

NACRA 460 CLASS RULES

2012

The NACRA 460 was designed in 2006 by NACRA.

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INTRODUCTION

The Nacra 460 Class has been formed to support owners throughout the world with better racing and race support service. The concept is to ensure fair racing through a simple one-design manufacture that allows all sailors to compete fairly on the water.

Nacra 460 hulls, hull appendages, tillers, rigs and sails must be produced by Nautical Sports by (= NACRA) or their licensed builders and sail makers. Equipment is required to comply with the Nacra 460 Building Specification.

Nacra 460 hulls, hull appendages, rigs and sails may, after having left the manufacturer, only be altered to the extent permitted in Section C of the Class Rules.

Owners and crews should be aware that compliance with the rules in Section C is NOT checked as part of the manufacturing process.

Rules regulating the use of equipment during a race are contained in Section C of these Class Rules, in ERS Part 1 and in the RRS.

This introduction only provides an informal background and the Nacra 460 rules follows.

THESE RULES ARE **CLOSED CLASS RULES** WHERE IF IT DOES NOT SPECIFICALLY SAY THAT YOU MAY – THEN YOU SHALL NOT.

COMPONENTS AND THEIR USE ARE DEFINED BY THEIR DESCRIPTION.

PART I – ADMINISTRATION

Section A – General

A.1 LANGUAGE

- A.1.1 The official language of the class is English and in case of dispute over translation the English text shall prevail.
- A.1.2 The word “shall” is mandatory and the word “may” is permissive.
- A.1.3 When the term is printed in “**bold**” (except headings) then the definition in the ERS applies, and when the term is printed in “*italics*” then the RRS shall apply.

A.2. ABBREVIATIONS

- A.2.1 ISAF International Sailing Federation
- MNA ISAF Member National Authorities
- N.S. bv Nautical Sports bv and their licensees, referred to in the rules as NACRA.
- INCA International Nacra Class Association
- NNCA National Nacra Class Association
- ERS Equipment Rules of Sailing.
- RRS Racing Rules of Sailing.

A.3. AUTHORITIES

- A3.1 The international authority of the class is the INCA who shall co-operate with NACRA in all matters concerning these **Class Rules**.
- A3.2 The INCA may declare ineligible any Nacra 460, which does not conform to the letter of these rules and the official drawings and specifications held by NACRA.

A.4. ADMINISTRATION OF THE CLASS

- A4.1 The Class is administered by the INCA in conjunction with NACRA.
- A4.2 In countries where there is not a NNCA, the functions can be managed by the INCA

A.5. CLASS RULES CHANGES

- A.5.1 At all events RRS 87 applies.

A.6. CLASS RULES AMENDMENTS

Amendments to these **Class Rules** are subject to the approval of INCA and in line with ISAF Regulations.

A.7. CLASS RULES INTERPRETATION

Interpretations of these **Class Rules** shall be made with INCA in accordance with ISAF Regulations.

A.8. SAIL NUMBERS

- A.8.1 Sail numbers shall be issued by NACRA.
- A.8.2 Sail numbers shall be issued in consecutive order.

Section B – Boat Eligibility and Equipment Inspection

For a **boat** to be eligible for *racing*, it shall comply with the rules in this section.

B.1 CLASS RULES

B.1.1 The **boat** shall:

- (a) Be in compliance with the **Class Rules**.
- (b) Have valid manufacturers declarations.
- (c) Have valid **certification marks** on **sails**

B.2 CLASS ASSOCIATION MARKINGS

B.2.1 A valid Class Association Sticker, if required by the NNCA or the INCA, shall be affixed to the **hull** on the transom.

B.3 EQUIPMENT INSPECTION

B.3.1 In the case of a dispute at an event alleging non-compliance with **class rules** where specific measurements are not stated, the **Equipment Inspector** shall adopt the following procedure:

- (a) A group of 5 **boats** or pieces of equipment is randomly selected and measured the same manner (= control group).
- (b) The dimensions of the **boat** or pieces of equipment under dispute shall be equal to, or fall between the maximum and minimum dimensions of the control group.
- (c) If the dimensions of the **boat** under dispute are outside the dimensions, then the matter shall be referred to the TECHNICAL COMMITTEE of the INCA. The INCA shall give a binding ruling and shall take appropriate action.

B.4 EVENT LIMITATION MARKS

B.4.1 If an event uses **event limitation marks** these marks shall not be removed during the event. If the **event limitation mark** becomes damaged or lost this shall be reported to the Race Committee as soon as possible.

PART II – REQUIREMENTS AND LIMITATIONS

The **boat** and **crew** shall comply with the rules in Part II when *racing*. If there is any conflict with the **Class Rules** then Section C shall take precedence.

The Class Rules in Part II are **closed class rules**, where anything that is not specifically allowed in **Class Rules** is prohibited.

Any **equipment inspection** shall be carried out in accordance with the ERS except where varied by Part II of these **Class Rules**.

Section C - Conditions for racing.

C.1 GENERAL

C.1.1 RULES

(a) The ERS Part I – Use of Equipment shall apply.

(b) RRS 42.3 is changed as follows:

Add to RRS 42.3:

*(i) A **boat's crew** may pump the **mainsail** repeatedly to release one or more battens.*

(c) RRS 49.1 shall not apply.

(d) RRS 50.4 shall be amended to read 75%.

(e) RRS Appendix G1.3 (d) shall not apply.

C.1.2 LIMITATIONS

(a) The Nacra 460 shall only be raced with original or replacement equipment supplied by NACRA, except where otherwise authorized by these **Class Rules**.

(b) Where replacement equipment other than from NACRA is authorized, it may be obtained from any supplier provided that the replacement is of a similar weight, size and type and performs the same function.

C.2 ADVERTISING

Competitor advertising may be displayed in accordance with ISAF Regulation 20.

C.3 CREW

C.3.1 LIMITATIONS

(a) One member of **crew** shall be a member of the INCA.

(b) The **crew** shall consist of two sailors

(c) No **crew** member shall be substituted during a series unless agreed in writing with the Race Committee. The Race Committee shall consider any advantage that may give the **boat**, if this replacement takes place.

C.4. PERSONAL EQUIPMENT

C.4.1 MANDATORY

- (a) A **boat** shall be equipped with a **personal floatation device** for each **crewmember** to the minimum standard EN393, ISO 12402-5 (CE 50 Newtons), USCG Type III, or AUS PFD 2 unless an alternative standard is prescribed otherwise in the Notice of Race.

C.4.2 OPTIONAL.

- (a) Trapeze harness for each member of **crew**
- (b) Other personal equipment
- (c) Magnetic devices.
- (d) Mechanical timing devices
- (e) Electronic devices that provide timing, heading and heading memory but which do not receive or transmit data
- (f) Water, food and clothing containers
- (g) Emergency Positioning Indicating Radio Beacons (EPIRB) devices
- (h) Towing line if required in Sailing Instructions.
- (i) A paddle, fit for purpose if required in Sailing Instructions
- (j) Wind indicator(s)

C.5 EQUIPMENT

Replacements parts may be obtained from any supplier unless otherwise stated.

C.5.1 MANDATORY

A righting line of minimum of 10 mm thickness and 4 metres in length shall be fixed on the **boat** at all times.

C.6 BOAT

C.6.1 MODIFICATIONS, MAINTENANCE AND REPAIR

The following is permitted without the approval of NACRA. Unless stated otherwise items mentioned in this section may be obtained from NACRA.

- (a) Holes no larger than the necessary size for the passing of lines may be made in any part of the **boat**
- (b) Routine maintenance for minor repairs, filling, sanding, cleaning, polishing and waxing (ie. gel coat) is permitted as long as the **hull** is in a similar condition as when new.
- (c) Replacements for any **boat** equipment, including but not limited to **hull appendages, rig, trapeze wire, sails, battens, spinnaker bag frame or fittings**, whether original or replacements shall only those produced by NACRA except where otherwise authorised by this section.
- (d) Foot loops,
- (e) **Crew** restraining lines
- (f) Compass holders may be added
- (g) **Sail** calibration marks may be added
- (h) Replacement of fittings on an equal type and mark basis.

C.6.2 WEIGHT

The minimum weight of the **boat** in dry condition, excluding optional equipment detailed in C.4.2 and the righting line detailed in C.5.1, shall be 149 kg.

C.6.3 CORRECTOR WEIGHTS

- (a) **Corrector weights** of lead may be added of up to 7 kg permanently fastened to the outside of the forward beam to achieve the **boat** weight.

C.7 HULL

C.7.1 MODIFICATIONS, MAINTENANCE AND REPAIR

The following is permitted without the approval of NACRA. Unless stated otherwise items mentioned in this section may be obtained by any manufacturer or supplier.

- (a) Additional hiking straps are permitted
- (b) Additional sail adjustment devices may be added to and fitted through the trampoline
- (c) Non slip surfaces may be applied to the **hulls**
- (d) Vinyl or similar may be added to the **hull** above the waterline to facilitate the displaying of advertising.
- (e) Waxing and polishing of the **hull** is permitted.

C.7.2 LIMITATION

- (a) Spinnaker bags are permitted, but shall not be fastened to the hull.

C.8 HULL APPENDAGES

C.8.1 MODIFICATIONS, MAINTENANCE AND REPAIR

The following is permitted without the approval of NACRA. Unless stated otherwise items mentioned in this section may be obtained from any manufacturer or supplier.

- (a) All **hull appendages** shall be original equipment supplied by NACRA.
- (b) Waxing and polishing of the **hull appendages** is permitted.
- (c) The **hull appendages** may be lightly sanded to key the surface.
- (d) Sanding and filling to improve fit and function is permitted
- (e) Shims may be added to reduce or compensate for wear
- (f) Tiller Extension may be allowed to be exchanged for an alternative (Adjustable = Arriba type or single one piece).

C.8.2. LIMITATION

- (a) Only two rudder blades may be used during an event, permission to change agreed in writing with the Race Committee.

C9 RIG

C.9.1 MODIFICATIONS, MAINTENANCE, REPAIR

- (a) Maintenance or replacement of running **rigging** and fittings with similar materials is permitted.
- (b) Replacement of standing **rigging** shall be supplied by NACRA.
- (c) **Masts** may have wind indicators and compasses

- (d) The maximum limitation of downhaul (Cunningham) is at 8:1.
Maximum mainsheet is at 8:1.
- (e) Sheets and lines may be replaced without any restrictions as to length, diameter and taper providing the part is not made of wire

C.9.2 LIMITATION

- (a) Only one set of **spars** and standing **rigging** may be used during an event, permission to change must be agreed in writing with the Race Committee.

C.9.3 MAST

The **mast** shall be supplied by NACRA.

C.9.4 BOWSPRIT

Only **bowsprits** supplied by NACRA are class legal.

- (a) The **bowsprit** shall be in the longitudinal centreline of the **boat** and not be adjusted while racing.
- (b) The end cap of the **bowsprit** shall always be smooth, round and blunt.

C.9.5 STANDING RIGGING

Standing **rigging** shall be supplied by NACRA.

C.9.6 RUNNING RIGGING

Running **rigging** may be replaced from the original supplied by NACRA as long as it is equal to or greater than original gauge .

(a) USE

- (1) Running **rigging** shall be arranged as supplied by NACRA.
- (2) Spinnaker sheet blocks and mounting is open and additional blocks may be added.

C.9.7 TRAPEZE WIRE

Trapeze wire shall be supplied by NACRA.

C.10 SAILS.

C.10.1 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) Telltales are allowed, number and placement are optional
- (b) Advertising, in line with ISAF Regulation 20, is allowed as long as size and shape of **sail** are not altered.
- (c) Battens shall be supplied by NACRA
- (d) Battens shall be placed in **batten pockets**.
- (e) **Sails** shall not be altered in any way, however routine maintenance and repair are allowed as long such actions do not alter shape or size from the original.

C.10.2 LIMITATION

- (a) Only one set of **sails** may be using during an event, permission to change agreed in writing with the Race Committee

C.10.3 MAINSAIL IDENTIFICATION

- (a) Number on **sails** shall be in line with ISAF Appendix G.
- (b) The class Insignia shall be the NACRA logo as prescribed by NACRA and shall be displayed near the head.

Section D – Hull.

D.1 PARTS

D.1.1 MANDATORY

- (a) **Hull** shells
- (b) Front beam
- (c) Rear Beam
- (d) Trampoline

D.2 GENERAL

D.2.1 RULES

(a) The **hulls** shall comply with the **Class Rules** and Building Specification in force at the time of initial manufacture declaration.

D.2.2 MODIFICATIONS, MAINTENANCE AND REPAIR

The **hulls** shall not be altered in any way except those allowed in Section C of these **Class Rules**.

- (a) Coloured materials may be used during construction
- (b) If any **hull** is damaged and needs considerable repair then this must be carried out to the original building specification.

D.2.3 IDENTIFICATION

The **hull** shall carry a manufacturers identification number. permanently placed inside the starboard **hull**.

D.3 HULLS

- D.3.1 (a) The **hulls** shall comply with the Building Specification in force at the time of manufacturer and shall be manufactured by NACRA,
- (b) Modifications, maintenance and repairs are permitted to include sanding, polishing, waxing, BUT the use of surface coatings with additives such as increased sliding agents, friction reducing agents or additives to reduce the specific gravity of the surface coating are not allowed.

D.4 BEAMS

- (a) The beams shall not be convex except for the necessary pre-bend to counteract mast loading
- (b) Beams may be fitted with sail adjustment fittings
- (c) Beams may have compass(es) fitted.
- (d) Any holes drilled shall only be as large as necessary for fittings

D.5 TRAMPOLINE

The trampoline shall be made of mesh and supplied by NACRA and must completely cover the area between the beams and may have an uncovered area of maximum 10 cm between the trampoline and the **hulls**.

D.6 ASSEMBLED HULL

D.6.1 FITTINGS

Hull fittings shall comply with the Building Specification in force at the time of manufacture except when altered, added or replaced as permitted by Section C of these **Class Rules**.

Section E – Hull Appendages

E.1 PARTS

E.1.1 MANDATORY

(a) **Rudder** blade, **rudder** stock, **tiller** and **cross bar**

E.2 GENERAL

E.2.1 RULES

Hull appendages shall comply with the **Class Rules** in force at the time of **certification** and be manufactured by NACRA.

E.2.2 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) **Hull** appendages shall not be altered in any way except as permitted by Section C of these **Class Rules**.

(b) Routine maintenance such as waxing and polishing is permitted without re-measurement and re-certification provided the intention and effect is to polish only.

E.2.3 MANUFACTURERS

The **rudder blades**, **rudder** stock/tiller and cross bar shall be made only by a manufacturer licensed by NACRA to produce these.

E.3 RUDDER BLADE, RUDDER STOCK, TILLER AND CROSS BAR

The **rudder** blades and **rudder** stock/**tiller** and **cross bar** assembly shall comply with the Building Specification in force at the time of manufacture by NACRA.

Section F- Rig

F.1 PARTS

F.1.1 MANDATORY

- (a) **Mast**
- (b) Standing **Rigging**
- (c) Running **rigging**
- (d) **Bowsprit**

F.2 GENERAL

F.2.1 RULES

- (a) The, **spars** and fittings shall all comply with the **Class Rules** applicable at time of manufacture by NACRA.
- (b) The standing and running **rigging** shall comply with the current **Class Rules**.

F.2.2 MODIFICATIONS, MAINTENANCE AND REPAIR

The **spars** shall not be altered in any way except as permitted in Section C of the **Class Rules**.

F.3 MAST

The **mast spar** and its fittings shall comply with the Building Specification in force at the time of manufacture of the **spar** by NACRA.

F.4 BOWSPRIT

The **bowsprit** and its fittings shall comply with the Building Specification in force at the time of manufacture by NACRA.

F.5 STANDING RIGGING

The standing **rigging** and its fittings shall comply with the Building Specification in force at the time of manufacture by NACRA.

F.6 RUNNING RIGGING

The running **rigging** and its fittings shall comply with the Building Specification in force at the time of manufacture by NACRA.

F.6.1 CONSTRUCTION & MATERIALS

MANDATORY

- (a) All lines, mainsheet, jib sheet, spinnaker downhaul, etc are free to be replaced with length and materials as desired. See C.9.1.e.

Section G – Sails

G.1 PARTS

G.1.1 MANDATORY

- (a) **Mainsail**
- (b) Headsail
- (c) Spinnaker

G.2 GENERAL

G.2.1 RULES

The **sails** shall comply with the **Class Rules** applicable at time of manufacture by NACRA

G.2.2 SAILMAKER

The **sails** shall be made only by a manufacturer licensed by NACRA to produce **sails**.

G.3 MAINSAIL

The **mainsail** shall comply with the Building Specification in force at the time of manufacture by NACRA.

G.3.1 IDENTIFICATION

- (a) The **class insignia** shall affixed as specified in Section C.

G.4 JIB

The jib shall comply with the Building Specification in force at the time of manufacture by NACRA.

G.5 SPINNAKER

The spinnaker shall comply with the Building Specification in force at the time of manufacture by NACRA.

Section H – Technical Data

H.1 PLATFORM

Overall length **hull** is 4.5 m.

Overall length beam is 2.35 m

Minimum weight **boat** is 149 kg

Minimum weight complete rudder assembly is 8.0 kg.

H.2 RIGGING

Length of **mast** is 7.77 m

Minimum weight of **mast** is 17.5 kg

Length of **bowsprit** is 2.8 m

H.3 SAILS

Mainsail area is 12.3 m², including **mast**

Mainsail area is 11.1 m²

Jib area is 3.15 m²

Spinnaker area is 15.0 m²

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