

ALUKIN



OWNERS MANUAL



FOREWORD

Dear Alukin boat owner,

Congratulations on your choice of boat and thank you for your custom. We hope that you will enjoy many pleasant and rewarding days at sea!

This handbook has been prepared to ensure that you will be able to use your boat safely and without problems. It contains general data and information about your boat, the equipment, the systems and maintenance requirements. We encourage you to read this handbook thoroughly and to become familiar with your boat before you start to use it.

Naturally, this owner's handbook is not intended as an official source of seamanship or rules for safety at sea. If Alukin is your first boat, or if you have changed to a type of boat with which you are not yet familiar, you should – for your own safety and comfort – ensure that you gain the necessary experience before you “take command” and assume responsibility for your boat. More information can be obtained from the dealer who sold you your boat or from local boating clubs, and the national motorboat or sailing associations will also be happy to provide you with information about local boating courses and can recommend competent instructors.

Always make sure that the wind and wave conditions described in the weather forecast are suitable for your boat's planning category, and that the crew are able to handle the boat under such conditions. Planning class C equates to wind and wave conditions that can be encountered at the beginning of a storm with strong winds, with the risk of exceptionally large waves and gusts of wind. These are dangerous conditions in which only a knowledgeable crew in good condition can operate a well maintained boat. This owner's handbook is not intended as a detailed service or troubleshooting guide. You should contact the manufacturer if a problem arises.

Modifications that affect your boat's safety at sea may only be made with the manufacturer's written permission. The boat's manufacturer cannot be held responsible for modifications that have been made without the manufacturer's approval.

Always keep your boat in good condition, and bear in mind that age and hard use will lead to wear and tear. Any boat – regardless of its size and strength – can suffer significant damage if not used correctly. Such inappropriate use is not in keeping with sound seamanship. Always adapt the speed and direction of your boat to the prevailing wave conditions.

You should ensure that your boat contains the safety equipment (lifejackets, fire extinguishers, etc.) that are appropriate for the type of boat, weather conditions, etc. The crew should be knowledgeable about how to use all the safety equipment and how to perform an emergency manoeuvre (man overboard, towing of a disabled boat, etc.). Everyone on board should wear an appropriate lifejacket.

STORE THIS HANDBOOK IN A SECURE LOCATION ON THE BOAT, AND GIVE IT TO THE NEW OWNER IF YOU SELL THE BOAT.

Checkpoints before heading out to sea:

Weather conditions and weather forecast

Check the current and forecast conditions for wind, waves and visibility. Are your boat's planning class, size and equipment sufficient for the body of water into which you intend to head, and can the same be said of the skills and knowledge of the captain and crew?

Load

Don't overload the boat, and spread the load appropriately. Don't place heavy objects too high up – doing so could jeopardise the stability of the boat.

Passengers

Make sure that there are sufficient (and appropriate) lifejackets for all passengers. Reach agreement about each person's duties on board before you cast off.

Fuel

Make sure you have enough fuel; there should always be sufficient fuel in reserve in case you encounter bad weather.

Engine and equipment

Check the steering and that the electrical appliances and battery are working, and follow the daily service measures as described in the engine handbook. Check the boat's seaworthiness in other respects: that there is no fuel or water leakage, and that all the necessary safety equipment is on board, etc.

Check that the amount of bilge water is minimal.

Ventilation

Check that the ventilation is working, to reduce the risk of fire.

Secure the load

Make sure that the load is placed and secured in such a way that it won't move around, even if you encounter large waves and/or strong winds.

Nautical charts

Make sure you have charts that cover a sufficiently large area (unless you will be keeping to very familiar waters).

Casting off

Agree in advance with the crew members about who will be handling which dock line etc. Make sure that the dock lines do not get tangled up in the propeller when casting off or docking.

Information about the engine is contained in a separate handbook.

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1. General

This owner's handbook makes it easier for you to familiarise yourself with your new boat and its characteristics. There are separate handbooks for the equipment that is installed on board, and these are referred to often. Naturally you can add to the original handbook package with additional handbooks for any equipment that you purchase later.

2. Warranty

The boat has a hull warranty of 3 years that applies to the hull's welds and welded details. The warranty is not valid if the boat has not been properly maintained, or if it has been used without due care. Each separate supplier's contract contains details of the warranty for the engine and other equipment.

3. Before using the boat first time



3.1 Putting to sea for the first time

Put to sea, and check that the engine's attachment bolts are tight. Check thoroughly that no water has leaked in during the first day. Start the electrical bilge pump, and make sure that no water is coming out. If leakage is discovered, use the bilge pump that is connected to the bilge area, and then contact your salesperson.

3.2 Insurance

A boat insurance policy provides cover for damage suffered at sea, during transportation or when docking. Check the specific insurance provisions that apply to lifting of the boat. Insurance cover also has an indirect effect on the boat's safety at sea: in the event of a serious incident, you can concentrate fully on saving people above all else. Insurance companies will be able to provide more details about the various boat insurance alternatives that are available.

3.3 Training

A great deal of literature is available about life at sea and how to manage a boat, and a lot of useful and practical information is also available from boating clubs and the organisers of navigation courses etc. Such theoretical knowledge forms a good basis for the skills and knowledge you need on board your boat, but knowledge about practical safety when handling a boat, navigating, mooring and anchoring is something you only acquire after many hours of practical training and experience.

4. Technical data

5. The boat's characteristics and use

5.1 General

This user's handbook is not intended as a complete guide to service or repairs; it aims to help you, the owner, get familiar with your new boat's characteristics, and to assist you in learning how to use your boat appropriately.

Planning class C refers to the following:

Class C: The boat is intended for use in conditions where the wind speed is no greater than 6 on the Beaufort scale (approx. 14 m/s), with equivalent wave conditions (significant wave height of max. 2 m, but with waves up to 4 m high in places). Such conditions can be encountered at open sea, in the mouths of rivers and in coastal waters under moderate weather conditions.

Comment: The significant wave height is the mean height of the highest third of the waves, which is approximately equivalent to an experienced observer's assessment of the wave height. Some individual waves could actually be twice as high.

The manufacturer's sign:

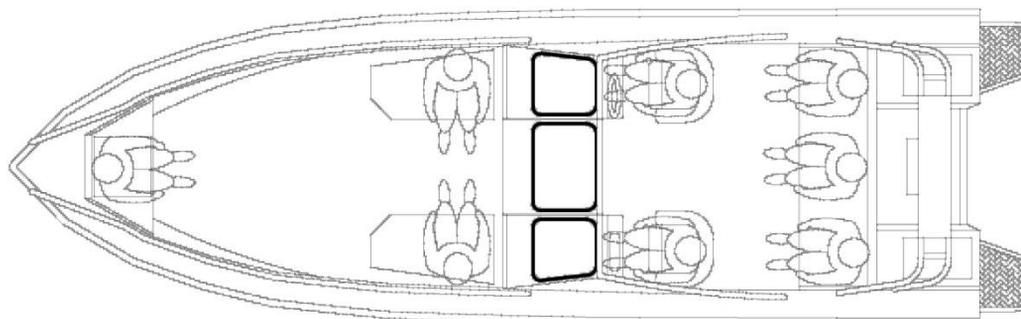
A certain amount of relevant information is provided on the manufacturer's sign, which is located next to the driver's position. Additional explanations are provided in this handbook at relevant places.

5.2 Recommended maximum number of persons on board

The recommended maximum load for each boat is specified on the manufacturer's sign or in the technical data (chapter 4).



WARNING! Do not exceed the recommended maximum number of persons on board. Regardless of the number of persons on board, the total weight for persons plus load must not be exceeded (see item 5.2.1 Load). Always use the boat's chairs or seats. If your boat is not equipped with seats for 6 persons, they should sit on the floor of the boat in the places designated as seating places in the diagram.



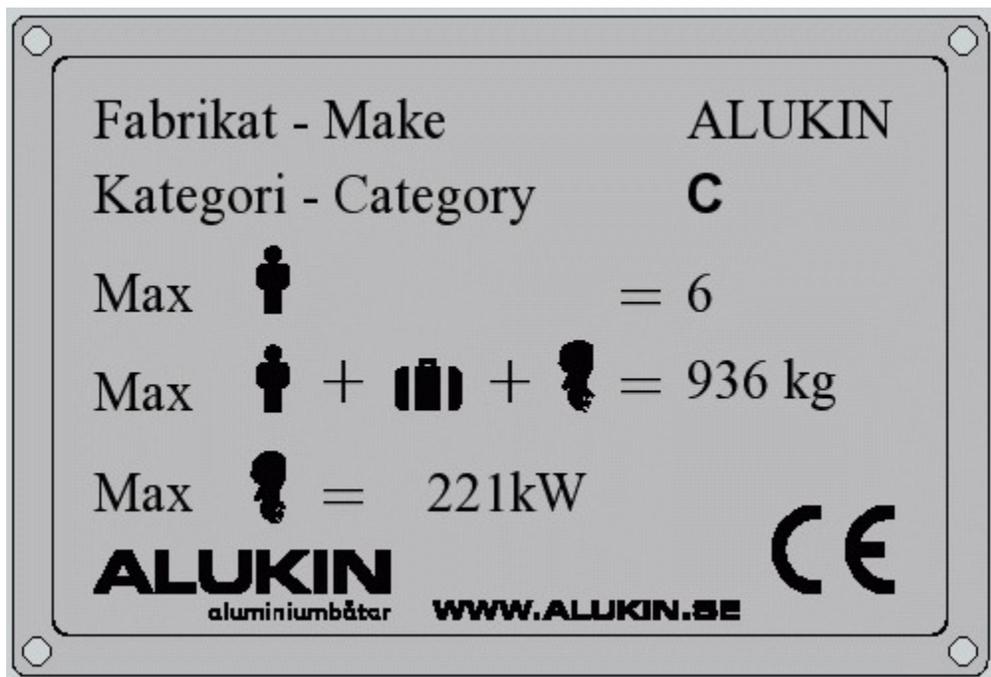
5.2.1 Load

For calculation purposes, an adult is assumed to typically weight 80 kg, and a child 40 kg. Apart from the aforementioned recommended maximum load, the boat may be subject to the following load weights: base equipment 10 kg and total weight for liquids in tank 120-180 kg (depending on the boat model). The recommended load only covers the above-named weight components.

The maximum load for each boat is stated on the manufacturer's sign, which is located next to the driver's position.



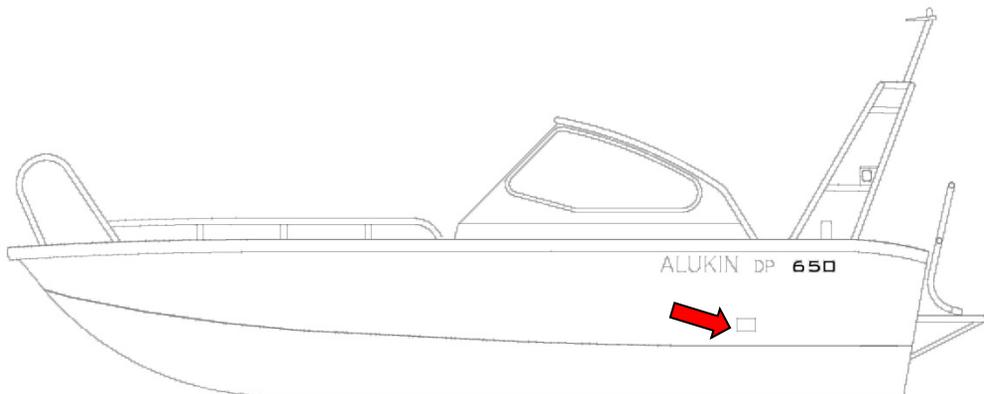
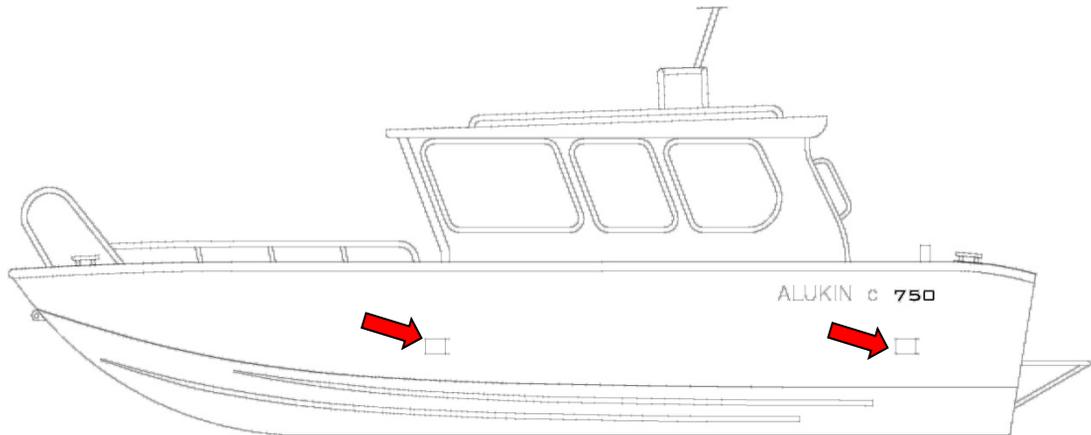
WARNING: *Never exceed the recommended maximum load. Always load the boat with thought and care, and distribute the load evenly so that the trim is maintained (roughly even keel). Avoid placing heavy objects up high.*



5.3 Stability and preventing leakage

5.3.1 Openings in the hull and deck

En beskrivning av öppningar och proppar finns i figur nedan. I Alukin båtarna finns det flera tömningsöppningar (länsöppningar) för regnvatten och stänk. Dessa vara öppna och de bör regelbundet rengöras så att inte skräp täpper till dem.



5.3.2 Bilge pump and emptying



Check the functionality of the bilge pump before each voyage. You do this by turning on the switch on the panel by the driver's position, then listening carefully to ensure that the pump starts.

The pump has two separate fuses; for the switch function the fuse is in the fuse box under the driver's seat, while for the automatic (level sensor) function there is an automatic MCB next to the main power switch, which is located in the sofa in the stern on the starboard side (inside the cabin).

The suction hoses are placed as close to the bottom plate as is practically possible. Despite this, it is natural for there to be a small amount of bilge water that the pump can't remove.

WARNING! The bilge pump system is not designed to handle a leak caused by having run aground or some other damage.



NOTE! You should regularly check that the bilge pump is working. Clean the suction opening regularly and keep it free from obstruction.

5.3.3 Stability and buoyancy

Alukin boats have excellent stability due to the design of the hull and the distribution of the boat's weight. However, bear in mind that large breaking waves always pose a threat to the boat's stability, and remember that the boat's stability will be lessened if heavy objects are placed up high. Any changes to the distribution of the boat's mass could significantly impact on the boat's stability, trim and ability to perform. Always contact the boat's manufacturer first if you are planning to make such changes. Minimise the amount of bilge water as much as possible, since free-swelling water in the boat will always lessen the boat's stability.

Bear in mind that the boat's stability can be reduced when towing or being towed. Alukin boats are unsinkable (under normal conditions) since the bottom and other empty areas in the hull are filled with air cushions.

The following is a list of the volume of the air cushions in the various models' hulls:

600 hull:	approx. 1,300 litres
650 hull:	approx. 1,500 litres
750 hull:	approx. 2,000 litres
850 hull:	approx. 2,400 litres

5.4 Preventing fires and the risk of explosions

5.4.1 Engine and fuel system

After the tank has been filled with fuel, always check that no fuel has run down into the bilge or into the engine compartment, and immediately wipe away any fuel splashes. Do not store the reserve canister loosely or in an unventilated space, and do not keep equipment that contains fuel in areas that are not intended for such use. Perform an annual check of the fuel hoses to make sure they are not worn out.

The compartment for the fuel tank is equipped with ventilation openings, and the fuel tank has its own (separate) venting function that leads out from the compartment. Furthermore, the main power switch is gas-tight.



NOTE! Regularly check hoses and connections to ensure that they are tight. Before you fill the fuel tank, turn off the engine and extinguish any cigarettes or other sources of open flame. Do not use any electrical devices.

5.4.2 Fire-fighting equipment

ALUKIN boats are equipped with a 2 kg handheld powder extinguisher. The location of the extinguisher is indicated by a sign as shown below (unless the extinguisher is assembled in a clearly visible location).



Handheld extinguishers should be submitted for service every year. Handheld extinguishers that are more than ten years old are not approved without first having passed a new pressure load test on the pressure cylinder. When a handheld extinguisher is replaced, the new extinguisher must have at least the same extinguishing capacity as the old one. The boat's owner/owners should ensure that there is always at least one easily accessible extinguisher attached to a rope. Make sure that all fire-fighting equipment is easily accessible even when the boat is fully loaded. Make sure that all members of the crew know where the fire-fighting equipment is located and how to use it.

Keep the bilge free from fuel, and regularly check for any fuel leaks. The smell of fuel is a sure indication of a fuel leak.

Take care to ensure that you

- never obstruct access to safety equipment such as fire extinguishers and the electrical system's main cut-off switch
- never allow ventilation openings in the boat to become blocked or obstructed; they are intended for ventilation of fuel fumes
- never modify the boat's electrical or fuel system, or allow any unqualified person to modify any of the boat's systems
- never loosen the fuel hose to the loose tank from the engine when the engine is running, e.g. when changing the tank
- never fill the fuel tank with fuel or otherwise handle fuel when the engine is running
- never smoke or use an open flame when you are handling fuel.

5.5 Electrical system

See attached document for electrical wiring schedule.



Always turn off the main power switch when you leave the boat. You should also disconnect the power prior to any electrical installation work. Take care not to allow any metal tools to come into contact with the battery's terminals/contacts or the boat's aluminium parts when you are removing or replacing the battery. Only use the engine or a battery charger to charge the battery. Charging the battery with too strong a current could cause the battery to explode!

5.6 Manoeuvrability



5.6.1 Operating at high speed (See the field marked in yellow below)

Please refer to the manufacturer's sign or the technical data (chapter 4) for information regarding the maximum recommended engine size. Never use an engine that is more powerful than the specifications on the manufacturer's sign. The basic rules for adjustment of the trim angle for engines that have electric-

hydraulic trim adjustment (Power Trim) are as follows:

- Raise the boat to a level plane with the setting "bow down".
- When the boat levels out and the waves are small, raise the bow until the propeller loosens its grip or the engine is running at its maximum limit. Lower the bow a little, so that the boat's handling becomes stable. With the help of the log you can then optimise the trim angle.
- Lower the bow when the waves are coming from the bow so that the motion becomes smoother. Raise the bow slightly when the waves are coming from the stern, or when running against a very powerful sea, so that the bow does not dive.
- Do not operate the boat at such high speed that the trim angle is negative, in other words the bow is down, because that could cause the boat to lurch and possibly tip over in very rough conditions.



WARNING! Adjust the trim angle carefully at high speeds. Do not operate the boat with the bow too far down, as this could cause the boat to suddenly sway.



WARNING! Manoeuvrability is impaired at speeds over 35 knots. Rapid swerving could cause you to lose control. Reduce speed before swerving severely in either direction.

WARNING! Waves reduce the boat's manoeuvrability and cause the boat to lurch. Bear this in mind and reduce speed when the sea becomes rougher.

Always adapt your speed to the conditions and the environment. Pay careful attention to:

- the sea and the waves
- your boat's own wake. Always observe restrictions on wake. Lower your speed, and reduce your wake out of courtesy to others, as well as for your own safety and the safety of others
- visibility
- knowledge of the route you are taking
- the breadth of the route
- the room that is available for stopping or swerving away.

5.6.2 Emergency cut-off switch

If the engine is equipped with an emergency cut-off switch, attach the emergency cut-off switch's string to yourself immediately once you have loosened the mooring lines. More information is available in the engine's handbook. It is particularly important that the boat's engine stops immediately if you are out in the boat alone and happen to fall into the water or trip over in the boat. However, remember to loosen the string before docking manoeuvres, to avoid the engine from cutting out.



DANGER! A rotating propeller could cause fatal injuries to a swimmer or someone who has fallen overboard. Always turn off the engine when a swimmer or water-skier is about to climb back on board.

5.6.3 Visibility from the driver's position

It is easy to operate your boat on a beautiful day in calm weather conditions, as long as you maintain sufficient visibility. Always ensure that the best possible visibility is available from the driver's position:

- place the passengers in a manner that does not reduce your field of vision
- do not constantly operate the boat at the planing speed limit, as this limits visibility
- adjust the boat's position in the water with the engine's trim angle (Power Trim) and with any flaps, so that the bow does not restrict visibility
- use the windscreen wipers when necessary
- remember to also look behind you, in particular in waterways where other vessels are in movement. Use the necessary boat lights when travelling in darkness or at other times when visibility is restricted (e.g. fog, strong rain).

5.7 Preventing man overboard, and climbing back on board

Alukin boats' flooring and decking is made of treadplate, which provides good grip. When the boat is in motion, do not allow anyone to sit, stand or otherwise position themselves anywhere on the boat other than in the places marked as seating. If a person falls into the water, the easiest way for them to climb back on board is with the help of the swimming ladder and jetty at the rear of the boat. The ladder can also be lowered to make access easier for someone who is in the water.

5.8 Securing loose equipment

Firmly secure heavy equipment (e.g. the anchor) before you cast off. Streams of air can easily take hold of lighter items, which is also something to think about when securing items prior to your journey.

5.9 Environmental consideration

The Nordic region's archipelagos and inland lakes are unique and beautiful environments, and it is a matter of honour for all boaters to consider and preserve these areas. Make sure that you avoid:

- emissions of fuel or oil
- emptying garbage and waste into the water, or leaving it on the beach
- allowing detergents or solvents to find their way into the water
- making excessive noise when at sea or in harbour
- causing wake behind your boat, especially at narrow locations or in shallow waters.



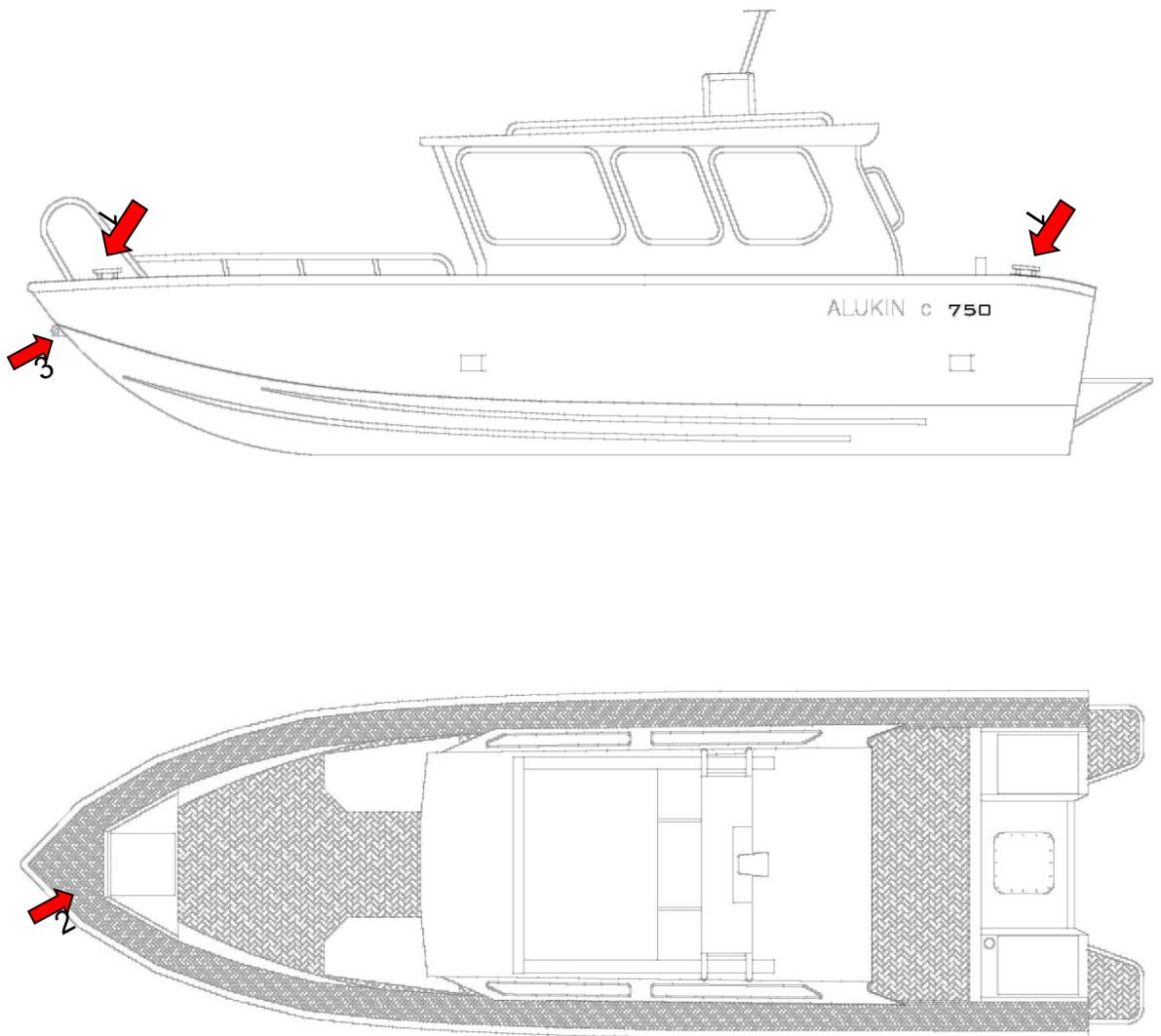
Safety ladder

5.10 Anchoring, mooring and towing

Always moor your boat carefully and in a protected location, because conditions can change quickly. See the anchoring points in the figure below. Do not use any other parts of the boat for mooring or anchoring.

Use sufficiently big fenders to prevent damage from scraping. The ring in the bow is intended for a trailer and is not intended for mooring by pulling the boat in sideways towards e.g. a jetty. On the foredeck there is also a separate hardened loop for a locking chain to prevent theft, and this is also not intended for any purpose other than that of locking. The strength of the anchoring points is stated in the image below. It is the responsibility of the owner/owners to ensure that the mooring, towing and anchoring lines, as well as the anchor chains and the anchor itself, are suitable for the use for which the boat is intended, and that the chains' rupture strength does not exceed 80% of the strength of the anchoring points. However, one must also bear in mind that the lines and ropes weaken over time, due to the tying of mooring knots among other things. Use a plumb-line to ensure that the water depth is sufficient when going ashore in a natural harbour, and **CAST THE ANCHOR SUFFICIENTLY FAR AWAY FROM THE BEACH**. A reasonable anchoring is generally achieved if the anchor line is 3–5 times the water depth, and the more anchor line that can be let out, the better the anchoring will be. The anchor will also hold better if the first 3–5 metres consist of a heavy rope or a chain.

Always use a sufficiently strong towing line when towing another boat. Start the towing process cautiously, avoid any lurching motions, and do not overload the engine. Make sure that the towing line does not get tangled in the propeller. Adjust the length of the towing line and attach it in accordance with the figure below if you are towing another boat or if your boat is being towed.



1. Fästpunkter för förtöjning, bogsering och ankring (Hållfasthet 15 kN)
2. Låsögla klass 3
3. Trailerögla (skall användas endast för upptagning av båt, inte användas till förtöjning eller låsning av båt).

5.11 Trailer transportation

When lifting an Alukin boat onto a trailer, make sure that the trailer is suitable for the boat: there should be sufficient support to reduce the point loads, and the trailer's load-bearing capacity should be sufficient for the boat and its engine, equipment, battery, other equipment that happens to be on board, and fuel. Your vehicle's registration certificate should contain information about the maximum permitted total weight of the trailer that can be pulled by the vehicle.

Remove any unnecessary load from the boat and empty the bilge water before loading the boat onto the trailer. Adjust the trailer's side supports so that the keel supports are taking the greatest weight. Only use the loops in the bow to lift the boat. Secure the boat firmly onto the trailer before commencing transportation. Protect the boat by placing some protective material between the boat and the securing lines/ropes. Check the engine's handbook for any specific instructions relating to the engine during trailer transportation.



NOTE! The trailer should be somewhat front-heavy. Make sure that the boat is firmly secured to the trailer and that the boat's weight is distributed evenly onto the supports. A rocking boat will put excessive pressure on one or more individual supports, which could lead to hull damage (NOTE! Never exceed the load capacity of the trailer's towing ball/device).

WARNING! A boat trailer that does not have sufficient load-bearing capacity or is in poor condition could break down during transportation and cause a dangerous situation on the road.

Make sure that the trailer's load-bearing capacity is sufficient to also cover the weight of the engine, fuel and other equipment on board the boat.

6. Service och underhåll

IMPORTANT!

- Check the corrosion of the "sacrificial" (galvanic) anode. Replace it with a new sacrificial anode when it has been "consumed", or before putting to sea at the start of a new boating season!
- Check the functionality of the bilge pump prior to each new boating season.

NOTE! Many incorrectly performed installations and/or modifications after purchase of the boat can cause damage to the boat's construction or jeopardise its safety. It is therefore important that you always contact the manufacturer before you do anything yourself or arrange for the performance of grounding work, the installation of hatches or the like, the attachment of equipment or the assembly of equipment or joining of aluminium with other metal alloys.



6.1 When service is needed

For service of the engine, warranty claims or other engine problems, the boat should be transported to the nearest authorised workshop for your make of engine. For service or warranty claims regarding the hull, the boat should be transported to the manufacturer.

The customer is responsible for arranging suitable transportation to and from the applicable service centre.



6.2 Safety when using loading ramp

When operating the boat, the loading ramp should always be in its uppermost position and secured with the ramp lock (see picture). Regularly check that the loading line is not worn out or damaged. In the event of wear and tear or damage, let out a new line with the winch and reattach on the port side.
NOTE! If these instructions are not followed, there could be a risk of personal injury if the ramp suddenly falls down with force.



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