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Class Rules

International Nacra 17 Class Association



The Nacra 17 was designed in 2012 by Morelli & Melvin and Nacra and was adopted as a World Sailing class in 2013

sport / nature / technology



World Sailing
Class Association



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INTRODUCTION

This introduction only provides an informal background and the International Nacra 17 Class Rules proper begin on the next page.

Nacra 17 hulls, hull appendages, cross beams, trampoline, rigging and sails are manufacturing controlled.

Nacra 17 hulls, hull appendages, cross beams, trampoline, rigging and sails shall only be manufactured by Nautical Sports BV– in the class rules referred to as ‘Nacra licensed suppliers’. Equipment is required to comply with the International Nacra 17 Building Specification and is subject to a World Sailing approved manufacturing control system.

Nacra 17 hulls, hull appendages, cross beams, trampoline, rigging 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 rules in Section C is the responsibility of the competitor, as this is NOT checked as part of the in house certification process.

Rules regulating the use of equipment during a race are contained in Section C of these class rules, in ERS Part I and in the Racing Rules of Sailing.

PLEASE REMEMBER:

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 Except where used in headings, when a term is printed in “**bold**” the definition in the ERS applies and when a term is printed in “*italics*” the definition in the RRS applies, when a term is “underlined” the definition in Class Rule A.1.4 applies.

A.1.4 The following definitions apply:

BONDING

To fix in place with glues, resins, sealants or other similar chemical agents.

COATING

Application of an additional permanent layer or layers of a substance to a surface. This may require prior preparation of the surface which may involve sanding, etching, blasting, but not fairing.

SANDING

Removal of the outermost surface through use of an abrasive material with or without a lubricating agent, which does not alter the shape but may remove localised irregularities or textures in the surface. It may include polishing through the use of a cutting compound.

CLEANING

The application and subsequent removal of detergents or similar agents, the purpose of which is to remove residue on the surface.

FAIRING

The addition and/or removal of material to alter the shape.

LUBRICATING

The application of non-permanent friction reducing compound.

MODIFICATION

Work resulting in a change to the original condition, including changes made to the original condition by new, removed or replaced equipment items, fittings, fixings, extensions and fastenings.

MAINTENANCE

Work required to retain the original condition, compensating for normal wear and tear in order to achieve its maximum useful life. This includes preventive maintenance and may include coating, sanding, lubricating and cleaning, but shall exclude fairing and bonding.

REPAIR

Corrective action, following unintended damage, required to restore the original condition. This may include coating, sanding, fairing and bonding.

A.2 ABBREVIATIONS

A.2.1 ISAF International Sailing Federation (renamed World Sailing)

MNA World Sailing Member National Authority

NS	Nautical Sports bv also referred in the rules as NACRA the copy right holder.
IN17CA	International Nacra 17 Class Association
NNCA	National Nacra Class Association
ERS	Equipment Rules of Sailing
RRS	Racing Rules of Sailing
IM	International Measurer

A.3 AUTHORITIES

- A.3.1 The international authority of the class is World Sailing which shall co-operate with the IN17CA in all matters concerning these **Class Rules**.
- A.3.2 Notwithstanding anything contained herein, the **certification authority** has the authority to withdraw a **certificate** and shall do so on the request of World Sailing.

A.4 ADMINISTRATION OF THE CLASS

- A.4.1 World Sailing has delegated its administrative functions of the class to the IN17CA.

A.5 CLASS RULES CHANGES

- A.5.1 World Sailing Regulation 10.11 applies.

A.6 CLASS RULES AMENDMENTS

- A.6.1 In accordance with World Sailing Regulations, amendments to the **Class Rules** require the approval of World Sailing after their adoption by a simple majority vote of the members in a general meeting of the IN17CA held in accordance with its constitution.

A.7 CLASS RULES INTERPRETATION

- A.7.1 Interpretation of **Class Rules** shall be made in accordance with World Sailing Regulations in consultation with the IN17CA and NS.
- A.7.2 Interpretation of **Class Rules** at an event shall be carried out in accordance with the RRS. The event organising authority shall inform World Sailing and IN17CA of any such interpretations.

A.8 INTERNATIONAL CLASS FEE AND BUILDING PLAQUE

- A.8.1 The licensed manufacturer shall pay the International Class Fee.
- A.8.2 World Sailing shall, after having received the International Class Fee for the **hull**, send the World Sailing Building Plaque to the licensed manufacturer.

Section B – Boat Eligibility

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

B.1 CLASS RULES AND CERTIFICATION

B.1.1 The **Boat** shall:

- (a) have a World Sailing Building Plaque
- (b) have been manufactured by Nacra Sports BV or an approved licensed manufacturer.
- (c) be in compliance with the **Class Rules**.

B.2 EVENT INSPECTION

B.2.1 The role of **Equipment Inspectors** at an event is to verify that equipment has been produced by a Licensed Manufacturer and has not been subsequently altered (other than as is permitted within these rules) using whatever inspection methods they deem appropriate, including comparison with a reference sample of the type of equipment presented for inspection. Should this comparison reveal deviation greater than the Equipment Inspector considers being within manufacturing tolerances, the matter shall be reported to the Race Committee or Event Technical Committee.

Such occurrences shall be reported to World Sailing and the IN17CA Technical Committee for investigation and a ruling on the eligibility of the equipment for racing.

B.3 EVENT LIMITATION MARKS

B.3.1 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 **crew** and the **boat** shall comply with the rules in Part II when *racing*. In case of conflict Section C shall prevail.

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

Equipment control and **equipment inspection** shall be carried out in accordance with the ERS except where varied in this Part.

Section C – Conditions for Racing

C.1 GENERAL

C.1.1 RULES

- (a) RRS 49.1 is amended such that both members of the **crew** may use a trapeze.
Add to RRS 49.1; both **crew** must maintain contact between the **boat** and their body when using their trapezes.
- (b) RRS 42.3 is amended by adding the following:
 - j) Except on a beat to windward, when foiling is possible (sailing with the hull clear of the water for more than one boat length due to the effect of the hydrofoils), the boat's crew may pump the sails an unlimited number of times in order to initiate foiling.

C.1.2 LIMITATIONS

- (a) Where replacement equipment other than from Nacra licensed suppliers is permitted by this rules, it may be obtained from any supplier provided that the replacement is of a similar weight, size and type, performs the same function within the tolerances set by Appendix section H and I.
Replacement fittings shall be fitted in the same position as the original fitting.
- (b) A team racing a **boat** with original World Sailing/ISAF plaque number lower than (Older than) 336 shall not be allowed to compete at Olympic games or in a Gold Fleet at a Class World Championship, excluding Junior World Championships.
Any team qualifying for gold fleet at a Class World Championship in one of these **boats** will be assigned to the silver fleet and scored as a silver fleet competitor.
- (c) After **Equipment Inspection** at an event, Modifications permitted in these rules require the approval of the Event Technical Committee.

C.2 CREW

C.2.1 LIMITATIONS

The **crew** shall consist of one female person and one male person during World Championships, Continental Championships, World Cup Series and other World Sailing grade 1 and 2 events.

C.2.2 MEMBERSHIP

During World Championships, Continental Championships, World Cup Series and other World Sailing grade 1 and 2 events each **crew** member shall be a current member of the IN17CA.

C.3 PERSONAL EQUIPMENT

C.3.1 MANDATORY

(a) For Use:

- (i) When racing each crew member shall wear a personal flotation device to the minimum standard ISO 12402-5 (Level 50), or USCG Type III, or AUS PFD 2, or EN 393 or equivalent. Inflatable buoyancy vests are not permitted.
- (ii) Each crew member shall wear a helmet that shall be to the minimum standard EN1385, EN1077, EN 966, ASTM 2040, Snell S98 or equivalent with a brightly coloured region of at least 300 square centimetres of the exterior surface that can be seen from above the water with crew lying face down or face up. When Flag T is flown by the Race Committee Rule C.3.1(ii) is suspended.
- (iii) Each crew member shall carry a cutting device with a blade length of no more than 150mm.
- (iv) trapeze harness maximum permitted weight may be 2.4kg. This changes RRS 43.1 (b).

C.3.2. OPTIONAL

(a) For Use:

- (i) Each crew member may wear body protection. If the body protection also acts as a personal flotation device, it shall comply with Class Rule C.3.1(a)(i)

C.4 ADVERTISING

C.4.1 Advertising as chosen by the Person in Charge is unrestricted as in accordance with World Sailing Regulation – Advertising Code 20.3.1.1. and 20.3.1.2

C.4.2 In accordance with World Sailing Regulation 20.5.4 the area on the jib, (except for the visibility window), is limited to Event Advertising. Event Advertising on the jib shall be displayed only where the event organiser has agreed such advertising with the class association and the requirement is published in the Notice of Race.

C.4.2 For the purpose of World Sailing Advertising Code, the gennaker shall be deemed a spinnaker.

C.5 PORTABLE EQUIPMENT

All items, devices and their locations carried including worn permitted by a rule and including their associated fittings, fixings and fastenings, even if

secured or permanently fixed. Includes mechanical, electronic and digital devices and items with permitted functions, services, information inputs, processing, tracking, recording, storage, display and with all carried separately and/or in combination as a system across one or more items and devices. Excludes the boat and personal equipment and consumables.

C.5.1 MANDATORY

(a) For Use:

- (i) The righting line must be led under the trampoline with both ends fixed to the Front Cross Beam at either sides of the hulls and held under tension by the use of shockcord and rings.

C.5.2 OPTIONAL

(a) For Use:

- (i) Timing function carried or worn separately in one device, or with timing function combined with other approved functions and services in one device.
- (ii) Boat heading function in one device using magnetic input. If digital/electronic, the device with magnetic input may combine and store boat heading direction together with wind shift detection and timing functions.
- (iii) The device display letters and numerals shall be not more than 30 mm high and show only;
 - boat heading (damping may be adjusted manually),
 - Calculated wind direction determined from manual input and adjustment of tacking angles manually for windshift detection),
 - time,
 - race timing information,
 - identification,
 - battery condition, system error, adjustment and calibration information.
- (iv) Race timing information may be transmitted by sound. The electronic/digital devices shall not deliver, store or correlate information in any way except as described in this section.
- (v) Magnetic compasses having no electronics.
- (vi) Camera recording equipment and attachments when and where permitted by the Notice of Race and/or Sailing Instructions.

(b) Not for Use:

- (i) Spare parts, tools, bungee, rope, pulleys, hoops, and plastic balls.

C.6 BOAT

C.6.1 MODIFICATIONS

- a) Shockcord with a maximum diameter of 5mm, rings, ropes of any length and diameter, plastic balls, and blocks with a maximum sheave diameter of 20mm may be added for the following functions:
 - i. lift the cunningham block system and/or trapezes and/or pull out the jib sheet car.



- ii. indicate the rake position of the daggerboards and/or the mainsheet.
 - iii. lead the jib sheets, trapezes, trapeze take up, tack line, righting line, rotation of the mast spanner, spinnaker sheets, jib halyard, spinnaker halyard, mainsheet, cunningham line, worm wheel.
 - iv. take up within the beams.
 - v. dampen the tiller bar and
 - vi. create mast rotation marks.
 - vii. Schockcord and ropes may also be used to secure items, to prevent catching of any part and in the place of washers.
- b) Adhesive tape may be applied above the **waterline**.
- c) Fasteners may be replaced or added and, where required to facilitate a repair, the fitting may be modified to accommodate slightly larger fixings with the following exception: Beam bolts, may only be replaced by Nacra supplied bolts.
- d) To facilitate advertising, the application of vinyl, mylar or other plastic film over the surfaces of the hull, sails and spars is permitted provided that the film shall not be specially textured or otherwise manufactured in a way that could improve the character of the flow of water or air inside the boundary layer.
- e) The righting line may be changed to a minimum diameter of 5 mm and a minimum length of 4500 mm.
- f) Any cleat including integrated fairlead may be replaced with a cleat of similar size and design of any material.
- g) Blocks and block systems and associated fittings may be replaced with blocks or block systems that must comply with the number of sheaves, dimensions, tolerances and remarks as stated in PART III- Appendices, with the following exceptions:
 - i. The mainsheet system number of sheaves may be altered to achieve a maximum purchase of 12:1 and a minimum purchase of 10:1, only one ratchet block is allowed in the mainsheet system.
 - ii. The block on the jib track car may have a double sheave block or single sheave block to create a 2:1 purchase, as listed in appendix section I.
 - iii. The four supplied blocks for the Gennaker sheets, may be changed to any type of block with a minimum sheave diameter of 38mm and a maximum of 60mm.
- h) The attachment fittings of the mainsheet blocks and mainsheet block system, from the strap on the sail and to the traveler car eye, may be replaced by attachment fittings of any length of ropes, shackles or other items and their combinations. Both ends of blocks and block systems including all attachment fittings, must remain in the straight line from the traveler car eye to the strap on the sail. Any other attachment of blocks may be replaced by attachments of substantially the same size and design.
- i) The bolts securing the lower daggerboard bearing to the hull may be replaced by longer bolts. The daggerboard hold down system lines may be connected to eye bolts or eye nuts fastened to the longer bolts.

C.6.2 MAINTENANCE

- (a) Maintenance (as defined in Section A) for the **boat** is permitted with the following exception:
For **hull appendages** maintenance is only permitted as defined in rule C.8.2.

C.6.3 REPAIR

- (a) All Repairs (as defined in Section A) require written approval unless stated otherwise in these Rules.
- (b) Approval may only be granted by the IN17CA Technical Committee.
(measurement@nacra17.org.)
- (c) Permission to undertake a repair during an event may be granted by the event Technical Committee. The required written approval by the IN17CA Technical Committee may be granted after the event.
- (d) Repairs shall not be used to reinforce an existing part and shall not alter the essential shape, characteristics and function of the original equipment.

C.6.4 WEIGHT

The weight of the **boat** in dry condition shall be a minimum of 163 kg. The weight of the boat shall be taken including: **hulls**, the fully assembled platform, **hull appendages**, **rig**, fittings and the righting line. But excluding **rig** fittings not permanently fixed, the tiller extension, **sails** and all optional **portable equipment** listed in C.5. The compass bracket shall be included if permanently fixed.

C.6.5 CORRECTOR WEIGHTS

- (a) When the **boat** weight is less than the minimum requirement, **Corrector weights** of lead shall be fastened to the inside of the dolphin Striker (V Bar) at locations avoiding the intersection of the front cross beam and the dolphin stricker rod. The location must allow to apply event limitation marks and allow visual inspections.
- (b) The total weight of **corrector weights** shall not exceed 4kg for **boats** with original World Sailing / ISAF plaque number 336 or higher (newer) and shall not exceed 7 kg for boats lower (older) than 336. The weight of materials used to fasten the **corrector weights** shall not be included in the **corrector weights** calculation.

C.7 HULL

C.7.1 MODIFICATIONS

- (a) Non-skid tape of a thickness no greater than 3mm may be applied to any part of the **hull** and cross beams above the line of **flotation trim**.
- (b) Wedges may be fitted under the rotation line clam-cleats.
- (c) Stand-up springs or boots may be fitted between the gennaker blocks and the eye-straps on the deck.
- (d) Four foot straps may be fitted to each **hull**, at least one of which, and no more than two, must be rear of the aft cross beam. The forward foot straps must only be anchored to the **hull** using the anchor points built into the

hulls as supplied and/or anchored to the shroud base and/or anchored to the forward cross beam and/or anchored to the rear cross beam.

- (e) Two deck eyes per hull may be fitted on the deck area between the cross beams for the sole purpose of routing the trapeze take up shockcord
- (f) Holes may be made in the **hull** or deck mouldings only in the following cases:
 - (i) for the purpose making repairs.
 - (ii) to fit the rear foot strap(s) astern of the rear cross beam.
 - (iii) to attach the deck eyes for the trapeze elastics.
- (g) Shockcord may be led through the breather hole in the center of the top hatches.

C.7.2 MAINTENANCE

- (a) Maintenance (As defined in Section A) for the **hull** is permitted.
- (b) The supplied non-skid 'pro-grip' in the deck moulding may be replaced by the same type only (EVA Foam 3mm thickness, supplied by Nacra licenced suppliers).

C.7.3 REPAIR

Repairs (As defined in Section A) for the **hull** require approval as described in C.6.3, except filling and blending of small voids (chips and gouges) of ~20mm x 20mm which may be carried without approval.

C.7.4 LIMITATIONS

Only one starboard **hull** and one port **hull** shall be used in an event, except when lost or damaged beyond repair. Any replacement shall only be made with the approval of the Race Committee or event Technical Committee.

C.8 HULL APPENDAGES

C.8.1 MODIFICATIONS

- (a) The rudder pin may be packed with washers and may be trimmed or cut flush with rudder casting bottom.
- (b) Rudder guides (rudder stock washer trailing edge) may be replaced but the replacement shall smaller than 30mm in diameter if disk shaped and smaller than 30mm x 30mm if rectangular.
- (c) The rudder clamps (quick release bicycle style clamp) may be replaced with other clamps. The replacement shall be manually removable on the water without requiring tools, have no protrusions in the vertical or forward direction, and add no function.
- (d) The rope handle of the daggerboard, may be replaced by a rope with a maximum length of 600 mm.
- (e) The two bolt head voids created by joining the **rudder** to the elevator may be filled and faired.
- (f) The void found between the **rudder** and the elevator may be filled and faired.
- (g) The tiller extension may be replaced by tiller extensions of other dimensions and materials.
- (h) Only the aft 10mm of the **foils** (elevators) and **rudder** blade (vertical)

along the trailing edge may be sanded. The distance between the leading edges and the trailing edges shall not be reduced. At 1mm from the trailing edge the thickness shall be no less than 0.6mm.

C.8.2. MAINTENANCE

- (a) Maintenance of **hull appendages** is permitted with the following exceptions:
For **daggerboards, rudders, foils** (elevators), top and bottom daggerboard bearings, rudder castings:
 - (h) Coating is not permitted as part of Maintenance.
 - (ii) Sanding is permitted on the paint layer on the outermost sides of the **daggerboards** and **rudders**.
 - (iii) Sanding of the internal carbon fibre or (opaque) factory filler of **daggerboards** and **rudders** is not permitted as part of Maintenance.
 - (iv) Sanding of **foils** (elevators) and rudder blade vertical and top and bottom daggerboard bearings and rudder castings is not permitted as part of Maintenance, except where permitted by Class Rule C.8.1(h).
 - (v) Lubricating is only permitted for the purpose of reducing bearing friction while raising and lowering the appendages

C.8.3 REPAIR

- (a) Repairs for **hull appendages** require approval as described in C.6.3, except repairs of small voids (chips and gouges) of ~10mm x 10mm which may be carried without approval of actions and materials.
- (b) Repairs to **daggerboards** and **rudders** require the use of approved coating products:
 - (i) The approved products are:
PPG D8115 Deltron Progress Matt Clearcoat
PPG D8302 Deltron Progress UHS Hardener
PPG D8718 Deltron Medium Thinner 11
 - (ii) Durepox High Performance Clear
Durepox Hardener
 - (iii) Awlgrip Clear G3005
Awlgrip Hardener G3010
Awlgrip Solvent T00003
 - (iv) Equivalent products may be used only with pre-approval from the IN17CA Technical Committee.

C.8.4 LIMITATIONS

- (a) Only one starboard **daggerboard**, one starboard **rudder**, one port **daggerboard** and one port **rudder** shall be used in an event, except when lost or damaged beyond repair. Any replacement shall only be made with the approval of the Race Committee or event Technical Committee.
- (b) The **rudder** rake shall not be adjusted while *racing*.
- (c) Both **daggerboards** shall be in the fully-down position whilst *racing*, with an exception being that they may be raised to clear the boat from becoming afoul of in-water items, and should be immediately placed back into the fully-down position once becoming clear of in-water items.

C.9 ASSEMBLED PLATFORM

C.9.1 MODIFICATIONS

- (a) The Jib sheet and Cunningham trim line retraction systems may be replaced and modified to make them continuous by the addition of one block per system per hull with a maximum sheave size of 22mm attached using rope and/or shockcord.
- (b) Beams may be bedded in on the hull and shall be able to be removed without damage to either the hull or beam. The bedding shall not change in any way, the shape or position of the hulls.
- (c) The 'chicken line' may be rigged in any manner the crew deems suitable so long as it does not perform any other function than aiding the support of a crew.
- (d) The two webbing straps sewn into the trampoline, approximately 30mm long that run parallel with the cross beams forward of the center of the trampoline, may be removed from the trampoline. They may be cut out and removed without removing the sewing, to avoid weakening or creating a puncture in the trampoline.
- (e) Fittings may be replaced with fittings of similar size and design.

C.9.2 MAINTENANCE

Maintenance (As defined in Section A) for the Cross Beams is permitted.

C.9.2 REPAIR

Repairs (As defined in Section A) for the Cross Beams require approval as described in C.6.3.

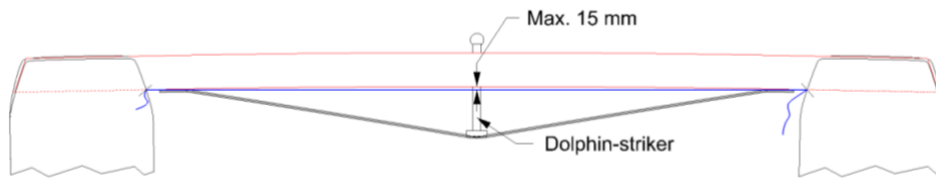
C.9.3 DIMENSIONS

- (a) Front Cross Beam curvature

	Minimum	Maximum
Front cross beam curvature		15 mm

Front cross beam curvature is the greatest distance between:

- the highest point of the underside of the front cross beam, and;
- a straight line from the port and starboard bottom points of the cross beam at the intersection with the **hull** taken at 90° to the straight line with the dolphin-striker tensioned and platform assembled, the mast removed, and the front and rear cross beams bedded and tightened into their respective **hulls**.



C.10 RIG

C.10.1 MODIFICATIONS

- (a) The use of tape is permitted to protect the mast from the rigging.
- (b) Calibration marks are permitted.
- (c) Boom outhaul clam cleat CL277 fitting may be removed and the system may be changed to a rope only trim system.
- (d) Two additional holes may be drilled with a max. diameter of 8 mm in the Boom outhaul end.
- (g) Tufts or ribbons in the rigging are allowed.
- (h) A protective cover made only from sail cloth and attached by adhesive tape with a max size of 300mm by 350mm may be fitted over the hounds.
- (i) Fittings may be replaced with fittings of similar size and design.

C.10.2 MAINTENANCE

- (a) Cleaning and polishing (as defined in Section A) is permitted.

C.10.3 REPAIR

- (a) in the event of damage to a **RIG**:
 - (i) Repairs to **spars, spreaders, and standing rigging** require written approval of the IN17CA Technical Committee.
 - (ii) Repairs to **running rigging** may be carried out without approval.

C.10.4 FITTINGS

- (a) USE
 - (1) Lower hole of the hounds shall be used to fit the forestay and shrouds.
 - (2) The middle and top hole of the hounds may be used to fit the trapeze wires.
 - (3) The trapeze wires may also be fitted through the upper terminal of the shrouds.
 - (4) Mechanical wind indicators may be used.

C.10.5 LIMITATIONS

- (a) Only one set of **spars** and **standing rigging** shall be used during an event, except when an item has been lost or damaged beyond repair. Any replacement shall only be made with the approval of the Race Committee or event Technical Committee.

C.10.6 STANDING RIGGING

(a) MODIFICATION, MAINTENANCE AND REPAIR.

- (1) **Standing rigging** may be replaced and shall comply with Appendix Section I
- (2) The stay adjusters of the **forestay** and **shrouds** may be replaced by a turnbuckle of the following manufactures:
 - Sta/Master PAT. 8,281,080
 - Ronstan Calibrated Turnbuckles RF1575
 - NavTec Quickfit lifeline Turnbuckle 316
 - Blue Wave Spanner (Mono race tuning – MRT- Calibrated AISI 316.
 - C.S. Johnson 12-100 Stay Adjuster – Calibrated.
 - Blue Wave QRT19014

Turnbuckles from other manufacturers may be used if pre-approved by the IN17CA Technical Committee in writing.

- (3) The **shrouds** and **forestay** terminal wire connectors may be replaced by fittings of substantially of the same size, weight and structural design.
- (4) The ring of the Jib Halyard Locking system shall be in the same position as on the standard forestay, of the same size and structural design, with the exception; the ring of the locking system may be fitted to the forestay by rope.
- (5) Carbon tubes or other similar cylindrical covers of up to 20 cm in length may be used to cover shroud turnbuckles and chainplates.

(b) DIMENSIONS

(i) Forestay Control:

The minimum distance measured along the foreside of the mast from the bottom cut of the carbon mast assembled and seated into the mast base to the forestay pin center location when the forestay and forestay fitting are both fully extended to a maximum range shall be 295mm.

(c) USE

- (1) **Standing rigging** shall not be adjusted while *racing*.

C.10.8 RUNNING RIGGING

(a) MODIFICATION, MAINTENANCE AND REPAIR.

- (1) **Running rigging** may be replaced and shall comply with Appendix section I.
- (2) The **trapeze** system arrangement is open and may be modified to include an adjustable hook height system provided that the attachment methods by shockcord to the hull and front cross beam are not changed.
- (3) The Cunningham trim line may be led through a block with a maximum sheave diameter of 22mm attached to the **trapeze** system by rope.
- (4) The gennaker tack-line inboard end block may be attached by rope to the **shrouds**, gennaker strap-eye or front cross beam casting.

- (5) Mast rotation line may be modified to a continuous system.
- (6) A rope with a ring may be fitted to the gennaker clew for the purpose of leading the gennaker retrieval line through this ring.

(b) USE

Running rigging shall be led through and attached to the fittings supplied for their function with the following exception:

The take-up and lacing of running rigging used to control daggerboard rake via the supplied worm drive may be changed from the building specification.

C.11 SAILS

C.11.1 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) Repair of sails may be carried without approval with the following exception:
 - (i) During an event, repairs of sails require the approval of the Event Technical Committee.
- (b) The following is permitted without approval:
 - (i) Addition of tell tales
 - (ii) Addition of camber stripes

C.11.2 LIMITATIONS

- (a) Not more than 1 **mainsail**, 1 **jib** and 1 **gennaker** shall be used during an event except when a sail has been lost or damaged beyond repair. Any replacement shall only be made with the approval of the Race Committee or Event Technical Committee.

C.11.3 MAINSAIL

- (a) MODIFICATION, MAINTENANCE AND REPAIR.
 - (1) The Cunningham blocks HK300 attached in the mainsail may be replaced by blocks from any other manufacturer with the same number of sheaves and a sheave diameter tolerance of ± 2 mm.
 - (2) The application of vinyl, mylar or other plastic film permitted in C.6.1(h) over the surfaces of the **mainsail** shall not cover the window panels (blue coloured panels in Appendix section K) in the sail and the **batten pockets** on the port side of the **sail** in order to identify the batten certification stickers.
- (b) IDENTIFICATION
 - (1) **Sail** numbers shall be any of the following:
 - (i) The number shown on the ISAF/World Sailing International Class building plaque on the **boat**, or on any **boat** still owned by the **crew** members.
 - (ii) In the International Nacra 17 Class World Championships (Excluding Junior World Championships), Continental Championship and Sailing World Cup events, any helm or crew ever having placed in the top 25 at a Nacra 17 Class World Championship previously or having competed at the most recent Olympic Games shall use an ICA issued personal **sail** number

between 1 – 99, which shall be renewed on an annual basis.
Helms having raced at the previous Olympic Games, may use the number corresponding with their Olympic finish.

- (2) The national letters and the **sail** numbers shall be black in colour and applied according to the dimensions as defined in Appendix section K immediately under batten nr. 4. The national letters and numbers shall comply with the RRS Appendix G except where specified otherwise in (b) IDENTIFICATION and in Appendix section K.
- (3) The area between the second from the top and third **sail** batten of the **mainsail** shall be kept free of competitor advertising, and shall be reserved for the Class Insignia, as specified in Appendix Section K.

(c) BATTENS

Batten numbers 1, 2, 3 and 4 of the **mainsail** may be separately replaced by either hard, medium or soft Nacra Licensed supplied battens.

(d) NATIONAL FLAGS

- (i) All teams when racing in the Nacra 17 World Championships, Continental Championships and World Cup Series events shall display their national flag. The flag shall be placed on the starboard side of the mainsail between the 3rd and 4th battens from the head point of the sail.
- (ii) Flags shall only be ordered and purchased through the IN17CA.
- (iii) The National Flag shall be corresponding to the Country Code displayed in the sail number.

(e) USE

- (i) The sail shall be hoisted on the **halyard**. The Nacra licensed supplied arrangement shall permit hoisting and lowering of the sail whilst afloat.

C.11.4 JIB

(a) MODIFICATION, MAINTENANCE AND REPAIR.

- (1) The application of vinyl, mylar or other plastic film permitted in C.6.1(h) over the surfaces of the **jib** shall not cover the window panels (blue coloured panels in Appendix section K) in the sail and the **batten pockets** on the port side of the **sail** in order to identify the batten certification stickers.

(b) USE

- (i) The sail shall be hoisted on the **halyard**. The Nacra licensed supplied arrangement shall permit hoisting and lowering of the sail whilst afloat.

C.11.5 GENNAKER

(a) MODIFICATION

The gennaker may be painted for graphics.

(b) LIMITATION

Olympic national flag gennakers may be used for racing except in World Championship events.

(c) USE

- (i) A **boat** shall not set the gennaker when sailing on a leg to a windward mark from a leeward mark.

Section D – Platform

D.1 PARTS

D.1.1 MANDATORY

- (a) Starboard **hull**
- (b) Port **hull**
- (c) Front cross beam
- (d) Rear cross beam
- (e) Trampoline

D.2 MODIFICATIONS, MAINTENANCE AND REPAIR

The alterations contained in D.2.1. to D.2.3 may be made by NS, or by anybody after a formal request has been made to the NS and written approval is received by the owner. This shall require the manufacturer's declaration to be re-issued

D.2.1. MODIFICATIONS

- (a) Cross beam reinforcements

Boats with original World Sailing / ISAF plaque number 336 or higher (newer) must have the front cross beam updated insert.



- (b) Rudder rose bearings

Both the original and the new rose bearings are allowed.



- (c) Bottom bearing

Both the original and updated bearings are allowed.



D.2.2. MAINTENANCE

(a)

D.2.3. REPAIR

- (a) If any **hull** is damaged and requires repaired in any other way than described in section C the details shall be recorded on the Manufacturers declaration.

D.3 MANUFACTURERS

The parts of section D.1.1 shall only be manufactured by Nacra Licensed Manufacturers.

D.4 IDENTIFICATION

The **hull** shall carry the licensed manufacturer's serial number displayed on the transom of the starboard hull.

Items (c),(d) and (e) of section D.1.1 shall carry identification stickers.

D.5 MATERIALS, CONSTRUCTION AND DIMENSIONS

D.5.1 Shall comply with the World Sailing-approved Builders Construction Manual.

D.5.2 PAINT

Only **hulls** of boats which are older than 4 years can be painted. Severely damaged boats can be painted with only written permission by the NS. after sending a damage report form including pictures to: measurement@nacra17.org,

Section E – Hull Appendages

E.1 PARTS

E.1.1 MANDATORY

- (a) Starboard **Daggerboard**
- (b) Port **Daggerboard**
- (c) Starboard **Rudder**
- (d) Port **Rudder**
- (e) Rudder casting including tiller-arm
- (f) **Foils** (rudder elevators)
- (g) Tiller-bar
- (h) Tiller extension
- (i) Top daggerboard bearing
- (j) Bottom daggerboard bearing

E.2 MANUFACTURERS

The parts of section E.1 shall only be manufactured by Nacra Licensed Manufacturers.

E.3 IDENTIFICATION

The **daggerboards** and **rudder** blades of items (a), (b), (c) and (d) carry the licensed manufacturer's serial number displayed on the blade

Rudder castings item (e) and (f) shall carry imbedded Nacra logos.

Tiller bar item (g) shall carry a Nacra 17 identification stickers.

E.4 MATERIALS, CONSTRUCTION AND DIMENSIONS

Shall comply with the World Sailing approved Builders Construction Manual.

Section F – Rig

F.1 PARTS

F.1.1 MANDATORY

- (a) **Mast**
- (b) **Spreaders**
- (c) **Boom**
- (d) **Bowsprit** including snuffer ring
- (e) Compression post
- (f) Spi snuffer bag

F.2 MANUFACTURERS

The parts of section F.1 shall only be manufactured by Nacra Licensed Manufacturers.

F.3 IDENTIFICATION

The mast (a) shall carry the licensed manufacturer's serial number displayed on the mast section.

Items (b), (c), (d), (e) and (f) shall carry a Nacra 17 identification stickers.

F.4 MATERIALS, CONSTRUCTION AND DIMENSIONS

Shall comply with the World Sailing approved Builders Construction Manual.

Section G – Sails

G.1 PARTS

G.1.1 MANDATORY

- (a) **Mainsail**
With seven battens numbered from the head point of the sail down as shown in Section K.
- (b) **Jib**
With three battens: Top Jib Batten, Middle Jib Batten and Lower Jib Batten
- (c) Gennaker



G.2 MANUFACTURERS

Sails of section G.1.1 shall only be manufactured by Nacra Licensed Manufacturers.

G.3 IDENTIFICATION

The mainsail, jib and gennaker shall carry the licensed manufacturer's serial number displayed on the sails.

Battens shall carry Nacra 17 identification stickers.

Battens are numbered to match a **batten pocket** in the sail.

G.4 MATERIALS, CONSTRUCTION AND DIMENSIONS

Shall comply with the World Sailing approved Builders Construction Manual.

PART III – APPENDICES

The rules in Part III are **closed class rules**. Measurement shall be carried out in accordance with the ERS except where varied in this Part.

Section H: MANUFACTURED PART LIST

The following components shall comply with the building specification in force at the time of manufacture. As required, components shall have identification stickers attached by the builder at the time of manufacture or by the measurer:					
Qty	Component	Associated Hardware	Iden. sticker	Ident. Nr.	Options or tolerances
<i>(Where no comment as per class rules)</i>					
2	Hull		Required	Yes	Nacra Licensed suppliers only
2		Mast rotation cam-matic HK469			
2		Gennaker HK2135 57 mm			±3mm diam. sheave
1	Front Cross beam		Required	No	Nacra Licensed suppliers only
2		Gennaker sheet HK2636 40 mm			See C.6.2 (c)(3)
1		Tackline cheek HK233 22mm			±3mm diam. sheave
2		Jib cunningham/ HK415 16 mm			±3mm diam. sheave
1		Tack line cam-matic HK468			Harken licensed suppliers only
2		ClamCleave Jib cunningham CL268			
1		Tack line 16mm single HK442			±3mm diam. sheave
2		Jib sheet swivel base HK462			Harken licensed suppliers only
1		Jib track Car HK2700			Harken licensed suppliers only
1		Jib track			Nacra Licensed suppliers only
1	Rear Cross Beam		Required	No	Nacra Licensed suppliers only
1		Traveler track car HK2765			Harken licensed suppliers only
1		harken swivel base HK639NP			Harken licensed suppliers only
4		harken 29mm bullet sheave H160			Harken licensed suppliers only
2		chickenwire shockcord blocks			16 mm sheave ± 4 mm diam. sheave
1	Mast		Required	Yes	Nacra Licensed suppliers only
2		Cunningham sheave micro HK277			±3mm diam. sheave
1		Cunningham single HK348			±3mm diam. sheave
2		Cunningham Pivoting H395 or Spinlock PXR0206/VP			±3mm diam. sheave
1		Spi Halyard Pivoting H2156			Harken licensed suppliers only
2		clamcleat cunningham CL211			
1		Mast rotation cam-matic HK469			
1		Eye-strap 16mm single HK442			±3mm diam. sheave
1	Spreaders (6 components)		Required	No	Nacra Licensed suppliers only
1	Boom		Required	No	Nacra Licensed suppliers only
1		Clamcleat Outhaul CL277			May be removed according to C.10.1(e)
1		Boom Gooseneck U-fitting			Nacra Licensed suppliers only
1	Compression Post		Required	No	Nacra Licensed suppliers only
1	Trampoline		Required	Yes	Nacra Licensed suppliers only
2		Spi Haylard guiders HK348			Open
1	Bowsprit		Required	No	Nacra Licensed suppliers only
1		Snuffer ring			Nacra Licensed suppliers only
1		Tackline stand-up HK349			±3mm diam. sheave
1		Clamcleat jib carline CL211			
1		Jib sheet cheek blok HK416			±3mm diam. sheave
1		Jib cunningham cheek block HK416			±3mm diam. sheave
1	Spi snuffer bag		Required	Yes	Nacra Licensed suppliers only
2	Daggerboard		Required	Yes	Nacra Licensed suppliers only
2	Rudderboard		Required	Yes	Nacra Licensed suppliers only

2	Ruddersystem		none	no	Nacra Licensed suppliers only
Qty	Component	Associated Hardware	Iden. sticker	Ident. Nr.	Options or tolerances
1	Tiller-bar		Required	No	Nacra Licensed suppliers only
1	Tiller extension		None		
1	Mainsail		Required	Yes	Nacra Licensed suppliers only
		Light batten set (top 4 battens)	Required	No	Nacra Licensed suppliers only
		Medium batten complete set	Required	No	Nacra Licensed suppliers only
		Heavy batten set (top 4 battens)	Required	No	Nacra Licensed suppliers only
1	Jib		Required	Yes	Nacra Licensed suppliers only
		Standard batten set	Required	No	Nacra Licensed suppliers only
1	Gennaker		Required	Yes	Nacra Licensed suppliers only

Section I: RIGGING LIST

Running Rigging	Size			Associated Hardware/material	Remark/tolerances
	Qty	length	diam.		
		mm	mm		(Where no comment as per class rules)
Mainsheet with splittail 1:10	1			HC GP 2800	
	1			HC 8454	±3 mm diam. sheave
	1			HC 7668	±3 mm diam. sheave
Mainsheet with splittail 1:12 (optional)	1			HC GP 2800	
	1			HC 8454	±3 mm diam. sheave
	1			HC 7668 + HC2650	±3 mm diam. sheave
Gennaker Halyard core+cover	1				
Main Halyard	1		5		±0.5 mm diam.
	1			ring w/shackle	Nacra Licensed suppliers only
Jib Halyard	1				
	1			s-hook jib	Nacra Licensed suppliers only
Gennaker Sheet	1				
Gennaker Tackline	1				
	1			HK 348 29mm	
Main Downhaul purchase 1:8					
	2			HK 406 double 16 mm	±3mm diam. sheave
Main Downhaul purchase 1:2	2				
Jib sheet 1:3	1				
	1			HK 406 16mm (car block)	±3mm diam. sheave
	1			HK 348 29mm	±3mm diam. sheave
	1			Shackle	
Jib sheet 1:2 (optional)	1				
	1			HK 348 29mm (car block)	±3mm diam. sheave
Jib downhaul 1:2	1				
Spin block line	1				
	1			HK 348 29mm	±3mm diam. sheave
Spin Bale	1				
Rotation line	1				
	1			ring max. diameter 30mm	±5mm inside diam.
Spin tack release	1				
	1			ring max. diameter 30mm	±5mm inside diam.
Hiking strap tie	3				
Righting line	1	4500			As per C.6.1(c)
Gennaker clew take down line	1				

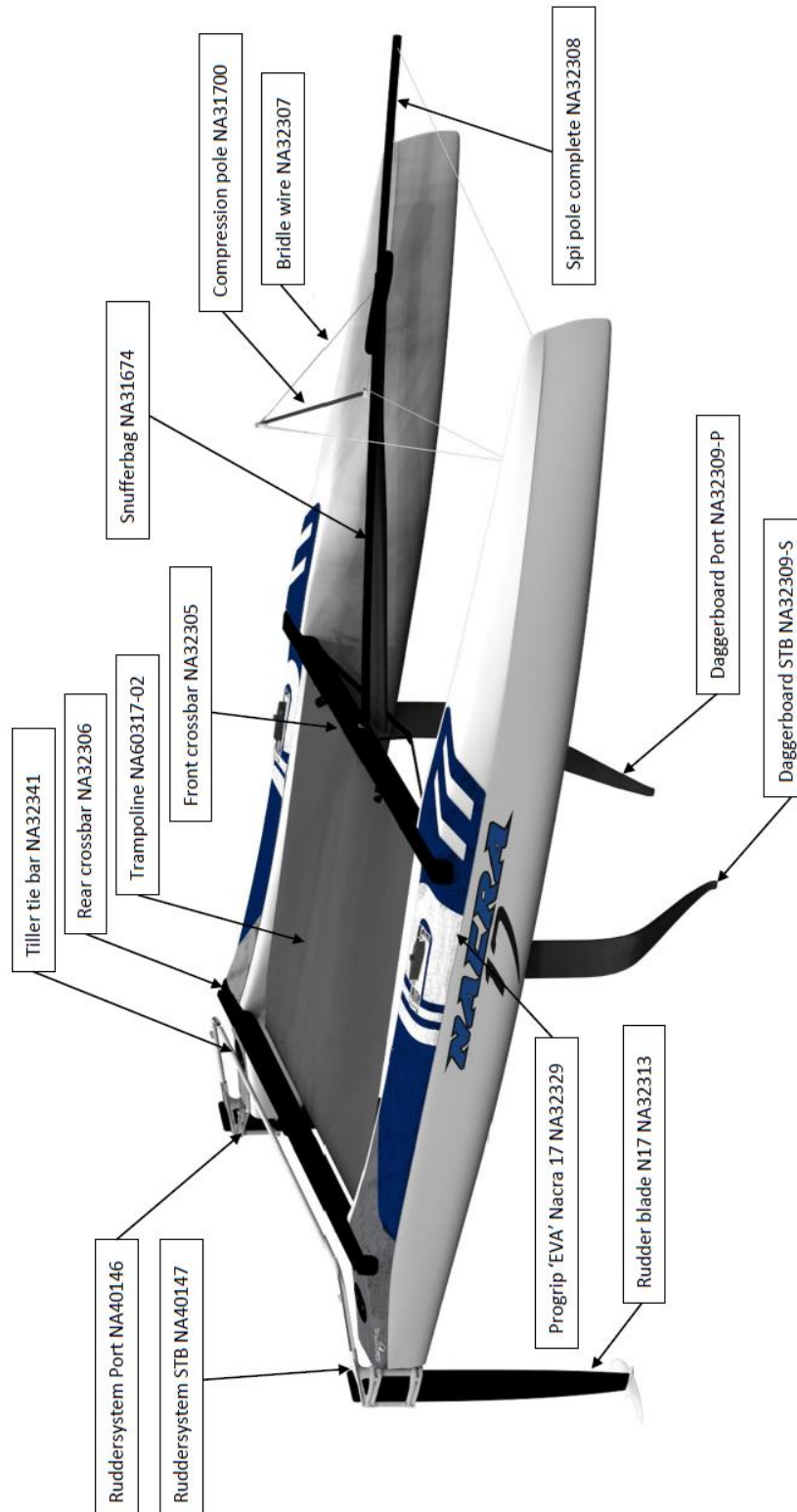
Running Rigging	Size			Material/Associated Hardware		Options or tolerances
	Qty	length	diam	core	cover	
	1			HK 348 29mm		±3mm diam. Sheave
Spinblock shockcord	2			Shockcord		
Spintack shockcord	1			Shockcord		
<i>Front cross beam rigging</i>						
Jibsheet trim 1:2	1					
	1			HK 348 29mm		±3mm diam. sheave
(optional)	2			HK 348 29 mm (to lead Jibsheet backwards over deck)		±3mm diam. sheave
Jib and Cunningham retraction system	2			HK 406 16 mm double		±3mm diam. sheave
(optional for continues)	2			HK 224 22mm (running-block)		±3mm diam. sheave C.9.1 (a)
shockcordblock line	2					
Retraction shockcord	2			Shockcord		
Trapeze shockcord	1			Shockcord		
Jib downhaul trim 1:2	1			-	-	
	1			HK 404 16 mm		±3mm diam. sheave
<i>Rear cross beam rigging</i>						
(optional)Chicken wire	2					
	2			HK 404 16 mm		±3mm diam. sheave
(optional) Retraction shockcord	1					
(optional) Shockcord block tie rope	2					

Standing rigging	Qty	Size Length ⁽¹⁾ mm	Diam. mm	Material	Associated Hardware	options or restrictions
Forestay	1	6250	4.0	Standard 1 x 19 stainless steel wire		±0.05 mm diam. wire and C.10.5 (a)
	1				Shrouds Chainplate	C.10.7(a)(2)
Bridle	2	-	-	Standard 1 x 19 stainless steel wire		Nacra Licensed suppliers only
	1				Bridle fitting NA31698	Nacra Licensed suppliers only
Shrouds	2	6810 ⁽²⁾	4.0	Standard 1 x 19 stainless steel wire		diam. ±0.05 mm.
	2				Sta/Master	C.10.7(a)(2)
Diamonds	2	6100 ⁽²⁾	4.0	Standard 1 x 19 stainless steel wire		diam. ±0.05 mm.
Bowsprit bridle	2	1475	2.5	Standard 1 x 19 stainless steel wire		diam. ±0.1 mm, length ± 5 mm
Bowsprit mid-bridle	2	1750 ⁽²⁾	3.0	Dyneema Sk75/80 or polyester		±0.2 mm diam.
Tramp lace rear	1	4300 ⁽²⁾	3.0	Dyneema Sk75/80 or polyester		±0.2 mm diam.
Tramp laces side	2	4000 ⁽²⁾	3.0	Dyneema Sk75/80 or polyester		±0.2 mm diam.
Trapeze lines	4	-	2.5 3.0	1 x 19 stainless steel wire Dyneema Sk75/80 or polyester	open, see C.10.8 (a)(1)	±0.2 mm diam. Shall be either 1x19 stainless steel wire, Dyneema sk75/80 or polyester or a combination.

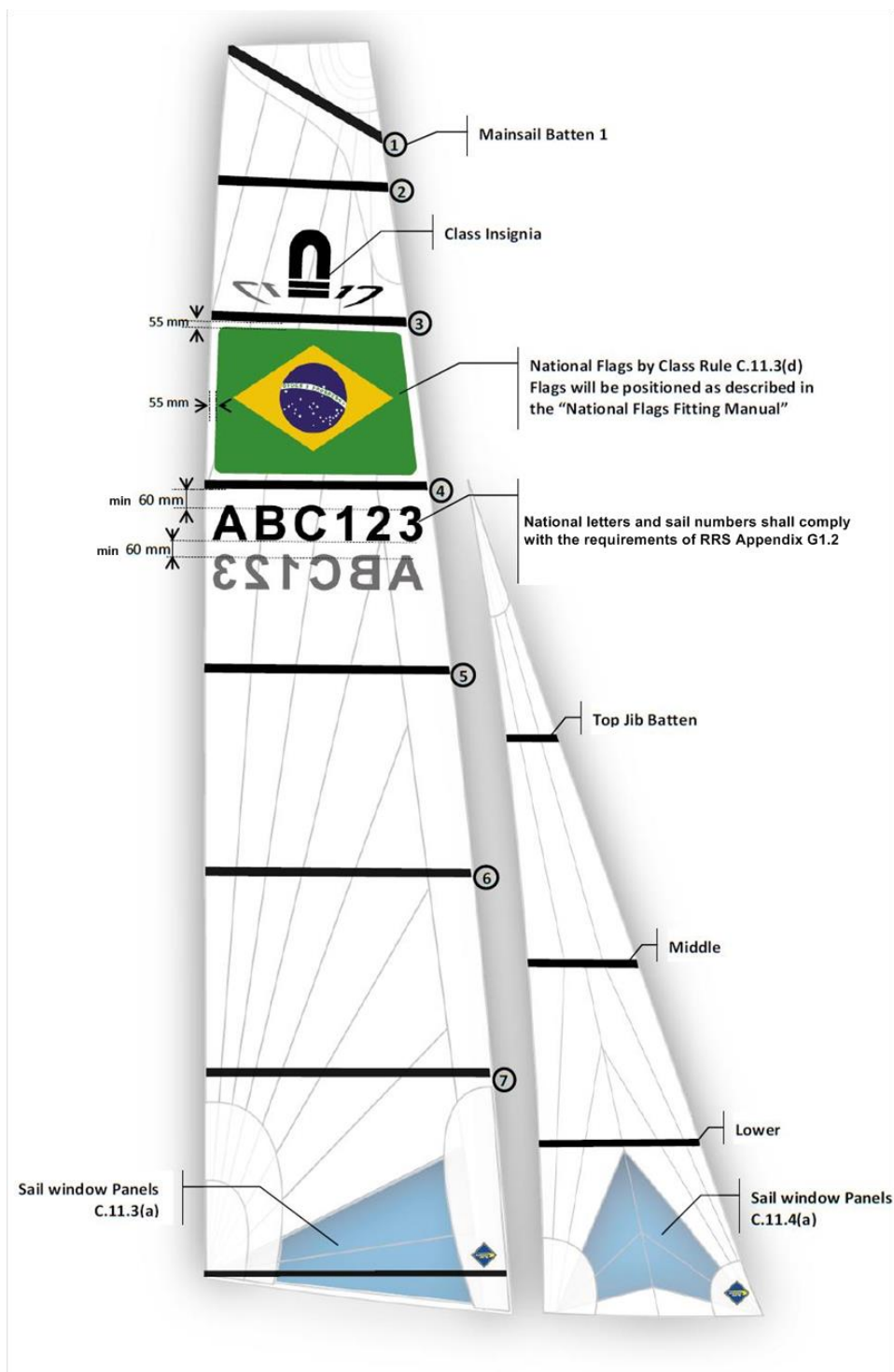
(1) Length is the distance taken between the bearing surfaces of the rigging.

(2) Advisory length no tolerances apply.

Section J: HULL DRAWINGS



Section K: NACRA 17 SAIL ARRANGEMENT



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