

ESTUARY ONE DESIGN CLASS

CLASS RULES AND MEASUREMENTS February 2018

PART A – ADMINISTRATION

1. GENERAL

The Estuary One Design is a “one design” racing dinghy. To ensure that the administration of the Class and the objectives of the Class Rules are maintained, before any Estuary One Design may be raced, the following documents must have been issued and endorsements obtained:

- (a) Building Fee Receipt/Sail Number Issue;
- (b) Measurement Certificate;
- (c) Sail Measurement Endorsements;
- (d) Flotation Endorsement.

A Class Committee (EODCC) shall be elected by the Estuary One Design Association (EODA) to carry out functions in respect of the enforcement of these rules. The make up of this body is stipulated in the Association Constitution. The EODCC will set up a Class Sailing Committee (CSC) normally consisting of the Class Captain, Class measurer and two other members. Any boat or its equipment is subject to inspection and measurement/re-measurement at the discretion of the (CSC).

2. BUILDING FEE RECEIPT/SAIL NUMBER ISSUE

A Building Fee must be paid by the builder on each boat at the commencement of building whether or not it is subsequently measured and certificated. Payment shall be made to the EODA and on receipt of payment; the EODCC will issue a Building Fee Receipt and Sail Number. The current Building Fee is £250.00 (plus VAT).

3. MEASUREMENT CERTIFICATE

First Certification

For boats not previously certificated, the owner shall have the boat measured in accordance with part B of these rules. Only an EODA Approved Class Measurer shall undertake measurement. On completion of satisfactory measurement, the Measurer will supply the owner with a Measurement Form completed and signed.

The owner shall ensure that the Measurement Form is completed and then apply to the EODCC for a Measurement Certificate, enclosing the completed Measurement form, the Building Fee Receipt and the certification fee. Upon receipt of these the EODCC may issue the First Measurement Certificate to the owner.

Re-Certification

Should the Certificate become invalid due to failure to comply with (a) below, then the owner shall make a new annual declaration of Class Rule Compliance and lodge this with the EODCC prior to racing. Neither points nor trophies will be awarded in retrospect (this modifies ISAF rule 78.2.).

Should the Certificate become invalid due to failure to comply with reasons (b) or (c) below, then the owner shall apply to the EODCC for a new Certificate returning the old Certificate (or proof of ownership) together with details of all changed particulars and the certification fee of £10. Upon receipt of these the EODCC may issue a new Measurement Certificate to the owner.

Should the Certificate become invalid due to the reasons (h) or (i) below, then the owner shall have the necessary items of the boat re-measured in accordance with part B of these rules. Only an EODA Approved Class Measurer shall undertake measurement. On completion of satisfactory measurement, the Measurer will supply the owner with a Measurement Form completed and signed in respect of the necessary items or will endorse the changes on the old Certificate. The owner shall then apply to the EODCC for a new Measurement Certificate, enclosing the completed Measurement form, if applicable, together with the old Certificate and the certification fee. Upon receipt of these the EODCC may issue a new Measurement Certificate to the owner.

Validity of Measurement Certificate

For a certificate to remain valid the following conditions are necessary.

- (a) The owner must lodge an annual Class Rule Compliance declaration with the EODA.
- (b) Change of ownership must be recorded on the certificate.
- (c) Change of boat name must be recorded on the certificate.
- (d) The hull must comply with the current Class Rules or the Class Rules applying at the time when the First Measurement Certificate was issued.
- (e) All sails have been measured and endorsed in accordance with rule A4 and comply with the current Class Rules or the Class Rules applying at the time when they were endorsed.
- (f) The flotation of the boat has been tested and endorsed in accordance with rule A5 and complies with the current Class Rules.
- (g) That any alteration, replacement or repair to the spars, centreboard, rudder or equipment complies with the current Class Rules.
- (h) The owner must apply for re-measurement if alteration is made to the weight of the boat or its corrector weights if fitted except that occasioned by normal maintenance.
- (i) The owner must apply for re-measurement if any alteration, replacement or repair is made to the hull, the CSC will decide if such re-measurement is required.

4. SAIL ENDORSEMENT

Owners shall have all sails measured in accordance with Part B of these rules. Only an EODA Approved Class Measurer shall undertake measurement. Upon completion of satisfactory measurement, the Measurer will endorse the sail by signing and dating it at its tack.

5. FLOTATION ENDORSEMENT

Owners shall have a flotation test carried out in accordance with Part B of these Rules. Only an EODA Approved Class Measurer shall undertake the test. Upon completion of a satisfactory test, the Measurer will endorse the Measurement Certificate. Provided that no deterioration, alteration, replacement or repair is made to the flotation equipment, such endorsement will remain valid.

6. MEASUREMENT CHECKS

All hulls, spars, sails and equipment shall be liable to re-measurement at the discretion of the CSC 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 (ISAF rule 78.1).

Notwithstanding anything contained herein, the EODCC has the right to refuse to grant or to withdraw a Measurement Certificate; a sail endorsement; a flotation endorsement at any time.

7. NOTES ON RESPONSIBILITY

Neither the EODA or the EODCC or an EODA Measurer is under any 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 his own contractual agreement with the Measurer. It is also incumbent on the owner to make sure that the boat and records of same are in accordance with these rules. It is also the owner's responsibility to ensure that his/her boat and its equipment are in seaworthy condition and adherence to these rules and the appendices thereto should not be taken as compliance with this aspect.

PART B - MEASUREMENT RULES

1. GENERAL

1.1 Intent

These rules are intended to ensure that Estuary One Design Class boats are as nearly alike as possible with regard to shape, weight and gyradius of hull shells, sails and sail plan and any other matters which have influence on the basic speed of an Estuary One Design.

1.2 Axis of Measurement

- 1.2.1 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 hull in normal trim. Unless specifically required by the Class rules to be taken another way, all measurements denoted by these words or similar words shall be taken parallel to one of the three major axes of the hull – vertical; horizontal or transverse – related to the waterline and fore and aft centrelines of the hull.
- 1.2.2 Where a rule 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.
- 1.2.3 Width, thickness, length etc. of a component shall be measured as appropriate for that component without reference to the hull axis.
- 1.2.4 Where a dimension of a component is measured over a length the measurement shall be constant within the tolerances over that length.

1.3 Definitions

1.3.1 Sheer line

The sheer line is the intersection of the lines of the top of the deck and the outside of the hull shell, projected if necessary.

1.3.2 Sheer level

The sheer level is the plane generated by projecting athwart ships all points of the port sheer line to all points of the starboard sheer line.

1.3.3 Aft Measurement Point (AMP)

The Aft Measurement Point (AMP) is the point on the fore and aft hull centreline where the extension of the transom intersects the extension of the underside of the skin.

1.3.4 **Hull Sections (Sections)**

The Hull Sections; i, ii, iii, iv, v, vi, vii, viii, ix are vertical athwart ship planes at 2 foot intervals measured around the sheer line forward from the intersection of the transom and planking at sheer level (see paragraph 2.4.3 for detail).

2. **HULL**

2.1 **Identification Marks**

The hull shall carry the sail number, as issued by the EODA, either cut into or permanently marked in the top of the centre thwart in Arabic numerals not less than 30mm in height.

2.2 **Builders**

2.2.1 The hull shell, decks, centreplate case and hull stiffeners (crabs), bulkheads, and flotation tank mouldings (if used) shall be built and assembled or fitted only in accordance with the provisions of these rules.

2.2.2 The hull shell, decks, and centreplate case shall be built only from moulds owned by the EODA.

2.2.2(a) Crabs when not the original moulding, will be of a design approved by the EODCC.

2.2.2(b) Tanks when not the original moulding will be of a design approved by the EODCC.

2.2.3 The Class Measurers shall be given the opportunity of inspecting and/or testing any boat during construction of certain stages. The builder shall give at least 7 days notice to the Measurers of each of these stages. The stages shall be:

- 1) inspection of the individual g.r.p. units (i.e. Hull, deck and centreboard case) after removal from moulds but prior to assembly;
- 2) when for reasons of double bottoms, tanks and the like, hull reinforcement will not be entirely visible in the completed boat, a further inspection may be required after the reinforcement is bonded to the hull and before the floor is installed.

2.2.4 Subject to rule 2.2.1 the builder of the hull is optional.

2.3 Materials

2.3.1 The hull shell, decks, hull stiffeners (crabs), bulkheads, centreplate case and flotation tank mouldings shall be built in g.r.p. only or from materials as specified by the EODA.

2.3.2 Subject to rule 2.3.1 the hull shall be completed only from one or more of the following materials; wood, paper, glass fibres having a low alkali content and a modulus of elasticity less than 100,000 kg per square cm. foam and plastics fibres with a modulus of elasticity less than 100,000 kg per square cm. polyester resins, epoxy resins, paints, glues, aluminium alloys, mineral based fillers, normal metal mechanical fastenings.

2.4 Dimensions

2.4.1 No alterations or modifications to the shape of the hull shell, decks, bulkheads (where fitted), centreplate case and flotation tank mouldings (where fitted) are permitted except::

- (a) to facilitate the attachment of fittings;
- (b) the addition of stiffening ribs and or beams;
- (c) drainage holes through transom/transom bulkhead of not more than 2 square inches each side of cockpit.

2.4.2 Flotation apparatus in the form of flotation tanks, close cell foam or flotation bags shall be securely fitted to the hull so that it is capable of satisfying the requirement of the flotation test as referred to in rule 10.

2.4.3 The beam measured to sheer line at sections, defined in 1.3.4 shall be as indicated below.

Section	Minimum	Maximum
i	4ft 0 in	4ft 1in
ii	4ft 8in	4ft 9in
iii	5ft 3in	5ft 4in
iv	5ft 7in	5ft 8in
v	5ft 9in	5ft 10in
vi	5ft 8in	5ft 9in
vii	5ft 4in	5ft 5in
viii	4ft 7in	4ft 8in
ix	3ft 0in	3ft 1in

2.4.4 A gunwale rubbing bead shall be fixed to each side of the hull and to the transom. Except for the forward most 150 mm on each side and 210mm in the centre of the transom; when no minimum measurement needs to be maintained; the gunwale rubbing bead shall, in plan width, project not more than 25mm nor less than 19mm and shall, in depth, project not less than 45mm below the sheer line.

2.5 Fittings

2.5.1 Only the following fittings are permitted to be fixed to the outside surface of the hull shell:

- (a) metal or plastic stem and keel bands of not more than 6mm or less than 3mm in thickness;
- (b) rudder pintles and gudgeons not extending more than 75mm aft of the aft face of the transom;
- (c) suction bailers having an effective cross sectional area of not more than 0.01 square metres in total;
- (d) gunwale rubbing beads;

- (e) stemhead fitting;
- (f) nameplates;
- (g) drain hole fittings;
- (h) outboard motor brackets and fittings;
- (i) gasket fitting over the centreplate slot.

2.5.2 Subject to rules 2.5.1, 8 and 9 the type, number and placement of fittings is optional.

2.6 Weight

2.6.1 The hull shall be weighed with all internal and external surfaces dry to the satisfaction of the Measurer.

2.6.2 The weight of the hull, including corrector weights if fitted, all fixed fittings which are normally screwed, glued or bolted in place, floorboards and all flotation apparatus, but excluding mast, boom, centreboard, rudder and tiller, and all other movable equipment, shall not be less than 650lbs (295 kilograms).

2.6.3 Floorboards shall extend from the mast to the normal aft bulkhead position, whether fitted or not, for the full width of the normal crab, whether fitted or not.

2.6.4 Corrector weights may be fitted but shall be not more than 40lbs (18.2 kilograms) weight in total and shall be permanently fixed to the inside of the hull above the waterline.

2.6.5 The weight of the hull and corrector weights shall not be altered, moved or removed except in conjunction with an official re-weighing undertaken by an EODA Approved Class Measurer (see rule A.3).

2.6.6 The combined weight of the hull as defined in Clause 2.6.2 above and the centre plate shall not be less than 850lbs (386 kilograms).

3. CENTREPLATE

3.1 Manufacturer

3.1.1 The manufacturer of the centreplate is optional.

3.2 Materials

3.2.1 The centreplate shall be manufactured from 20mm mild steel plate or from cast iron. Cut-outs with epoxy infills are permitted. Cut-outs or epoxy infills made to new or existing centreplates after 1st January, 2015 to be subject to the class measurer's approval of design and manufacture.

3.2.2 The centreplate may be galvanised and or covered with either zinc, paint, polish or epoxy or combination thereof.

3.3 Dimensions

3.3.1 The thickness of the centreplate shall not vary by more than 2.5mm except as permitted by rule 3.3.2 and 3.3.3.

3.3.2 The profile shape of the centreplate, after painting as permitted in Rule 3.2.2, shall conform to the dimensions and requirements of the association template.

3.3.3 The profile edges of the centreplate may be chamfered, rounded to not more than 40mm plan width inwards from the edge.

3.3.5 The centreplate shall have no moving parts.

3.4 Weight

3.5.1 The weight of centreplates manufactured after 1st January 1992 shall not be more than 250lbs (114 kilograms) or less than 200lbs (90 kilograms).

4. RUDDER AND TILLER

4.1 Manufacturer

4.1.1 The manufacturer of the rudder and tiller is optional.

4.2 Materials

4.2.1 The rudder and tiller shall be manufactured from one or more of the following materials:
wood, plywood, steel, aluminium alloy, glass reinforced polyester, epoxy, foam sandwich, epoxy resin.

4.3 Dimensions

4.3.1 The rudder may have a fixed or lifting blade, but must be fixed fully lowered and not adjustable when racing.

4.3.2 When suspended from the transom in its fully lowered position, the rudder, below AMP, shall be not more than 40mm thick.

4.3.3 The rudder shall be suspended from the transom by means of pintles and/or gudgeons fitted to the hull centreline. When in its fully lowered position no part of the rudder blade shall be more than 30ins (762mm) nor less than 24in (610mm) below AMP, and the aft most point of the rudder trailing edge shall be no more than 18in (457mm) nor less than 13in (330mm) aft of AMP.

4.3.4 The dimensions of the tiller are optional.

5. SPARS

5.1 General

Only the following spars will be rigged and will be carried:

one mast;
one mainsail boom;
one headsail roller;
one headsail booming out spar.

Definition – Headsail booming out gear

The headsail roller and headsail booming out spar together with sundry equipment constitute the headsail booming out gear, the purpose of which is to enable the tack of the headsail to be set outboard of the boat when racing, varying ISAF rule 54 (Appendix C).

5.2 Mast

5.2.1 The mast shall be of a pattern approved by the EODCC (see Appendix B)

5.2.2 The materials of the mast shall be in accordance with Appendix B. Carbon fibre is specifically excluded.

5.2.3 Clearly discernible measurement bands, not less than 12mm in width, shall be marked so as to encircle the mast and mast fittings as follows:-

Band 1 – The upper edge of band 1 shall be not more than 2ft 8in above the sheer level with the mast in the upright position.

Band 2 – The lower edge of band 2 shall be not more than 26ft 0in measured in a straight line along the length of the mast above the upper edge of mast measurement band 1.

Band 3 – The lower edge of band 3 shall be not more than 19ft 0in measured in a straight line along the length of the mast above the upper edge of mast measurement band 1.

5.2.4 The mast without spreaders or diamonds but with other fittings attached (excluding wind indicators) shall be capable of being passed through a circle of 5in in diameter.

5.2.5 The mast shall be not more than 31ft in length when measured in a straight line along the length of the mast.

- 5.2.6 The weight of the mast shall be not less than 40lbs (18 kilograms). The weight shall be measured with all mast fittings fitted and all rigging normally attached to the mast stretched taut and stopped down the length of the mast.
- 5.2.7 The centre of gravity of the mast shall be not less than 12ft 9in above the lowest point of the mast measured in a straight line along the length of the mast. The centre of gravity shall be measured with all mast fittings fitted and all rigging normally attached to the mast stretched taut and stopped down the length of the mast.
- 5.2.8 Rotating masts are not permitted.
- 5.2.9 Permanently bent masts are not permitted, but a set of up to 45mm is permitted between mast measurement bands 1 and 2.
- 5.2.10 The forward face of the mast at sheer level shall not be more than 12ft 8½in forward of AMP and the aft face no less than 12ft 0in forward of AMP when upright.
- 5.2.12 The mast heel shall not be moved whilst racing.

5.3 Mainsail Boom

- 5.3.1 The boom shall be of a pattern approved by the EODCC (see Appendix B).
- 5.3.2 The materials of the boom shall be in accordance with Appendix B. Carbon fibre is specifically excluded.
- 5.3.3. A Clearly discernible measurement band, not less than 12mm in width, shall be marked so as to encircle the boom and boom fittings as follows. With the boom on centreline fitted at 90 degrees to the mast, the inner edge of the band, measured along the top of the boom from the aft edge of the mast sail track, groove extended if necessary shall be not more than 11 ft 7in.

- 5.3.4 The boom without fittings shall be capable of being passed through a circle of 5in (127mm) in diameter.
- 5.3.5 The boom, including boom fittings shall be not more than 12ft 0in in length.
- 5.3.6 Permanently bent booms are not permitted, but a set of up to 1in (25mm) between the boom measurement band and the fore most point of the boom is permitted.

5.4 Headsail Roller

- 5.4.1 The headsail roller shall be of a pattern approved by the EODCC (see Appendix B).
- 5.4.2 The materials of the headsail roller shall be in accordance with Appendix B. Carbon fibre is specifically excluded.
- 5.4.3 Clearly discernible measurement bands, not less than ½in (12mm) width, shall be marked so as to encircle the headsail roller as follows:
 - Band 6 – at the lowest part of the headsail roller;
 - Band 7 – the lower edge of band 7 shall be not more than 17ft 0in measured in a straight line along the length of the headsail roller above the under edge of mast measurement band 6.
- 5.4.4 The headsail roller, including the furling drum and other fittings, shall be capable of being passed through a circle of 5in (127mm) diameter.
- 5.4.5 The headsail roller, including the furling drum and other fittings, shall be not more than 18ft 0in in length.
- 5.4.6 Subject to rules 5.4.8 the type, number and placement of headsail roller fittings is optional.

- 5.4.7 A furling drum shall be fitted to the headsail roller below band 6, to facilitate headsail furling as described in 5.4.9. A control line of not less than 3mm diameter, will be fixed to and coiled around the drum or in the case of an endless line system, passed around the drum and be long enough to reach the cockpit with the jib fully unfurled. The headsail must fully furl when the furling control line is pulled from the cockpit. Unfurling of the headsail is accomplished by pulling on the jib sheets, when the control line will again coil onto or pass around the drum. The whole furling/unfurling operation shall be repeatable under normal circumstances from the cockpit.
- 5.4.8 The headsail shall be set on the headsail roller along the luff by a bolt rope in a groove in the headsail roller.
- 5.4.9 The headsail roller shall be attached to the boat and other spars, as indicated within these rules, in such a way that the headsail may be completely furled without the need for removing either the jib halyard and/or other tensioner, or their control lines, from the sail's head or tack, or sheets from either the sail or the jib fairleads in their normal working position.

5.5 Headsail Booming Out Spar

- 5.5.2 The materials of the headsail booming out spar shall be as approved by the EODCC.
- 5.5.4 The headsail booming out spar including fittings shall be capable of being passed through a circle of 5in (127 mm) diameter.

- 5.5.5. The headsail booming out spar may be adjustable if fitted to the mast but will have a maximum length when boomed out of 5ft 6in between attachment point centres. A booming out spar fitted to the coaming will be fixed in length and that length is determined by its attachment points with the headsail roller and the coaming. Both adjustable and fixed length spars will be permanently attached whilst racing as indicated by rule 5.5.8.
- 5.5.6 Subject to rules 5.5.8 the type, number and placement of headsail booming out spar fittings is optional.
- 5.5.8 The spar should be fixed to the centreline at its aft point to or in front of the mast but not beyond the foremost point of the cockpit coaming with its forward end being capable of being boomed out to port or starboard whilst in direct contact with the headsail roller and or headsail roller fittings.

6. RIGGING

6.1. Standing Rigging

6.1.1 The following standing rigging shall be fitted:

one fixed forestay;
two main shrouds.

6.1.1(a) Other standing rigging is permitted.
Other adjustable rigging is permitted but no further main shrouds (see paragraph 6.1.8).

6.1.2 The fixed forestay shall be of stainless or galvanised steel multi strand wire, diameter not less than 3mm. The intersection of the forestay, extended if necessary, and surface of the mast shall be below measurement band 3. The intersection of the forestay, extended if necessary, and the sheer level shall be within the bounds of the sheer line. The forestay shall in conjunction with the main shrouds and mast step be capable of supporting the mast in the absence of other controls by limiting total aft rake.

6.1.3 The length of the fixed forestay and fittings shall not be altered when racing.

- 6.1.4 The main shrouds shall be of stainless or galvanised steel multi strand wire, diameter not less than 3mm. The intersection of the main shrouds, extended if necessary, and surface of the mast shall be below measurement band 3. The intersection of the main shrouds, extended if necessary, and the sheer level shall be not less than 150mm aft of the rear mast gate at deck level at sheer level or more than 50mm from the sheer line.
- 6.1.5 The length of the main shrouds and fittings shall not be altered when racing.
- 6.1.6 Subject to rules 6.1.8 the type, number and placement of standing rigging is optional.
- 6.1.7 The type, number and placement of standing rigging fittings is optional.
- 6.1.8 Runners where fitted, will be fixed at least 3ft (914mm) aft of fixed shrouds.

6.2 Running Rigging

- 6.2.1 The manufacturer, materials, design and fittings of running rigging is optional.

7. SAILS

7.1 GENERAL

- 7.1.1. Only sails endorsed in accordance with rule A.4 shall be used when racing.

7.1.2 The manufacturer of sails is optional but only one suit of sales may be purchased in a calendar year (e.g. sails measured in 1993 are deemed to have been purchased in 1993). Sails stolen or damaged beyond repair may be replaced at the discretion of the CSC their decision being given in writing.

7.1.3 Sails shall be made of woven material so that, when the material is torn, it shall be possible to separate the fibres without leaving evidence of a film.

7.1.4 Sails shall be measured in accordance with the current ISAF sail measurement instructions except where varied herein.

7.1.5 The sail number and letters as issued by the EODA and the sail insignia shall be of such size and so placed as laid down in ISAF rule 77 Appendix G.2. Numbers and letters shall be of the following dimensions:

Height	300mm
Width	200mm (Except Number 1)
Thickness	45mm

Space between adjoining numbers or letters shall be 60mm.

The class insignia shall conform to the dimensions and requirements as detailed in the diagram contained within Appendix A of these rules.

7.1.6 Double luff mainsails or headsails are not permitted.

7.1.7 Not more than one mainsail and one headsail shall be used in any one race.

7.1.8 The weight in g/m² of the basic material of the sails shall be indelibly marked by the sailmaker together with his signature or stamp and date near the tack of the sails.

7.1.9 The basic materials of the sails, recorded by the sailmaker as referred to in the rule 7.1.8 shall be not less than those indicated below.

Mainsail	180g/m ²
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Headsail 180g/m²

7.2 Mainsail

7.2.1 When racing, no part of the sail shall extend beyond the inner edge of the boom measurement band, the lower edge of the mast measurement band 2 or the upper edge of mast measurement band 1.

7.2.2. Loose footed sails are not permitted.

7.2.3 The length of the leech shall not be more than 8445mm.

7.2.5 The quarter height cross width shall be not more than 1305mm.

7.2.6 The half height cross width shall be not more than 2265mm.

7.2.7 The three quarter height cross width shall be not more than 3015mm.

7.2.9 The sail shall have four batten pockets. The intersection of the centreline of the uppermost batten pocket and the aft edge of the sail shall not be more than 1765mm measured in a straight line from the head. The intersection of the centreline of the lower most batten pocket and the aft edge of the sail shall be no more than 1700mm from the clew.

7.2.10 The length of any batten shall not be more than 1220mm.

7.2.11 Battens may be of any material.

7.2.12 A headboard may be fitted and if fitted, shall be not more than 125mm measured at right angles to the foreside of the luff.

7.3 Headsail

7.3.1 The luff length shall be not more than 5180mm or less than 5080mm.

- 7.3.2 The leech length shall be not more than 4800mm or less than 4700mm.
- 7.3.4 The length of the clew to luff measurement shall be not more than 2175mm.
- 7.3.5 The length of the centre measurement shall be not more than 5120mm.
- 7.3.6 The width of the head, measured at right angles to the luff at the head, shall be not more than 50mm.
- 7.3.8 Head and clew boards are not permitted.
- 7.3.9 Battens and batten pockets are not permitted.
- 7.3.10 The sail shall be set on the headsail roller as referred to in rule 5.4.
- 7.3.11 When racing, no part of the sail luff shall extend below the lower edge of measurement band 6 or above the lower edge of measurement band 7.
- 7.3.12 The sail will be attached to the headsail booming out equipment (comprising of headsail roller, booming out spar and sundry fittings: as referred to in sections 5.4 and 5.5) and may be boomed out, varying ISAF rule 54 (Appendix C)).

8. EQUIPMENT

8.1 Mandatory Equipment

The following shall be carried onboard when racing:

- (a) set of floorboards or fixed floor above normal crab height;

- (b) a pair of substantial oars or substantial paddles;
- (c) an anchor and chain (if fitted) of minimum combined weight 5 kilograms;
- (d) not less than 18 metres of rope with a minimum diameter of 5mm;
- (e) personal flotation garments, one for each person aboard.
- (f) A bailer (bucket or similar) with a minimum capacity of 9 litres and an effective capping device for the plate case.

NB This equipment is the minimum to be carried on inshore races and it is not intended that the above should be construed as adequate for all eventualities. It is the owner's responsibility to carry on board items sufficient to ensure safety.

9. PROHIBITIONS

The following are prohibited in addition to items referred to elsewhere in the rules:

- (a) electronic aids, other than wrist or hand held electronic watches/ timepieces when used only for time-keeping, countdown, alarm, tide time, stopwatch and elapsed time functions but all other functions, including (but not limited to) GPS, speedometer, wind shift, barometer, temperature, compass and tacking angle functions are prohibited;
- (b) inside ballast;
- (c) outriggers;
- (d) double rudders and similar contrivances;

- (e) the use of any apparatus or contrivance outboard or extending outboard and attached to the hull, spars or rigging or to the person of the helmsman or crew the purpose or effect of which is or may be to assist in supporting a member of the crew outboard or partially outboard;
- (f) mast struts, rams, jacks or any other contrivance to control the mast between coaming level and a point 3ft above Measurement Band 1.

10. FLOTATION TEST

10.1 General

10.1.1 There are two types of flotation test: Immersion test, Inspection/air-test.

10.1.2 The immersion test shall be carried out on all new boats prior to initial certification and thereafter at the CSC's discretion.

10.1.3 The inspection/air test shall be carried out at the CSC's discretion

10.1.4 Only when the measurer is satisfied with the results of the test shall he endorse the measurement certificate in accordance with Part A Section 5.

NB Owners should ensure that they are confident that their boat would fulfil the conditions required by the buoyancy test at all times (Rule 2.4.2) and should seek to improve upon that standard wherever practicable by increasing and/or re-positioning existing provision in order to maximise freeboard after a capsize or similar. Any such modifications should be declared in the usual way.

10.2 Immersion test

- 10.2.1 The boat with mast stepped, but with booms, sails and all loose equipment removed shall be floated on its beam ends for not less than five minutes to port and five minutes to starboard while supporting two persons not immersed above the knee and weighing not less than 225kg in total. The mast may be supported above measurement band number 1. The boat with mast stepped, but with booms, sails and all loose equipment removed shall be floated on its beam ends for not less than ten minutes with its sheer line approximately parallel to the waterline while supporting two persons not immersed above the knee and weighing not less than 225kg in total.
- 10.2.2 During the test all flotation apparatus shall remain functioning to the satisfaction of the measurer and not more than 5 litres of water shall penetrate any flotation unit.

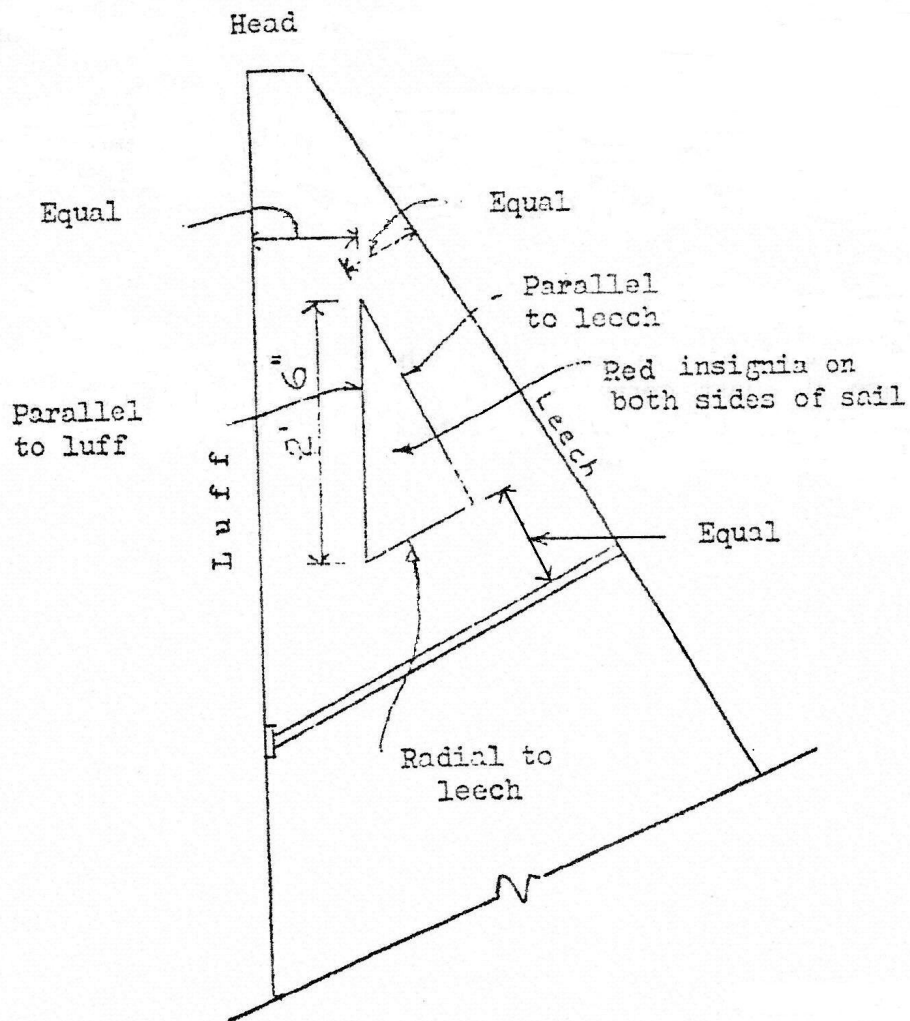
10.3 Inspection/air test

- 10.3.1 The condition and fastenings of all attached flotation apparatus shall be sound to the satisfaction of the measurer. All flotation tanks pass the air test detailed in rule 10.3.3.
- 10.3.2 When the measurer is not satisfied as to the results of an inspection/air test he may require the boat to undertake an immersion test.
- 10.3.3 Air test. All hatches and drain holes in flotation tanks shall be closed using their normal covers, fastenings and stoppers except where a tube to an air pressure source and gauge are connected. Equipment for producing an air pressure differential between the inside of the tank and the atmosphere and a water gauge for measuring the differential shall be connected to the tank. Air pressure shall be applied to the tank to produce a differential reading of at least 125mm on the water gauge. After isolating the tank from the pressure source, the pressure differential shall not reduce from 125mm to 50mm in less than 30 seconds.

11. CREW

There shall be not less than two or more than three persons on board when racing.

Appendix A – Class Insignia



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Appendix B – Spars: patterns and materials

- Mast - Any current or past section that complies with rule 5.2 and is approved by the Class Measurer.
- Boom - Any current or past section that complies with rule 5.3 and is approved by the Class Measurer.
- Headsail Roller - Any current or past section that complies with rule 5.4 and is approved by the Class Measurer.

Masts and booms shall be wood or aluminium alloy. Headsail rollers shall be wood, aluminium alloy or plastic.

All spars previously deemed to be in class and existing on current boats (to be listed when information available).

Appendix C – ISAF Rule 54

FORESTAYS AND HEADSAIL TACKS

Forestays and headsail tacks, except those of spinnaker staysails when the boat is not close-hauled, shall be attached approximately on a boat's centreline.