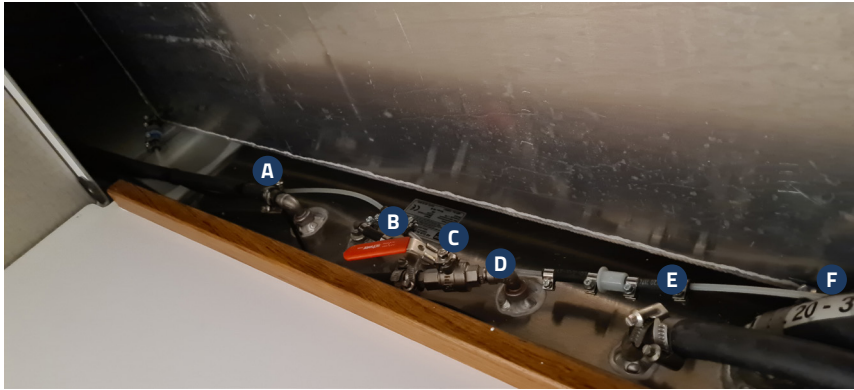
When the boat's engine is running idle, always make sure that the cabin is sufficiently ventilated and keep ventilation ducts open. Never block ventilation ducts.

WARNING !

- Never leave the boat unattended when the stove or heater is on.
- Fuel-powered devices with an open flame consume oxygen and release combustion gases into the cabin. When using such devices, make sure that the cabin is sufficiently well ventilated and keep ventilation ducts open. Never block ventilation ducts. Check regularly that the devices function as they should.
- Never block or cover the heater's exhaust pipe. See section Hatches and Seacocks for more information.

1. Fuel valves
 - A. Engine return
 - B. Diesel stove
 - C. Engine input
 - D. Heater input
 - E. Fuel Aeration
 - F. Fuel input
2. Fuel tank
3. Fuel filters
4. Inlet fitting





6.5 WATER SYSTEM

The standard equipped boat has a pressurised water system. The fresh water system consists of a fresh water tank (1), pump (4) and a water supply point for the galley and toilet. (see chapter 6.4.2)

The tank is located in the technical space in front of the mid-cabin. The fresh water pump is positioned right above the tank.

The fresh water tank is filled via the deck fitting that is located on the side deck on the boat's port side. The fitting is marked with the text "Water". The fresh water pump must be switched on when using the system. The gauge of the system is positioned next to the galley sink to the right. The pump switch (Pentry pump) (5) is positioned on the top side of the steering console. Do not forget to check the pump filter regularly. The pictures of the water system on the next page are only indicative.

CAUTION !

The water tank are made of aluminium. If you use chemicals cleaning this, kindly make sure they are suitable for tanks made of aluminium.

6.5.1 WATER HEATER*

A hotwater system can be installed as extra equipment. The boat's water heater (3) will then heat up service water either with the engine or shore power. The water heater will be located in the engine room on Port side.

When heated by the engine, the hot-water tank is heated by the engine's cooling water, which circulates in a closed system between the engine and the hot-water tank. This circulation is turned on by opening the taps on the forward edge of the Port-side engine.

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

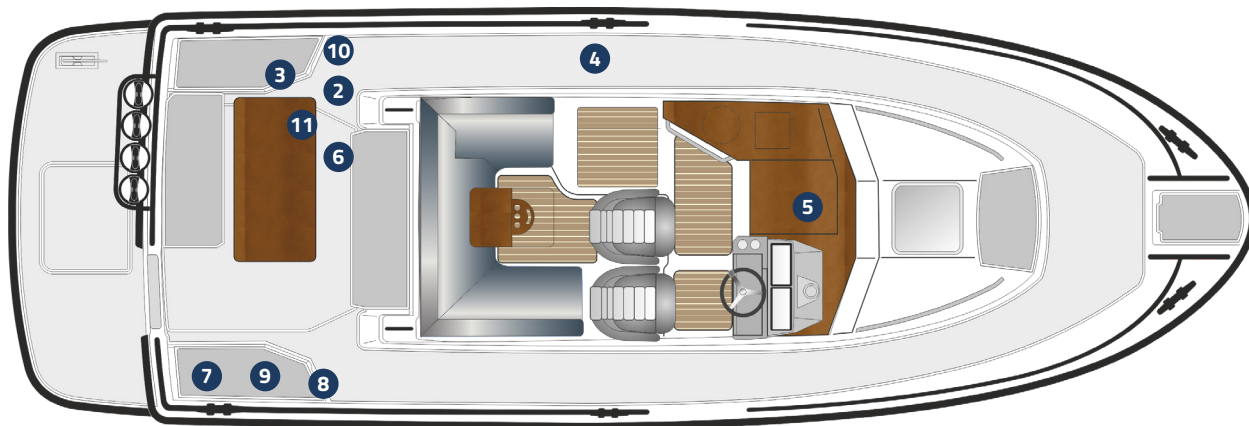
The water heater must be emptied before winter storage. Empty the water heater by opening the tank's drain cock and switching on the fresh water pump. Emptying can be facilitated by blowing compressed air into the tank.

6.5.2 DECK WASHING SYSTEM*

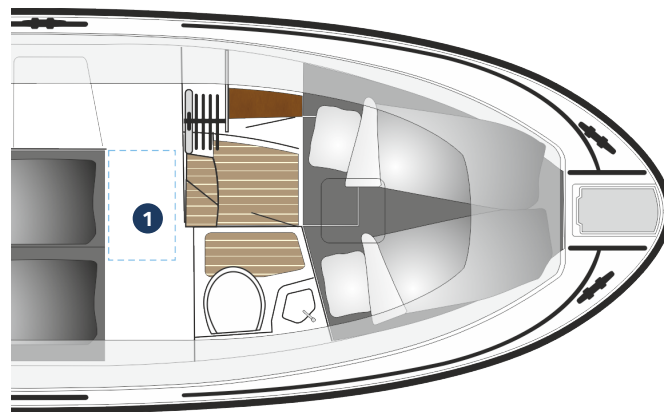
You can choose to equip your boat with a deck washing system that uses sea water. The operating switch for the system is located in the top panel of the steering console. Before use, the sea water circulation cock (11) in the forward part of the engine room must be opened. Do not forget to close it after use.

The washing hose (9) for the system is located in the STB-side compartment on the aft deck. The hose can be used by connecting it to the water intake stem (8) on the outside bulkhead of the compartment. There is also a deck shower (7) that works with fresh water inside the same compartment. Do not forget to empty the deck washing system before winter storage.





1. Fresh water tank
2. Fresh water pump
3. Water heater*
4. Fresh water inlet fitting
5. Fresh- and seawater pump switches
6. Hot water circulation valves
7. Deck shower (additional equipment)
8. Deck washing intake cock (additional equipment)
9. Deck washing hose (additional equipment)
10. Seawater pump for deck washing (additional equipment)
11. Sea water inlet sea-cock (additional equipment)



6.6 SEPTIC SYSTEM

The boat is equipped with a collection system for septic waste. This system includes a toilet bowl, septic tank and macerator. The components of the septic system are positioned in the front part of the engine room. The septic tank gauge is located on the steering console and shows how full the tank is.

The septic tank can be emptied by suction into a permanent septic tank ashore via the outlet pipe (1, see picture "Septic system diagram" chapter 6.6.2), which is marked with the text "Waste". Press the suction hose tight against the pipe fitting for the duration of suction to avoid any septic waste spilling onto the deck. Make sure that no septic waste spills onto the water inlet pipe and prevent the suction hose from even touching the water inlet pipe. The septic tank's seacock (3, chapter 6.6.2) must be closed during suction.

The contents of the septic tank can be emptied straight into the sea with the septic macerator (4). The macerator crushes the contents to be emptied into the sea from the septic tank. When emptying the contents of the septic tank into the sea, open the seacock (3) and switch on the pump from the steering console. The pump switch (7) is marked with the text "Septic pump". Do not forget to close the seacock after emptying the septic tank.

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



6.6.1 TOILET

The boat is equipped with one manual toilet. It uses seawater for flushing and the water intake valve (5) must be opened when using the flush function. The valve is positioned in the Engine room (5). The valve must be closed if you leave the boat for a longer time.

The contents of the toilet empty out into the septic tank.

6.6.2 SHOWER PUMP*

The boat may be, as optional, be equipped with a shower. The shower floor is then equipped with an automatic drainage pump. The pump comes on automatically when there is water on the shower floor. The pump drains the water from the boat's shower into the sea because the shower is below the water-line. The pump is located behind the service hatch in the front of the mid-cabin.

The pump must be regularly cleared of any debris and hair accumulated there. The shower pump must be emptied of water before winter storage.

CAUTION !

The macerator should never be runned dry.

1. System suction fitting
2. Septic tank
3. Sea water drainage out
4. Macerator
5. Sea water inlet
6. Septic tank gauge
7. Septic macerator switch
8. Front cabin toilet
9. Shower pump

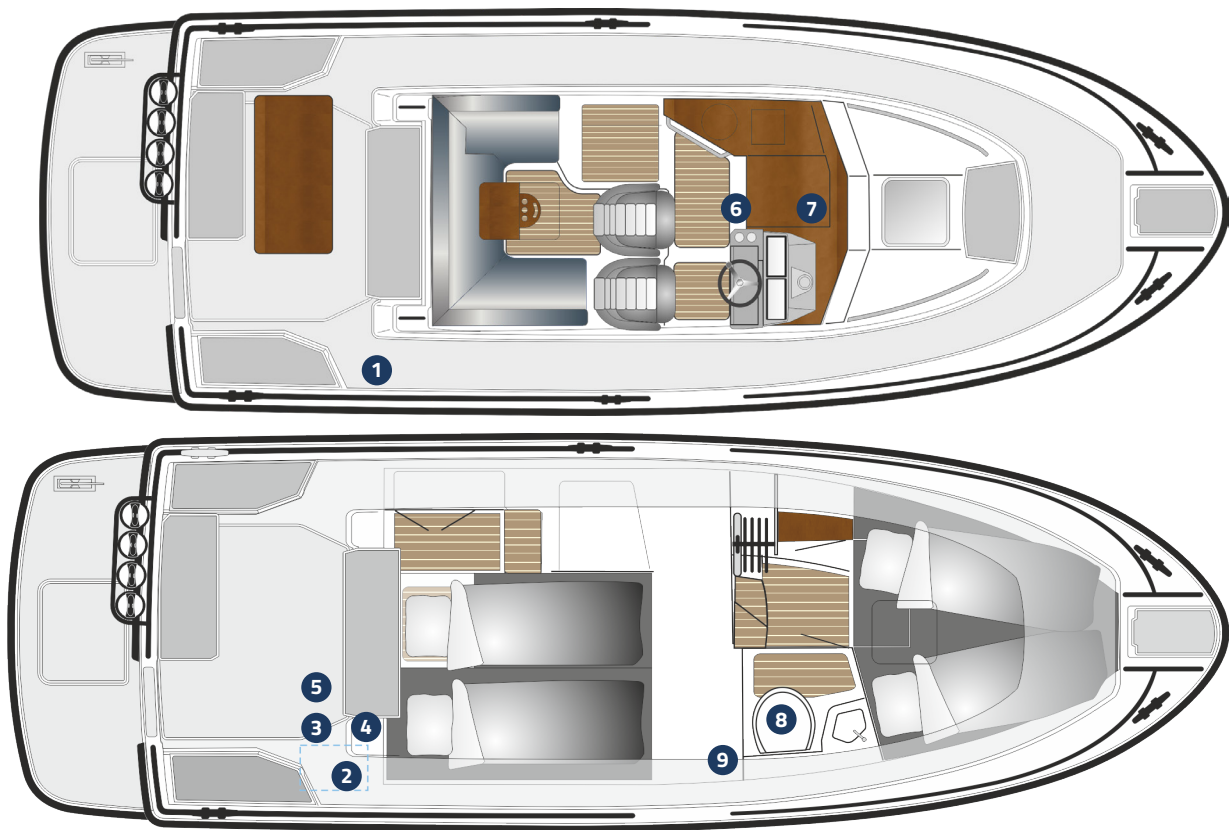
CAUTION !

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

CAUTION !

The septic tank are made of aluminium. If you use chemicals cleaning these, kindly make sure they are suitable for tanks made of aluminium.

SEPTIC SYSTEM DIAGRAM



6.7 HEATING SYSTEM

6.7.1 HEATER*

You can choose to equip your craft with a diesel heater as an optional extra. The heater has nozzles in the front-cabin, the toilet, the lower part of the galley and in the mid-cabin. The heater's operation panel is located on the left side of the steering console.

The heater uses the same fuel tanks as the engine. The heater's exhaust pipe is located on the STB side of the stern. Do not cover the exhaust pipe with anything.

The heater unit is located in the engine room port side. For more information, see the section on Steering Console controls (chapter 6.1.2).

WARNING !

- Appliances that burn fuel consume oxygen and discharge toxic combustion products into the boat. Good ventilation is essential when such an appliance is in use. Make sure that the heater's exhaust pipe is not covered and that nothing is touching it.
- Never leave the boat unattended when a heater or stove is in use.

6.7.2 DEFROSTER

The defroster blows warm air onto the windscreen. It only heats the cockpit and the windscreen when both its circulation valves have been opened and when the engine is running and warm. The valves are located in the forward part of the STB engine.

The defroster's blower unit is located on the front part of the mid-cabin on the STB side of the technical space. The defroster's operating switch is located on the steering console. You switch on the defroster with the help of the operating switch on the steering console. The temperature is regulated by using the temperature-regulator located beneath the engines remote control.

6.8 BOW THRUSTER

The bow thruster is located under the front-cabin berth and can be accessed by opening the panel under the berth. The switch for the bow thruster is located on the control panel. Use the equipment only for short periods at a time, and do not exceed the maximum amount of four periods of use (max. 30 seconds per period of 25 minutes). Incorrect use may cause the bow thruster to overheat and shortcircuit.

The main switch and the 200 Amp fuse is located next to the BOW THRUSTER battery in the engine room. The main switch can be used by the remote control switch next to the cockpit

door.

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

6.9 ANCHOR WINDLASSES*

You can choose to equip your boat with fore and aft anchor windlasses as an optional extra. The remote control switches for the windlasses are located on the steering console. The main switch for the aft windlass (BOW THRUSTER) is located on the front wall of the engine room and the fore windlass switch is next to the bow thruster . The main switches of the windlasses are controlled by the remote controlled main switch next to the cockpit door. The anchor windlasses use either a service battery or the bow thruster's battery and their 200 Amp fuse is located next to the bow thruster or on the front wall of the engine room.

Always, before using an anchor windlass, check that the windlass is in working order and that the anchor chain can move freely. It is also important to check that the anchor and chain cannot damage the craft when lowered. While under way, an anchor windlass must be fixed mechanically to prevent it from releasing. For more information read the manufacturer's manual.

DANGER!

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

WARNING !

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



DANGER!

Always fasten the anchor windlass mechanically in place to prevent it from releasing while the boat is moving. If the anchor windlass releases while the boat is moving, it can cause substantial damage to the boat, its passengers and others.

7 SAFETY

7.1 MINIMISING THE RISK OF FIRE AND EXPLOSION

If there is a fire on your vessel, it usually starts with an explosion. The most common fire sources are the engine and the stove.

Because fire usually spreads very fast, it is very important to act quickly. If possible, the fire should be put out by extinguishing, i.e. by smothering the oxygen, using the fire extinguishers on your boat. Their exact location can be found in the following images. Using water on fuel-based fires does not help.

If the fire starts to get out of control, evacuate the burning craft, because if the fire reaches the fuel containers it may cause an explosion and result in a large area around the boat to burn. Switch the power off when leaving your boat.

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

We recommend that the owner/user of the boat makes sure that a fire blanket is placed on an easy accessible place. Make sure that the fire extinguishing equipment is easily accessible also when the boat is loaded.

Make sure that all the members of the crew are aware of the

location and operation of the fire extinguishing equipment. Keep the bilge clear of fuel and check the fuel system for leaks regularly.

The smell of fuel is a definite sign of leaking fuel. If your boat is equipped with a heater, please refer to the heater manufacturer's instructions for its safe use.

CAUTION !

- Never make changes to your boat's electrical or fuel system, or allow an unqualified person to make changes to any system on the boat
- Never fill the fuel tank or handle fuel while the engine is running
- Never smoke or use an open flame when handling fuel
- Never keep fuel in a space that is not designed for that purpose
- Never leave the boat unattended when a stove or heater is in use.

7.2 FIRE EXTINGUISHER AND SMOKE ALARM

The boat is equipped with a hand extinguisher (5) and an automatic extinguisher (3) in the engine compartment. The hand extinguisher is located in the helmsman's footwell. The automatic extinguisher in the engine compartment activates automatically if it detects a fire there. You can check whether the extinguisher is in working order by looking at the indicator light on the steering console. For more information, read the manual for the extinguisher.

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

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

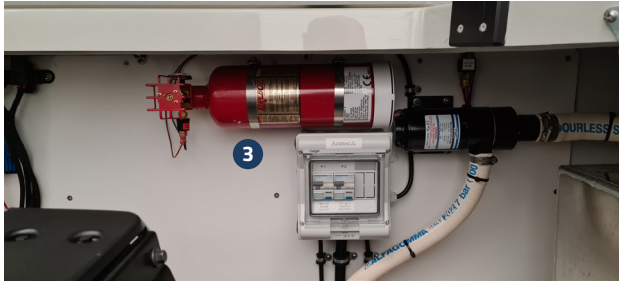
The boat is equipped with a smoke alarm. It needs to be tested and cleaned from dust regularly to secure the smoke alarm is working properly. The position of the smoke alarm is indicated in the following drawing.

7.3 LIFE RAFT STORAGE

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

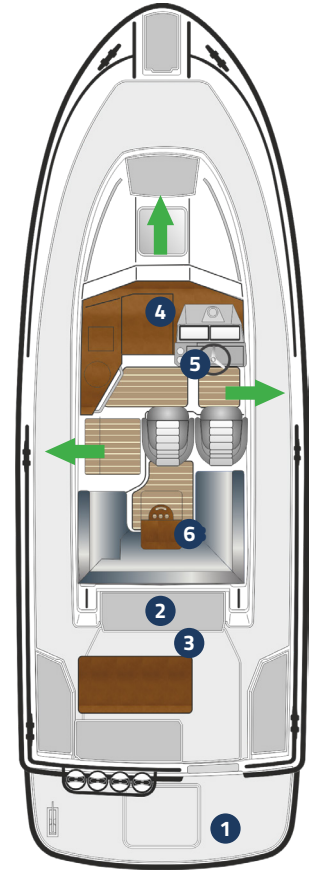
7.3.1 USE OF A LIFE RAFT

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



1. Swim ladder
2. Position of life raft
3. Engine room fire extinguisher
4. Main switches
5. Fire extinguisher
6. Smoke alarm

← Emergency exit



8 BOAT MAINTENANCE

8.1 ENVIRONMENTAL CONSIDERATIONS

European sea areas and lakes are unique and their conservation is a matter of honour for every boat owner. Therefore you should avoid:

- Spilling fuel and oil.
- Emptying trash and waste into the water or on the shore.
- Letting detergents and solvents get into the water.
- Noise both on shore and on the water.
- Producing a large wash in narrow channels and shallow waters.
- Service the engine well and run it at an economical speed so that exhaust pollution remains minimal.

8.2 MAINTENANCE AND WINTER STORAGE

Please acquaint yourself with the service operations presented in the engine manual. Perform service operations carefully yourself or pay an authorised service company to do them. Other equipment that requires regular maintenance include:

- Steering gear and controls
- Trim tabs
- Bilge pump

- Heater* / Defroster
- Stove
- Water heater*
- Refrigerator*
- Water system
- Fire extinguisher

Always perform service operations on these following the instructions in the manuals enclosed.

8.3 EXTENDING YOUR SEASON AND MEASURES BEFORE DOCKING

If it is likely to be cold, you should have the engine heater (additional equipment) switched on or alternatively run glycol into the engine's cooling system as instructed in the manual.

With these measures you can extend your season. Empty also the fresh water system and detach the water pump hoses from the pump. Empty the hot water tank according to the manual. Add glycol to the empty toilet bowl and the septic tank.

Lift up your boat before the sea gets covered in ice. Your boat is not designed for use or docking in ice.

Before leaving your boat on land for the winter, it is usually advisable to perform the following service jobs:

- Change the engine oil.
- Preliminary washing of the hull.
- Empty the bilge of bilge water and remove any unnecessary gear from the boat.

However, you should leave the safety equipment, such as the fire extinguisher.

8.4 WASHING AND CLEANING

Keep your boat clean and tidy. It will increase comfort and safety, as well as the second-hand value of the boat.

Washing and waxing is normally sufficient maintenance for the hull topsides and the deck surfaces. A special boat cleaning detergent is best for the job. Do not use strong solvents as they may damage the gloss of the gelcoat surface. You can use mild polishing compounds to treat chafed spots and remove dirt. We do not recommend silicon-based waxes as they will decrease the adhesion of resin or paint and therefore make the repair of possible damage more difficult.

After lifting your boat out of the water, wash the bottom immediately. Algae and slime will come off much more easily if they are not allowed to dry.

8.5 WINTER STORAGE AND CLEANING

Carry out the winter service on the engine and other equipment following the relevant manuals (manuals can be found in the Sargo bag). If your boat is stored outdoors or in a humid place during the winter, remove textiles and other equipment that may corrode or become mouldy in the damp. Ropes should be washed in fresh water and if they are worn they should be replaced.

Empty the septic tank, water tank and hot water tank and leave the valves of the seacocks half open.

Electrical instruments are also best protected against both oxidation and thieves by removing them and taking them indoors for the winter. Spray the connections of the electrical wiring with a suitable agent that protects them against humidity and corrosion.

Check the condition of the hull and sand down any damage to the laminate to ensure that all moisture will dry out.

Check the condition of the keel and stern drive. Cover the boat in such a way that snow cannot get into the boat or the cockpit. However, you should take care that there is sufficient ventilation. Snow will normally not accumulate on the cover if the angle at the top is max 90 degrees. A suitable size for the cover is 14 X 8 m.

CAUTION !

The cover or the fastening ropes must not touch the boat, as they damage the gelcoat surface when they chafe against it.

CAUTION !

Charge the boat's batteries with a shore power charger or detach their terminals before winter storage.

8.5.1 MEASURES BEFORE LAUNCHING

Repair, or have a professional repair, possible damaged spots in the gelcoat according to the advice in section 8.6 .

In coastal areas the bottom of the hull must be painted with antifouling paint to prevent the growth of algae and weed. Growth on the bottom, and particularly the propeller, will increase fuel consumption considerably. However, if the boat is moored in a river estuary, or in the Gulf of Bothnia, or alternatively is lifted out of the water at least once a week, you will not normally need antifouling paint.

Carefully follow the instructions of the paint manufacturer when applying paint. If you sand the old antifouling paint, remember that the sanding dust is toxic. We do not recom-

mend antifouling paint for boats used in lake areas.

To prevent galvanic corrosion, the SARGO 28 boat is fitted with zinc anodes. The anodes should be replaced at the latest when the anode is half gone. The zinc anodes are installed on top of the trim tabs and on the rear towing device (see also the engine manual).

Carry out the necessary service operations on the engine according to the instructions in the separate manual for the engine. Check the operation of the electrical devices and remove any oxidation stains from the fuses and the connections. The location of the seacocks is presented at the beginning of the manual.

When the boat is launched, open up all the seacock valves and check the hoses and joints for leaks. The location of the seacocks is shown in chapter 4.4. Bring the safety equipment on board before going to sea.

CAUTION !

Do not paint the zinc anodes, the transducer of the log or the pistons of the trim tabs' hydraulic cylinders. Do not use paints containing copper when painting aluminium parts; follow the manufacturer's instructions.

8.6 REPAIRS

In cases where the engine or some other equipment is damaged, please contact the supplier of the component in the first instance.

Minor damage to the gelcoat of the hull or deck can be repaired by yourself. Nevertheless, it requires both skill and a lot of work to achieve a neat and flawless result:

1. Protect the surroundings areas with tape.
2. Bevel the edges of the damaged area by sanding and clean with acetone.
3. Mix 1.5–2% hardener with the gelcoat.
4. Apply the gelcoat onto the damaged area so that the surface is somewhat higher than that of the surrounding surface.
5. Put carefully tape onto the gelcoat.
6. After the gelcoat has hardened, remove the tape and sand the repaired surface if necessary.
7. Polish with a polishing compound.

The paint shades used in this boat can be found in the ID-card. The dealer or the gelcoat supplier can provide more information about repairing. Any larger damage should be repaired by a boat yard or some other skilful company to repair.

CAUTION !

Some post-delivery installations and alterations can cause damage to the structure of the boat or affect the safety if not carried out correctly. Contact the boatyard or another authorised boatyard before making or commissioning new electrical installations, hatches, etc.

CAUTION !

Always turn off the current prior to performing repairs or maintenance of electrical devices. If it is necessary to replace electrical devices, make sure that the new ones are compatible with the voltage on your boat.

9 TRANSPORTATION AND DOCKING

Taking a boat out of the water and putting it on land is a routine job that has to be done every autumn in northern countries. In connection with this, it is a good idea to work through all the service, repair, and inspection procedures. If you do not want to carry out the work yourself, you can leave it to a reputable boat yard.

9.1 DOCKING

The docking stand should be sufficiently steady and suitably sized for the boat. The cradle's keel supports should carry the majority of the boat's weight. Local impact loadings should be avoided. Adjust the side supports so that the boat does

not sway sideways. The preliminary position of the supports is presented in the next image.

We recommend a boat stand for winter storage according to the specifications given on page 59.

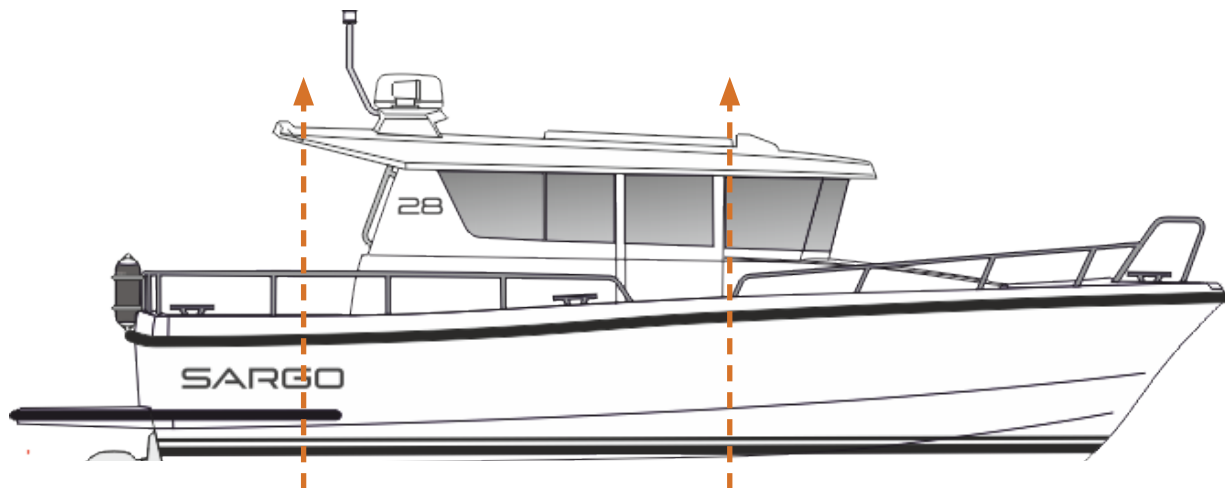
Commission only a reputable lifting company or a boatyard with sufficient lifting capacity to lift the boat. In addition to the boat's own weight (see technical details chapter 10), take into account also the equipment and other possible loads in the boat. The centre of gravity and the location of the lift straps are normatively indicated in the following image.

CAUTION !

If your boat has a side gate, it must be kept open while the boat is being lifted and lowered

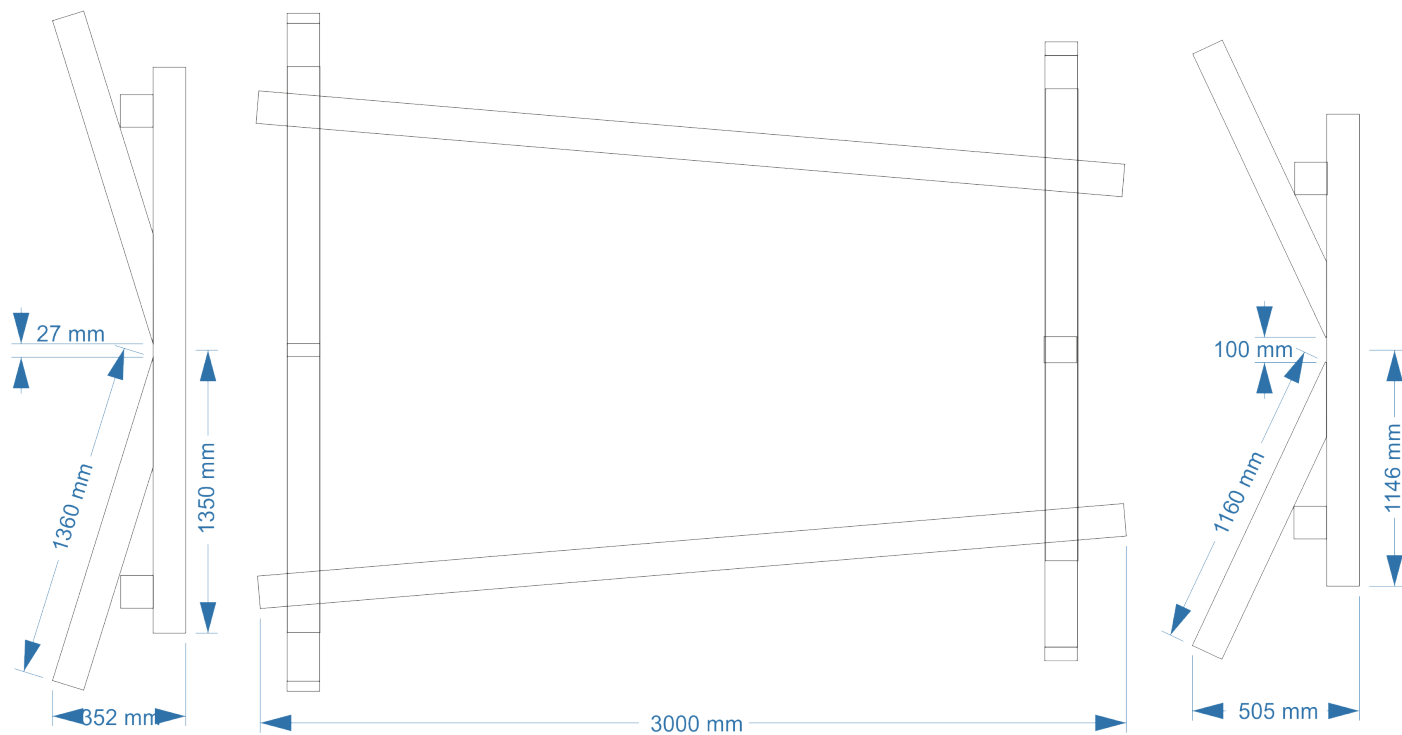
DANGER!

Do not walk under the boat while it's being lifted.



SARGO 28 Boat stand

Wood material is 125mm x 125mm



10 TECHNICAL DETAILS

The boat has a unique identification code, the CIN-code. This code can be found on the ID card and the STB hull topside in the stern / on the transom under the rubbing strake on the STB side. When dealing with the boatyard or a dealer, give them the CIN-code and the boat type to facilitate supplying the right spare parts. When ordering gelcoat for repairs, provide the supplier with the appropriate colour code.

Model specification:SARGO 28
Designer:.....Sarin & Sundkvist
Body material:.....Polyester resin /
glass fibre

10.1 MAIN DIMENSIONS AND CAPACITIES

Main dimensions:

Length overall (LOA)9,20 m
Hull length.....8,19 m
Max. beam.....3,00 m
Draft at 500kg load.....1,00 m
Maximum height from waterline (without light mast)
.....3,1 m
Weight without load, liquids and equipment. 4400 kg

Load:

Crew 12 persons at 75 kg900 kg
Personal equipment240 kg
Fresh water 100 L.....95 kg
Diesel 500 l at 0,84 kg/L.....400 kg
Life raft.....38 kg
Septictank.....48 kg
Marginal for possible weight increase.....280kg
Maximum load1720 kg
Mass of the boat4400 kg
Weight of the boat + recommended max load.....6400 kg

Engine and electric

Max. recommended engine power:.....330 kW
Voltage.....12V DC

Tank capacities:

Fuel tank500 l
Water tank.....100 l
Septic tank80 l

Due to production techniques small variations in main dimensions may occur.

CAUTION !

Do not install an engine that has a greater effect than the max engine power.

WARNING !

Do not exceed the maximum amount of persons or the total amount of weight for the recommended amount of persons.

WARNING !

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

10.2 DIMENSIONS



SARGO
THE ALLSEASON BOAT