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NEW ZEALAND
EC12 ONE-DESIGN
CLASS RULES

NZ EC12 2011

NEW ZEALAND EC12 ONE DESIGN CLASS
CLASS RULES 2011 (September)

Authority: New Zealand EC12 Owners Association Inc.

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INTRODUCTION

The Class began as a towing tank testing model for a proposed design prior to the 1964 America's Cup Defence. The Designer was Charles Morgan and the nick-name for the proposed design was Eagle. Buddy Black used the towing tank model as a plug for making the first fibreglass moulds. Yachts from these moulds were first produced in the late 1960's.

A full history of the Class can be found in the Manual for the East Coast 12M.

1. GENERAL

1.1 The Intention of the Class Rules

1.1.1 The intention of the Class Rules is to provide a one design specification for moulding of identical hulls from Owners Association controlled moulds, while at the same time allowing the existing registered hulls to maintain their eligibility to compete.

1.1.2 The New Zealand EC12 Class is a One Design Radio controlled racing class.

1.1.3 The Class Rules ensure that all yachts are as reasonably alike as possible in all aspects affecting sailing performance.

1.1.4 Anything not specifically permitted in these Class Rules shall be referred to the Owner's Association for a ruling. When considering anything in connection with the yacht which is not established practice within the Class or is not clearly covered by this specification and its attached drawings, you must assume is illegal and not in the spirit of the Class.

1.1.5 In interpreting any rule, the Owner's Association shall consider the intended meaning and shall bear in mind at all times, the basic principals of the Class Rules which is to maintain the New Zealand EC12 Class as a One Design Class.

1.2 Authority

1.2.1 The governing New Zealand Authority of the Class is the New Zealand EC12 Owners Association Inc.

1.2.2 The Owners Association does not accept any legal responsibility with respect to these Class Rules, the measurement diagrams and the measurement form or any claims arising therefrom.

1.3 Eligibility to Race in Owners Association sanctioned events

1.3.1 Before a yacht is eligible to race: the hull shall be a registered pre 1995 hull, or a hull moulded from the Owner's Association mould after 30 July 1995 with an official Owners Association label and serial number moulded inside the hull.

1.3.2 For the entering into, and subsequent participation in, New Zealand EC12 National Championships the yacht shall have a current measurement certificate issued by an Owner's Association approved Class Measurer.

1.3.3 The Owner shall be a financial member of the Owners Association.

1.4 Measurement and Measurers

1.4.1 Only a Measurer officially recognized by the Owners Association shall measure a yacht, her spars, sails and equipment and sign measurement forms.

1.4.2 An Owners Association approved Class Measurer shall be permitted to measure a yacht, her spars, sails, or equipment owned, designed or built by himself or herself, or in which he or she is an interested party or has a vested interest.

1.4.3 If a Measurer is in any doubt as to the legality of any part of the yacht, spars, sails or equipment they shall refer this to the Class Measurer for a ruling.

1.4.4 Alterations, replacements or repairs to the yacht shall be made in accordance with these Class Rules and shall be checked by an approved Measurer, and a remeasurement certificate issued if called for.

1.4.5 New or substantially altered sails shall be checked by an approved Measurer and be dated and stamped, or signed near the tack.

Sails that are fabricated by approved Suppliers need not be measured for compliance, but must be signed by an approved Measurer (for details of approved sail suppliers an enquiry to the Class Measurer is to be made).

1.4.6 All yachts, spars, sails and equipment shall be liable to a random remeasurement by an approved Measurer at the discretion of the Owners Association or Race Committee.

1.4.7 Hulls built before December 1994, shall comply in all respects with the ballast, spars, rigging and sails and other class rules except Rule 4.2.7, beam measurements. These hulls, which have a current registration as at 11 November 1995, will be grandfathered for the life of the yacht. All new hulls, built after 30 July 1995, must be built by a licensed manufacturer using an Owners Association approved mould and comply with the current Class Rules.

1.5 Owner's Responsibility

1.5.1 It is the yacht Owner's responsibility to ensure that the yacht complies with the New Zealand EC12 Class Rules.

2. ADMINISTRATION

2.1 Language

2.1.1 The official language of the Class is English, and the English text shall prevail in the event of a dispute in translation.

2.1.2 In translating and interpreting these Class Rules it shall be understood that the word "shall" is mandatory and the words "can" and "may" are permissive.

2.1.3 Wherever in these rules the words "Class Rules" are used, they shall be taken as including the measurement diagrams and measurement form.

2.2 Administration of the Class

2.2.1 The administrative authority in New Zealand for the class shall be the New Zealand EC 12 Owners Association Incorporated Society (NZEC12OA), which shall maintain a liaison with other internationally recognised EC12 authorities.

2.3 Manufacturers

2.3.1 The New Zealand EC12 One Design Class hulls shall be produced only by a Manufacturer authorized by and fabricating from the New Zealand EC12 Owners Association owned moulds.

2.3.2 The authority to fabricate shall include clauses requiring good standards of workmanship and quality control, inclusion of Owners Association labels and hull serial numbers moulded into the hulls, compliance with the Class Rules and use of only Owners Association sanctioned moulds.

2.3.3 Alterations of the plug, or mould made without the approval of the Owners Association shall result in the builder's license being revoked. This same action shall be taken in case of intentional and/or repeated infringements of the Class Rules by the Manufacturer.

2.3.4 The Manufacturer shall, at their own expense, correct or replace any hull which fails to pass measurement as the result of an omission or error of the builder provided that the yacht is submitted for measurement within twelve months of purchase.

2.4 Registration and Measurement Certificate

2.4.1 A valid measurement certificate is an Owners Association approved measurement form of the yacht held by the registered Owner. Boats being entered into a National Championship MUST CARRY this Measurement Certificate in the event that the Race Committee wish to sight and verify it.

2.4.2 An intending Owner of a new hull shall make these purchase arrangements through the Class Secretary of the Owners Association.

2.4.3 The Owners Association shall supply to the Manufacturer a hull/sail registration number.

2.4.4 The Owner, upon completion of the new yacht, shall make contact with the Owners Association approved Measurer in their area and arrange for this person to undertake on behalf of the Owners Association, a measurement process, and the issue of a Measurement Certificate. Recorded on this Certificate shall be the allocated sail number which will in most instances be the same as the hull number.

2.4.5 The Owners Association Class Secretary is to be advised of a change of ownership (in writing) stating all relevant details.

3. PROTECTION OF THE ONE DESIGN

3.1 Plug/Mould Ownership and Standards

3.1.1 The Owners Association possesses and maintains all rights, and interests to the international mould and any other plug/mould of EC12's whilst in the possession of the New Zealand EC12 Owners Association Incorporated Society.

3.1.2 The primary standard for the hull form shall be the NZEC12OA Inc. plug and the supporting table of offsets maintained by the Owners Association.

4. CONSTRUCTION AND MEASUREMENT RULES

4.1 Identification Marks

4.1.1 The hull shall carry the glassed/glued in, serial number, on the New Zealand EC12 Owners Association Inc. official label as well as the name of the Manufacturer.

4.2 Hull Shell and Deck

4.2.1 The hull shell shall be obtained from the New Zealand EC12 Owners Association Inc. The Owners Association shall supply the hull and optional deck from the approved Manufacturer.

4.2.2 The hull shell shall be constructed only of glassfibre reinforced plastic (GRP) with interior surface unpainted and consisting of unpigmented resin to allow visual inspections of hull laminate and its materials. Resin type shall be unrestricted.

4.2.3 The minimum hull shell weight including deck flange and or inwales, and before anything else is added shall not be less than 1.0 kg.

4.2.4 The hull shell shall only be modified by piercing for fitting of rudder tube and stock. The cheeks of the rudder recess at the aft face of the keel may be faired on the trailing edge to confirm with the rudder.

4.2.5 The hull length overall (LOA) shall be 1495 – 1500mm.

4.2.6 The maximum load waterline length (LWL) shall be 1092mm. The minimum LWL shall be 1066 mm. Reference lines of length 20mm and width 2mm, whose edges mark the limits of the maximum and minimum LWL of a colour which contrasts with the colour of the hull, shall be placed across the centre line of the hull 13mm apart at each end in accordance with Fig 1. The hull fully rigged with the A rig and at rest in fresh water, shall float between the reference lines.

4.2.7 The beam at the deck shall comply with the measurements below at each station. A tolerance of 2mm each side of the specified measurements will be accepted. Distances to each station shall be taken along the centerline of the deck measuring from the bow.

Distance from Bow (mm)	*Beam (mm) pre July 2006*	*Beam (mm) post July 2006*
0	***0***	***0***
127	***80***	***63***
254	***142***	***116***
381	***195***	***164***
508	***240***	***207***
635	***270***	***245***
762	***291***	***273***
889	***298***	***283***
1016	***289***	***273***
1143	***260***	***244***
1270	***210***	***196***
1397	***138***	***133***

4.2.8 The deck may be obtained from the approved Manufacturer or constructed by the builder / owner. The deck shall only be constructed of wood, glassfibre (which may be cored with foam or wood) and melamine (Formica type material). A combination of the permitted materials is permitted. The centre line of the deck in side view from bow to stern shall be a straight line. Cross section through the deck shall be a convex curve from gunwale through the point of intersection with the centre line. The sheer line shall be as per the moulded hull shape.

4.2.9 One main deck hatch not to exceed the maximum area of 375 sq cm aft of the mast shall be covered with any of the permitted deck materials.

Two additional access hatches for servicing under deck equipment are permitted, and shall be made of the same material and construction as the deck and shall be of a maximum area of 25 sq cm each.

4.2.10 Any colours, finishing paints or lacquers may be used for exterior finish of hull, deck, rudder and spars.

4.3 Rudder

4.3.1 The rudder shall neither extend above the bottom of the keel more than 125mm nor below the bottom of the keel. No portion of the rudder shall extend more than 89mm aft of the keel. The rudder shall have a maximum thickness no greater than the keel section immediately forward of it.

4.3.2 The rudder shall be made of GRP and/or wood. The rudder shaft shall be made of brass, aluminium or stainless steel.

4.3.3 The rudder shall be turned by remote control using one channel only.

4.4 Ballast

4.4.1 The ballast material shall have a density of no greater than lead (11.3kg/dm3).

4.4.2 All ballast shall be located within the interior of the hull. Ballast shall be fixed in place and shall not be removable.

4.4.3 Corrector of trim ballast, shall meet the requirements of 4.4.2 above.

4.5 Spars

4.5.1 Mast

(a) Materials of construction shall be either wood, which may be solid or laminated or aluminium. No taper shall be allowed. Maximum diameter shall be 19mm.

(b) Masts may be stepped on deck or on the keel, with the forward edge at the deck 623 – 723mm aft of the bow. Mast shall be non-rotating and may employ such equipment fixed and below the lower mast band (c), necessary to control its position.

(c) Masts shall carry three distinctly coloured measurement bands, not less than 3mm wide and shall comply with Figure 1 “EC12 RIGGING PLAN”.

(d) Masthead crane may extend a maximum of 75mm aft and 10mm forward of the mast.

4.5.2 Main Boom

(a) The boom shall be constructed of wood, which may be solid or laminated, aluminium or GRP, and be capable of passing through a 19mm diameter ring.

(b) The main boom may be tapered at one or both ends and/or curved.

(c) The top of the boom at the mast shall not be set more than 25mm lower than the upper edge of the lower mast band.

(d) The attachment points for the mainsail clew and the kicker (vang) may be adjusted by manual means only.

4.5.3 Jib Boom

(a) The boom shall be constructed of wood, which may be solid or laminated, aluminium or GRP and be capable of passing through a 19mm diameter ring.

(b) The jib boom may be tapered at one or both ends and/or curved and shall not extend beyond the bow. A counterweight attached to the jib boom is permitted, BUT must not extend beyond the bow.

(c) The attachment points for the jib tack, jib clew, swivel and topping lift may be adjustable by manual means only.

(d) The jib swivel of any design, shall be attached to the deck on the centreline of the deck and may allow for manual adjustment.

4.6 Rigging

4.6.1 The mast shall be supported by the following rigging, adjustable only by manual means.

(a) Side Stays and Spreaders – Two (2) side stays shall be attached to the mast below the lower edge of the middle mast band, then pass through the outboard ends of the spreaders and terminate at the chain plates. Spreaders shall be attached to the mast as in Figure 1. They shall be aligned athwart ships to the mast in approximately the same plane as the mast and the side stays. They shall extend a maximum of 108mm from the centreline of the mast and may be fixed or removable for transport. They may be made of wood, brass, aluminium or stainless steel.

(b) Lower Shrouds – Two (2) lower shrouds shall be attached to the mast within 10mm from the underside of the spreaders as shown in Figure 1. The lower shrouds shall terminate at the chain plates abaft the side stays.

(c) Jumper Stays and Jumper Struts (Optional) – Jumper stays, if fitted, shall be attached within 10mm of the mast head, pass through the jumper struts and attach to the mast at the point shown in Figure 1. Tension on the jumper stays shall be adjustable by manual means. Jumper struts (2) shall be affixed to the front of the mast as shown in Figure 1. Each strut shall be horizontal and make an angle of between 30 and 60 degrees with the centreline of the boat. They shall be made of wood, brass, aluminium or stainless steel and shall have a length of 63 to 75mm measured from the centreline of the front of the mast.

(d) Backstay – the backstay shall be affixed to the top of the mast or the masthead crane and terminate on the deck in the vicinity of the transom and on the centreline of the boat. Backstay tension may be adjustable by manual means only.

(e) Jib Stay – the jib shall be attached to the mast in such a way that a line through the jib tack and jib head cuts the forward face of the mast below the lower edge of the middle mast band when the jib boom is held on the centreline of the deck.

4.6.2 The position of the main and jib booms may be adjusted by remote control and/or manual means. No more than two radio channels shall be employed for control of the booms.

4.6.3 The following items, used in conjunction with running rigging and working in tension are permitted, but shall only be adjusted by manual means: mainsail luff tensioner, jib luff halyard.

4.6.4 The Main Boom Downhaul (vang, kicking strap) may operate in compression as well as tension and shall be adjusted by manual means only.

4.7 Sails

4.7.1 General

(a) Sails shall be measured according to the sail templates for each defined rig. Sails shall be measured off the spars.

(b) Sails shall be made of polyester based material (i.e. Dacron, Mylar, and Terylene) and may be single or multi-paneled construction. Kevlar and carbonfibre are not permitted materials.

(c) Eyelets shall be placed entirely within 25mm of each sail corner.

(d) Corner reinforcements, broad seam reinforcements and batten pockets are unrestricted as to material. Corner reinforcements may extend a

maximum of 200mm from the corners of the mainsail and 150mm from the corners of the jib.

(e) The class insignia, and sail number shall be placed as follows, the Class insignia shall be the number **12** underlined and placed as high as is possible on the mainsail only. The sail number shall be placed on both the main and jib in such a position as to be **HIGHLY VISIBLE** at all times. Optional National insignia is to be placed lower than sail numbers on either/both main and jib.

With ALL class insignia, sail numbers and optional national insignia the highest of each number/insignia must be showing to starboard.

(f) A line, a minimum of the same length as the width of the class insignia and minimum 4mm in thickness, shall be placed under the class insignia number. Class insignia shall be to the following dimensions: Height 60-66mm, width 40-45mm (except number 1) and thickness 9-11mm. The space between 1 and 2 shall be 13-15mm.

(g) The sail registration number shall be of the following dimensions: height 100-110mm, width (except number 1), 60-73mm, thickness 12-18mm. The space between adjoining numbers shall be 20mm. A space between numbers and class insignia on opposite sides of the sail shall be 60-100mm.

All numbers are to be of a **TOTALLY CONTRASTING COLOUR** to sail material used and of fully coloured appearance. They must also be the **COMPLETE NUMBER** as issued by the Owners Association at the time of manufacture.

(h) The sails of the A, B and C rigs shall be used as distinct unmixed sets, and marked as such for identification.

4.7.2 Mainsail

(a) Mainsails shall comply with the measurements in Figure 2. Foot and leech edges shall be equal to or less than the smooth curve produced by a constant section batten connecting the corners of the sail and the intervening measurement points, with no bending in the batten induced beyond those corners.

(b) There shall be a maximum of four (4) battens in the leech. They shall not exceed 130mm in length and 10mm in width and shall be equally spaced along the leech.

(c) The foot of the sail may be attached to the upper centreline of the main boom using attachment methods in 4.7.2 (d) below.

(d) The mainsail shall be attached to the after centreline of the mast using boltrope or internal sail track slides in grooved mast, or attached to a jack line by hooks, tubes or loops or by individual ties around the mast.

4.7.3 Jib

(a) Jibs shall comply with the measurements in Figure 2. Foot and leech edges shall be equal to or less than the smooth curve produced by a constant section batten connecting the corners of the sail and the intervening measurement points, with no bending in the batten induced beyond those corners.

(b) The foot of the jib may be attached to the upper centreline of the jib boom using attachment methods in 4.7.2 (d) above.

(c) The jib luff may be attached either by a luff tabling enclosing the jib stay or by ties.

(d) The jib may have a maximum of two (2) battens in the leech, of maximum length 50mm and maximum width 10mm.

5. ADDITIONAL RULES WHICH APPLY WHEN RACING

5.1 Equipment

5.1.1 Only one (1) hull and one (1) rudder shall be used during a race, or series of races, except in cases of authentic and actual damage or loss. Any replacement is to be requested of, and be authorised by, the Race Committee.

5.1.2 Three sets of sails and or rigs including booms totaling no more than three mainsails and three jibs shall be allowed for use in a regatta. The three sets shall be declared and will be CLEARLY IDENTIFIED by the Class Measurer, or his/her representative, as to size (A, B or C) and these will not be used as mixed sets.

Replacement sails will only be permitted following irreparable damage occasioned during racing and only when asked of, and approved by, the Race Committee.

5.1.3 A maximum of three radio channels may be used only by the skipper, to control the rudder, mainsheet and jib sheet.

5.2 Class Rules

5.2.1 These Class Rules shall not be varied by a Race Committee.

5.2.2 When in doubt over the interpretation or application of these Class Rules, a written referral to the Executive of the Owners Association is to be made for a decision.

5.2.3 The New Zealand EC12 Class Rules take precedence over, and WILL prevail in the case of conflict (perceived or real) with, ANY other Rules of Equipment when considering New Zealand registered EC12's.

5.3 Racing Rules

Class races shall be sailed under internationally accepted rules of sailing and Race Committee Sailing Instructions when issued in either/both written and verbal form.

5.4 Owner to be a Member of the Class Association

The Owner shall be a current member of the NEW ZEALAND EC12 OWNERS ASSOCIATION INC. to be eligible for ENTRY to Owners Association sanctioned events.

RULES STATUS

These Class Rules have been formulated/amended by the Executive of the New Zealand EC 12 Owners Association Inc. using originally the AMYA EC12 metre Rules, ISAF-RSD regulations and with input from members of the NEW ZEALAND EC12 OWNERS ASSOCIATION Inc.

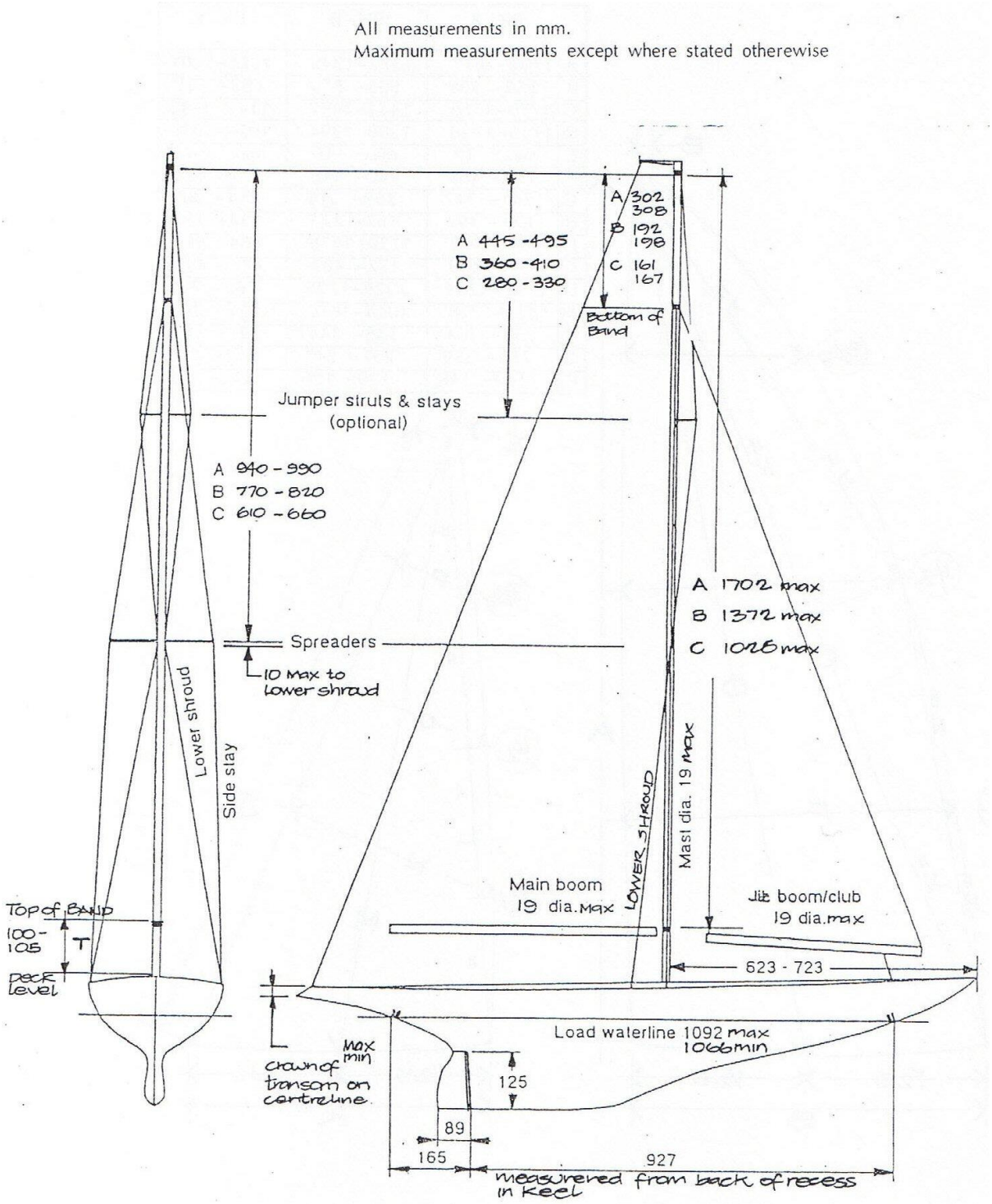
This Edition is effective from September 2011 and replaces the previous NZ EC 12 Class Rules dated March 2010.

Dated: 28 November 2011

Signed: Rod Liddy
Class Secretary
New Zealand EC12 Owners Association Inc.

Amended 2011 AGM; Rule 1.3.2 “measurement certificate”
Rule 2.4.1 “measurement certificate”
Rule 5.1.2 “allowed sails”

6. Rigging and Outboard Profile



7. Sail Plan

	RIG A	RIG B	RIG C
A	1702–1677	1372–1347	1026–1001
B	553– 559	553– 559	553– 559
C	1750–1768	1451–1457	1142–1148
D	1710–1728	1388–1394	1054–1060
E	max 19	max 19	max 19
F	459– 465	440– 446	424– 430
G	341– 347	309– 315	294– 300
H	192– 198	167– 173	154– 160
J	1363–1369	1130–1136	884– 900
K	477– 483	477– 483	477– 483
L	1278–1284	1029–1035	762– 768
M	1322–1328	1064–1070	795– 801
N	358– 364	338– 344	307– 313
O	253– 259	237– 243	212– 218
P	140– 146	130– 136	112– 118