BULLSEYE ASSOCIATION CLASS RULES

2005

The Bullseye was designed in 1914 by Nathaniel Herreshoff. The Bull's Eye Association was formed on April 21, 1961 and was adopted as an international/recognized class in…???

Boat image

Closed class rules for a "one-design" class.

Please refer to the
Guide to Standard Class Rules
when using this document

This version has been updated to reflect the changes to the ERS 2005–2008.

Date of this version; 2005-03-16

INDEX

INTRODUCTION

Bullseye hulls, hull appendages, rigs and sails are measurement/manufacturing controlled.

Bullseye hulls, hull appendages, spars and sails shall only be manufactured by Cape Cod Shipbuilding Co. – in the class rules referred to as the manufacturers. Equipment is required to comply with the Bullseye Association Building Specification. (Note: the standing & running rigging should be allowed to be made by anyone)

Bullseye hulls, hull appendages, spars and sails may, after having left the manufacturer, only be altered to the extent permitted in Section C of the class rules.

Owners and crews should be aware that compliance with rules in Section C is NOT checked as part of the 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.

This introduction only provides an informal background and the Bullseye Association Class Rules proper begin on the next page.

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.2 ABBREVIATIONS

A.2.1

ISAF	International Sailing Federation
BCA	Bullseye Class Association
CCSB	Cape Cod Shipbuilding Co.
ERS	Equipment Rules of Sailing
RRS	Racing Rules of Sailing

A.3 ISAF RULES

A.3.1 These **class rules** shall be read in conjunction with the ERS.

A.3.2 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.4 CLASS RULES VARIATIONS

A.4.1 At Class Events – see RRS 87.1.d) – ISAF Regulation 26.5(f) applies. At all other events RRS 86 applies.

A.5 CLASS RULES INTERPRETATION

A.5.1 Interpretation of **class rules** shall be made in accordance with the ISAF Regulations.

A.6 SAIL NUMBERS

A.6.1 Sail numbers shall be issued by the boat manufacturer.

A.6.2 Sail numbers shall be issued in consecutive order starting at "1".

A.7 HULL CERTIFICATION

A.7.1 A **certificate** shall record the following information:

(a) Class

(b) **Certification authority**

(c) Sail number issued by the **certification authority**

(d) Owner

(e) Hull identification *(See the Guide to Standard Class Rules)*

(f) Hull # (this can be found on the builders plaque. The last 2 digits are the year of manufacture)

(g) Builder/Manufacturers details

(h) Date of issue of initial **certificate**

(i) Date of issue of **certificate**

Note: In the past, not all sail numbers were consecutive. They are consecutive today. Records have been kept of all Bull's Eyes built (their hull & sail number). If there is a question on a boats age, the hull number on the plaque is more accurate than the sail number, as sails can change hands. Through the years, some owners have removed their builder's plaques. There is no definite way to determine the year built without that plaque.

A.8 INITIAL HULL CERTIFICATION

A.8.1 For a **certificate** to be issued to hull not previously **certified**:

(a) **Certification control** shall be carried out by the **official measurer** who shall complete the appropriate documentation.

(b) The documentation and **certification** fee, if required, shall be sent to the **certification authority**.

(c) Upon receipt of a satisfactorily completed documentation and **certification** fee, if required, the **certification authority** may issue a **certificate**.

A.9 VALIDITY OF CERTIFICATE

A.9.1 A hull **certificate** becomes invalid upon:

(a) the change to any items recorded on the hull **certificate** as required under A.11.

(b) the date of expiry,

(c) withdrawal by the **certification authority**,

(d) the issue of a new **certificate**,

A.10 HULL RE-CERTIFICATION

A.10.1 The **certification authority** may issue a **certificate** to a previously certified **hull**:

(a) when it is invalidated under A.13.1 (a) or (b), after receipt of the old **certificate**, and **certification** fee if required.

(b) when it is invalidated under A.13.1 (c), at its discretion.

(c) in other cases, by application of the procedure in A.12.

A.11 RETENTION OF CERTIFICATION DOCUMENTATION

A.11.1 The **certification authority** shall:

(a) retain the original documentation upon which the current **certificate** is based.

(b) upon request, transfer this documentation to the new **certification authority** if the hull is exported.

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 a valid hull **certificate**.

(c) have valid **certification marks** as required

B.2 FLOTATION CHECKS

B.2.1 The hull **certificate** shall carry a satisfactorily flotation check confirmation.

B.2.2 A race committee may require that a **boat** shall pass a flotation test in accordance with Appendix … .

B.3 CLASS ASSOCIATION MARKINGS

B.3.2 All new, previously unmeasured or re-cut sails must be measured and marked by an Association approved sail measurer prior to being used for a Nationals competition. All sails previously measured and marked at a Nationals competition may be used in future Nationals competition, if the "mark" is still readable. Competitors must show their "marked" sail to the measuring committee.

~~Sails shall carry a Class Association Sail Label upon satisfactory measurement prior to a Nationals competition.~~

PART II – REQUIREMENTS AND LIMITATIONS

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

The rules in Part II are **closed class rules**. **Certification 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 … shall apply.

(c) The ERS Part I – Use of Equipment shall apply.

C.2 CREW

C.2.1 LIMITATIONS

(a) The **crew** shall consist of 2 or 3 persons.

(b) No **crew** member shall be substituted during an event unless presented to and approved by the Race Committee.

C.3 PERSONAL EQUIPMENT

C.3.1 MANDATORY

(a) The boat shall be equipped with **personal buoyancy** for each crew member to the minimum standard EN 393: 1995 (CE 50 Newtons), or USCG Type III, or AUS PFD 1.

(b) The boat shall be equipped to the minimum standard ISAF Offshore Committee Special Regulations category IV.

C.4 PORTABLE EQUIPMENT

C.4.1 FOR USE

(a) MANDATORY SAFETY EQUIPMENT

(1) A 5 lb. Danforth anchor, ***or its equivalent***, 6 feet of 1/4 inch chain and at least 100 feet of 3/8 inch nylon anchor rode

(2) One U.S. Coast Guard approved life jacket of suitable size for each person on board

(3) A paddle or an oar at least 4 feet in length;

(4) A horn in working order

(5) A bucket suitable for bailing. In addition, a manual pump may also be carried

(6) A navigational compass in working order

(b) OPTIONAL

(1) Electronic or mechanical timing devices

(2) One magnetic compass

C.4.2 NOT FOR USE

(a) MANDATORY

(3) One outboard engine

(4) Electronic navigation devices

C.5 BOAT

C.5.1 DIMENSIONS

	minimum	maximum
.....	… mm	..... … mm

C.5.2 WEIGHT

	minimum	maximum
The weight of the **boat** in dry condition	… kg	..... … kg

The weight shall be taken excluding **sails** and all portable equipment as listed in C.5.

C.5.3 CORRECTOR WEIGHTS

(a) **Corrector weights** of … shall be permanently fastened to … when the **boat** weight is less than the minimum requirement.

(b) The total weight of such **corrector weights** shall not exceed … kg. See also rules A.16.4 and B.1.1.

(c)

C.5.4 FLOTATION

(a) The **hull** shall be fully decked and/or have flotation air-tanks integral with the hull.

(b) Fully decked **hulls** shall comply with ISO 11812 and ISO 12216.

(c) Flotation tanks shall comply with ISO 12217-3 Annex C.

(d) **Hulls** with air tank(s) as flotation element(s) shall additionally comply with ISO 12217-3 Annex D, by test or calculation, except that the largest air tank shall not be included as a flotation element.

Note: not sure what (d) is trying to say? Some BE's only have 1 air tank.

***Important History**: Early Bull's Eyes had 1 air tank created by the floor being fiberglassed to the hull. In the mid 60's the bilge size changed & foam flotation was added under the seats. Only 1 years worth of Bull's Eye were built with the foam under seat method. After that a bow air tank was added in replacement of the underseat foam. Newer Bull's Eyes have 2 separate air tanks. The bow tank is created by a bulkhead fiberglassed to the hull & deck.*

C.6 HULL

C.6.1 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) Modifications for performance enhancement or shape changes are strictly prohibited.

(b) Modifications for maintenance or repair due to age or damage shall be permitted.

C.7 HULL APPENDAGES

C.7.1 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) Modifications for performance enhancement or shape changes are strictly prohibited.

(b) Modifications for maintenance or repair due to age or damage shall be permitted.

C.7.3 LIMITATIONS

(a) Only one **rudder** blade shall be used during an event except when a **hull appendage** has been lost or damaged beyond repair.

(b)

C.7.4 KEEL

(a) DIMENSIONS

	minimum	maximum
.....	… mm	..... … mm

(b) USE

(1) The **keel** shall be fixed to the hull and deadwood by means of keel bolts.

(2) Dents to the lead keel may be filled & painted over, but no weight can be removed during this process. ????

C.7.5 RUDDER

(a) DIMENSIONS-this is where we should insert our rudder diagram

	minimum	maximum
.....	… mm	..... … mm

(b) USE

(1) The Rudder Shape, leading edge or trailing edge shall not be changed from how it was supplied by the manufacturer.

C.8 RIG

C.8.1 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) Modifications for performance enhancement or shape changes are strictly prohibited.

(b) Modifications for maintenance or repair due to age or damage shall be permitted.

C.8.3 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.

(b)

C.8.4 MAST

(a) DIMENSIONS-we can supply a mast plan with all measurements

	minimum	maximum
Intersection of the fore side of the **spar** and upper surface of the deck to …	… mm	… mm

(b) USE

(1) The **spar** shall be stepped in the mast step in such a way that the heel is not capable of moving

C.8.5 BOOM We can supply a boom plan with all measurements

(a) DIMENSIONS

	minimum	maximum
Limit mark width	… mm	
Boom point distance		… m

(b) USE

(1) The intersection of the aft edge of the mast **spar** and the top of the boom **spar**, each extended as necessary, shall not be below the upper edge of the mast **lower limit mark** when the boom **spar** is at 90° to the mast **spar**.

Note: As long as it is specified what extrusion is required & the diagram & the fact that Zephyr is to be the only builder I don't think we need to supply any additional boom dimensions.

C.8.6 SPINNAKER POLE/WISKER POLE

(a) DIMENSIONS-spinnaker pole

	minimum	maximum
Outermost point at both ends	6'9" mm	6'9" mm

(b) DIMENTIONS-wisker pole

	minimum	maximum
Outermost point at both ends	71.5"	71.5"

C.8.7 STANDING RIGGING

(a) DIMENSIONS

	TB all the way closed	TB open
Shroud length pin to pin	16' 7"	…
Forestay length pin to pin	16' 6 "	…

(b) USE

(1) Tangs and jib hound on the mast shall not be adjusted.

(2) Shrouds may be moved aft six inches from the standard deck attachment positions or returned to the standard deck attachment positions before the start of any race.

C.8.8 RUNNING RIGGING

(a) USE

(1) The mainsail sheet shall be led, single or double part, to blocks located by Cape Cod Shipbuilding. *Some have done away with this method. & are using adjustable travellers & are cleating mid boom or on a barney post on the floor. This should list whether these modifications are accepted or not.*

(2) The headsail sheet shall be as follows;
Working Jib led through fairleads on foredeck
Genoa led through blocks on tracks mounted on deck.

Note: The Florida fleet does not use the fairleads. They have installed tracks & blocks on the cuddy. Shall this modification be allowed?

(3) The spinnaker sheet and guy shall be led to turning blocks on after deck at each corner with the transom.

(4) The spinnaker pole topping lift shall be led through a pad eye on the mast as supplied by Zephyr Spars.

(5) The spinnaker pole fore guy is optional.

(6 The mainsail clew outhaul shall be led to the "dead-eye fitting" or a block attached to the "dead-eye fitting" supplied by Zephyr Spars.

(7)The Working Jib shall use a jib club unmodified as supplied by Cape Cod Shipbuilding. *I noticed the Floridians do not insert the aft hook on the jib club into the clew grommet. What about requiring the hook be inserted in the grommet?*

C.9 SAILS

C.9.1 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) **Sails** shall not be altered in any way except as permitted by these **class rules**.

(b) Routine maintenance such as re-stitching seams or patching a rip is permitted without re-measurement and re-**certification** provided it makes no change to the dimensions of the original sail.

C.9.2 LIMITATIONS

(a) Not more than 1 mainsail, 1 jib, 1 Genoa and 2 spinnakers shall be carried aboard.

(b) Not more than 1 mainsail, 1 jib, 1 Genoa and 2 spinnakers shall be used during an event, except when a **sail** has been lost or damaged beyond repair.

C.9.3 MAINSAIL

(a) IDENTIFICATION

The Class symbol shall be  . The class symbol shall be placed above the racing number, and both symbol and number shall be 10" in height.

The class symbol and sail numbers shall comply with the RRS except where prescribed otherwise in these **class rules**.

(*Not to be included here if this is covered in Section G and thereby checked in connection with certification control)*

(b) USE

(1) The main**sail** shall be hoisted on a halyard. The arrangement shall permit hoisting and lowering of the **sail** at sea.

(2) The highest visible point of the **sail**, projected at 90° to the mast **spar**, shall not be set above the main halyard sheave in the mast

~~the lower edge of the mast **upper limit mark**. The intersection of the **leech** and the top of the boom **spar**, each extended as necessary, shall not be behind the fore side of the boom **outer limit mark**.~~

(3) **Luff** and **foot** bolt ropes or sail toggles shall be in the **spar** grooves or tracks.

C.10.4 WORKING JIB

(a) USE

(1) The working jib shall be hoisted on a jib halyard. The arrangement shall permit hoisting and lowering. The tack of the jib must be shackled to the forestay chain plate. The jib must be hanked to the forestay and the jib club must be pinned to the forestay using the provided adjustable stainless steel jib club slide. The fixed hook on the aft end of the jib club must be inserted in the clew grommet of the working jib

C.10.6 SPINNAKER

(a) IDENTIFICATION

The sail numbers shall comply with the RRS except where prescribed otherwise in these **class rules**.

(*Not to be included here if this is covered in Section G and thereby checked at certification control.)*

(b) USE

(1)

Section D – Hull

D.1 PARTS

D.1.1 MANDATORY

(a) Hull shell

(b) Deck

(c) Air Tanks/floor (integral with the hull & deck)

(d) Rubrail (vinyl in boats built after 1955 or fibreglass bump in boats built 1948-55)

(e) Bulkheads

~~(f) Thwarts~~

(g) Teak toe rail

(h) Lead Keel

(i) Fiberglass deadwood

note: the main air tank is created when the floor is fiberglassed to the hull. The bow air tank is fiberglassed to the hull & deck. See description on page 8.

D.1.2 OPTIONAL

~~(a) Bulkheads~~

(b) Thwarts *(I have seen some thwarts added to Bull's Eyes)*

D.2 GENERAL

D.2.1 RULES

(a) The **hull** shall comply with the **class rules** in force at the time of initial **certification.**

(b)

D.2.2 CERTIFICATION

See Rule A.13.

D.2.3 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) The hull shell, deck, bulkheads, ~~double~~ bottom. … and keel… shall not be altered in any way except as permitted by these **class rules**.

(b) Holes not bigger than necessary for the installation fittings and passage of lines may be made in the cuddy or deck.

(c) Routine maintenance such as painting and polishing is permitted without re-measurement and re-**certification**.

(d) If any hull moulding is repaired in any other way than described in D.2.3(c), an **official measurer** shall verify on the **certificate** that the external shape is the same as before the repair and that no substantial stiffness, or other, advantage has been gained as a result of the repair. The **official measurer** shall also describe the details of the repair on the **certificate**.

D.2.4 DEFINITIONS

(a) HULL DATUM POINT

The **hull datum point** is the knuckle of the keel… .

(b)

D.2.6 BUILDERS

(a) The hull shall be built by Cape Cod Shipbuilding.

(b) All Bull's Eyes ~~molds~~ shall be built over and around molds owned and maintained by the Cape Cod Shipbuilding Company ("the Company") In case of the destruction of said molds by fire, or other cause beyond the control of the Company, ~~the Company has agreed to reproduce the molds,~~ if new molds are built, the company agrees to build them so that the one-design philosophy of the (then) new boats shall remain unchanged relative to the old boats.

D.3 HULL SHELL

D.3.1 MATERIALS

(a) The hull shell shall be built from solid fibreglass using the above described molds.

(b)

D.3.2 CONSTRUCTION

(a) I think we can insert the lay up schedule here

D.4 DECK

D.4.1 MATERIALS

(a) The deck shall be built from fibreglass using the above described molds.

(b)

D.4.2 CONSTRUCTION

(a) I think we can insert the lay up schedule here

D.5 BUOYANCY TANKS

D.5.1 CONSTRUCTION

(a) Buoyancy equipment shall comprise of air tanks integral with the hull. These tanks do not contain pressurized air or foam. They are simply trapped air. ~~under the cockpit sole and in newer boats a forward air tank in the bow~~.

(b) On boats built before 1962: 1 air was installed consisting of the floor fiberglassed to the hull

(c) On boats built in **1962** the bilge was elongated taking away some of the volume in the floor airtank. To compensate boats built with elongated bilges first were supplied with foam installed under the seats.

(d) At the end of 1962 a smaller separate air tank was created in the bow which is fiberglassed to the deck & hull. Boats with bow tanks do not need foam under the seats.

Note: not 100% sure of the year listed here & we can research.

D.6 GUNWALE AND RUBBING STRAKES

D.6.1 MATERIALS

(a) The rubrail at the hull to deck shear ~~bing strakes~~ shall be of molded fibreglass on boats built before 1956 and of "L" shaped vinyl on boats built after 1956. ~~timber, plastic, aluminium alloy or any resilient material.~~

D.6.2 CONSTRUCTION

(a) The rubrail ~~rubbing strake~~ shall cover the shear from bow to stern including the transom ~~run unbroken on each gunwale~~.

(b)

Note: The word "unbroken" is a problem as the rubrail has to have a seam somewhere. On some boats damage to rubrail occurs from a collision & instead of replacing it which would require removing the toe rail we will fasten the vinyl back in place & fill the crack with sinkable.

D.7 BULKHEADS

D.7.1 MATERIALS

(a) fiberglass

D.7.2 CONSTRUCTION

(a) we could look up what the lay up schedule is for the bulkheads

D.8 OPTIONAL THWARTS

D.8.1 MATERIALS

(a) teak or mahogany

D.8.2 CONSTRUCTION

(a)

D.9 ASSEMBLED HULL/DECK

D.9.1 FITTINGS

(a) MANDATORY

The following deck/hull fittings shall be positioned in accordance with the measurement diagram:

(1) 1 Forestay chain plate
(2) 2 Shroud chain plates
(3) 2 Working jib sheet fairleads
(4) 1 Mainsheet eye strap on port side of aft deck
(5) 2 Mainsheet blocks (1 stand up block on the deck, one block on the boom)
(5) 1 fixed Mast step casting aluminium
(6) 1 Mainsheet cleat
(7) 2 Working Jib ~~Headsail~~ sheet ~~blocks, fairleads and~~ cleats
(8) 1 Magnetic compass
(9) Toe rail of teak or mahogany
(10) Coamings of teak or mahogany

(12) 1 Mooring cleat

(13) 1 or 2 bow chocks

(14) One threaded air tank inspection test plug not to exceed ¾" in diameter in each buoyancy tank, provided that the watertight integrity of the buoyancy tank is maintained and the plug is securely in place in order to resist accidental dislodgement.

Note: each boat when new comes with a tank test plug in each air tank.

(b) OPTIONAL

(1) 1 or 2 Halyard winches

(2) Jib sheet/Genoa/Spinnaker winches

(3) Genoa tracks & blocks

~~(4) Maximum 2 headsail sheet winches~~

(5) Stowage clips for paddle(s), spinnaker pole, sail bags and other equipment

(6) Draining holes in hull to drain main air tank, provided these holes are filled with threaded air tank test plug not to exceed ¾" in diameter. The test plugs must keep the watertight integrity of the buoyancy tank and must be securely in place in order to resist ~~covers are capable of resisting~~ accidental dislodgement.

(7) Bilge pump(s) which may discharge through hull shell or deck ????

(8) ~~Deck clips for~~ cockpit cover eye straps ~~and/or tent~~

(9) Handrails

(10) 1 additional mainsheet stand up block on port side for double purchase mainsheet system.

(11) Boom vang plate under the fixed mast step.

(12) 2 Spinnaker sheet and guy turning blocks ~~fairleads, blocks~~ and cleats

(13) 1 Spinnaker pole downhaul fairlead

D.9.2 DIMENSIONS

The keel line shall be taken as the intersection line from transom to stem of the hull shell and the **hull** centre plane.

The sections shall be taken as vertical, transverse planes at the following positions:

Section 1: at … mm from **hull datum point** as defined in D.2.3

Section 2: at … mm from **hull datum point** as defined in D.2.3

etc.

The baseline shall be on the centre plane of the **hull** at the following vertical distances:

at the **hull datum point** as defined in D.2.3: … mm from the **hull** shell

at section … : … mm from the **hull** shell

	minimum	maximum
Hull length	… mm	..... … mm

Vertical distance from baseline to underside of **hull**
shell;
at section … ..... … mm ..... … mm
at section … ..... … mm ..... … mm
Vertical distance from baseline to underside of **keel**
at section … ..... … mm ..... … mm
Beam of **hull**, excluding rubbing strakes and fittings, at
sheer line;
at section … ..... … mm ..... … mm
at section … ..... … mm ..... … mm
at section … ..... … mm ..... … mm
Longitudinal distance from **hull datum point** as defined in D.2.3;
to intersection of **keel** trailing edge and hull ..... … mm ..... … mm
to aft point of mast **spar** hole at deck ..... … mm ..... … mm
Longitudinal dimension of mast **spar** hole .... … mm
Horizontal distance from centre of forestay attachment
hole to forward end of **hull** ..... … mm ..... … mm
Longitudinal distance from **hull datum point** as defined
in D.2.3 to centre of shroud plate holes ..... … mm ..... … mm
Transverse distance between centres of shroud plate
holes ..... … mm ..... … mm
Gunwale rubbing strakes;
depth ..... … mm ..... … mm
width ..... … mm ..... … mm
distances from transom and forward end of **hull**,
excluding stem head fitting, ... … mm
Overall height of mast step .... … mm
Mainsheet track;
length .... … mm
vertical height to top above … ..... … mm ..... … mm
Headsail track length .... … mm
Inside diameter of buoyancy tank inspection holes .... … mm
Inside diameter of buoyancy tank draining holes .... … mm

D.9.3 WEIGHTS

	minimum	maximum
Hull weight	… kg	..... … kg

D.9.4 HULL CORRECTOR WEIGHTS

(a)

Section E – Hull Appendages

E.1 PARTS

E.1.1 MANDATORY

(a) **Keel**

(b) **Rudder**

E.2 GENERAL

E.2.1 RULES

(a) **Hull appendages** shall comply with the **class rules** in force at the time of **certification**.

(In the case of a keel it is probably preferably to refer to the class rules in force at the time of initial certification of the hull – see E.3.1(a))

E.2.2 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) Hull appendages shall not be altered in any way except as permitted by these class rules.

(b) Routine maintenance such as bottom painting is permitted without re-measurement and re-certification.

E.2.3 CERTIFICATION

(a) The **official measurer** shall **certify hull appendages** and shall sign and date the **certification mark**.

(b) An MNA may appoint one or more persons at a manufacturer to measure and **certify hull appendages** produced by that manufacturer in accordance with the ISAF In-house Certification Guidelines.

(Or place Certification in E.3.2 and E.4.2 as below if different certification procedures should be used for different hull appendages.)

(c)

E.2.3 DEFINITIONS

(a)

E.2.4 MANUFACTURERS

(a) The **hull appendages** shall be made by ~~manufacturers licensed by ISAF~~ Cape Cod Shipbuilding.

(b)

E.3 KEEL

E.3.1 RULES

(a) The **keel** shall comply with the **class rules** in force at the time of the initial **certification** of the **hull**.

(b)

E.3.2 MATERIALS

(a) The **keel** shall be of lead .

(b) The **keel** shall be covered with anti-fouling bottom paint.

(c) The bottom from waterline down shall also be covered with antifouling paint

E.3.3 CONSTRUCTION

(a) The **keel** shall be manufactured from a mold ~~pattern~~ owned and maintained by Cape Cod Shipbuilding Co.

(b)

E.3.4 FITTINGS

(a) MANDATORY

(1) Keel bolts

(b) OPTIONAL

(1)

E.3.5 DIMENSIONS

	minimum	maximum
.....	… mm	..... … mm

E.3.6 WEIGHTS

	minimum	maximum
.....	750 kg	..... … kg

E.4 RUDDER BLADE, RUDDER STOCK AND TILLER

E.4.1 RULES

(a) The **rudder** blade shall comply with the **class rules** in force at the time of **certification**.

(b)

E.4.2 CERTIFICATION

(a) The **official measurer** shall **certify rudder** blades and shall sign and date the **certification mark**.

E.4.3 DEFINITIONS

(a)

E.4.4 MANUFACTURERS

(a) Manufacturers shall be Cape Cod Shipbuilding Co.

(b)

E.4.5 MATERIALS

(a) The **rudder** blade shall be of fiberglass.

(b) ~~The **rudder** stock shall be of fibreglass and wood .~~

(c) The tiller shall be of wood.

(d)

E.4.6 CONSTRUCTION

(a) The **rudder** blade shall be manufactured in a mold ~~approved by the ISAF~~ owned and maintained by Cape Cod Shipbuilding

(b)

E.4.7 FITTINGS

(a) MANDATORY

(1) 2 Pintles permanently installed to the rudder

(2) 1 cotter pin placed in the upper pintle to prevent loss of rudder

(b) OPTIONAL

(1)

E.4.8 DIMENSIONS-

	minimum	maximum
.....	… mm	..... … mm

E.4.9 WEIGHTS

	minimum	maximum
.....	… kg	..... … kg

Note: The rudder dimensions & measurement drawing can go here.

Section F – Rig

F.1 PARTS

F.1.1 MANDATORY

(a) **Mast**

(b) **Boom**

(c) Standing **rigging**

(d) Running **rigging**

(e) Jib Club for Working Jib

F.1.2 OPTIONAL

(a) **Spinnaker pole**

(b) Wisker pole

F.2 GENERAL

F.2.1 RULES

(a) The **spars** and their fittings shall comply with the **class rules** in force at the time of **certification** of the **spar**.

(b) The standing and running **rigging** shall comply with the **class rules**.

(c)

F.2.2 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) **Spars** shall not be altered in any way except as permitted by these **class rules**.

(b) Routine maintenance such as hardware replacement, standing & running rigging replacement is permitted without re-measurement and re-**certification**.

F.2.3 CERTIFICATION

(a) The **official measurer** shall **certify spars** and shall sign and date the **certification mark.**

~~(b) No **certification** of standing and running **rigging** is required.~~

(c)

F.2.4 DEFINITIONS

(a) MAST DATUM POINT

The **mast datum point** is … .the butt, very bottom of the mast

(b)

F.2.5 MANUFACTURER

(b) Shall be Zephyr Spars, a division of Cape Cod Shipbuilding Co.

note: What about when a customer purchases just a #2 tube & wants to transfer the hardware himself? I think this definition needs to be clarified as owners have "built their own masts" using the Zephyr #2 extrusion.

F.3 MAST

F.3.1 MATERIALS

(a) The **spar** shall be of aluminium

(b) The mast must be made of the Zephyr #2 extrusion

(c) Permitted surface finish shall be of clear anodize. Original bare aluminium masts shall also be permitted.

(d) Owners may also paint their spars

F.3.2 CONSTRUCTION

(a) The **spar** extrusion shall include an extruded ~~fixed~~ sail groove ~~or track which may or may not shall be~~ integral with the **spar** ~~but shall be of the same material~~.

(b)

F.3.3 FITTINGS

(a) MANDATORY

(1) Mast head ~~fitting~~ casting with sheave

(2) 2 Shroud tangs w/bolt

(3) ~~Headsail halyard sheave box~~ Jib halyard hound assembly (includes the jib halyard sheave, forestay attachment & spinnaker halyard deadeye)

(4) Spinnaker pole ~~fitting~~ track

(5) Spinnaker pole lift ~~block with attachment~~ dead-eye

(6) ~~Gooseneck~~ sail feed milled in sail track

(7) Heel block assembly with 2 sheaves for halyards

(8) Downhaul cleat

(b) OPTIONAL

(1) One mechanical wind indicator

(2) Compass bracket

(3) Spinnaker pole downhaul block with attachment

Note: the downhaul block is affixed to the deck, not the mast.

(4) A set of ~~fixed~~ limited swing spreaders

(5) Flag halyard

(6) Spinnaker halyard cleat

(7) Spinnaker pole downhaul cleat

(8) Block shackled to spinnaker pole deadeye

F.3.5 DIMENSIONS –A MAST PLAN SHOULD PROBABLY BE INSERTED HERE

	minimum	maximum
Mast length	… mm	… mm
Mast spar curvature		… mm
Or		
Mast spar curvature at … mm from the mast datum point as defined in F.2.3		… mm
Mast spar deflection when loaded with … kg at … mm from the mast datum point as defined in F.2.3:		
fore-and-aft	… mm	… mm
transverse	… mm	… mm
Mast spar cross section between … and … ;		
fore-and-aft	… mm	… mm
transverse	… mm	… mm
Mast limit mark width	… mm	
Lower point height	… mm	
(Not necessary if the lower point is the mast datum point.)		
Upper point height		… mm
Lower point to **upper point**		mm
Forestay height	… mm	… mm
Shroud height	… mm	… mm
Spinnaker pole fitting:		
height	… mm	… mm
projection	… mm	… mm
Spinnaker hoist height	… mm	… mm
Spreader;		
length	… mm	… mm
height	… mm	… mm
Distance from **mast datum point** as defined in F.2.3 to centre of gravity in condition as described in ERS H.3.6	… mm	

F.3.16 WEIGHTS

	minimum	maximum
Mast weight	… kg	

F.4 BOOM

F.4.1 MATERIALS

(a) The **spar** shall be of aluminum .

(b) The boom must be made of the Zephyr #1 extrusion

(c) Permitted surface finish shall be of clear anodize. Original bare aluminium is permitted

F.4.2 CONSTRUCTION

(a) The **spar** extrusion shall include an extruded ~~fixed~~ sail groove integral with the **spar.**

F.4.3 FITTINGS

(a) MANDATORY

(1) ~~Two single sheave~~ mainsheet block on tang ~~with attachments~~

(2) Clew outhaul fitting ~~s and attachments~~

(3) Roller Reefing Gooseneck with slide & tack pin ~~attachment~~

(4) Outhaul cleat

(b) OPTIONAL

~~(1) Not more than two wire strops for mainsheet blocks~~

~~(2) Spinnaker pole stowage fittings~~

(3) Boom Vang plate

(4) A second outhaul cleat

(5) Outhaul hook with block

(6) Cleat at mid boom

F.4.5 DIMENSIONS

	minimum	maximum
Boom spar curvature		… mm
Or		
Boom spar curvature at … mm from the **outer limit mark**		… mm
Boom spar deflection when loaded with … kg at … ;		
vertical		… mm
transverse		… mm
Boom spar cross section between … and … ;		
vertical	… mm	… mm
transverse	… mm	… mm

as long as a spar plan with dimensions is provided I don't think we need to list anything further.

F.4.16 WEIGHTS

	minimum	maximum
Boom weight ..... … kg		

F.5 SPINNAKER POLE

F.5.1 MANUFACTURER

(a) Manufacturer is ~~optional~~ Zephyr Spars, a division of Cape Cod Shipbuilding.

(b)

F.5.2 MATERIALS

(a) The **spar** shall be of aluminum. Original wood poles are permitted.

(b) Permitted surface finish shall be of clear anodize on aluminium spinnaker poles, and varnish or paint on wood spinnaker poles.

F.5.3 CONSTRUCTION

(a)

F.5.4 FITTINGS

(a) Fittings are optional.

(b)

F.5.5 DIMENSIONS

	minimum	maximum
Spinnaker pole spar cross section between … and …	… mm	… mm
Spinnaker pole length	… mm	… mm

F.7 STANDING RIGGING

F.7.1 MATERIALS

(a) The standing **rigging** shall be of stainless steel.

(b)

F.7.2 CONSTRUCTION

(a) MANDATORY

(1) A forestay of either 3/32 or 1/8 diameter 1x19"non faired" stainless steel wire

(2) Shrouds of either 3/32 or 1/8 diameter 1x19 "non faired" stainless steel wire

(b) OPTIONAL

(1)

F.7.3 FITTINGS

(a) MANDATORY

(1) Swaged jaws at top end of all 3 wires

(2) Swaged turnbuckles at bottom end of all 3 wires

~~(3) Backstay …~~

(b) OPTIONAL

(1) Turnbuckles may be open body or closed body

F.7.4 DIMENSIONS

	minimum	maximum
Forestay length from … to …	… mm	… mm
Forestay diameter	… mm	
Shroud length from … to…	… mm	… mm
Shroud diameter	… mm	
~~Backstay length from … to…~~	~~… mm~~	~~… mm~~
~~Backstay diameter~~	~~… mm~~	

F.7.5 WEIGHTS

minimum	maximum
… kg	… kg

F.8 RUNNING RIGGING

F.8.1 MATERIALS

(a) all running rigging may be of 3 strand or braided Dacron line

(b)

F.8.2 CONSTRUCTION

(a) MANDATORY

(1) Mainsail halyard

(2) Mainsail sheet

(3) Headsail halyard

(4) Working jib sheet

(5) Mainsail outhaul line

(6) Mainsail downhaul line

(b) OPTIONAL

(1) Mainsail Cunningham line

(2) Spinnaker halyard

(3) Spinnaker sheet and guy

(4) Spinnaker pole lift and downhaul

(5) Genoa Sheet

(6) Adjustable traveller????

Section G – Sails

G.1 PARTS

G.1.1 MANDATORY

(a) Mainsail

(c) Working Jib

G.1.2 OPTIONAL

(a) Spinnaker

(b) Genoa

G.2 GENERAL

G.2.1 RULES

(a) **Sails** shall comply with the **class rules** in force at the time of **certification**.

G.2.2 CERTIFICATION

(a) The **official measurer** shall **certify** mainsails and headsails in the **tack** and spinnakers in the **head** and shall sign and date the **certification mark**.

(b) ~~An MNA~~ The BCA Measurer may appoint one or more persons at a sailmaker to measure and **certify sails** produced by that manufacturer in accordance with the ISAF In-house Certification Guidelines.

G.2.3 DEFINITIONS

(a)

G.2.4 SAILMAKER

(a) No licence is required.

~~(b) The weight in g/m^2 of the **body of the sail** shall be indelibly marked near the **head point** by the sailmaker together with the date and his signature or stamp~~. **Sailmakers don't do this**

G.3 MAINSAIL

G.3.1 IDENTIFICATION

(a) The class insignia shall conform with the dimensions and requirements as detailed in the diagram contained in … and be placed in accordance with the diagram contained in … .

(b) The sail number shall be placed on both sides on the mainsail

G.3.2 MATERIALS

(a) The **ply** fibres shall consist of ….3/4 oz Dacron

(b) **Stiffening** shall consist of….

(1) Cornerboards…

(2) 3 Battens 15" (top), 21" (bottom), 24" (middle)

(c) **Sail reinforcement** shall consist of….

G.3.3 CONSTRUCTION

(a) The construction shall be: **soft sail**, **single ply sail**.

(b) The **body of the sail** shall consist of the same **woven ply** throughout.

(c) The main **sail** shall have 3 batten **pockets** in the **leech**.

~~(d) The sail shall be constructed so that it can be reefed by means of slab reefing at two points adjacent to the **luff,** two points adjacent to the **leech** and four corresponding points in the **body of the sail.**~~ **Bull's Eyes have roller reefing.**

(c) The following are permitted: Stitching, glues, tapes, sail slugs, bolt ropes, corner eyes, headboard with fixings, ~~Cunningham eye or pulley~~ grommet, **batten pocket patches**, batten pocket elastic, batten pocket end caps, ~~mast and boom slides~~, leech line with cleat, one **window**, tell tales, ~~sail shape indicator~~ draft stripes and items as permitted or prescribed by other applicable *rules*.

(f) The **leech** shall not extend aft of straight lines between:

(1) the **aft head point** and the intersection of the **leech** and the upper edge of the nearest **batten pocket,**

(2) the intersection of the **leech** and the lower edge of a **batten pocket** and the intersection of the **leech** and the upper edge of an adjacent **batten pocket** below,

(3) the **clew point** and the intersection of the **leech** and the lower edge of the nearest **batten pocket**.

G.3.4 DIMENSIONS

	minimum	maximum
Leech length	… mm	… mm
Quarter width	… mm	… mm
Half width	… mm	… mm
Three-quarter width	… mm	… mm
Upper width at **upper leech point** … mm from **head point**	… mm	… mm
Top width		… mm
Weight of **ply** of the **body of the sail**	… g/m^2	
Primary reinforcement		… mm
Secondary reinforcement:		
from **sail corner measurement points**		… mm
for **flutter patches**		… mm
for **chafing patches**		… mm
for **batten pocket patches**		… mm
at a reefing point adjacent to **luff** or **leech**		… mm
Tabling width		… mm
Distance from **clew point** to **foot** bolt rope		… mm
Distance from **tack point** to **foot** bolt rope		… mm
Seam width		… mm
Window area		… m^2
Window to **sail edge**	… mm	
Extension of headboard from **head point**		… mm
Batten pocket length:		
uppermost and lowermost pockets:		
inside		… mm
outside		… mm
intermediate pockets:		

inside .... … mm
outside .... … mm

Batten pocket width:
inside .... … mm
outside .... … mm

Head point to intersection of **leech** and centreline of uppermost **batten pocket** ..... … mm

Head point to intersection of **luff** and centreline of uppermost **batten pocket** ..... … mm

Clew point to intersection of **leech** and centreline of lowermost **batten pocket** ..... … mm

G.4 ~~HEADSAIL~~ WORKING JIB

G.4.1 MATERIALS

(a) The **ply** fibres shall consist of …..3/4 oz Dacron

(b) **Stiffening** shall consist of….

(1) Cornerboards…

(2) Battens….

(c) **Sail reinforcement** shall consist of….

G.4.2 CONSTRUCTION

(a) The construction shall be: **soft sail**, **single ply sail**.

(b) The **body of the sail** shall consist of the same **woven ply** throughout.

(c) The headsail shall have 2 **batten pockets** in the **leech**.

(d) The **leech** shall not extend beyond a straight line from the aft **head point** to the **clew point**.

(e) The following are permitted: Stitching, glues, tapes, corner eyes, hanks, batten pocket elastic, **batten pocket patches**, batten pocket end caps, leech line with cleat, one **window**, tell tales, ~~sail shape indicator~~ draft stripes and items as permitted or prescribed by other applicable *rules*.

G.4.3 DIMENSIONS

	minimum	maximum
Luff length	… mm	… mm
Leech length	… mm	… mm
Foot length	… mm	… mm
Foot median	… mm	… mm
Half width	… mm	… mm
Top width		… mm
Foot irregularity		… mm
Weight of **ply** of the **body of the sail**	… g/m^2	
Primary reinforcement		… mm
Secondary reinforcement:		
from **sail corner measurement points**		… mm
for **flutter patches**		… mm

for **chafing patches** .... … mm
for **batten pocket patches** .... … mm
Tabling width .... … mm
Seam width .... … mm
Window area .... … m^2
Window to **sail edge** ..... … mm
Batten pocket length:
inside .... … mm
outside .... … mm
Batten pocket width:
inside .... … mm
outside .... … mm
Head point to intersection of **leech** and centreline of uppermost **batten pocket** ..... … mm
Clew point to intersection of **leech** and centreline of lowermost **batten pocket** ..... … mm

G.5 GENOA

G.5.1 MATERIALS

(a) The **ply** fibres shall consist of ….
(b) **Sail reinforcement** shall consist of….

G.5.2 CONSTRUCTION

(a) The construction shall be: **soft sail**, **single ply sail**.
(b) The **body of the sail** shall consist of the same **woven ply** throughout.
(c) The following are permitted: Stitching, glues, tapes, corner eyes, recovery line eyes, tell tales and items as permitted or prescribed by other applicable *rules*.

G.5.3 DIMENSIONS

	minimum	maximum
Luff length	… mm	… mm
Leech length	… mm	… mm
Foot length	… mm	… mm
Foot median	… mm	… mm
Quarter width	… mm	… mm
Half width	… mm	… mm

Weight of **ply** of the **body of the sail** ..... … g/m^2
Primary reinforcement .... … mm
Secondary reinforcement:
from **sail corner measurement points** .... … mm
for recovery line point .... … mm
Tabling width .... … mm
Seam width .... … mm

G.6 SPINNAKER

G.6.1 MATERIALS

(a) The **ply** fibres shall consist of .75 oz

(b) The sail number shall be applied to the spinnaker

(b) **Sail reinforcement** shall consist of….

G.6.2 CONSTRUCTION

(a) The construction shall be: **soft sail**, **single ply sail**.

(b) The **body of the sail** shall consist of the same **woven ply** throughout.

(c) The following are permitted: Stitching, glues, tapes, corner eyes, recovery line eyes, tell tales and items as permitted or prescribed by other applicable *rules*.

G.6.3 DIMENSIONS

	minimum	maximum
Leech lengths	… mm	… mm
Foot length	… mm	… mm
Foot Median	… mm	… mm
Difference between **diagonals**		… mm
Quarter width	… mm	… mm
Half width	… mm	… mm
Three-quarter width	… mm	… mm
Weight of **ply** of the **body of the sail**	… g/m^2	
Primary reinforcement		… mm
Secondary reinforcement:		
from **sail corner measurement points**		… mm
for recovery line point		… mm
Tabling width		… mm

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

H.1

(Plans are not to be included in the class rules as it is difficult for a measurer to know what he should check or not – what is advice and what are rules?)

Effective:

Previous issues: