DUCKY 14s CATAMARAN MANUAL

OWNER:

Full Name: .....

Address: .....

.....

.....

Owner of
Ducky-14s № UA-UKN D14

has read and accepted for execution of instructions of this "Manual"

.....

signature

Owner's Copy

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signature

Ukon-A Co., Ltd. Maker's Copy

GENERAL INFORMATION

1. Purpose

Sailing-motor collapsible catamaran designed for boating, brief cruises or rides with sails or outboard motor. Commercial transportation of passengers is not allowed.

2. Key Features

Length Overall, m	4.40
Width Overall, m	2.05
Width of Hull, each, m	0.45
Full Displacement Draft (Centerboard is set down), m	1.00
Full Displacement Draft (Centerboard and Rudder are lifted), m	0.18
Height Overall, m	7.00
Light displacement, kg	65
Load Capacity, kg	250
Sail Area, m^2:	
Main Sail	8.5
Gennaker	-
Allowable Outboard Motor Power, kW	2.0
Number of Crew (minimum / maximum), pers.	1 / 2
Operating Pressure in Floats, bar	0.15
Approximate assembly time, min.	30
Approximate disassembly time, min.	20
Packing Dimensions:	
Packing 1, m	1.80 x 0.25 x 0.25
Packing 2, m	1.80 x 0.25 x 0.25
Packing 3, m	0.8 x 0.4 x 0.3
Sail	1.95 x 0.22 x 0.22

3. Stability and Unsinkability

Catamaran is highly stable, and the capsize is unlikely for most cases with wise control, except intense regimes.
It is not recommended to allow the windward float to takeoff from water as the righting moment will decrease, while the upsetting moment will be same or will increase, resulting in catamaran rollover.
Overkeel is also possible at beam to sea sailing with wave condition close to extreme mode.
Catamaran Recovering from capsized state is possible by one person.
Catamaran remains afloat in case of any of the four sections of floats damage.
Helmsman (or in his absence, the person responsible for the catamaran safety) remains responsible for boat stability and unsinkability during exploitation even in case of meeting the requirements of this manual.

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4. Crew

One person with Yacht Helmsman qualification is enough for catamaran steering. The maximum amount of people onboard must not exceed 2 persons.

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CATAMARAN CONSTRUCTION

Floats provide the buoyancy of catamaran. They are made from PVC fabrics and have impermeable partitions dividing every float into two compartments. Every compartment is equipped with a valve for filling with air. The floats are attached to the bridge with loops.

Bridge is a load-bearing unit of catamaran and takes on the loading of rigging, crew, etc. It is made up of two compound longitudinal beams – stringers, three transverse beams – bow beam, centerboard beam, stern beam, and diagonal cable tension braces - lower bridle. Stringer beams consist of two parts: bow part and stern part.

Trampoline is made from PVC net and serves for crew accommodation. Trampoline's sleeves are put on the stringer beams. Trampoline is tensioned with cables and inflatable cylinders.

Centerboard unit consists of the centerboard and the centerboard beam. The centerboard is used to reduce the drift of catamaran when sailing upwind. Rubber expander holds the centerboard in operational (vertical) position. Expander absorbs the hitting of underwater obstacles, thus allowing avoid the serious damage of the centerboard. In moorage (horizontal) position centerboard is raised by halyard and held with clam cleat on the mast.

Rudder unit consists of two rudder blades and two rudder boxes. Rudders are used to control the catamaran. They are mounted in the rudder boxes, that are attached to stern beam. Rubber expanders hold the rudder blades in operational (vertical) position. Expanders absorb the hitting of underwater obstacles, thus allowing avoid the serious damage of the rudder blades. In moorage (horizontal) position rudder blades are raised by halyard and held with clam cleat on the rudder tiller.

Rigging consists of the mast and sail. The mast consists of four pieces which are interconnecting.

Standing rigging includes forestay and shrouds which hold the mast in position. Tensioning of shrouds and forestay is done by forestay's lanyard.

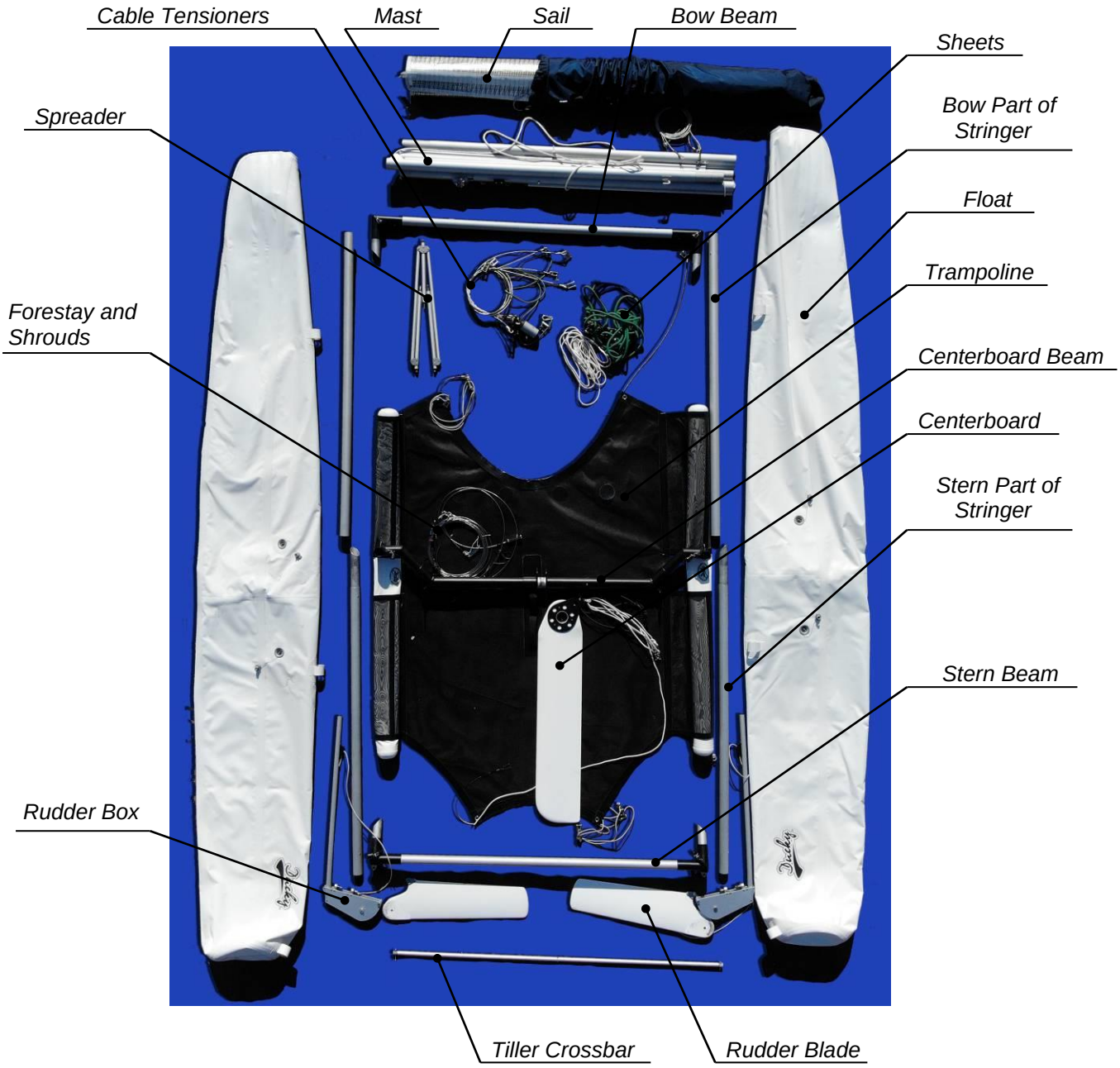
Running rigging includes tackle to control sail: the main-sheet and main traveler.

GENERAL VIEW

CATAMARAN ASSEMBLY

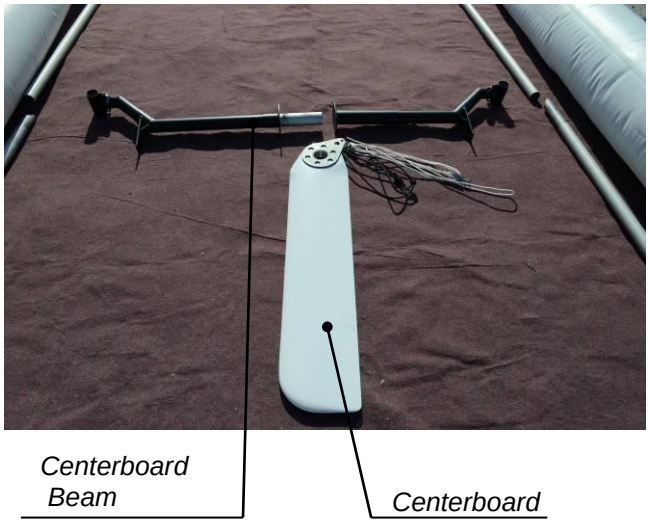
Note: *Some parts of your catamaran may differ from those shown on the photos.*

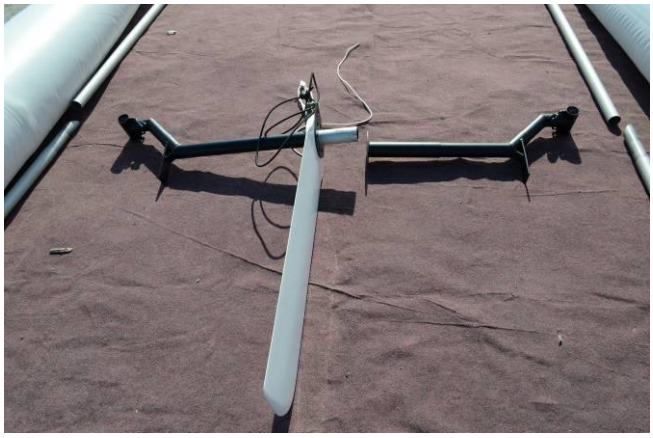
A catamaran is packed into three packing and a separate package is with a sail. Two long packing include beams of bridge, mast, rudder and centerboard units, standing rigging, and trampoline. In the third packing there are floats, rudder blades, running rigging and pump.

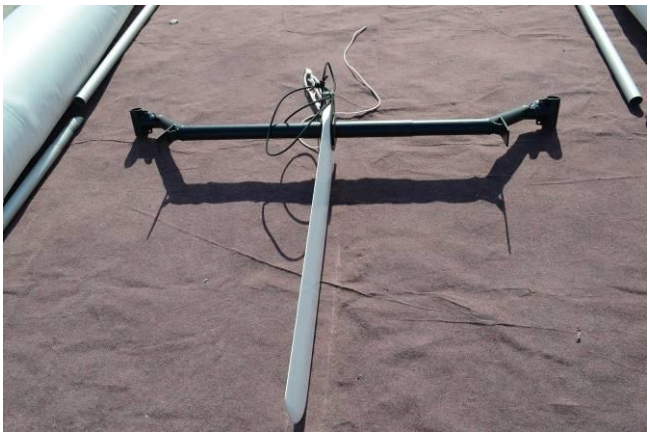


1. Inflate the floats, but do not make the pressure up to working level. That in the future will facilitate the assembly process.

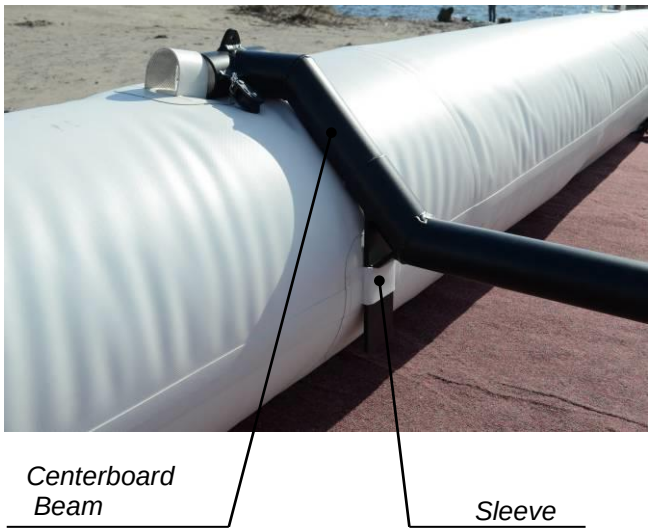
2. Put the centerboard on the centerboard beam. Connect the both parts of the centerboard beam.





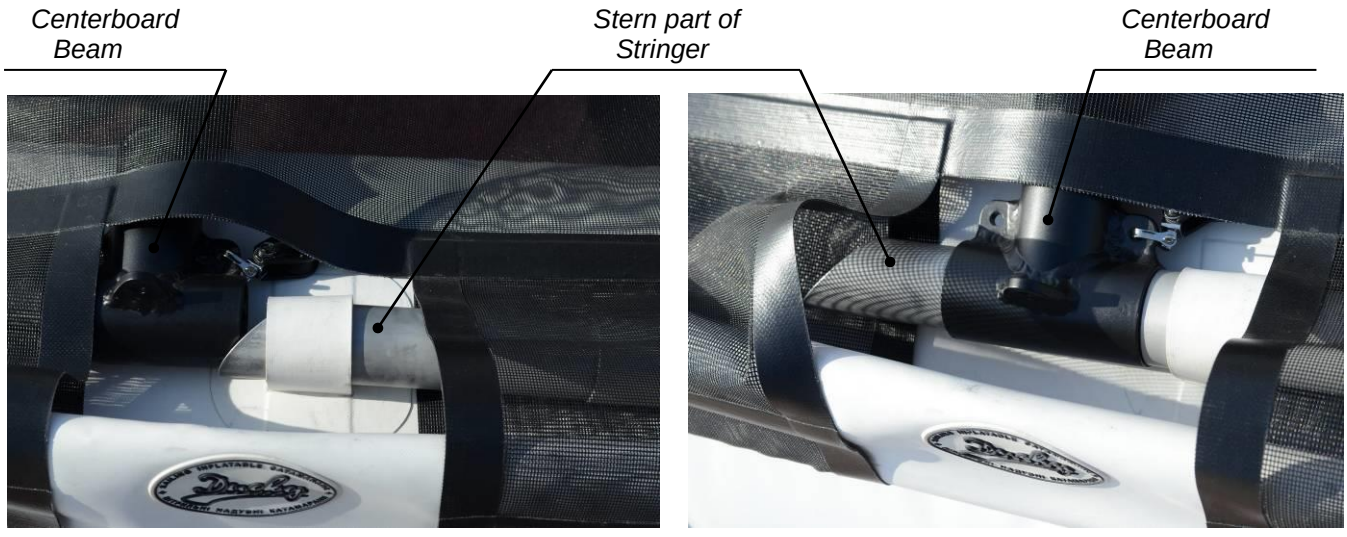


3. Install the Centerboard Beam into Sleeves of floats, as shown in the photo.

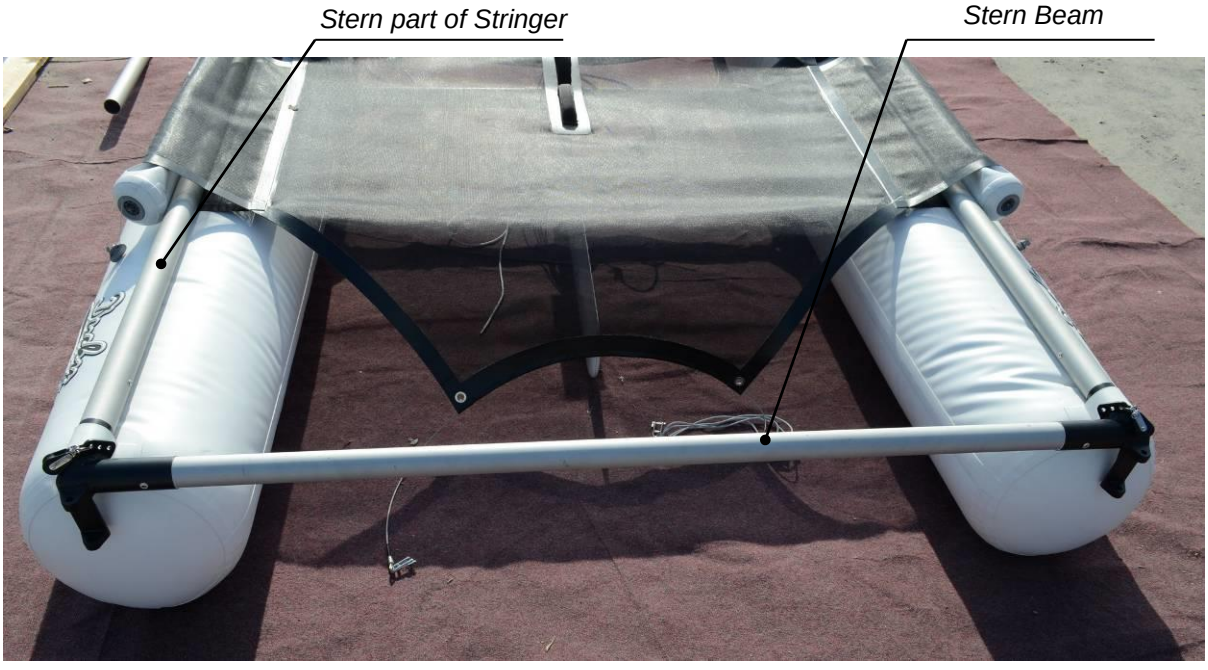


4. Roll out the trampoline.

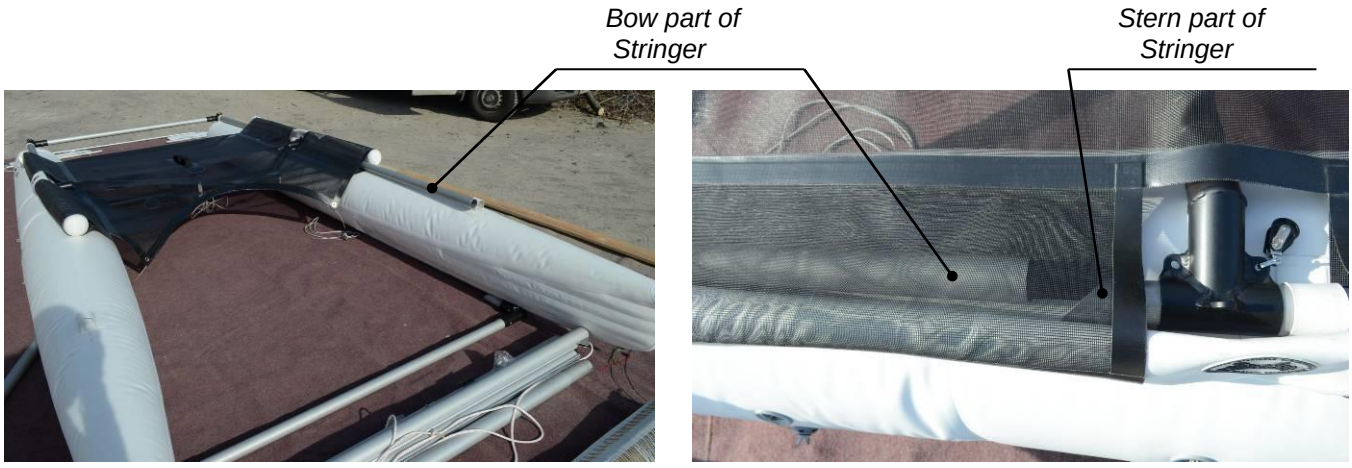
5. Install the Stern parts of the stringers (two pipes with a 45-degree cut end). To do this, in turn, pass each stern part of stringer through the trampoline sleeve and through the sleeve on the float. Then attach the stern parts of stringers to the Centerboard beam.



6. Set up the Stern beam. For this, attach the Stern beam to Stern parts of stringers. By turning the stern part of the stringer, achieve the deepest insertion of the stern beam.

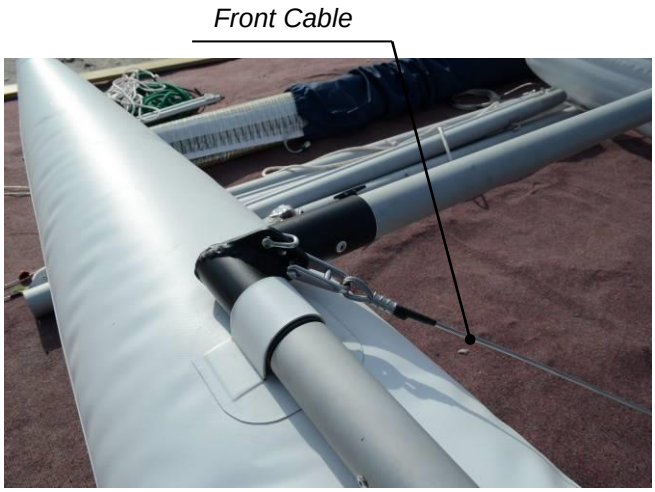


7. Install the Bow parts of the stringers. To do this, in turn, pass each bow part of stringer through the trampoline sleeve and join the bow part of stringer with the stern one. By turning the bow part of the stringer, achieve the deepest insertion.



8. Set up the Bow beam. For this, attach the Bow beam to Bow parts of stringers. By turning the bow part of the stringer, achieve the deepest insertion of the bow.

9. Set up the Diagonal cable tension braces - Lower bridle. With the help of brackets, fasten the two front cables in the corners of the bow beam to the lower holes. Secure the two rear short cables in the corners of the centerboard beam. Secure the remaining two long rear cables in the corners of the stern beam to the lower holes.

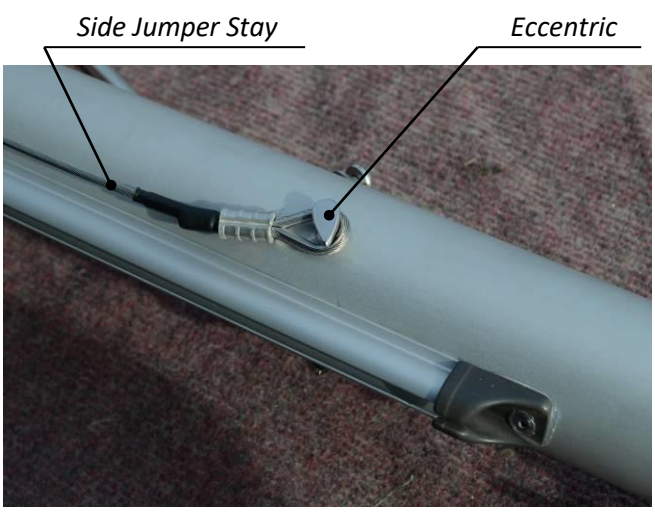


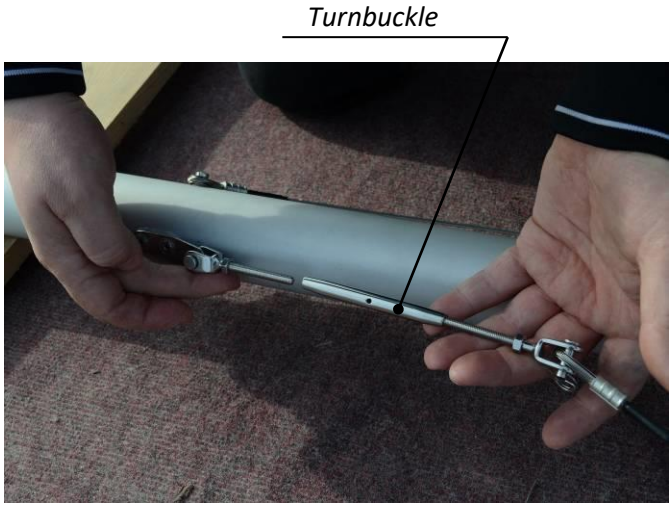
10. Set up the Forestays and Shrouds. They are rolled in a hank. Shrouds are attached with brackets to the ears on the left and right side of the centerboard beam. Forestays are fastened with rope lanyards to the brackets on the bow beam, when installing the mast.

11. Assemble the mast. For this, interconnect the four mast segments.

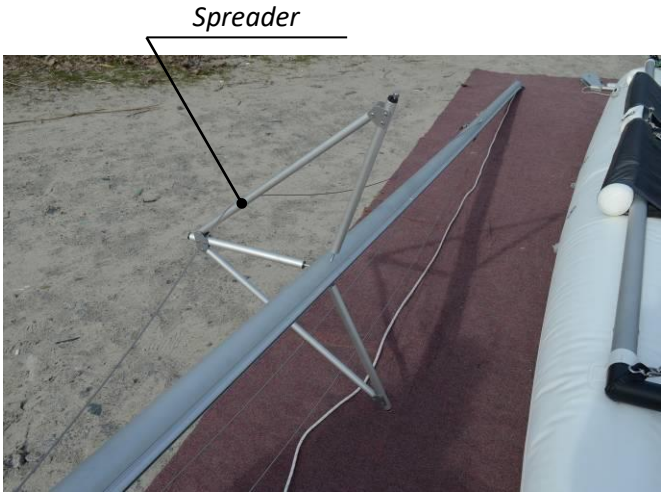
12. Install Jumper stays. To do this, unwind the jumper stays along the mast. Put two Side jumper stays on Eccentrics. Connect the Central jumper stay, which has the part of Turnbuckle, with the mating part of the turnbuckle on the mast. Tighten the turnbuckle.

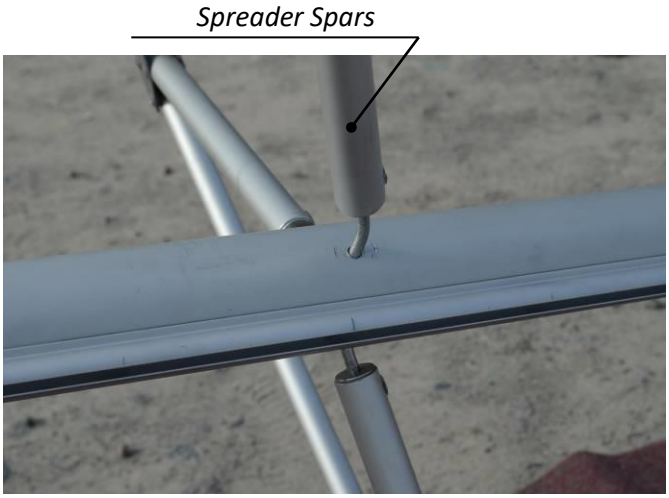
Important!!! *The two side jumper stays have a fixed length and, after putting on the Spreader, they create initial deflection of mast. The mast will align after installing the central jumper stay. The length of the central jumper stay is adjusted by Turnbuckle. This is an alinement item. Depending on its length, the mast may have a different deflection. As shorter the jumper stay, there is less deflection of the mast. Avoid excessive tightening of the turnbuckle and the appearance of reverse deflection of the mast. Try to achieve almost straight mast after installing the central jumper stay on the spreader.*



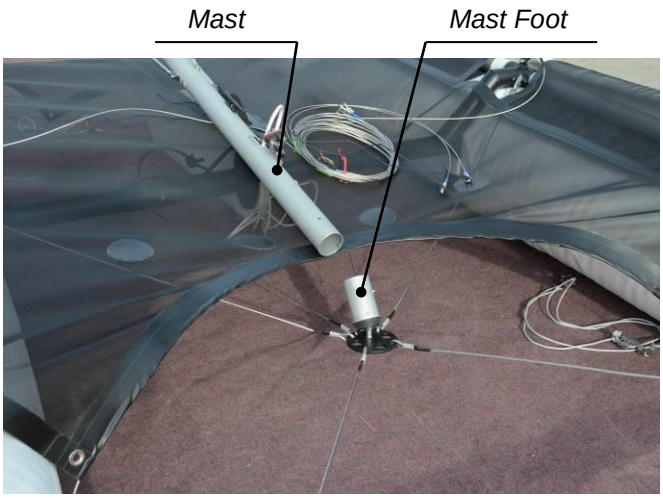


13. Install the Spreader. To do this, insert the spreader spars into the corresponding holes in the mast. Starting from the side jumper stays, pull them like a bow string and put them on the corresponding Spars. Fix the jumper stays with screws. For convenience, while stretching, rest your knee on the mast. This will give additional deflection of the mast and simplify the process of stretching.

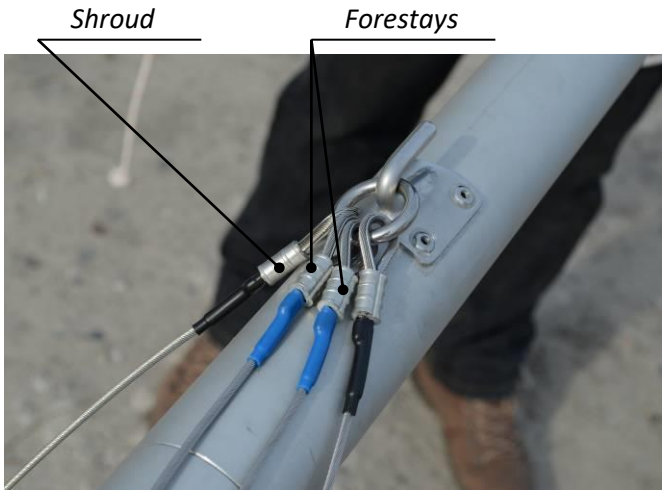




14. Install the Mast on the Mast Foot and secure it with a button lock.



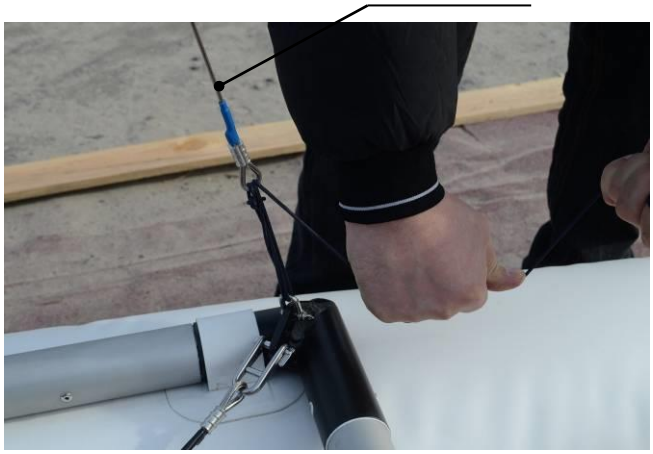
15. Fix the Shrouds and Forestays on the mast. For this, untangle the shrouds and forestays along the mast. Put the ring with shrouds and forestays on the mast hook. Make sure that the guys are on the edges and the forestays are in the center.



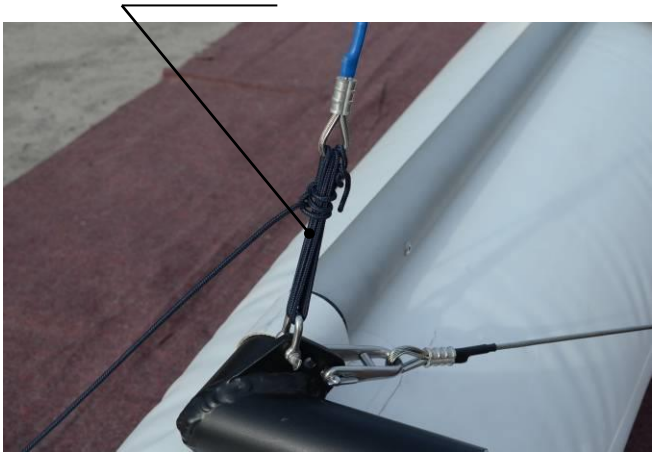
16. Raise the mast into a vertical position. If the mast is raised by two people, then one of them lifts the mast starting from the top and goes to its base. The second person, at the same time, is in front of the bow beam and pulls on the forestays and finally raises the mast into the vertical position. If the mast is lifted by one person, then he raises the mast from the top and goes to its base along the trampoline until the mast is in an upright position. After that it's necessary to hold the mast with forestays and walk to the bow.

17. One by one, fix on the bow beam the forestays of starboard and portside, tighten them with a rope lanyard and secure with a knot.

Forestay



Lanyard



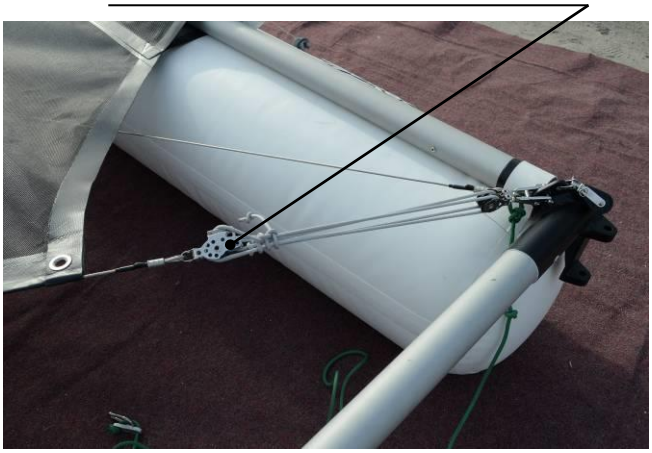
18. Attach the Trampoline Front Cable to the bow beam with shackles. Attach the Trampoline Rear Cable to the stern beam with shackles. Stretch the trampoline up using the blocks located on the trampoline front and rear cables.

Trampoline Front Cable

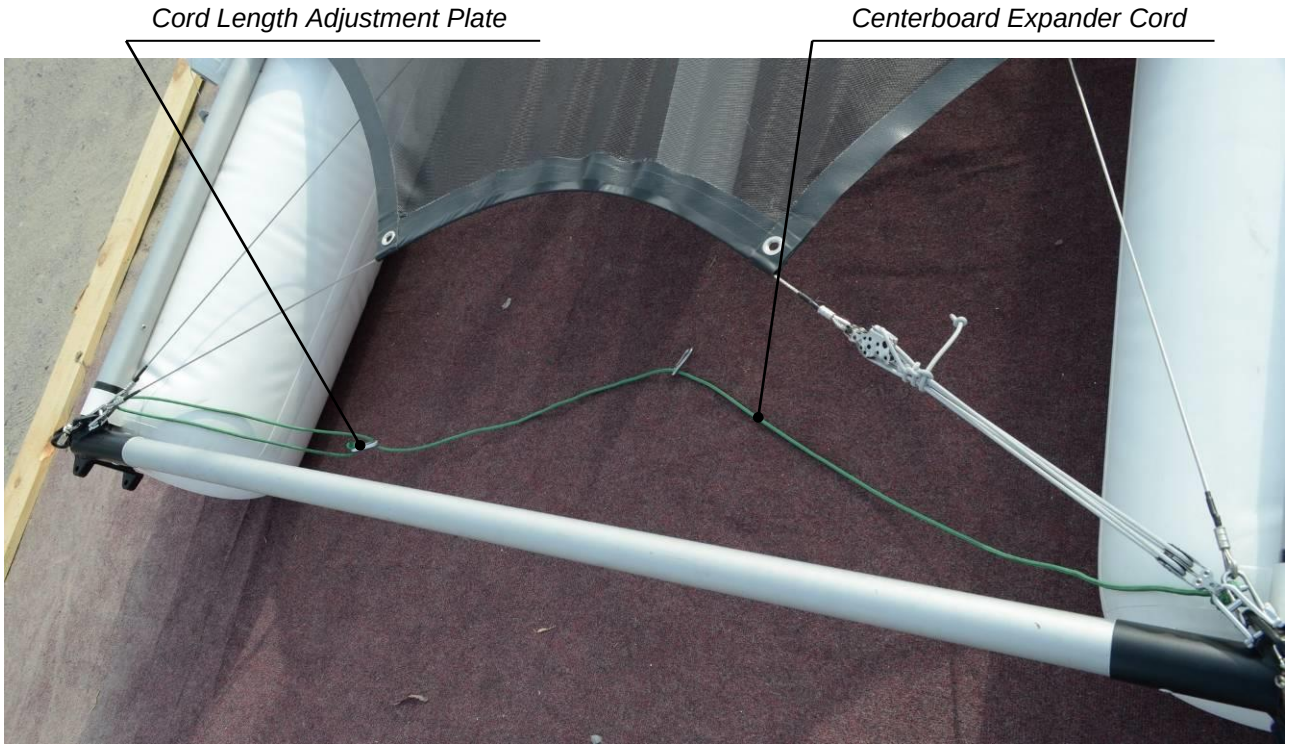
Trampoline Front Cable Blocks

Trampoline Rear Cable

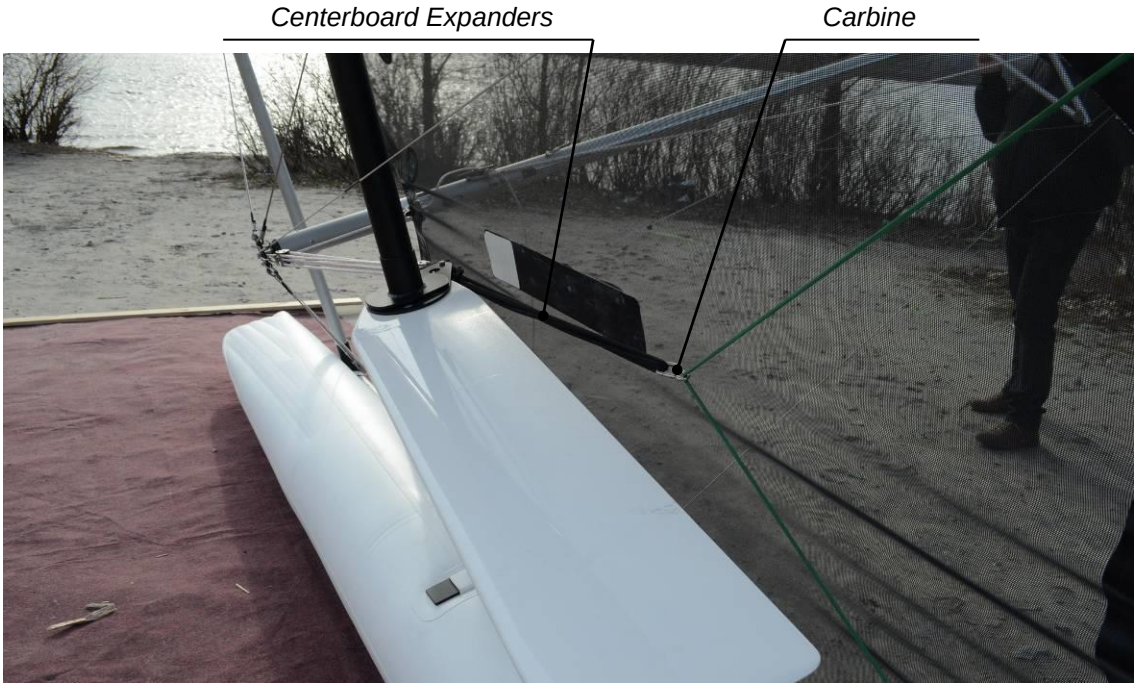
Trampoline Rear Cable Blocks



19. Tie one end of Centerboard Expander Cord to one of rear long cables brackets. Put the free cord end with plate through another rear long cable bracket, then through the hole in the plate. Tie a knot at the end of the cord. Adjust the degree of expander tension by shortening or lengthening the cord, using the plate on the cord.



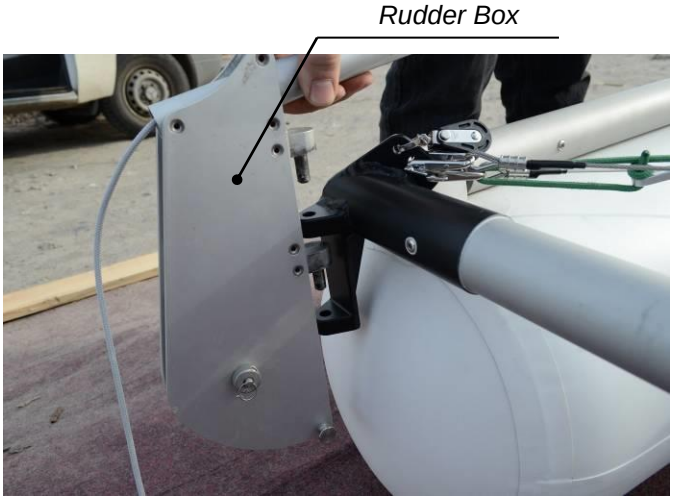
20. One by one pull of the centerboard expanders and lock them in the carbine of centerboard expanders cord. For convenience, you can put the catamaran on its side. The expanders lower the centerboard into position. Their tension should be enough to keep the centerboard in the working position, but at the same time, should be enough to allow the raise of centerboard with halyard into moor position.



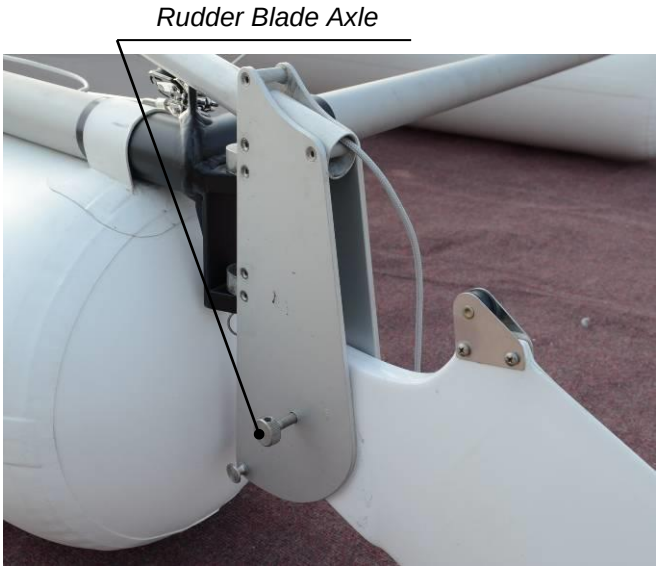
21. Attach the Block of the centerboard halyard, which will raise the centerboard into moor position, to Mast foot plate with Shackle. Put the free end of halyard into the block on the mast.

22. Stretch the trampoline up. For this, inflate the trampoline cylinders. For stronger tension of trampoline, you can use a hand or foot pump with increased pressure, for example, as shown in the photo.

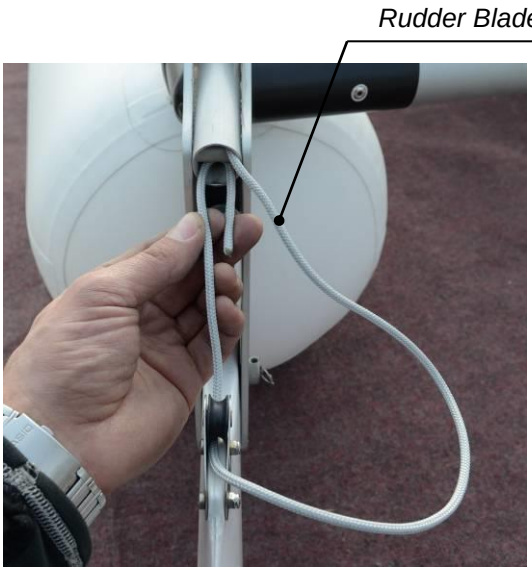
23. In turn, setup the rudder boxes onto rudder joint units and fix them with locking rings.

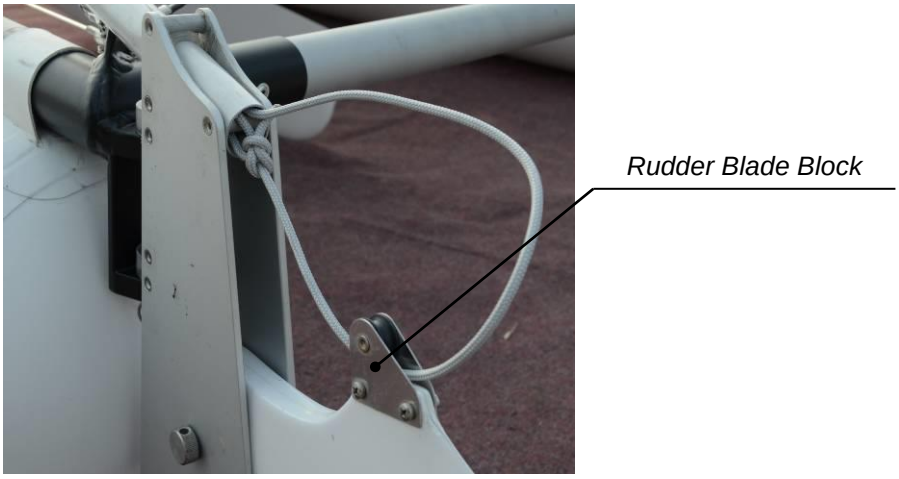


24. One by one install rudder blades into rudder boxes and fix them with the Rudder Blade Axles. Put the locking rings on the rudder blade axles.



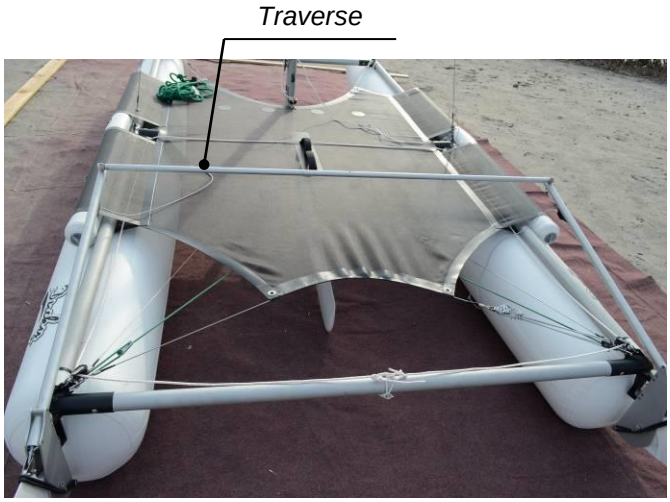
25. In turn, lay the rudder blade halyard, that raises the rudder into moor position, in each Rudder Box. To do this, pass the free end of halyard through the block on the rudder blade, and then secure it in the rudder box with a knot. For convenience of mounting, fold the end of halyard in half, insert it into the tiller, turn it 90 degrees so that the end bends around the sleeve in the tiller. Fix the end in the rudder box with a knot.

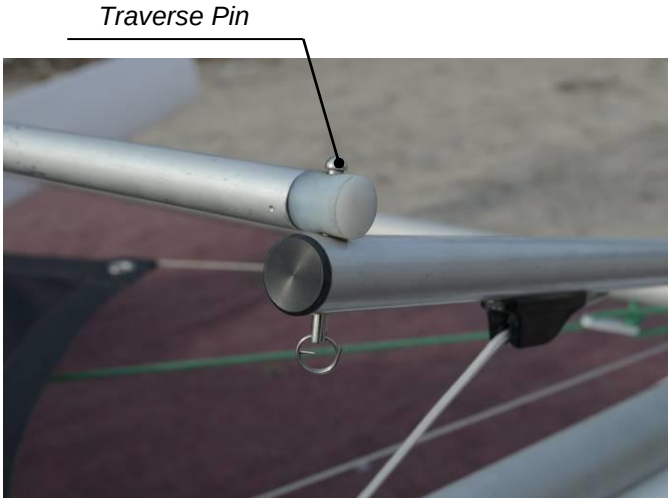




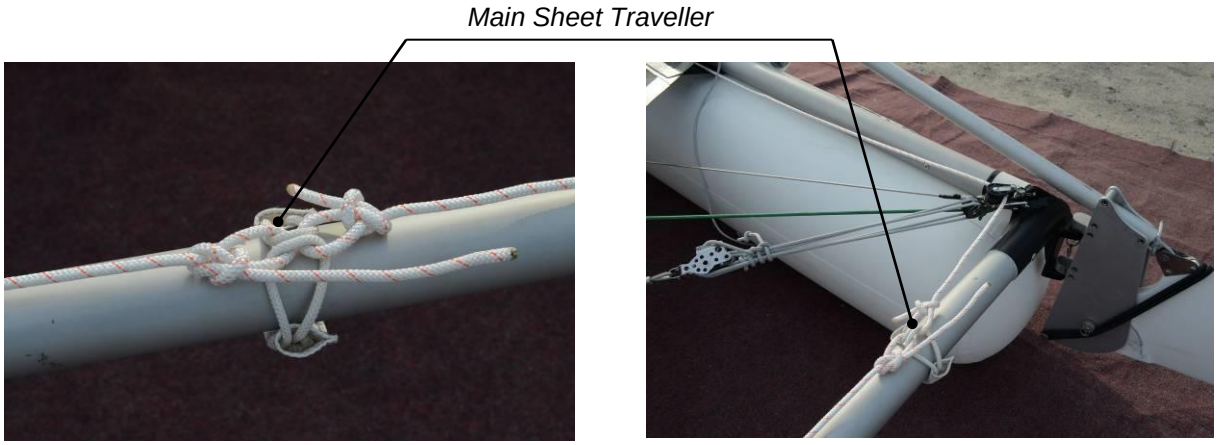
26. In turn, put on the rubber expanders that lower the rudders and lock them in the working position.

27. Install the Traverse (Crossbar), that connecting the tillers to each other. To do this, install the traverse on the tillers and secure it with pins.

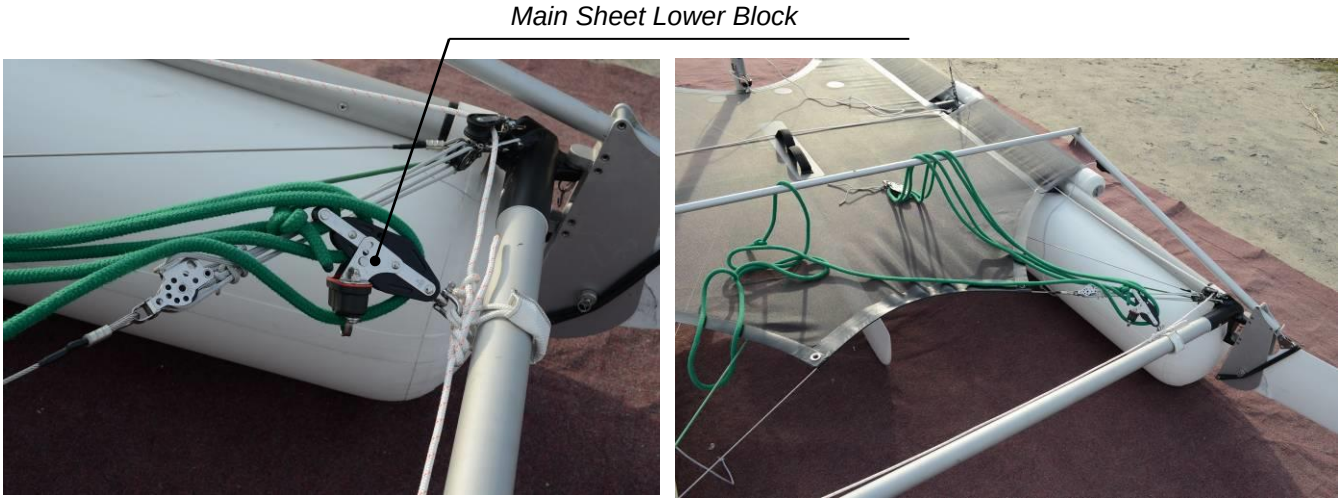




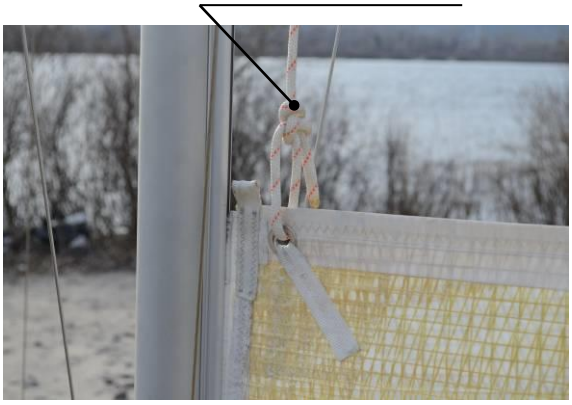
28. Setup the Main Sheet Traveller on the stern beam. Make a round wiring: tie the end to the traveller on the stern beam, pass the free end through the block on the stern node, then pass it through the trampoline sleeve, then pass it through the block on the centerboard beam, then run it on the trampoline to the block on other side of centerboard beam, guide it through this block, then lead it through the trampoline, then put it through the block on the stern beam node and secure it with the knot on the traveller.

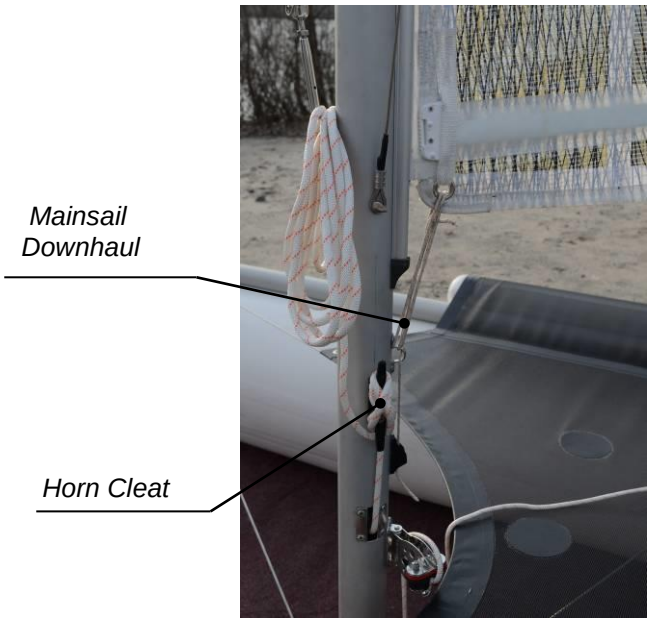


29. Attach the Main Sheet Lower Block to the traveller.



30. Hoist the mainsail up. For this, tie the mainsail halyard to the mainsail head corner. While hoisting mainsail, fix battens with tension straps. When the mainsail is fully hoisted up, lock the mainsail halyard with the horn cleat. Lightly pull the luff of the sail with the Mainsail downhaul.





31. Attach the Main Sheet Upper Block the clew corner of mainsail.

Note: *you can disassemble the catamaran in the order reverse to assembly sequence.*

CATAMARAN SAILING GUIDELINES

The catamaran sailing can take place both in simple and in complex meteorological conditions. Sailing in difficult weather conditions - a strong gusty wind, a big wave - requires from the crew the certain level of preparation, so the sail in such conditions is possible only with proper qualifications.

The helmsman is responsible for compliance with the rules of navigation and maritime safety.

Ducky 14s is simple and easy to control boat that has pinching tendency.

You can learn how to control catamaran by yourself. The learning is better to carry out in good weather, and at a small distance from the shore. First you need to learn how to sail windward and master the tack and jibe techniques. Later, you may improve other sailing skills.

Sailing upwind, the movement windward (tacking)

Tuning of mainsail when sailing upwind: mainsail should stand to the wind with about 10-20º angle of attack. In this case, it operates as a wing and develops the most traction.

Against the wind catamaran can only move in zigzags, such a movement is called tacking. When tacking, try to keep the best course. Depending on wind and wave conditions it is in the range of 45-50º to the wind. On such course a ship is still quite fast and quite steeply to the wind.

When sailing upwind, the centerboard should be lowered to the working position, as it prevents the drift.

In rough weather, the mainsail is set at a lower angle of attack - 5-10º and eased to 2-5º at squalls. This is caused by needs to reduce the load of mast, rigging, frame, etc. Otherwise, there is a possibility of catamaran tipping over the side.

Tack performing

When tacking, the boat must do a tack turn, the ship crosses the wind (head to wind) and board is changed to the opposite.

Before turn the boat should maintain enough way, sometimes it is useful to fall to leeward. The turn is started by move the rudder upwind smoothly but energetically. If move the rudder too sharply, then the drag will increase dramatically, and the boat can stop. If the rudder angle is not enough, the tack performing will delay, the ship will not have enough inertia to finish the turn and will stop.

As soon as the ship will get rotation power, the rudder angle is gradually increased. At the end of a turn, the angle reaches 30-45º. Until crossing head to wind, the outhaul is gradually (but not sharply) adjusted by holding the sail filled with wind.

When the boat will be on the new tack (passed the wind line) and the sail starts to veer to the lee side, the outhaul is loosening. Catamaran starts to fall leeward, and the execution of the turn will over. Then outhaul is picking up, the wind fills the sail and the catamaran again gaining the way.

Before going to a new tacking course, it is necessary to speed up the catamaran till condition when the centerboard and rudder develop the necessary lateral resistance. For this purpose, after a turn at first go more wind down than necessary and change to desired course when enough way is gained.

If the turn is failed for some reason and the boat is stopped head to wind or even starts shifting to the old tack, the one of following should be done:

- ease the catamaran off to old tack, speed it up, and make the turn again;
- turn with backward running. Remember, that in this case, the rudder needs to be declined in the same side, where a stern must go. The depth of water should be sufficient, that a rudder and centerboard did not reach the bottom that can entail their breakage.

Running

When running the sail is not working as a wing anymore, it does not create a lift and movement occurs only due to its resistance to wind. This eliminates the need for centerboard because there are no forces that cause the drift of the vessel.

Running does not make any complications in light wind, but we need to remember that it can be dangerous with strong wind. The danger is capsizing of catamaran. This can happen with an unexpected jibe when mainsail rapidly moves to other side and the catamaran is capsizing over the board. Or when catamaran in surf mode goes down the wave and bows run into trough of previous wave. The catamaran is sharply stopped at this moment, and its own inertia and wind pressure on sails pitchpole the boat.

In fresh weather, it is better not to allow movement with dead run course, and if the apparent wind begins to develop straight along the axis of ship, it is necessary to tack windward to backstay or prepare to face involuntary jibe.

It is also necessary to watch after that the bows of catamaran did not bury in the wave.

CATAMARAN RECOVERY FROM AN INVERTED POSITION

When sailing the catamaran in rough weather, there is always the risk of tipping over. Be prepared for and get to know how to behave in such situation. Light weight and the presence of a centerboard make it simple to recover the catamaran on an even keel. One person for sure can handle with this situation. Before recovery starts, make sure that the mainsheet is not in the stopper and eased off (very important!). To flip, you can use the mainsail halyard, passing it over the float. When hiking, hold the mainsail halyard and use the centerboard as a lever. For the first stage of hiking do not hurry and do not make any sharp movements, do pull the mainsail halyard and wait for a few seconds then you will see how catamaran slowly but surely start to rotate onto even keel. When the catamaran will be reversed back, most likely you will find yourself under it. At this point the wind can easily capsize an unloaded catamaran again, or just blow it away from you. Your task is to keep it nearby. Hold catamaran by the cables of lower bridle and try to orient its bows to the wind. See the next photos:

MAINTENANCE

The proper care of catamaran is the main condition for its long service life.

Avoid excessive pressure in the catamaran's floats when heated by sun; reduce the pressure in case of long term staying under sun.

Remove the sand and dirt from the surfaces of floats and dry the catamaran up after usage.
Avoid the getting water inside the floats of catamaran.

After usage of catamaran in salt water, rinse it with the fresh water.

Before long-term storage of the catamaran clean it from dirt and sand, dry up thoroughly, repair if damage is found, store the catamaran floats in a dry place and in an expanded form if possible.

You can do by yourself the minor repairs (punctures, cuts, replacing hardware, etc.) But in case of complicated repairs, it is recommended to contact your dealer or the manufacturer directly.

REQUIREMENTS FOR SAFETY

It is strictly forbidden to operate a catamaran while intoxicated or under the influence of pills.

Never use a catamaran without the personal flotation devices (life vests or harnesses, belts, life rings, etc.)

It is strictly forbidden to operate a catamaran in the darkness.

Never load the catamaran higher than the maximum load capacity.

It is strictly forbidden to operate a catamaran at wind speed greater than 10 m / s, wave height greater than 0.5 m and the distance from the shore more than 1000 m.

It is forbidden to set the pressure in the floats greater than 0.20 kg/cm2.

Do not drag the catamaran on the hard surface (asphalt, rocks, broken glass, etc.)

RECOMMENDATIONS

Before pulling away, make sure that all basic equipment, including oars, pump, life jackets are on board the catamaran.

Load must be distributed accurately over the length and width of the catamaran.

In case of long-distance routes inform somebody about the time and place of departure, planned navigation route and estimated return time. Also, next items should be on board: a flashlight, anchor, safety line, first-aid kit.

WARRANTY SERVICE

1. We guarantee that every catamaran Ducky 14s is free from defects in material and quality of work, but only under the condition that the sale is made by "Yukon - A" or a dealer authorized by "Yukon - A" to make such a sale.

2. Warranty will come into effect after putting the Dealer's seal and date of sale in the warranty card.

3. All components of the catamaran fall under warranty for 24 months.

4. Since this warranty applies only to defects in material and quality of work, it does not apply to normal wear and tear or damage caused by:

- neglecting, lack of maintenance, accident, improper operation of catamaran;
- using an auxiliary device or component that is not manufactured or sold by us;
- alteration or removal of any component of the catamaran.

5. Warranty service does not include accident or its consequences, or costs in such cases as towing, launching, the costs of towing and storage, the phone fee, or any type of lease, inconvenience, waste of time or any expenses (loss), and others, as result of any destruction (damage).

6. Buyer must provide the access to product for warranty service, must deliver the product for checkup by an authorized dealer, which will repair the product. If required service is included in this warranty, inspection and repair will be arranged. Otherwise, the repair costs are borne by the buyer.

Any product or component, which delivered by the purchaser for inspection and repairing, must be thoroughly washed and dried.

7. Our obligations that fall under this warranty will be limited to repair or replacement of the defective part of the component or components that will be needed to compensate for any defects that result from defects in materials or quality of work, as specified in the warranty.

We reserve the right to change the design of any product without assuming any obligation to modify any product previously manufactured.

WARRANTY COUPON

Model	Ducky14s	Serial number:	UA-UKND14

Certificates / Standards	CE

Owner: ……..

Full Name

acquainted with these operating instructions and warranties.

……

/ Signature of the owner /

Date of sale		Dealer stamp

Warranty repairs № 1 ……

№ 2 ……

№ 3 ……

№ 3 ……