

NACRA *Sailing* **USER AND OWNER'S MANUAL**

**EMPOWERING SAILORS
SINCE 1975**



CAREFULLY READ THIS MANUAL BEFORE OPERATING YOUR NACRA.

Dear Customer,

Welcome to the Nacra family.

It is our constant endeavour to provide you with products that offer excellent performance throughout their ownership period. Which is why, in addition to producing great catamarans, we have also set up an extensive dealer network around the world.

Naturally, these Nacra Dealers know everything there is to know about your catamaran and can provide you with the best service possible. So please find your dealer in your region at www.nacrasailing.com for any servicing needed and make sure that only genuine spares are used for your Nacra.

This manual will familiarize you with the operation and maintenance of your Nacra. It will also provide you with important safety information that should be read and understood before moving on to the assembly manual. The Assembly & operating manuals of our catamarans can be found under the 'after-sales' button on our website; www.nacrasailing.com.

If this is your first sailboat, or are you changing to a new type of sailboat you are not familiar with? For your own comfort and safety, please ensure that you obtain handling and operating experience before assuming control of the catamaran. Nacra Sailing, National Sailing Federations or local yacht clubs will be pleased to advise you about sailing schools or competent instructors.

When you have any query, please feel free to contact your local Dealer.


Empowering Sailors

Team Nacra

CRAFT RECORD SHEET


Model Name	NACRA					Delivery Date					
HIN code	N	L	N	A	C						
ISAF Plaque nr						Mainsail serial #					
Rudder serial #	<i>Starboard</i>					Jib serial #					
	<i>Port</i>					Gennaker serial #					
Daggerboard serial #	<i>Starboard</i>					Trampoline serial #					
	<i>Port</i>					Mast serial #					
Owner's Name											
Address						City/town					
Postal code						Country					
Nacra Dealer											
Address											
<i>Signature dealer</i>						<i>Dealers Stamp</i>					

Important notice

 : This is the safety alert symbol used to alert you to potential hazards including injuries or damage to your vessel or other property. Obey all safety messages that follow this symbol.

Throughout this manual you will find special notations:

 **WARNING!**
WARNING indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death.

 : This is a safety symbol which means 'Do not', or 'Do not do this', or 'Do not let this happen'.

All information, illustrations, and specifications in this manual are based on the latest product information available at the time of publication.

NACRA SAILING BV. reserve the right to change specifications or designs at any time without notice and without incurring obligation.

PLEASE TREAT THIS MANUAL AS A PERMANENT PART OF YOUR NACRA AND HAND IT OVER TO THE NEW OWNER WHEN YOU TRADE THE CRAFT.

Hull Identification Number

The Hull Identification Number (HIN number) is engraved on the starboard hull's transom. Do not adjust or remove this number from the transom.

CE Builders Plate

The CE builders plate is located at the starboard hull transom. The CE plate contains information on the Design Category, the Builder, the maximum number of crew, the maximum load and the number of the Notified Body assessing the craft.

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1. Declaration of conformity

Declaration of Conformity of Recreational Craft with the Design, Construction and Noise Emission requirements of Directive 2013/53/EU and repealing Directive 94/25/EC

Name of craft manufacturer: NACRA SAILING BV
 Address: HELLINGWEG 108-116
 Town: DEN
 Postcode: HAAG
 Country: 2583 DX

Name of Notified Body: IMCI
 Address: Rue Abbé Buypers 3
 Town: Bruxelles
 Postcode: B-1040
 Country: Belgique
 ID Number: 0609

Model	LENGHT HULL		BEAM HULL	DRAUGHT	Light Displacement	Minimum Recommended Capacity	Maximum Recommended Capacity	Maximum Recommended Load	Maximum Loaded Displacement
	m	m	m	KGS	In persons	In persons	KGS	KGS	
Nacra 450 MK ²	4,56	2,5	0,2	130	1	4	340	470	
Nacra 500 MK ²	5,03	2,5	0,2	145	2	4	340	485	
Nacra 570 MK ²	5,6	2,5	0,2	165	2	4	340	505	
Nacra 15	4,7	2,34	0,2	150	2	4	340	490	
Nacra F16	5	2,49	0,2	127	2	4	340	467	
NACRA 17	5,25	2,59	0,2	165	2	4	340	505	
Nacra F18 Evolution	5,51	2,59	0,2	180	2	4	340	520	
Nacra Inter 20 MK ²	6,2	2,59	0,2	185	2	4	340	525	
Nacra F20 Carbon	6,2	3,2	0,2	190	2	4	340	530	

The EU Recreational Craft and personal watercraft directive 2013/53/EU Annex VI - Module Aa & Annex 1 - Essential requirements of Sections 3.2 Stability & Freeboard and 3.3 Buoyancy and Flotation

DESCRIPTION OF CRAFT

HIN NO: (fill fields below)

N	L	N	A	C															
---	---	---	---	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Brand Name of Craft: Nacra
 Type or Number:
Nacra 450MK² / Nacra 500MK² / Nacra 570MK² / Nacra 15/ Nacra F16 / Nacra 17 / Nacra F18 Evolution /Nacra Inter 20MK² Nacra F20 Carbon.
 Type of Craft: SAILBOAT
 Type of Hull: MULTIHULL
 Deck: FULLY DECKED
 Type of Propulsion: SAIL
 Hull Construction Material: S PLASTIC , FIBER REINFORCED
 Maximum Design Category: PLASTIC

This declaration of conformity is issued under the sole responsibility of the manufacturer. I declare on behalf of the craft manufacturer that the craft HIN code as mentioned above comply with all applicable essential requirements in the way specified.

Name: _____
 Function: _____
 Signature: _____
 Date: ____ / ____ / _____

For ODCO approved ISO applicable standards: See page 14.

This craft is certified and its stability assessed by the IMCI under DESIGN CATEGORY C.

2. DESIGN CATEGORY

CATEGORY C – inshore: Craft designed for voyages in coastal waters, large bays, estuaries, lakes and rivers, where conditions up to wind force of 6 beau fort / 25 knots and significant wave heights up to and including 2m may be experienced.

The Nacra range of crafts comply with this design category and is subject to:

- A crew having suitable skill and experience.
- Satisfactory maintenance of the craft and its equipment.
- Support the crew even when swamped.
- Be recovered by the crew after capsize.

Users of the craft should comply that:

- All crew should receive suitable training.
- Trapeze shall not be used carrying more than 2 persons.
- The craft shall not carry more than the maximum load.
- All inspection hatches and drains shall be closed
- Bilge water shall be kept to a minimum.
- Stability is reduced by any weight added above the centre of buoyancy.

3. Important safety information

Please read the important safety information and read the Assembly Manual before sailing your boat.

WARNING!

Check for overhead cables when raising or lowering the mast, launching and sailing the boat. Look up when moving the craft around and give any wires a wide berth. A mast which comes in contact with electrical power lines can cause serious injury or death!


BEFORE YOU GO SAILING

- Check you are wearing suitable clothing and safety equipment for the conditions and time of year;
- Secure the drain plugs before sailing and ensure that the hulls are free of water. Ensure that any hatches are correctly fitted and have a good seal;
- Carry your Nacra or use beach wheels with cradles whenever possible to minimize keel wear;
- Make sure a third party knows where you are sailing and how many people accompany you;
- Check the weather forecast;
- Check the time of high and low tides if applicable;
- Seek advice of local conditions if sailing in a new area.
- Always check the condition of your craft before setting off.

SAILING AND BEACHING

WARNING!

Always wear an approved buoyance aid or lifejacket.

-  Never sail above your ability or that of your crew;
- A sailor's safety knife should be carried on board;
- When launching through the surf, always make sure the bow is facing the waves.
- Always know the direction that the wind is blowing;


- Watch out for changing weather conditions;
- Ensure that you and your crew can cope with any changes in the weather conditions;
- After sailing, remove drain plugs to equalize the pressure in the hulls, if no drain plugs installed, open the hatches;
- Understand and be competent in the sailing skills and righting techniques.

RIGHTING AFTER A CAPSIZE

Even the best sailors capsize occasionally, so prepare yourself and the boat for the inevitable. Install a righting line onto the dolphin striker rod below the mast.

The boat will lose speed as it raises up on one hull and usually capsizes over slowly. Hang on to the boat, being careful not to separate yourself from the boat if possible.

As the boat capsizes you may be located in the water or on the top hull above the water, try to get as fast as possible onto the bottom hull. It is important to get yourself to the bottom hull as quickly as possible to prevent the boat from turning upside down (turtle).

 Do not let go of the boat, as the current and the wind may make it hard or impossible to get back onto the boat.

Release the main, jib and spinnaker sheets. Reach around the front crossbar, and throw the righting line over the top hull. Make sure that the bows of the hulls are facing into the wind. Move your weight towards the bow to turn the boat to obtain the proper angle. Be careful not to shift your combined weight too far forward or afterwards as this may cause the boat to roll over and turn turtle. If the mast is pointed directly into the wind, the boat may turn over to the other side when you get the boat upright

Standing even with the front crossbar, the skipper and crew should grab the righting line, and hike out backwards. You can tie knots in the righting line to prevent your hands from slipping during this procedure. If you are single handling, you may need to carry a righting bag to attain the necessary weight to right the boat

Once the tip of the mast starts to come out of the water, the boat will right quickly. Be sure to hold onto the righting line until you can grab the boat and pull yourself up onto the deck. Be careful to avoid being hit by the dolphin striker as the boat comes down on top of you. One of the crew should reboard over the front beam of the catamaran onto the platform to ensure that the craft cannot sail away without the crew. The remaining crew can be recovered by the side with the aid of the trapeze wires or crew. Stow the righting line, organize the sheets, and you are sailing again!


Minimum crew weight required for righting:

Nacra 450 MK²	75kg
Nacra 500 MK²	100 kg
Nacra 570 MK²	130 kg
Nacra 15	110 kg
Nacra F16	120 kg
Nacra F18 Evolution	140 kg
Nacra 17	130 kg
Nacra Inter 20 MK²	150 kg
Nacra F20 Carbon	150 kg

3. Important safety

STABILITY AND BUOYANCY

The Nacra catamarans are equipped with one or more sealed buoyancy compartments. The buoyancy compartment is inserted during the build of the hulls. Consequently the following points should be noted:

-  Do not puncture the buoyancy compartment.
- When the buoyancy compartments become punctured do not use the craft until the compartment is repaired.
- When a hatch is not closed correctly do not use the craft until the hatches are fitted correctly.
- You may have to replace fittings from time to time. Ensure that all fastenings are resealed properly using an appropriate sealant.

The IMCI assessment of these crafts has determined that the crew can upright the craft and will subsequently float. Each of the Nacra Catamaran listed in the Declaration of Conformity have been certified as conforming with the requirements of the Recreational Craft Regulation as published in the Recreational Craft Directive 2013/53/EU in accordance with the essential requirements:




- 3.2 Stability and Freeboard
- 3.3 Buoyancy and Flotation

TRAILERING AND STORAGE

When trailing your Nacra you should only use an approved road trailer. Tying down the craft to its trailer is important because too much or too little tension could result in damage.

Follow the instructions below for safe trailing:

- Ensure the catamaran is properly located on the road trailer and that the boat is balanced correctly. Always use trailers and beach trolleys with cradles designed to fit the hulls rather than rollers. Risk of damaging the hulls occurs when using trailers and dollies without proper support

-  Make sure that the catamaran is not too far forward otherwise it may come into contact with the side of your car as you turn corners.
- Tie the catamaran down to the trailer by using two straps across the width of the hulls using the eyelets on the frame of the trailer. You only need to apply sufficient tension to hold the catamaran in contact with the trailer. Use padded material where any straps touch the deck.
- Always remove dagger boards, rudders, blocks, and rigging when trailering.
-  Do not use the dolphin-striker as a tie down or for pulling the boat. Use the main beam instead.
- Secure both ends of the mast. Be sure to mark off both ends of the mast for visibility.
- Boat covers are recommended to protect against rocks, gravel and road debris while trailering. These covers also provide good protection from weather and the elements.
- Always leave the drain plugs and inspection hatches open to avoid possible air pressure damage.
-  When stored outside and using hull cradles, the carpet or any other protection material can contain water. This water may cause osmose on the hull area.

TOWING AFLOAT

Should it become necessary to tow the craft, you should secure the towing line around the Front Cross Beam on one of the sides and as close as possible to the hull. Raise the daggerboards (if fitted) and stay at the tiller. In the event of the loss of the rudder sit well aft.

ANCHORING & MOORING

Mooring or anchoring of your boat is not recommended. However, if the boat is moored in the water, barrier and anti-fouling paint must be applied to the bottom. The Nacra range of catamarans are not normally required to anchor/moor, as they are day boats for racing or cruising in inshore or inland waters and to be taken out of the water after sailing.

OUTBOARD ENGINE

The Nacra range of catamarans are not designed for use with an outboard engine.

4. Standard limited warranty coverage

Below you will find our warranty details and instructions. Please follow these instructions so we can identify you as a NACRA sailor when warranty issues arise.

4.1. TERMS AND CONDITIONS

Nacra reserves the right, before having any obligation under this limited warranty, to inspect the damaged Nacra product. All costs for shipping the product to Nacra or Nacra dealer/distributor for inspection shall be paid solely by the purchaser, in order to recover under this limited warranty. The original invoice or warranty card registration must also be presented of the product. (on-line registration card www.nacrasailing.com, or any other documentation Nacra deems acceptable)

Nacra, at it's option, shall repair or replace the defective unit covered by this warranty. This limited warranty does not cover any damage due to accident, misuse, abuse or negligence. Nacra shall approve beforehand any repairs which will be carried out under this limited warranty. A quotation must be send to the Nacra Dealer before proceedings may go forward. Please note, this approval by Nacra for the repair does not guarantee the warranty, as the repair is part of the investigation of the warranty proceedings.

Please retain the dated sales receipt as evidence of the original date of purchase. You will need it for any warranty service. In order to keep this limited warranty in effect, the product must have been handled and used as prescribed in the owner's manual.

IMPORTANT NOTICES

Online warranty registration:

Make sure to register your boat at www.nacrasailing.com to entitle for warranty. **This registration is mandatory**

Pre-Delivery Inspection

A thorough inspection of the new boat prior to delivery ensures that the condition of each boat meets the high standards set by Nacra. We certify that your boat was inspected according to the procedures established by Nacra.

To Obtain Warranty Service

Within 10 days of discovering a defect, notify in writing, along with proof of purchase (sales receipt or registration) to an authorized dealer or service centre.

Maintenance records

It is also recommended that receipts covering the performance of regular maintenance be kept with your boat. Damage to your boat caused by lack of maintenance is not covered by our warranty.

Owner satisfaction

Should you ever encounter a problem during or after the warranty period that is not resolved, talk to the management of the dealer or service centre. If the problem persists, follow the two-stage satisfaction procedure outlined in this section of the owners manual.

NEW BOAT LIMITED WARRANTY

What is covered?

Nacra warrants each new Nacra boat, hereafter called "boat." The warranty covers repairs to correct any malfunction occurring during the warranty period resulting from defects in material or workmanship. New or re-manufactured parts may be used to affect repairs. Only genuine Nacra parts and/or Nacra licensed supplier parts should be used for these repairs. The warranty period for all coverage's begins on the date the boat is first delivered or put in use, whichever comes first.

The warranty period is 2 years / 24 months. This coverage applies to all owners of the boat.

To obtain warranty repairs, take the boat to an authorized Nacra dealer or service centre within the warranty period and agree upon the repairs and/or adjustments required. A reasonable time must be allowed for the dealer/service centre to perform necessary repairs and/or adjustments. Charges for warranty repairs and adjustments (parts and/or labour) will not be applied.

What is not covered?

Since this warranty applies only to defects in material and workmanship, it does not apply to normal wear and tear, or to damage caused by:

1. Neglect, lack of maintenance, accident, abnormal operation or improper installation and services. Failures due to lack of proper maintenance as described in the maintenance schedule; failure to follow maintenance schedule intervals; failure to use lubricants recommended in the warranty manual. Proof of proper maintenance is your responsibility.
2. Keep all receipts and make them available if questions arise concerning maintenance.
3. Accidents or damage caused by collision, fire, theft, electrocution, freezing, vandalism, riot, and explosion or from objects striking the boat and /or acts of God.

4. Misuse of the boat such as overloading, alterations to the boat and/or any damage caused by these alterations. Discoloration, crazing, or blistering of gelcoat caused by mooring or storing the boat in water [not recommended; if boat is stored in water, anti fouling is advised.
5. Transportation of boats and/or parts to/from Nautical Sports BV or its dealers.
6. If your boat is equipped with a Cunningham system purchases over 8:1, Mainsheet over 10:1; please be aware that damages that are due to over-sheeting are not covered.
7. Damage caused by airborne fallout (chemicals, tree sap, bird extractions etc.), stones, hail, earthquake, water or flood, windstorm, lightning, etc.
8. Cleaning and polishing, lubricating performing other normal maintenance services. See maintenance schedule and assembly manual for full details.
9. This warranty does not cover any economic loss including (without limitation) payment for the loss of time or pay, inconvenience, loss of boat use, boat rental expenses, lodging bills, food, other travel costs, storage charges and other incidental or consequential loss or damage.
10. This is the only expressed warranty applicable to your Nacra boat. Neither authorized Nacra dealers/service centres nor Nacra authorize any person to create for them any other obligation or liability in connection with these boats. Any implied warranty of merchantability or fitness for a particular purpose applicable to this boat is limited to the duration of this written warranty.
11. The performance of repairs and needed adjustments is the exclusive remedy under this written warranty. Nacra shall not be liable for incidental or consequential damages resulting from breach of this written warranty.
12. **Regarding the hulls and mast;** both the hulls and the mast can have intrusion of water; this is due to the nature of use and build of the product. Water tightness therefore is not warranted and or guaranteed. Please check with your local legislator if a mast floatation device is required.

THINGS TO KNOW ABOUT LIMITED WARRANTY

General

We will repair everything covered under warranty that goes wrong during the warranty period that is the fault of the manufacturer.

Damage / Defects

Please note the distinction between “defects” and “damage” as used in this manual:

Defects are covered by the manufacturer, but we have no control over damage (Please read the following pages for details) caused by such things as collision, misuse, transportation and lack of maintenance which occur after the boat is delivered to you. Damage, for any reason, which occurs after the boat is delivered to you is not covered under warranty.

Maintenance and repairs are recommended to be performed by any authorized Nacra dealer or service centre, who will offer first class service at competitive prices. Warranty repairs must be performed by an authorized Nacra dealer or service centre. Authorized Nacra dealers and service centres reserve the right to deny warranty coverage if the boat has not been properly maintained.

Rust / Corrosion

Your boat and its fittings are designed and built to resist corrosion, but due to outside influence [salt, chemicals etc] corrosion may occur. Please make sure that your boat is rinsed with fresh water after every sail to prevent this happening. Please refer to the maintenance schedule and/or assembly manual for further details.

Warranty service

For warranty service, please see the authorized Nacra dealer or service centre where you purchased the boat. If you are touring or moved, please visit any authorized Nacra dealer or service centre for warranty service. The nearest authorized Nacra dealer or service centre can be found on our website: www.nacrasailing.com.

Warranty repair order

For your records, the servicing authorized Nacra dealer or service centre will provide a copy of the warranty repair order listing all warranty repairs performed.

Voiding warranty

In case the repair is performed by a non authorized dealer, service centre or repairer and/or non genuine parts are used the warranty is void. Damages and/or defects caused by this repair are not warranted.

After warranty repairs

If you have a problem with your boat after the warranty coverage has expired, we recommend you to return to your authorized Nacra dealer or service centre for routine maintenance and repair.

Production changes

The manufacturer and/or Nacra reserves the right to make changes in boats built and/or sold by them at any time without incurring any obligation to make the same or similar changes on boats previously built and/or sold by them.

Wear & Tear exclusions

What is excluded?

- Wear and Tear from normal sailing and usage
- Discoloration
- Scratching [anodized] parts
- Battens
- Sheets / ropes / shock cords
- Rubbers
- Burn holes in the spinnaker due to incorrect snuffing
- Rudder alignment
- Wear due to beaching the boat
- Non-structural cracks in gelcoat
- Misuse

4.2 Owners assistance

If you experience any concerns.

Two-Stage satisfaction procedure

ONE – Discuss your concern with a member of the authorized Nacra dealer - or service centre management.

Concerns can often be resolved quickly and satisfactorily at that level. If the concern has already been reviewed with the sales or service manager, contact the owner of the authorized Nacra dealership/service centre or the general manager.

TWO – In the unlikely event that your concern cannot be resolved by the authorized Nacra dealer or service centre management, contact NACRA Sailing BV at warranty@nacrasailing.com

By doing so you should be prepared to provide the following information in English:

- Your name, address, telephone number and e-mail.
- The identification HIN number of your boat (This can be found on the starboard hull stern)
- The name and address of the dealer.
- The delivery date of your boat.
- Details of your concern or request.
- Including photos and/or quote of repair.

Storage

It is most important that you store your boat properly, please see page 8 of this manual how your boat should be stored. Please make sure in case you store your boat for longer periods it's stored in a well ventilated area in order to avoid an osmosis reaction between hulls and any (transport) supports.

Transport

To make sure that no damage is done to your boat, please see page 8 of this manual.

MAINTENANCE—GENERAL INFORMATION



CAUTION!

Always wash your boat with fresh water after sailing. Salt water can cause severe corrosion

It is essential that your boat receives the maintenance outlined on the following pages to retain the safety, reliability and performance built into your boat.

Do not leave the rig under tension when not sailing or during storage. If rig tension is over tightened, or left on when not sailing damage may occur.

Your boat should only be used with a proper launching trolley. The use of any other trolley may damage the hull and invalidate your warranty. Care must be taken to support the hull adequately if the boat is not stored on the correct launching trolley. Any sustained point-loading could permanently dent or distort the hull.

Any repairs to the hull should be undertaken by qualified personnel with the relevant skills and equipment. Contact your dealer for advice.

UV light may cause fading to some components and fittings, a good quality cover is recommended to reduce UV degradation. Keep the equipment clean by frequently and thoroughly flushing with fresh water.

Excess water should be removed from the hull and any cavities. Keep your craft drained and well ventilated. Ensure the craft is stored with the bow raised to allow water to drain away. Make sure that when you attach the rudder that the rudder stop clips over the stock.

Salt water will deteriorate your sail and the stitching if the sail is not rinsed in fresh water after sailing. Sails should be dried before storing. Ideally we would recommend that you should store sails in a convenient dry place away from the craft. If you have to store sails on the craft ensure that a

good cover is used and that it prevents any water coming into contact with the sails. Sails will be subject to mould and mildew if left in water.

Trailers should be rinsed with fresh water and checked at regular intervals. It is recommended that the trailer be serviced annually. It is also a good idea to tie the craft down when it is left in the dinghy park to prevent any damage in the event of strong winds.

Repair

Contact your dealer or NACRA Sailing BV for the best advise

Modifications

Contact your dealer or Nautical Sports BV about any modification. Please remember any modifications may endanger your safety and invalidate your warranty.

Spinnaker sailing

Special note of caution while sailing with Spinnaker. While sailing with spinnaker it is mandatory to:

- Keep the mainsheet tight, as the Main sail will act as a back stay for the mast.
- Release mast rotation, as this will prevent twist of the mast.
- Release Cunningham, as this will prevent twist of the mast.

Failure to do so will most likely cause the mast to overload and break and is not covered under warranty if the above instructions are not followed.

5. Maintenance and service

INSPECTION BEFORE SAILING MAINTENANCE EVERY 3 MONTHS BY OWNER

Platform [hulls & trampoline]

- Always keep trampoline lacing tight.
- Always check beam bolts to ensure proper torque.
- Check hulls for leaks at all hull fittings
- Check the trampoline for tears, or loose stitching. Repair immediately to avoid further damage.

Sails

- Check for broken or delaminated battens. Never sail with damaged battens.
- Check the sails for tears, or loose stitching. Repair immediately to avoid further damage.

Rigging

- Check all shackles, clevis pins, and fasteners for loosening or wear. Replace as needed.
- Tape all split rings and cotter pins to prevent loss or damage.

INSPECTION AFTER SAILING

Platform & Rigging


- Rinse ENTIRE boat with fresh water after each use. Be sure to flush all blocks and fittings thoroughly.

Sails

- Rinse sails with fresh water, make sure sails are dry and batten tension is released when storing for more than a day.
- Never fold your sails
- Role your sails from top to bottom, this is to prevent luff damage

Platform

- Check mast ball for wear- replace if:
 - a) Maximum diameter of the flat spot on top of the ball is bigger then 15mm/0.6 inch
 - b) Minimum height from bottom to top should be 35 mm/1,4 inch
- Check hulls for excessive wear on keel from beaching and dragging the boat.
- Check hulls for leaks at all hull fittings by covering suspected areas with soapy water and blowing air (from your lungs) into the drain plug holes.

 **DO NOT USE COMPRESSED AIR AND OR ANY OTHER TYPE OF MECHANICAL BLOWER AS THE EXCESSIVE PRESSURE CAN DAMAGE THE HULLS.**

- If the water bubbles, there is a leak. Remove the fitting and/or cover with silicone sealant and replace. If the leak is in a fibre glassed area (no fittings) this should be reglassed to insure proper permanent bonding. Please contact your dealer

Sails

- Check for broken or delaminated battens. Never sail with damaged battens.
- Check the sails and trampoline for tears, or loose stitching. Repair immediately to avoid further damage. Please contact your dealer

Rigging

- Periodically check for and replace frayed, worn, or kinked wires, shock cords and lines.
- Periodically check the bearings in the traveller car and replace them if necessary. Rinse thoroughly with fresh water to free any stuck bearings.

- Periodically check dolphin striker strap tension. Please see assembly manual for the correct setting for your boat. Adjust as necessary.
- Masts should be regularly inspected for water tightness and diamond wire wear. Make sure fittings are sealed with silicone.
- Replace wires that show any signs of wear. Check diamond wire attachment points, turn buckles and seizing wire. These areas could cause serious mast failure!

Conditions which require more frequent owner maintenance

If your boat is regularly operated under one or more of the following conditions:

- Temperatures below freezing or above 32°C / 90 F
- Take extra care when boat is left after sailing when freezing is likely, ensure that hulls are dry.
- Beach storage

Recommended Fluids, Materials and Lubricants.

Blocks/ Cleats	Mc Lube Sailkote ® lubricant or equivalent
Mast Rivets	Sikaflex® 291 or equivalent marine grade silicone sealant
Beam bolts	Molykote® grease long-term W2 or equivalent
Wax	Dulon 2- component Boat Care or equivalent
Emergency repair hull	Please contact your dealer for emergency repair kits
Emergency repair sails	In case of emergency repair only sail repair tape should be used. Please contact your dealer for emergency repair kits
Carbon Mast	any UV protection wax e.g. Teflon wax etc.

6. Care of carbon fiber mast

Each carbon-fibre mast delivered by Nacra has been manufactured using heat and pressure autoclave curing, the best process available.

Since carbon fibre composite is different than aluminium to drill, file, or otherwise process, always contact your Nacra dealer for advice before making any modifications to the mast.


HANDLING AND STORAGE

Carbon fibre has properties differing from aluminium. Though carbon composite is stronger than aluminium, it is less resistant to impact loads. Where aluminium will dent on severe impact, carbon composite could shatter or suffer serious delaminating. Clearly, subjecting your carbon spars to severe impact is to be avoided.

When transporting your mast it is important to pack it well using covers which are available at your Nacra dealer. Ensure that rigging is removed to prevent the stays from wearing or banging against the mast. It is recommended to fully inspect your mast when re-rigging your mast.


CARE

In order to get the maximum life from your carbon fibre composite tubing we recommend the following care and precautions:

-  Do not allow the mast to become excessively hot. High performance epoxy resins, together with oven post curing, are used in the tubes, however at temperatures above approximately 75°C the epoxy can soften which dramatically reduces strength or otherwise can cause the tube to bow or warp. Note that black objects are the best absorbers of IR radiation (heat)
- Epoxy resins are UV light degraded. Although our epoxy resins have UV light protection, excessive UV light has the effect of turning the exposed epoxy resin into a chalky layer. Therefore it is recommended to keep your mast as much as possible out of the UV light. It is best to cover it when not rigged.

7. One-design integrity maintenance log

PROOF OF MAINTENANCE

 Proper certification of maintenance will avoid problems covered by warranty, or damage by lack of maintenance. Perform all recommended maintenance to ensure that your boat is kept in good condition.

<i>(repair category - warranty repair / accident Repair / fatigue repair)</i>			
Repair Date	Repair category	details of repair done	Name and address of servicing retailer
			stamp
			stamp
			stamp
			stamp
			stamp
			stamp

8. Odoos applicable standards

Essential requirements (reference to relevant articles in Annex IA & IC of the Directive)	Standards	Other normative documents/ methods	Technical file	Please specify in more detail (*: Mandatory Standards)
General requirements (2)	<input checked="" type="checkbox"/>			
Craft Identification Number – CIN (2.1)	<input checked="" type="checkbox"/>			EN ISO 10087 2006
Builder's Plate (2.2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EN ISO 14945 C5-8/1/2005
Protection from falling overboard and means of reboarding (2.3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EN ISO 15085 2003/C26 1/12
Visibility from the main steering position (2.4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EN ISO 11591 2002/C59/06
Owner's manual (2.5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EN ISO 10240 2005/05/03
Integrity and structural requirements (3)				
Structure (3.1)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EN ISO 12215-1 2001/C138/05, EMPIRICAL DATA, RSG
Stability and freeboard (3.2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EN ISO 12217-2 01/10/2002
Buoyancy and flotation (3.3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EN ISO 12217-2 01/10/2002
Openings in hull, deck and superstructure (3.4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EN ISO 12216 2002/12/19
Flooding (3.5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EN ISO 12216 2002/12/19
Manufacturer's maximum recommended load (3.6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EN ISO 14946 2002/C59/06
Liferaft stowage (3.7)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Escape (3.8)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EN ISO 12216 2002/12/19, EN ISO 09094 2003/C163/02
Anchoring, mooring and towing (3.9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EN ISO 15084 2003/C118/09
Handling characteristics (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EN ISO 10592 2001/C138/05
Engines and engine spaces (5.1)				
Inboard engine (5.1.1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ventilation (5.1.2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Exposed parts (5.1.3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Outboard engine starting (5.1.4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fuel system (5.2)				
General – fuel system (5.2.1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fuel tanks (5.2.2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Electrical systems (5.3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Steering systems (5.4)				
General – steering system (5.4.1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EN 28848 2001/C138/05, EN ISO 10592 2001/C138/05
Emergency arrangements (5.4.2)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EN ISO 10592 2001/C138/05 - Tiller EN ISO 10592 2001/C138/05, RSG
Gas systems (5.5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fire protection (5.6)				
General – fire protection (5.6.1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fire-fighting equipment (5.6.2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Navigation lights (5.7)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	72 COLREGS, or EN ISO 16180 DIS
Discharge prevention (5.8)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Annex I.B – Exhaust Emissions	see the Declaration of Conformity of the engine manufacturer			
Annex I.C – Noise Emissions¹	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Noise emission levels (I.C.1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Owner's manual (I.C.2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

¹ Only to be completed for boats with inboard engines or sterndrive engines without integral exhaust

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