

INTERNATIONAL *NACRA* *17* CLASS RULES

2013 Version 1.4



The NACRA 17 Class was designed in 2012 by Morrelli & Melvin and
NACRA.

INDEX

PART I – ADMINISTRATION

Section A – General

A.1	Language	4
A.2	Abbreviations	4
A.3	Authorities.....	4
A.4	Administration of the Class	4
A.5	Class rules changes	4
A.6	Class Rules Amendments	4
A.7	Class Rules Interpretation	5
A.8	International Class Fee and ISAF Building Plaque	5
A.9	Licensed manufacturer	5
A.10	Sail numbers & Class Insignia...	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	7
C.3	Personal Equipment	7
C.4	Advertising	8
C.5	Portable Equipment	8
C.6	Boat	8
C.7	Hull	9
C.8	Hull Appendages.....	10
C.9	Beams	11
C.10	Rig.....	12

C.11	Sails	15
------	-------------	----

Section D – Platform

D.1	Parts	17
D.2	Manufacturers	17
D.3	Identification	17
D.4	Materials, construction and dimension.....	17

Section E – Hull Appendages

E.1	Parts	18
E.2	Manufacturers	18
E.3	Identification	18
E.4	Materials, construction and dimensions	18

Section F – Rig

F.1	Parts	18
F.2	Manufacturers	18
F.3	Identification	18
F.4	Materials, construction and dimensions	19

Section G – Sails

G.1	Parts	19
G.2	Manufactures	19
G.3	Identification	19
G.4	Materials, construction and dimensions	19

PART III – APPENDICES

H	Manufactured Part List	20
I	Rigging List	21
J	Hull Drawings.....	23
K	Nacra 17 Sail Arrangement.....	24

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 an ISAF 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.

A.2 ABBREVIATIONS

- A.2.1 ISAF International Sailing Federation
- MNA ISAF 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 the ISAF 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 the ISAF.

A.4 ADMINISTRATION OF THE CLASS

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

A.5 CLASS RULES CHANGES

- A.5.1 ISAF Regulation 10.11 applies.

A.6 CLASS RULES AMENDMENTS

- A.6.1 In accordance with ISAF Regulations, amendments to the **Class Rules** require the approval of ISAF 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 the ISAF 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 the ISAF and IN17CA of any such interpretations.

A.8 INTERNATIONAL CLASS FEE AND ISAF BUILDING PLAQUE

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

A.9 LICENSED MANUFACTURER

- A.9.1 Nacra 17 equipment shall only be manufactured by Nautical Sports BV and its appointed suppliers, except where otherwise authorized by these **Class Rules**.

A.10 SAIL NUMBERS & CLASS INSIGNIA

- A.10.1 **Sail** numbers shall be:
 - (a) the number corresponding to the number on the ISAF International Class building plaque, shall be used in the first 3 digits; or
 - (b) where the helm has finished in the top 3 in the preceding Nacra 17 World Championship their **sail** number shall be that place, single digit.Positioning of the numbers are specified in Appendix Section K.
- A.10.2 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.

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) be in compliance with the **Class Rules**.
- (b) have components of the Nacra 17 with valid identification stickers as required in Sections D,E,F,G and Appendix section H

B.2 EVENT INSPECTION

B.2.1 A 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. Such occurrences shall be reported to ISAF 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.

C.1.2 LIMITATIONS

- (a) The Nacra 17 shall only be raced with original or replacement equipment supplied by Nacra licensed suppliers only, except where otherwise authorized by these **Class Rules**.
- (b) Where replacement equipment other than from Nacra licensed suppliers is authorized, 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.

C.2 CREW

C.2.1 LIMITATIONS

- (a) The **crew** shall consist of one female person and one male person during World Championships, Continental Championships, ISAF World Cup and other ISAF grade 1 and 2 events.

C.2.2 MEMBERSHIP

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

C.3 PERSONAL EQUIPMENT

C.3.1 PERSONAL FLOATATION DEVICE

- (a) When racing both **crew** shall wear a **personal floatation device** to the minimum standard ISO 12402-5 (Level 50 Newtons), or USCG Type III,

or AUS PFD 1, or EN 393, unless an alternative standard is prescribed otherwise in the Notice of Race.

- (b) The use of inflatable personal flotation devices is not permitted when racing.

C.4 ADVERTISING

- C.4.1 Advertising as chosen by the Person in Charge is unrestricted as in accordance with ISAF Regulation 20.3.1.1 and 20.3.1.2
- C.4.2 For the purpose of ISAF Advertising Code, the gennaker shall be deemed a spinnaker.

C.5 PORTABLE EQUIPMENT

C.5.1 OPTIONAL

- (a) Timing devices.
- (b) One compass with bracket, which may include a timing device. If electronic, only a compass with heading, heading memory and timing functions is permitted.
- (c) Spare parts and tools, removable for weighing.
- (d) Camera recording equipment and attachments, where permitted by the Notice of Race and/or Sailing Instructions and removable for weighing.

C.6 BOAT

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

C.6.1 MODIFICATIONS

- (a) The use of the following items is in general unrestricted, except that such items shall not be used in such a way as to create a fitting or extend a function of a permitted fitting:
 - (i) shockcord, with a maximum diameter of 5 mm;
 - (ii) adhesive tape
 - (iii) rings
 - (iv) ropes, with a maximum length of 250 mm and a maximum diameter of 3 mm.
- (b) To facilitate advertising, the application of vinyl, mylar or other plastic film over the surfaces of the **hull, sails and spars**, 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.
- (c) The righting line may be changed to a minimum diameter of 5 mm and a minimum length of 4500 mm, 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.6.2 MAINTENANCE

- (a) Maintenance may be carried out provided that the essential shape, characteristics and function of the original component are not affected.

- (b) Any cleat including integrated fairlead may be replaced with a cleat of any material and substantially of the same size and design.
- (c) Any block on the boat may be replaced with a block of the same number of sheaves with a sheave diameter tolerance as listed in appendix section H. With exception for the following:
 - (1) 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.
 - (2) 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.
 - (3) The four supplied blocks for the Gennaker sheets, maybe changed to any type of block with a minimum sheave diameter of 38mm and a maximum of 60mm.
- (d) Any attachment of blocks may be replaced. Attachments for blocks shall be of substantially the same size and design as the original.

C.6.3 REPAIR

- (a) Maintenance may be carried out provided that the essential shape, characteristics and function of the original component are not affected.
- (b) Fasteners may be replaced or added if the function of the fitting or part is not altered and where required to facilitate a repair the fitting maybe modified to accommodate slightly larger fixings

C.6.4 WEIGHT

The weight of the **boat** in dry condition shall be minimum 143 kg with the aluminium mast.

The weight of the **boat** in dry condition shall be minimum 139.0 kg with the carbon fibre mast.

The weight shall be taken including:

hull platform, mast, hull appendages, bowsprit and all equipment and **rigging** as listed in Appendix section H and I, excluding: the tiller extension, **mainsail** and battens, **jib** and battens, **gennaker** and all **portable equipment** listed in C.5.1.

C.6.5 CORRECTOR WEIGHTS

- (a) **Corrector weights** of lead shall be securely fastened to the outside on the starboard side from the middle of the front beam at the V-bar (dolphin-striker rod), when the **boat weight** is less than the minimum requirement.
- (b) The total weight of such **corrector weights** shall not exceed 4 kg.

C.7 HULL

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

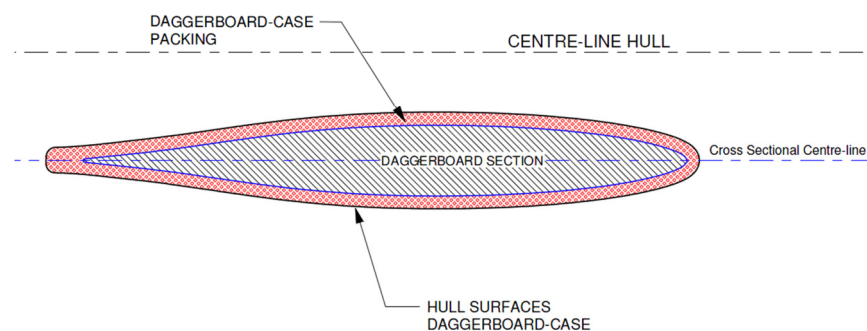
C.7.1 MODIFICATIONS

- (a) Additional non-skid tape may be applied to:
 - (i) the upper deck areas in front of the front cross beam

- (ii) the rear cross beam
- (iii) the upper deck areas behind the rear cross beam
- (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) Two Nacra foot straps may be fitted to each **hull**, aft of the rear cross beam
- (e) No holes may be made in the **hull** or deck mouldings except;
 - (i) for the purpose making repairs
 - (ii) to fit foot straps
- (f) The **daggerboard** case packing may be replaced by any material. The top **daggerboard** case packing shall have a minimum thickness of 3 mm. The bottom **daggerboard** case packing shall have a minimum thickness of 2 mm. The minimum thickness of the **daggerboard** case packing does not apply within 30 mm of leading edge and trailing edge of the **daggerboard** case in the fore and aft direction.

The **daggerboard** case packing shall not extend for more than 35 mm into the trunk from the top or bottom, or beyond the surface defined by straight edge held perpendicular to the centreline and dragged along the bottom of the **hull**.

The **daggerboard** case packing shall be permanently fixed and shall not operate the function to trim the **daggerboard** at any time. The intersection between the hull surfaces and the packing shall be remained clearly visible for inspection.



Advisory note: nowhere is re-finishing, fairing of the daggerboard case-**hull** surface intersection permitted except to facilitate localised repair in this rule. Provided that the essential shape, characteristics and function of the original component are not affected, the N.S. may use templates to verify compliance with these limitations.

C.7.2 MAINTENANCE

- (a) The watertight integrity of the **hull** shall be maintained.
- (b) The breather hole in the centre of the top hatch of each **hull** shall remain open. Shockcord may be led through the hole.
- (c) The outermost surfaces of the **hulls** may be polished and cleaned with normal concentrations and quantities of detergents or similar materials.

C.7.3 REPAIR

- (a) In the event of damage to any part of the **hull**, necessary repairs may be made provided repairs are made in such a way that the essential shape and function is not materially affected. Areas of damage repair may be filled, sanded and polished over.
- (b) Only composite repairs with E-glass laminate are permitted for the hull structure.
- (c) Replacement of non-skid 'pro-grip' (type: EVA Foam 3mm thickness) of the same type to the deck moulding is permitted. The pro-grip shall be supplied by Nacra licenced suppliers only.

C.7.4 LIMITATIONS

- (a) 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.

C.8 HULL APPENDAGES

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

C.8.1 MAINTENANCE

- (a) The outermost surfaces of the **daggerboards** and **rudders** may be sanded, polished and cleaned with normal concentrations and quantities of detergents or similar materials. Provided that the essential shape, characteristics and function of the original component are not affected, the N.S. may use templates to verify compliance with these limitations.
- (b) The rope handle of the **daggerboard**, may be replaced by a different rope, with a maximum length of 600 mm.
- (c) Small quantities of friction-reducing compounds (E.g. McLube or Teflon) may be applied only to the surfaces prior to racing, and solely for the purpose of reducing bearing friction while raising and lowering the hull appendages.
- (d) The **rudder** upper casting packing may be replaced by any material to fit the rudder arm and blade.
- (e) The **rudder** lower casting packing may be replaced by any material to fit the blade.
- (f) The tiller extension may be replaced without any restrictions as to design and material.

C.8.2 REPAIR

- (a) Repairs to chips in the leading and trailing edges of blades may be filled and blended in.

Advisory note: nowhere is re-finishing, fairing of the **hull appendage** surfaces permitted except to facilitate localised repair in this rule. Painting is not mentioned therefore as these are **closed class rule** it is prohibited.

C.8.3 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.

C.9 BEAMS

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

C.9.1 MODIFICATIONS

- (a) Jib sheet and Cunningham trim line retraction systems may be 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) Adjustment of the beam bolts bedding inside the beam extrusion and castings is prohibited and no filler may be applied.
- (c) Beams may be bedded in on the hull and shall be able to be removed without damage to either the **hull** or beam at any time.
- (d) No additional holes may be made in the beam extrusions.
- (e) A hook may be fitted to each end of the 'chicken line'. (The line which exits either side of the aft cross beam.)

C.9.2 MAINTENANCE AND REPAIR

- (a) Routine maintenance such as cleaning, polishing and the replacement of broken fittings is permitted.
- (b) Beam bolts are Nacra licensed suppliers only.
- (c) Any cleat or fittings may be replaced with a fitting of same type and manufacturer in the same position as the standard fitting and substantially of the same size and design.
- (d) Any running block may be replaced with a block of the same number of sheaves with a sheave diameter tolerance as listed in appendix section I.

C.9.3 FITTINGS

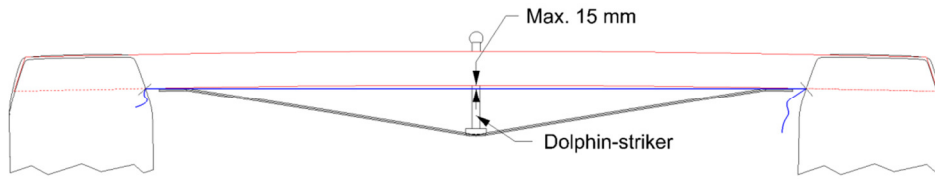
- (a) USE

	Minimum	Maximum
Front cross beam curvature		15mm

Front cross beam curvature is the greatest distance between:
the cross beam

and a straight line from the port and starboard bottom points of
the beam at the intersection with the hull

taken at 90° to the straight line with the dolphin-striker tensioned, the mast removed, the cross beam horizontal and both crossbeams tightened into their beam beddings.



C.10 RIG

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

C.10.1 MODIFICATIONS

- (a) In order to protect the mast from the rigging the use of any tape is permitted.
- (b) Calibration marks are permitted.
- (c) Any cleat or fittings may be replaced with a fitting from any manufacturer in the same position as the standard fitting and substantially of the same size and design. No additional holes may be drilled in the mast section.
- (d) Any block may be replaced with a block of the same number of sheaves with a sheave diameter tolerance as listed in appendix section H and I.
- (e) Boom outhaul clam cleat CL277 fitting may be removed and the system may be changed to a rope only trim system.
- (f) No additional holes may be made in the spar sections, except for:
 - (1) Boom outhaul end two additional holes may be drilled with a max. diameter of 8 mm.
- (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.

C.10.2 MAINTENANCE AND REPAIR

- (a) Routine maintenance such as cleaning, polishing and the replacement of broken fittings is permitted.

C.10.3 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.

C.10.4 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.

C.10.5 DIMENSIONS

- (a) The **forestay** length is controlled by laying the **forestay**, including the chainplate or turnbuckle (C.10.7(a)(2)), along the forward face of the **mast** section and measuring the maximum extension possible of the **forestay** with the chainplate or turnbuckle. This distance shall be taken between the lower trimming line of the **mast** section and the bearing surface of the forestay pin and shall be a minimum of 295 mm.

C.10.6 FITTINGS

- (a) Optional mechanical wind indicators

C.10.7 STANDING RIGGING

- (a) MODIFICATION, MAINTENANCE AND REPAIR.

- (1) **Standing rigging** may be replaced and shall comply with the following:

Standing rigging		Size		Material	Associated Hardware	options or restrictions
	Qty	Length ⁽¹⁾	Diam.			
		mm	mm			
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	1580	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 or polyester		±0.2 mm diam.
Tramp lace rear	1	4300 ⁽²⁾	3.0	Dyneema or polyester		±0.2 mm diam.
Tramp laces side	2	4000 ⁽²⁾	3.0	Dyneema or polyester		±0.2 mm diam.
Trapeze lines	4		2.5	1 x 19 stainless steel wire	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.
			3.0	Dyneema or polyester		

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

⁽²⁾ Advisory length no tolerances apply.

- (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.

Note: The N.S. may authorize the use of comparable turnbuckle products from other manufacturers provided those products meet

comparable requirements for product standardization, compliance, and testing. measurement@nacra17class.com

- (3) The **shrouds** and **forestay** terminal wire connectors shall be a fitting from any manufacturer in the same position as the standard fitting and 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..

(b) 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 as specified in 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) A shackle or snap-shackle may be fitted at the end of the main sheet where it attaches the mainsail.
- (5) A shackle or snap-shackle may be fitted at the end of the jib sheet where it attaches to the clew board of the jib.
- (6) The gennaker tack-line inboard end block may be attached by rope to the **shrouds**, gennaker strap-eye or front cross beam casting.
- (7) Mast rotation line may be modified to a continuous system.
- (8) 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.

C.11 SAILS

C.11.1 MODIFICATIONS, MAINTENANCE AND REPAIR

The following is permitted without (re-**certification** or) approval and may be done by anyone.

- (a) Routine maintenance and repair
- (b) Addition of tell tales
- (c) Addition of camber stripes

- (d) Battens as supplied by NS (displaying a Nacra 17 identification sticker) may be placed in the **batten pockets**

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.

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) As per C.6.1 (b) the application of vinyl, mylar or other plastic film over the surfaces of the **mainsail** is permitted to facilitate advertising, provided that the film 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

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 Appendix section K.

(c) BATTENS

The main battens shall be of the standard set supplied by Nacra Licensed suppliers only and shall not be altered. A standard batten set shall consist of 7 battens numbered down from the head point of the sail. Batten numbers 1, 2, 3 and 4 may be separately changed to either harder battens or softer battens by Nacra Licensed suppliers only. The battens shall be identified by their official certified labels.

Battens are numbered to match a batten pocket in the sail as allocated in appendix section K, it is not allowed to put battens in not-matching batten pockets and each batten pocket sail carry one batten.

(d) NATIONAL FLAGS

- (i) All teams when racing in the Nacra 17 World Championships, Continental Championships and ISAF World Cup 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) As per C.6.1(b) the application of vinyl, mylar or other plastic film over the surfaces of the **jib** is permitted to facilitate advertising, provided that the film 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) BATTENS

The **jib** battens shall be of the standard set supplied by Nacra Licensed suppliers only and shall not be altered. A standard batten set shall consist of a lower, middle and top batten.

Battens are named to match a batten pocket in the sail as allocated in Appendix section K, it is not allowed to put battens in not matching batten pockets and each batten pocket sail carry one batten.

(c) 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.

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.3.1. to D.3.3 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)

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 labels.

D.5 MATERIALS, CONSTRUCTION AND DIMENSIONS

D.5.1 Shall comply with the ISAF 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@nacra17class.com.

Section E – Hull Appendages

E.1 PARTS

E.1.1 MANDATORY

(a) Starboard **Daggerboard**

(b) Port **Daggerboard**

(c) Starboard **Rudderblade**

(d) Port **Rudderblade**

(e) **Rudder** upper-casting including tiller-arm

(f) **Rudder** lower-casting

(g) Tiller-bar

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 labels.

E.4 MATERIALS, CONSTRUCTION AND DIMENSIONS

Shall comply with the ISAF 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 labels.

F.4 MATERIALS, CONSTRUCTION AND DIMENSIONS

Shall comply with the ISAF approved Builders Construction Manual.

Section G – Sails

G.1 PARTS

G.1.1 MANDATORY

- (a) **Mainsail**
 - (i) Hard battens nr. 1, 2, 3 and 4.
 - (ii) Medium (standard) batten set
 - (iii) Soft battens nr. 1, 2, 3 and 4.
- (b) **Jib**
 - (i) Standard batten set
- (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 labels.

G.4 MATERIALS, CONSTRUCTION AND DIMENSIONS

Shall comply with the ISAF 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			±2mm 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			±2mm diam. sheave
2		Jib cunningham/ HK415 16 mm			±2mm diam. sheave
1		Tack line cam-matic HK468			Harken licensed suppliers only
2		ClamCleave Jib cunningham CL268			
1		Tack line 16mm single HK442			±2mm 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 HK2738			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			±2mm diam. sheave
1		Cunningham single HK348			±2mm diam. sheave
2		Cunningham Pivoting HK 291 or Spinlock PXR0206/VP			±2mm diam. sheave
1		Spi Halyard Pivoting/365 HK141			Harken licensed suppliers only
2		clamcleat cunningham CL211			
1		Mast rotation cam-matic HK469			
1		Eye-strap 16mm single HK442			±2mm 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			±2mm diam. sheave
1		Clamcleat jib carline CL211			
1		Jib sheet cheek blok HK416			±2mm diam. sheave
1		Jib cunningham cheek blok HK416			±2mm 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	Ruddercasting - upper - incl. rudderarm				Nacra Licensed suppliers only
2	Ruddercasting - lower				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 mm	diam. mm		
					<i>(Where no comment as per class rules)</i>
Mainsheet with splittail 1:10	1				
	1			HC 8454	±2 mm diam. sheave
	1			HC 7668	±2 mm diam. sheave
Mainsheet with splittail 1:12	1				
(optional)	1			HC 8454	±2 mm diam. sheave
	1			HC 7668 + HC2650	±2 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	±2mm diam. sheave
Main Downhaul purchase 1:2	2				
Jib sheet 1:3	1				
	1			HK 406 16mm (car block)	±2mm diam. sheave
	1			HK 348 29mm	±2mm diam. sheave
	1			Shackle	
Jib sheet 1:2 (optional)	1				
	1			HK 348 29mm (car block)	±2mm diam. sheave
Jib downhaul 1:2	1				
Spin block line	1				
	1			HK 348 29mm	±2mm 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				

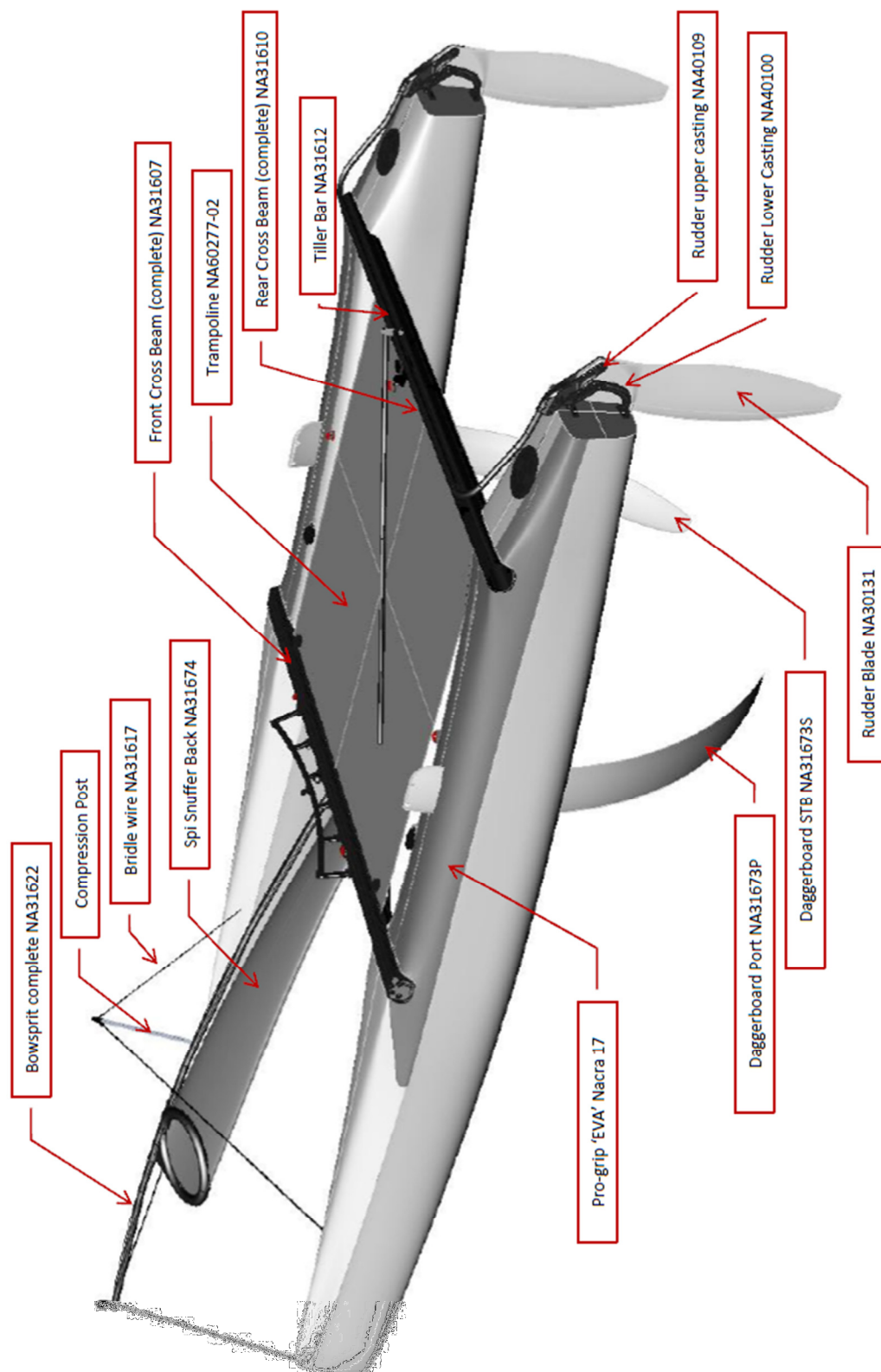
Running Rigging	Size			Material/Associated Hardware		Options or tolerances
	Qty	length	diam	core	cover	
	1			HK 348 29mm		±2mm diam. Sheave
Spinblock shockcord	2			Shockcord		
Spintack shockcord	1			Shockcord		
Front cross beam rigging						
Jibsheet trim 1:2	1					
	1			HK 348 29mm		±2mm diam. sheave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

Standing rigging	Qty	Size		Material	Associated Hardware	options or restrictions
		Length ⁽¹⁾	Diam.			
		mm	mm			
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	1580	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)(1)	±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		

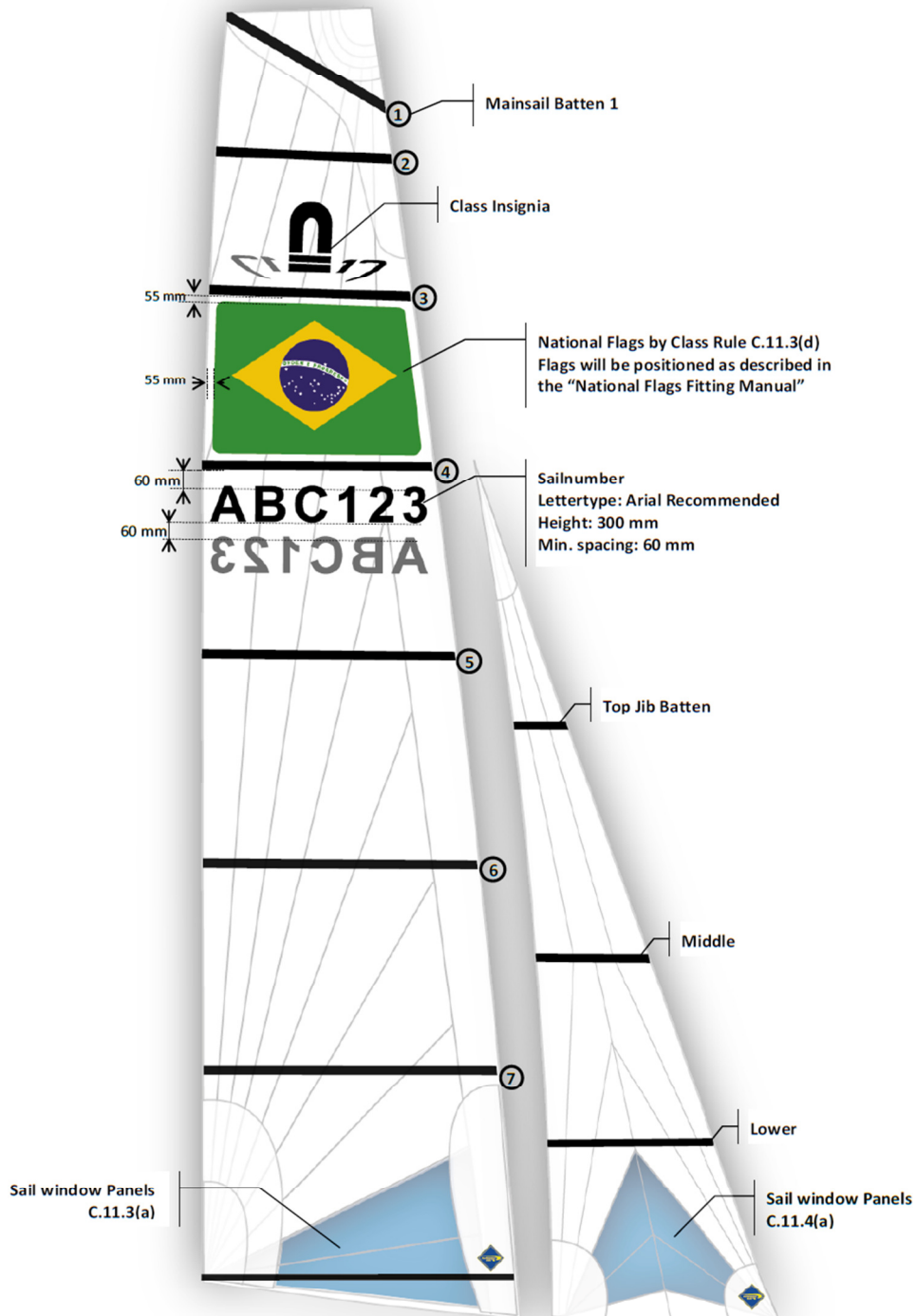
⁽¹⁾ Length is the distance taken between the bearing surfaces of the rigging.

⁽²⁾ Advisory length no tolerances apply.

Section J: HULL DRAWINGS



Section K: NACRA 17 SAIL ARRANGEMENT



Effective Date: 14 August 2013
Published Date: 14 August 2013
Previous issues: 3 July 2013
© ISAF 2013