

NSCOA

National Shearwater Catamaran Class Rules

2010 Revision

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PART A – ADMINISTRATION

- 1 GENERAL – The National Shearwater is a restricted class racing catamaran based on a one-design hull form. To ensure that the administration of the Class and the objectives of the Class Rules are maintained, before any National Shearwater may be raced, the following documents must have been issues and the requirements adhered to.
 - a. Building Fee Receipt
 - b. Registration and Measurement Certificate.

- 2 BUILDING FEE RECEIPT

- a. A Building Fee Receipt is no longer required. The RYA do not issue Hull Numbers for new builds. The promotion and administration of such is solely the responsibility of the Association.
- b. No Building Fee is required for new build boats.

- 3 REGISTRATION AND MEASUREMENT CERTIFICATES

Combined Registration and Measurement Certificates will be provided by the Association at no charge. Issued as required at each National Championships by the Association, and authorized by an elected “Class Measurer”. Furthermore all sails, spars and foils previously measured and approved by a “Class Measurer” remain “Class Legal” or “Approved”, unless changed or altered in any way subsequent to being measured.

Re-Certification

Should the certificate become invalid due to reasons A or B above, then the owner shall apply to the NSCOA “Class Measurer” for a new certificate, returning the old Certificate. The owner shall advise the NSCOA for the changed details.

- 4 SAILS – Owners shall have all sails measured in accordance with Part E of these Rules. Only NSCOA or RYA Approved measurers shall undertake measurement. Upon completion of satisfactory measurement, the measurer shall sign, date and record the actual area of the sail at its tack. The area of sail shall be marked in figures not less the 25mm in height.
- 5 Alterations, Replacements and Repairs

For the measurement certificate to be valid all hulls, spars, sails and equipment shall comply with the current Class Rules of those Class rules applying at the time when the original certificate was issued with the additional requirement to comply with those items marked with an asterisk in Part D of these Rules. Any alterations, replacements or repairs shall comply with the current Class Rules.

- 6 Measurement Checks
All hulls, sails and equipment shall be liable to re-measurement at the discretion of the NSCOA, RYA or a Race Committee at any time and it is the owner's responsibility to ensure that they comply with the appropriate Class Rules at all times.

Notwithstanding anything contained herein, the NSCOA has the right to refuse to grant or withdraw a Registration and Measurement Certificate from any yacht at any time.

- 7 Notes of Responsibility
The NSCOA, the RYA and an NSCOA or RYA Measurer is under no legal responsibility in respect of these Rules, plans or accuracy of measurement and no claim arising there from can be entertained. It shall also be made clear that it is the owner's responsibility to contact an appropriate measurer and to make their own contractual agreement with that measurer.

PART B – MEASUREMENT RULES

1 GENERAL

- 1.1 Intent – These Rules are intended to ensure that National Shearwater Class yachts are as nearly alike as possible with regard to shape, weight and gyradius of hull shells, area of sail and other matters which have influence on the basic speed of a National Shearwater.

All National Shearwater class yachts shall be in accordance with these Rules. No alterations or additions are permitted unless specifically stated.

- 1.2 Axis of Measurement
- 1.3 A number of words such as fore, aft, above, below, height, depth, length, beam and freeboard acquire a precise meaning in these Rules as they are taken to refer to the hulls in normal trim. Unless specifically required by the Class Rules to be taken in another way, all measurements denoted by these words or similar words shall be taken parallel to one of the three major axis of the hull – vertical, horizontal or transverse – related to the waterline and fore and aft centrelines of the hulls.
- 1.4 Where the Rules requires a measurement to be taken from A to B, the straight line distance joining A to B shall be measured whether or not the line is parallel to an axis.
- 1.5 Width, thickness, length etc. of a component shall be measured as appropriate for that component without reference to the hull axis.
- 1.6 Where a measurement is quoted as having a dimension within a range, such range shall not be regarded as a tolerance.
- 1.7 Definitions
- 1.8 Sheerline – The sheerline is the intersection of the lines of the top of the deck and the outside of the hull shell, projected if necessary.
- 1.9 Sheerlevel – The sheerlevel is the plane generater by projecting athwartships all points of the port sheer line of the port hull to all points of the starboard sheer line of the starboard hull.

- 1.10 Hull Centreline (CL) – The hull centreline, one on each hull, are lines passing through all points on the outside surface edge, when placed athwartships across the bottom of each hull, touches the outside surface of each hull shell.
- 1.11 Aft Measurement points (AMP) – The aft measurement points, one on each hull, are the points at the extreme aft end of each hull.
- 1.12 Hull Centreplanes (PC) – The hull centreplanes, one on each hull, are vertical planes through each hull CL.
- 1.13 Hull Stations (Stations)

The hull stations: transom, 14, 11, 8, 5 and 2 are vertical athwartship planes passing through points on the CLs measured around the CLs forward from the AMP as follows:

Station	Dimension on Datum
Transom	0
14	762
11	1676
8	2591
5	3505
2	4420

- 1.14 Hull Datum Lines (DL)

The hull datum lines, one on each hull, are horizontal lines passing through points 124mm below the outskirts surface of the hull of the shell at stations 2 and 117mm below the outside surface of the hull at AMP.

2 HULL

2.1.1 Identification Marks

2.1.2 Sail will be issued by the NSCOA. Hull Numbers will be recorded on Registration-Measurement Certificates. They are no longer required to be transom markings.

2.2 Builders

2.2.1 Hulls or hull shells may be built by any competent person. All hull or hulls shells shall be built using only NSCOA approved moulds.

- 2.3 Materials
 - 2.3.1 The hull may be of any material.
- 2.4 Dimensions
 - 2.4.1 The overall length of the hulls, including stem band if fitted, but excluding rudder fittings shall be not more than 5090mm nor less than 5040mm.
 - 2.4.2 The overall beam of the hulls, measured between the port sheer line on the port hull and the starboard sheer line on the starboard hull, shall be not more than 2286mm or less than 2236mm.
 - 2.4.3 The distance between the hulls CLs shall be not more that 1793mm or less than 1743mm.
 - 2.4.4 The beam of each hull, measured at sheer level at station 2 shall be not more than 350mm nor less than 300mm.
 - 2.4.5 The vertical depth of each hull, measured from sheer level at station 2, shall be not more than 530mm nor less than 504mm.
 - 2.4.6 The aft face of each transom shall be not more than 38mm nor less than 0mm forward of a vertical plane passing through AMP.
 - 2.4.7 NSCOA Approved Measurement Templates numbers 2, 5, 8, 11, 14 and transom shall be applied athwartships to each hull at stations 2, 5, 8, 11, 14 and transom respectively in accordance with the requirements of the diagram contained in Part C of these Rules. The templates to rest on the hull at the CL and shall either touch the hull or clear the hull by not more than 13mm. Clearance to be equi-distance at sheerlevel.
 - 2.4.8 With the templates applied to the hull in accordance with Rules B 2.4.7 the sheer line of each hull at stations 5, 8, 11, 14 and transom shall fall within the limits of the sheer line marked on the templates.
 - 2.4.9 An NSCOA approved stem measurement shall be applied fore and aft of each hull at the stem in accordance with the requirements of the diagram contained within Part C of these Rules. The templates shall either touch the hull or clear the hull by not more than 20mm. If a keelband is fitted to the stem the template shall be offset from the centreline to clear the keelband.
 - 2.4.10 With the stem measurement template applied to the hull in accordance with Rule B 2.4.9 the sheer line of each hull at stem fall within the limits of the sheer line marked on the template. If a keelband is fitted to the stem the template shall be offset from the centreline to clear the keelband.

2.4.11 The distance from each hull's DL to each hull's CL at stations shall be as follows:-

Transom	117		
14	Maximum 80	Minimum 60	
11	Maximum 51	Minimum 31	
8	Maximum 45	Minimum 25	
5	Maximum 61	Minimum 41	
2	124		

2.4.12 Subject to Rule B 2.5 each hull shall be completely decked.

2.4.13 Each hull must retain positive buoyancy in a capsized position for a duration of 30 minutes if immersion tested.

2.4.14 Subject to Rule B 2.5 any holes in the hull shell or deck shall be made watertight.

2.4.15 The two hulls shall be joined together by any method of construction the material of which shall be optional.

2.4.16 A bridge deck shall be fitted between the two hulls. The bridge deck, for its full length, shall extend between the hull shells, shall be not more than 2286mm nor less than 1600mm in length and shall be not more than 3250mm nor less than 800mm forward for a vertical plane passing through the AMP's.

2.4.17 The underside of the bridge deck shall be not more than 545mm nor less than 340mm above a straight line joining both hulls CLs at station 11.

2.5 Fittings

2.5.1 A keel, a keel band or a chafing piece of not more than 25mm in width or more than 12mm in depth may be fitted on the CL of each hull except in a way of the centre board slots. The keel band or the chafing piece shall be fitted on both sides of the slot.

2.5.2 A rubbing strake may be fitted to each hull at sheer line but if fitted shall project not more than 32 mm athwart ships from the sheer line nor more than 38 mm nor less than 0mm below the sheer line.

2.5.3 Drain holes and drain hole caps may be fitted but if fitted shall be capable of being made watertight.

2.5.4 All inspection holes shall be fitted with detachable covers capable of resisting dislodgement when the yacht is afloat, capsized or full of water.

2.5.5 A spinnaker chute may be fitted but if fitted shall not pierce the hulls.

2.5.6 There shall be no external projections beyond the skin or transom except for the following:

- a) Drop keels as permitted by Rule B3
- b) Keel, Keel band or chafing pieces as permitted by Rule B2.5.1
- c) Rubbing strakes as permitted by Rule B2.5.2
- d) Rudder fittings as permitted by Rule B4.3.2
- e) Drain hole caps as permitted by Rule B2.5.3
- f) Beam bracket fittings, dolphin strikers and curved track fittings fixed to the outside of the inboard surface of each hull shall not extend more than 100mm below the inboard sheer line.

2.5.7 The following fittings, previously permitted, are now banned, except where fitted to yachts measured before the date these Rules:

- a) Spray deflectors;
- b) Hydrofoils;
- c) Suction bailers;
- d) Sliding seats or similar apparatus.

3. DROP KEELS

3.1.1 The manufacturer of drop keels is optional

3.2 Material

3.2.1 The materials of drop keels is optional.

3.3 Dimensions

3.1.1 Not more than two drop keels may be fitted.

3.3.2 Drop keels shall be capable of been shipped into slots or cases in the hulls so that, when shipped, no part of the drop keels projects below the hull CLs.

3.3.3 Two drop keels when in their lowered position shall extend not more than 640mm below a plane passing through both hulls' CLs.

3.3.4 Two drop keels when in their lowered position shall be not more than 480mm in width measured fore and aft along a plane passing through both hulls' CLs.

3.3.5 Subject to Rule B3.3 the dimensions of drop keels are optional.

3.3.6 A single drop keel is banned except for yachts measured prior to the date of these Rules.

4. RUDDERS

4.1 Manufacturer

4.1.1 The material of rudders is optional.

4.2 Materials

4.2.1 The materials of rudders is optional.

4.3 Dimensions

4.3.1 Not more than two rudders may be carried.

4.3.2 The rudders shall be attached to the hull transoms on hull CPs not more than 50mm aft of a vertical plane passing through both hulls' AMPs

5 BUOYANCY

5.1 It shall be the owner's responsibility to satisfy a measurer that all rules relating to the watertight integrity of the buoyancy tanks, hatches and drain plugs, and the installation of positive buoyancy apparatus as required by Rule B2, have been fully complied with. If a measurer is in any doubt as to compliance he shall order an immersion test and subsequently check tanks for significant leakage. If the buoyancy arrangements, in the opinion of the measurer are unsatisfactory the measurer shall not sign the measurement form until such time as remedial works have been undertaken to the measurer's satisfaction.

6 WEIGHT

6.1 The structure shall be weighed with internal and external surfaces dry to the satisfaction of the measurer.

6.2 The structure, including correctors, if fitted, shall be not less than 120kg in weight. This weight shall include drop keels, spinnaker chute and/ or other fixed equipment for operating the spinnaker if fitted, buoyancy, keels and/or keel bands if fitted, and essential fixed fittings which are normally screwed, glued or bolted in place but excluded sails, spars, running and standing rigging and all other equipment.

6.3 Corrector weights may be fitted and if fitted, shall be not more that 12kg weight in total. Corrector weights, if fitted, shall be through fastened approximately amidships to each hull or main beam and shall be above the water line.

6.4 Corrector weights, if fitted, shall not be removed unless the yacht is reweighed by a measurer who shall endorse the revised weight on the Certificate prior to recertification in accordance with Rule A3.

7 RIG

7.1 Spars

7.1.1 General – Only the following spars are permitted:-

One Mast

One Mainsail boom

Spinnaker boom

7.1.2 Mast

7.1.2.1 The materials of the mast is optional

7.1.2.2 The material of the mast is optional.

7.1.2.3 A distinctive coloured measurement band of not less than 10mm in width shall be painted on the mast so that the mast stepped in its normal position, its upper edge shall be not more than 7185mm above the sheer level in a way of the mast.

7.1.2.4 Permanently bent masts are not permitted but a set, due to distortion, of up to 50mm between the lowest part of the mast and the lower edge of the mast measurement band is permitted.

7.1.2.5 Spinnaker boom attachment fittings may be fitted but if fitted shall extend not more than 50mm from the surface of the mast.

7.1.2.6 The mast, excluding fittings, shall be capable of being passed through a 140mm diameter circle.

7.1.2.7 The weight of the mast, including both standing and running rigging, trapeze wires if fitted and all fixed fittings normally screwed, glued or bolted in place shall be not less than 13.6kg.

7.1.2.8 Subject to Rule B7.1.2 mast fittings and dimensions are optional.

7.1.3 Mainsail Boom.

7.1.3.1 The manufacturer and material of the mainsail boom are optional.

7.1.3.2 The mainsail boom, excluding fittings, shall be capable of being passed through a 127mm diameter circle.

7.1.3.3 Subject to Rule 7.3 the dimensions and fittings of the mainsail boom are optional.

7.1.4 Spinnaker Boom

7.1.4.1 The manufacturer and material of the spinnaker boom are optional.

7.1.4.2 The overall length of the spinnaker boom, including fittings, shall be not more than the J measurement plus 880mm.

The J measurement shall be taken as the distance between the intersection of the foreside of the mast , when stepped in the normal position, extended if necessary, and the sheer level and the intersection of the line of the jib luff in its normal position, extended if necessary, and the sheer level.

7.1.4.3 Subject to Rules B71.4 the dimensions and fittings of the boom are optional.

7.2 Rigging

7.2.1 A spinnaker halyard may be fitted but if fitted the line of the spinnaker halyard, extended if necessary, when held taut to the forward measurement point of the J dimension as referred to in Rule B7.1.4.2 shall intersect the mast when in its normal position not more than 5850mm above the sheer level in a way of the mast.

7.2.2 Subject to the Rule 7.2.1 the manufacturer, material dimensions and fittings of both standing and running rigging are optional.

7.2.3 No more than two trapezes, in the form of wires or ropes from the mast, to support any or all of the crew, may be fitted to each side of the yacht.

8 SAILS

8.1 General

8.1.1 Only sails measured and marked in accordance with Rule A4 shall be used when racing.

8.1.2 The manufacture of sails is optional.

8.1.3 The material of sails is optional.

8.1.4 Sails will be measured in accordance with NSCOA Sail Measurement Document 2010.

8.1.6 Replace with - Main Sail to have Sail number on both sides (one above the other) so that the number can clearly read from both sides. The number should be placed approximately 3/4 up the sail.

8.1.7 Sail letters and numbers shall be approximately of the following minimum dimensions:-

Height	300mm
Width (except for number 1 or letter1)	200mm
Thickness	45mm
Space between adjoining numbers or letters	60mm

8.1.8 The Class insignia which shall conform with the dimensions and requirements as detailed in the diagram contained within Part C of these Rules shall be placed on the mainsail as laid down in the ISAF Racing Rule 25 except where varied herein.

- 8.1.9 The area of the mast, mainsail boom and spinnaker boom shall not be included within the total sail area.
- 8.1.10 The total area of the mainsail and headsail shall be not more than 15.15sqm.
- 8.1.11 The foot of a sail which is set on a straight spar shall be measured as a straight.
- 8.1.12 The manufacturer, material dimensions and number of battens, if fitted, is optional except that the total area of the battens extending outside of mainsails and headsails, if more than 0.9sqm, shall be added to the measured sail area.
- 8.1.13 At no time shall any sail be set above the mast measurement band as referred to in Rule B7.1.2.3.
- 8.2 Spinnaker
 - 8.2.1 A headboard may be fitted but if fitted shall be not more than 120mm in any direction.
 - 8.2.2 The spinnaker shall be a three-cornered symmetrical sail.
 - 8.2.3 The fitting of leech wires or other means of adjusting leech tension is not permitted.
 - 8.2.4 The length of each leech shall be not more than 5000mm or less than 4900mm.
 - 8.2.5 The half width of the foot shall be not more than 1890mm or less than 1830mm.
 - 8.2.6 The length of the centre fold shall be not more than 6200mm or less than 5800mm.
 - 8.2.7 The half height cross width shall be not more than 2020mm or less than 1940mm.
 - 8.2.8 The half three quarter cross shall be not more than 1670mm.
 - 8.2.9 Spinnaker reinforcement shall be in accordance with the NSCOA Sail Measurement Document 2010 instructions except that reinforcement having the effect of stiffening the sail (primary reinforcement) shall be permitted only within 400mm from each corner of the sail, for the attachment of spinnaker recover line(s), in areas of not more than 250mm in any direction.
- 9. CREW
 - 9.1 There shall be not less than, or more than, two persons on board when racing.