Effective date: 1st April 2021
Status: Approved

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

INDEX

PART I – ADMINISTRATION

Section A – General

A.1 Language 4
A.2 Abbreviations 4
A.3 Authorities 5
A.4 Administration of the Class 5
A.5 Class rules changes 5
A.6 Class Rules Amendments 5
A.7 Class Rules Interpretation 5
A.8 International Class Fee and WS Building Plaque 5

Section B – Boat Eligibility

B.1 Class Rules and Certification ... 6
B.2 Event Inspection 6
B.3 Event Limitation Marks 6

PART II – REQUIREMENTS AND LIMITATIONS

Section C – Conditions for Racing

C.1 General 7
C.2 Crew 8
C.3 Personal Equipment 8
C.4 Advertising 8
C.5 Portable Equipment 8
C.6 Boat 9
C.7 Hull 11
C.8 Hull Appendages.....12
C.9 Assembled Platform 13
C.10 Rig 14
C.11 Sails 16

Section D – Platform

D.1 Parts 18
D.2 Modifications, Maintenance and repair……18
D.3 Manufacturers 19
D.4 Identification 19
D.5 Materials, construction and dimension.....19

Section E – Hull Appendages

E.1 Parts 19
E.2 Manufacturers 19
E.3 Identification 19
E.4 Materials, construction and dimensions 20

Section F – Rig

F.1 Parts 20
F.2 Manufacturers 20
F.3 Identification 20
F.4 Materials, construction and dimensions 20

Section G – Sails

G.1 Parts 20
G.2 Manufacturers 20
G.3 Identification 20
G.4 Materials, construction and dimensions 20

PART III – APPENDICES

H Manufactured Part List..... 22
I Rigging List..... 23
J Hull Drawings 25
K Nacra 17 Sail Arrangement..... 26

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 manufacturer controlled.

Nacra 17 hulls, hull appendages, cross beams, trampoline, rigging and sails shall only be manufactured by licensed manucfaturers – in the class rules referred to as 'Licensed Manufacturers'. Equipment is required to comply with the Nacra 17 Building Specification and is subject to a World Sailing approved manufacturing control system.

Nacra 17 hulls, hull appendages, cross beams, trampoline, rigging 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 rules in Section C is the responsibility of the competitor.

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, when a term is printed in “*italics*” the definition in the RRS applies and 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

WS	World Sailing (formerly ISAF)
MNA	World Sailing Member National Authority
NS	Nautical Sports bv also referred to 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.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 two thirds 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 and 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.

A.9 CERTIFICATION

A.9.1 Written **certification** will not be issued.

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

B.1.1 The **boat** shall:

(a) have a World Sailing Building Plaque

(b) have been manufacturerd by a 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 an **event limitation mark** becomes damaged or lost this shall be reported to the Race Committee or Event Technical 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 rules in Part II are **closed class rules**, where anything that is not specifically allowed in these **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 Licensed Manufacturers is permited 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 **crew** *racing* a **boat** with original World Sailing/ISAF plaque number lower than (older than) 336 shall not be allowed to compete at the Olympic Games or in a Gold Fleet at a Class World Championship, excluding Junior World Championships.
Any **crew** qualifying for the 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 of a maximum length of 150 mm.

(iv) The maximum permitted weight of the trapeze harness shall be 2.4 kg. This changes RRS 50.1 (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 in accordance with World Sailing Regulation – Advertising Code 20.3.1 and 20.3.2

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 IN17CA and the requirement is published in the Notice of Race.

C.4.3 For the purpose of World Sailing Advertising Code, the **gennaker** shall be deemed a spinnaker.

C.5 PORTABLE EQUIPMENT

C.5.1 MANDATORY

(a) For Use:

(i) The righting line shall 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.

(vii) Spare parts, tools, shockcord, rope, pulleys, rings, and plastic balls.

C.6 BOAT

C.6.1 MODIFICATIONS

(a) Shockcord with a maximum diameter of 5 mm, rings, ropes of any length and diameter, plastic balls, and blocks with a maximum sheave diameter of 20 mm 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, gennaker sheets, jib halyard, gennaker halyard, mainsheet, cunningham line, worm wheel.

(iv) take up within the beams.

(v) dampen the tiller bar.

(vi) create mast rotation marks.

(vii) shockcord 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 bolts from a Licenced Manufacturer.

(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 an 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 38 mm and a maximum of 60mm.

(h) The attachment fittings of the mainsheet blocks and mainsheet block system, from the strap on the **mainsail** and to the traveller 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 traveller 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 to the **boat** is permitted with the following exception:
For **hull appendages** Maintenance is only permited as defined in rule C.8.2.

C.6.3 REPAIR

(a) All Repairs 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 striker rod, but located close to the centreline of the bar. The location must allow the application of **event limitation marks** and allow visual inspections.

(b) The total weight of **corrector weights** shall not exceed 4 kg 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 3 mm 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 Rear Cross Beam. The forward foot straps shall only be anchored to the **hul**l 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 shockcords.
(g) Shockcord may be led through the breather hole in the centre of the top hatches.

C.7.2 MAINTENANCE

(a) Maintenance of the **hull** is permited.
(b) The supplied non-skid ‘pro-grip’ in the deck moulding may be replaced by the same type only (EVA Foam, supplied by Licenced Manufacturers).

C.7.3 REPAIR

Repairs to the **hull** require approval as described in C.6.3, except filling and blending of small voids (chips and gouges) of no larger than 20 mm x 20 mm which may be carried out 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 bottom of the rudder casting.

(b) Rudder guides (rudder stock washer trailing edge) may be replaced but the replacement shall smaller than 30 mm in diammeter if disc shaped and smaller than 30 mm x 30 mm 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 dimesions and materials.

(h) Only the aft 10 mm 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 1 mm from the trailing edge the thickness shall be no less than 0.6 mm.

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:

(i) 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 the **foils** (elevators) and the **rudder** blade (vertical) and the 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 **hull appendages.**

C.8.3 REPAIR

(a) Repairs to **hull appendages** require approval as described in C.6.3, except repairs of small voids (chips and gouges) of no larger than 10 mm x 10 mm which may be carried out without the approval of actions and materials.

(b) Repairs to **daggerboards** and **rudders** require the use of approved coating products:
The approved products are:

(i) 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

(c) 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 momemtarily raised to clear them from in-water items, and shall be immediately placed back into the fully-down position.

(d) Both **rudders** shall be in the fully-down position whilst *racing*, with an exception being that they may be momemtarily raised to clear them from in-water items, and shall be immediately placed back into the fully-down position.

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 22 mm 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 providing it does not perform any other function than aiding the support of a **crew**.

(d) The two webbing straps sewn into the trampoline, approximately 30 mm long that run parallel with the Cross Beams forward of the centre 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 to the Cross Beams is permitted.

C.9.3 REPAIR

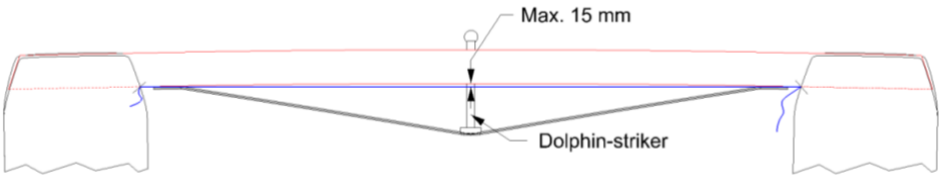
Repairs to the Cross Beams require approval as described in C.6.3.

C.9.4 DIMENSIONS

(a) Front Cross Beam curvature

	Minimum	Maximum
Front Cross Beam Curvature		15 mm

Front Cross Beam Curvature is defined as the greatest distance between:
-the highest point of the underside of the Front Cross Beam,
and;
-a straight line from the port and starboard lower 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) The 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 maximum diameter of 8 mm in the **boom** outhaul end.
(e) Tufts or ribbons in the **rigging** are allowed.
(f) A protective cover made only from **sail** cloth and attached by adhesive tape with a maximum size of 300 mm by 350 mm may be fitted over the hounds.
(g) Fittings may be replaced with fittings of similar size and design.

C.10.2 MAINTENANCE

(a) Maintenance to the **rig** is permitted.
(i) Any Coating on the **mast** as part of Maintenance shall be clear.

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) The 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** lines.

(3) The **trapeze** lines 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** may be replaced by a turnbuckle of the following manufactures:

- Ronstan Calibrated Turnbuckles RF1575 or RF1481-04
- Blue Wave Spanner (Mono race tuning – MRT- Calibrated AISI 316).

(3) The stay adjusters of the **shrouds** may be replaced by a turnbuckle of the following manufactures:

- Sta/Master PAT. 8,281,080
- Ronstan Calibrated Turnbuckles RF 1575 or RF1481-04
- 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.

(4) The **shrouds** and **forestay** terminal wire connectors may be replaced by fittings of substantially the same size, weight and structural design.

(5) The ring of the Jib Halyard Locking System shall be in the same position as on the standard forestay and of the same size and structural design, with the exception; the ring of the locking system may be fitted to the **forestay** by rope.

(6) 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

(1) The **forestay** shall be placed along the foreside of the **mast** with the turnbuckle fully extended and just two threads of the swage left inside the turnbuckle housing**.** The distance from the lower end of the carbon section of the **mast** to the centre of the forestay pin shall be a minimum of 295 mm.

(c) USE

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

C.10.7 SPARE NUMBER

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 22 mm 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) The **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

(1) **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 out 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 to 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(d) over the surfaces of the **mainsail** shall not cover the window panels (blue coloured panels in Appendix Section K) in the **sail** or the **batten pockets** on the port side of the **sail** in order to identify the Nacra Identification Stickers

(b) IDENTIFICATION

(1) **Sail** numbers shall be any of the following:

(i) The number shown on the World Sailing/ISAF 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 IN17CA 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 number 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 batten number 2 and batten number 3 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 battens from a Licensed Manufacturer.

(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 port side of the **mainsail** between batten number 3 and batten number 4. Existing **mainsails** with national flags placed on the starboard side before 1st April 2021 are permitted.

(ii) Natonal flags shall only be ordered and purchased through the IN17CA and shall not be trimmed or cut.

(iii) The national flag shall be corresponding to the country code displayed in the sail number.

(e) USE

(i) The **mainsail** shall be hoisted on the **halyard**. The arrangement shall permit hoisting and lowering of the **mainsail** 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 Nacra Idetification Stickers on the battens.

(b) USE

(i) The **jib** shall be hoisted on the **halyard**. The arrangement shall permit hoisting and lowering of the **jib** 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

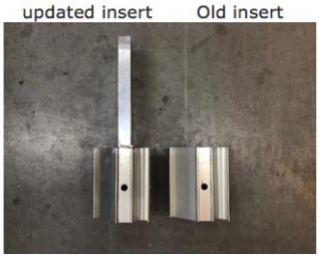
D.2 MODIFICATIONS, MAINTENANCE AND REPAIR

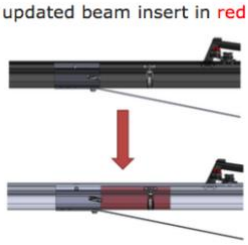
The alterations contained in D.2.1. to D.2.3 may be made by NS, or by anybody after a formal request has been made to NS and written approval is received by the owner. This shall require the Manufacturer's Declaration to be re-issued.

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 Repairs in any other way than described in Section C then the details shall be recorded on the Manufacturers Declaration.

D.3 MANUFACTURERS

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

D.4 IDENTIFICATION

The Licensed Manufacturer's serial number shall be displayed on the transom of the starboard **hull**.

Items (c),(d) and (e) of section D.1.1 shall carry Nacra 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 may be painted. Severely damaged boats may be painted but only after a damage report form including pictures has been sent to: measurement@nacra17.org, and written approval by NS has been received by the owner.

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 Licensed Manufacturers.

E.3 IDENTIFICATION

The Licensed Manufacturer's serial number shall be displayed on the **daggerboards** and **rudder** blades.

The **rudder** castings items (e) and (f) shall carry imbedded Nacra logos.

The tiller bar item (g) shall carry a Nacra Identification Sticker.

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) Gennaker snuffer bag

F.2 MANUFACTURERS

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

F.3 IDENTIFICATION

The Licensed Manufacturer's serial number shall be displayed on the **mast** section.

Items (b), (c), (d), (e) and (f) shall carry Nacra 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**

Thare shall be seven battens numbered from the **head point** of the **sail** down as shown in Section K.

(b) **Jib**

There shall be 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 Licensed Manufacturers.

G.3 IDENTIFICATION

The Licensed Manufacturer's serial number shall be displayed on the **mainsail**, **jib** and **gennaker**.

Battens shall carry Nacra 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
					(Where no comment as per class rules)
2	**Hull**		Required	Yes	Licensed Manufacturer
2		Mast rotation Cam-matic HK469			
2		Gennaker HK2135 57 mm			±3mm diam. sheave
1	**Front Cross Beam**		Required	No	Licensed Manufacturer
2		Gennaker sheet HK2636 40 mm			See C.6.1 (g) (3)
1		Tackline cheek HK233 22 mm			±3 mm diam. sheave
2		Jib cunningham/ HK415 16 mm			±3 mm diam. sheave
1		Tack line cam-matic HK468			
2		ClamCleat Jib cunningham CL268			
1		Tack line 16 mm single HK442			±3 mm diam. sheave
2		Jib sheet swivel base HK462 or 9051			
1		Jib track Car HK2700			
1		Jib track			Licensed Manufacturer
1	**Rear Cross Beam**		Required	No	Licensed Manufacturer
1		Traveler track car HK2765			
1		Swivel base HK639NP			
4		29mm bullet sheave H160			
2		Chicken line shockcord blocks			16 mm sheave +/- 4 mm diam. sheave
1	**Mast**		Required	Yes	Licensed Manufacturer
2		Cunningham sheave micro HK277			±3 mm diam. sheave
1		Cunningham single HK348			±3 mm diam. sheave
2		Cunningham Pivoting H395 or Spinlock PXR0206/VP			±3 mm diam. sheave
1		Gennaker Halyard Pivoting H2156			
2		Clamcleat cunningham CL211			
1		Mast rotation cam-matic HK469			
1		Eye-strap 16 mm single HK442			±3 mm diam. sheave
1	**Spreaders (6 components)**		Required	No	Licensed Manufacturer
1	**Boom**		Required	No	Licensed Manufacturer
1		Clamcleat Outhaul CL277			May be removed according to C.10.1 (c)
1		Boom Gooseneck U-fitting			Licensed Manufacturer
1	**Compression Post**		Required	No	Licensed Manufacturer
1	**Trampoline**		Required	Yes	Licensed Manufacturer
2		Gennaker Haylard guiders HK348			Open
1	**Bowsprit**		Required	No	Licensed Manufacturer
1		Snuffer ring			Licensed Manufacturer
1		Tackline stand-up HK349			±3 mm diam. sheeve
1		Clamcleat jib carline CL211			
1		Jib sheet cheek block HK416			±3 mm diam. sheave
1		Jib cunningham cheek block HK416			±3 mm diam. sheave
1	**Gennaker snuffer bag**		Required	Yes	Licensed Manufacturer
2	**Daggerboard**		Required	Yes	Licensed Manufacturer
2	**Rudderboard**		Required	Yes	Licensed Manufacturer
2	**Rudder system**		none	no	Licensed Manufacturer
1	**Tiller-bar**		Required	No	Licensed Manufacturer
1	**Tiller extension**		None		
1	**Mainsail**		Required	Yes	Licensed Manufacturer
		Light batten set (top 4 battens)	Required	No	Licensed Manufacturer
		Medium batten complete set	Required	No	Licensed Manufacturer
		Heavy batten set (top 4 battens)	Required	No	Licensed Manufacturer
1	**Jib**		Required	Yes	Licensed Manufacturer
		Standard batten set	Required	No	Licensed Manufacturer
1	**Gennaker**		Required	Yes	Licensed Manufacturer

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 split tail 1:10	**1**			HC GP 2800	
	1			HC 8454	±3 mm diam. sheave
	1			HC 7668	±3 mm diam. sheave
Mainsheet with spli ttail 1:12	**1**			HC GP 2800	
(optional)	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	Licensed Manufacturer
Jib Halyard	**1**				
	1			S-hook jib	Licensed Manufacturer
Gennaker Sheet	**1**				
Gennaker Tackline	**1**				
	1			HK 348 29 mm	
Main Downhaul purchase 1:8					
	2			HK 406 double 16 mm	±3 mm diam. sheave
Main Downhaul purchase 1:2	**2**				
Jib sheet 1:3	**1**				
	1			HK 406 16 mm (car block)	±3mm diam. sheave
	1			HK 348 29 mm	±3mm diam. sheave
	1			Shackle	
Jib sheet 1:2	**1**				*Optional*
	1			HK 348 29 mm (car block)	±3 mm diam. sheave
Jib downhaul 1:2	**1**				
Gennaker block line	**1**				
	1			HK 348 29 mm	±3 mm diam. sheave
Gennaker Bale	**1**				
Rotation line	**1**				
	1			Ring max. diameter 30 mm	±5 mm inside diam.
Gennaker tack release	**1**				
	1			Ring max. diameter 30 mm	±5 mm inside diam.
Hiking strap tie	**3**				
Righting line	**1**	4500			As per C.6.1 (e)
Gennaker clew take down line	**1**				
	1			HK 348 29 mm	±3 mm diam. Sheave
Gennaker block shockcord	**2**			Shockcord	
Gennaker tack shockcord	1			Shockcord	
Front Cross Beam rigging					

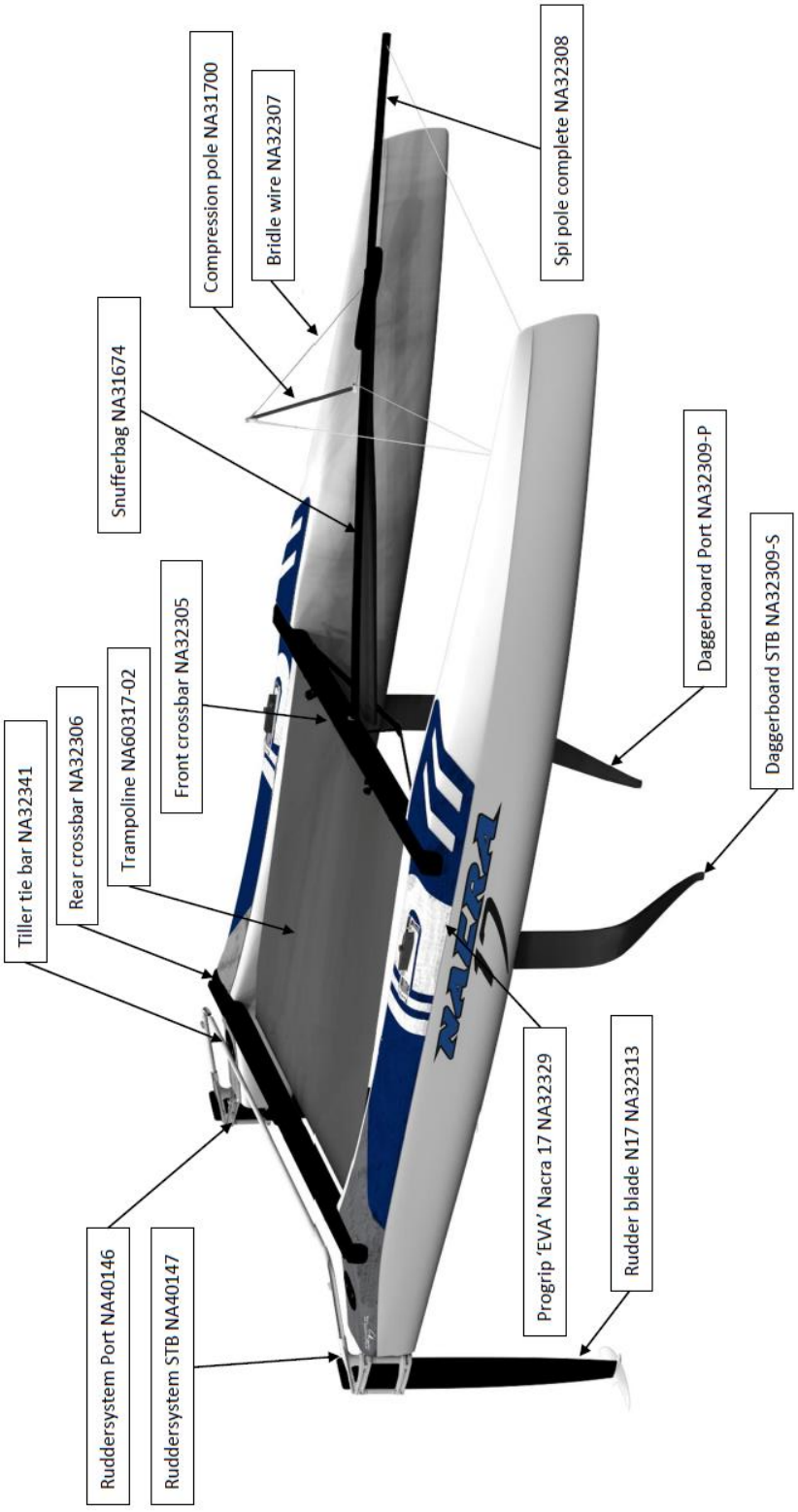
Jibsheet trim 1:2	**1**					
	1			HK 348 29 mm		±3 mm diam. sheave
(optional)	2			HK 348 29 mm *(to lead Jibsheet backwards over deck)*		±3 mm diam. sheave
Jib and Cunningham retraction system	2			HK 406 16 mm double		±3 mm diam. sheave
(optional for continues)	2			HK 224 22 mm *(running-block)*		±3 mm diam. sheave - C.9.1 (a)
Shockcord block line	**2**					
Retraction shockcord	**2**			Shockcord		
Trapeze shockcord	**1**			Shockcord		
Jib downhaul trim 1:2	**1**			**-**	**-**	
	1			HK 404 16 mm		±3 mm diam. sheave
Rear Cross Beam rigging						
Chicken line	**2**					*Optional*
	2			HK 404 16 mm		±3 mm diam. sheave
Retraction shockcord	**1**					*Optional*
Shockcord block tie rope	**2**					*Optional*

Standing rigging		**Size**		**Material**	**Associated Hardware**	**options or restrictions**
	Qty	**Length(1)**	**Diam.**			
		mm	mm			
Forestay	1	6425(2)	4.0	Standard 1 x 19 stainless steel wire		±0.05 mm diam. wire and C.10.5 (a)
	1				Forestay adjuster	C.10.6 (a) (2)
Bridle	2	-	-	Standard 1 x 19 stainless steel wire		Licensed Manufacturer
	1				Bridle fitting NA31698	Licensed Manufacturer
Shrouds	2	6810(2)	4.0	Standard 1 x 19 stainless steel wire		diam. ±0.05 mm.
	2				Shroud adjuster	C.10.6 (a) (3)
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	1 x 19 stainless steel wire	open, see C.10.8 (a) (2)	±0.2 mm diam. Shall be either 1x19 stainless steel wire, Dyneema sk75/80 or polyester or a combination.
			3.0	Dyneema Sk75/80 or polyester		

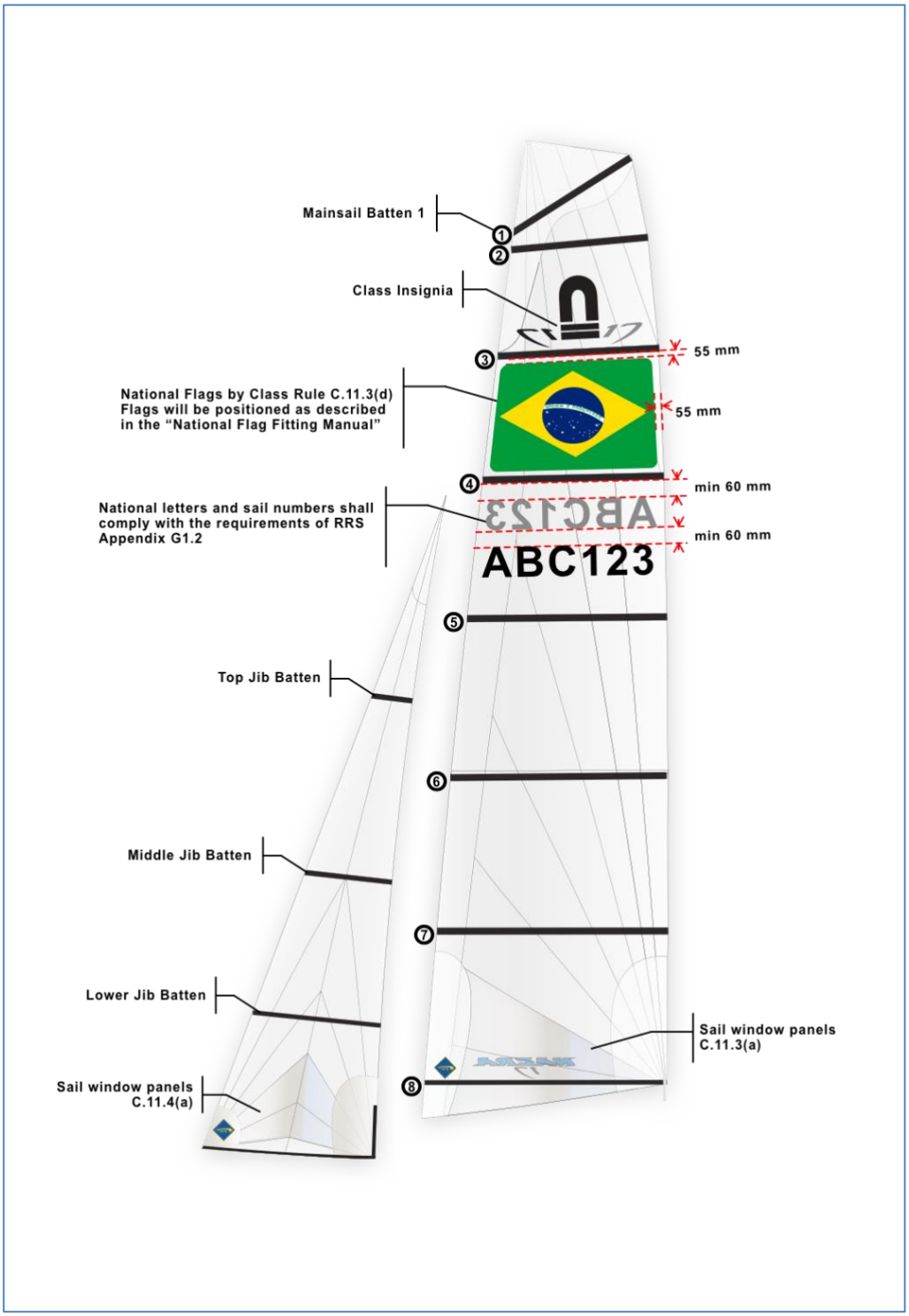
(1) Length is the distance taken between the bearing surfaces of the rigging.

(2) For reference only - not a requirement.

Section J: HULL DRAWINGS



Section K: NACRA 17 SAIL ARRANGEMENT



Effective Date: 1st April 2021
Previous issue: 12th December 2019