

# MOSQUITO CATAMARAN BUILDING RULES AND RESTRICTIONS

## DECLARATION

These rules and measurement restrictions have been reviewed, adopted and approved for publication by the NATIONAL MOSQUITO CATAMARAN COUNCIL (AUSTRALIA) in Annual General Meeting.

They shall come into force as of this date with the provisions as set out below:

- 1 All previous Mosquito class catamaran building rules and measurement restrictions are rescinded.
- 2 The procedure for changing these Building Rules and Restrictions shall be in accordance with Appendix 1. These rules shall not be changed for a period of one year from the date of adoption.
- 3 The structural part of a yacht which is built or under construction prior to this issue of the rules and restrictions is exempt from these rules provided it is built within the practices current at the time of building and in a manner which is satisfactory to the Local State and Territory Authority.
- 4 Existing sails, booms, fittings, masts and all other non-structural parts shall comply in full with these rules and restrictions.
- 5 Yachts commenced prior to 1 May 1975 shall be deemed imperial.

1 July 1997  
Peter Hallsworth  
National Technical Officer

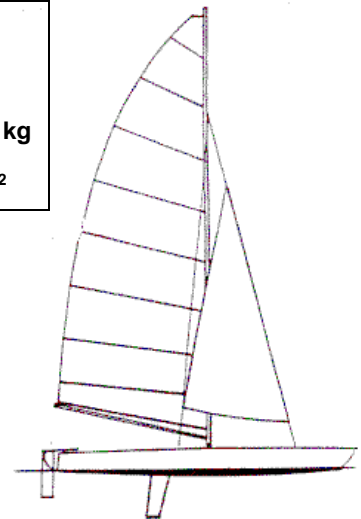
Revised 1 April 2000  
Roger Wilson  
National Secretary

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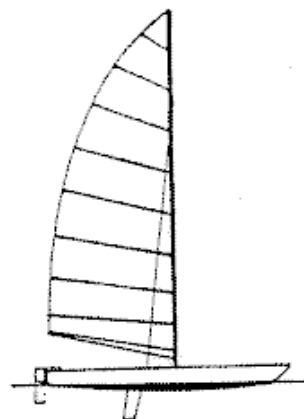
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### SPECIFICATIONS

**LOA: 4900 mm**  
**BEAM: 2185 mm**  
**Weight (unrigged): 55 kg**  
**Sail Area MkI: 12.5 m<sup>2</sup>**  
**Sail Area MkII: 14.9 m<sup>2</sup>**



Top Rigged Mk2



Cat Rigged Mk1

## 1 GENERAL

- 1.1 The National Mosquito Catamaran Council (Australia) does not accept legal responsibility in respect of these rules or any claim arising therefrom.
- 1.2 A Mosquito Catamaran is a restricted class which can be sailed in two modes; Mark I (cat rigged, one person) or Mark II (sloop rigged, two persons). To sail competitively in class racing a boat shall comply with class rules. These rules take precedence over measurement forms and plans.
- 1.3 The object of these restrictions is to provide uniform specifications and restrictions for the above class and are to be read in conjunction with the plans.
- 1.4 Where there is no State or Territory Authority, its function as stated in these rules shall be carried out by the National Mosquito Catamaran Council (Australia), or its delegated representatives.

## 2 REGISTRATION

- 2.1 No boat shall be allowed to race in the Class unless it has a valid Class Measurement Certificate.

Application for measurement and registration shall be the responsibility of the owner, who shall apply to the appropriate authority, submitting at the same time the proposed name of the boat and sail number.

No two boats in the Class registered in the same State shall have the same name.

- 2.2 The owner shall arrange the attendance of an approved Measurer who shall complete the measurement form and, if satisfied, shall certify thereon that the boat

complies with the Class rules and the current AYF safety prescriptions.

- 2.3 The measurement form, when complete, shall be returned by the owner to his State Authority, together with any measurement fee required. On receipt of these a measurement certificate shall be issued to the owner. The State Authority shall then enter the boat on its official Class Register. Each time a boat is submitted for measurement a fee shall be charged.
- 2.4 Change of ownership invalidates the certificate but re-registration may be effected by returning the old certificate to the State Authority, together with an application in writing containing the name and address of the new owner and the appropriate re-registration fee if any.

Re-measurement is not necessary.

The State Authority shall issue a new certificate to the owner, and amend its Class Register accordingly.

- 2.5 The boat is defined as a pair of hulls. The registered sail number applies to that pair of hulls. A hull may be replaced because of serious damage but is subject to measurement. A new pair of hulls, for any reason, constitutes a new boat and as such requires a new sail number.

## 3 MEASUREMENT – GENERAL

- 3.1 This is a restricted class. Measurement tolerances are intended to allow for genuine errors only and shall not be deliberately used to alter the design. The measurer may report on the measurement form anything which he considers departs from the intended nature and design of the

boat, or to be against the general interest of the Class.

- 3.2 Only an official measurer appointed by the National or State Authority shall measure a boat and sign the declaration on the measurement form that it complies with the Class Rules.
- 3.3 A measurer shall not measure a boat owned or built by himself.
- 3.4 It shall be the responsibility of the owner to see that the boat is correctly measured and to ensure that it thereafter complies with the current Class Rules.
- 3.5 All certified boats shall be liable to re-measurement at the discretion of the National Authority, State or Territory Authority, or Race Committee, but only by an official measurer. Any boat re-measured at a Class Meeting and found not to comply with the Class Rules may be disqualified by protest.
- 3.6 A certificate may be invalidated by structural alteration, replacement of components or repair of the boat and the boat shall be re-measured in respect of the affected parts by an official measurer.
- 3.7 New sails shall be measured, and registered on the Class Measurement Certificate by an official measurer.
- 3.8 Completed hulls must comply with these restrictions in all respects but, at the builder's discretion, may differ from the internal specifications outlined in the plans.

Builders shall be classified as either amateur or professional. To retain amateur status, builders shall be restricted to the construction of one pair of hulls per annum. Professional builders shall be required to gain registration with their State or Territory Authority

before marketing their hulls. To be eligible for registration a builder shall have produced at least one prototype boat in sloop rigged configuration and shall have had it complete without structural damage at least four races in conditions of more than 20 knots and 1.5 metre seas.

Professional builders shall not be involved with voting on the registration of other builders in this rule.

#### **4 RECOGNITION MARKS**

- 4.1 The yacht's registered number shall be permanently marked, legible and easily visible to the rear face of the rear beam port side.
- 4.2 The sail numbers and class emblem shall be placed on both sides of the mainsail, approximately in the position shown on the sail restriction drawings.

The numbers and emblems shall sharply contrast in colour with the sail. Letters and numbers on the sail shall be of the following minimum sizes.:

- height 300 mm  $\pm$  15 mm
- width 200 mm  $\pm$  15 mm
- (except Figure 1 and Letter I)
- thickness 45 mm  $\pm$  5 mm.

#### **5 MEASUREMENT – HULLS**

- 5.1 Each hull shall be symmetrical.
- 5.2 The bow shall be the datum point for all longitudinal measurements.

##### ***Dimensions***

Measured to:

- 5.2.1 centre line of forward chainplates  
900 mm minimum; 930 mm maximum;

- 5.2.2 forward edge of main beam 2250 mm minimum; 2300 mm maximum;
- 5.2.3 centre line of side stay chainplates 2780 mm minimum; 2860 mm maximum;
- 5.2.4 forward edge of centreplate case 2860 mm minimum;
- 5.2.5 after edge of centreplate case 3353 mm maximum;
- 5.2.6 forward edge of rear beam 4380 mm minimum; 4440 mm maximum.
- 5.3 Overall length 4900 mm maximum. The length of the hull shall be measured in a straight line along the tops of the main and rear beams, measuring between two perpendiculars to this line which just touch the tip of the bow and the aftermost point of the transom respectively.
- 5.4 Overall width (i.e. maximum beam) 2185 mm. The beam is considered inclusive of any fittings and fixtures on the hulls.
- 5.5 The deck widths and hull girths, including deck and hull curves respectively shall be measured between the inner and outer sheer lines at the following points on both hulls: 'The sheer line is the intersection of the deck and the side of the hull and does not include "anti-slip systems" placed on the gunwales to achieve hull width dimensions.'
- 5.5.1 Forward edge of main beam
- deck width 345 mm  $\pm$  5 mm
  - hull girth 1065 mm  $\pm$  25 mm
- 5.5.2 After edge of rear beam
- deck width 355 mm  $\pm$  5 mm
  - hull girth 800 mm  $\pm$  25 mm.
- 5.6 The bow profile shall be as per plan  $\pm$  20% on measurement from bow datum line labelled on Plan Sheet 1.
- 5.7 The transom profile shall be as per plan  $\pm$  5 mm. This does not include the hull sides and rear deck thickness as indicated by the dotted line on the transom profile.
- 5.8 The hull cross-sectional profile shall fit within the measuring templates and shall touch the keel line. The templates shall be located at right angles to the deck line at the following positions:
- beneath the forward edge of the front chainplate;
  - beneath the forward edge of the main beam;
  - beneath the after edge of the rear beam;
- 5.9 The longitudinal profile of the deck shall fall within the tolerance determined by measuring templates placed on the deck immediately forward of the front beam and aft of the rear beam. Sighting from behind the transom, the tip of the bow shall be not less than 100 mm below the line of sight between the centre lines of the template.
- 5.10 Materials used in hull and deck construction are optional.
- 5.11 The leading and trailing edges of the centreboard slots shall be parallel and within 10° of the perpendicular from a straight line along the tops of the main and rear beams.
- 5.12 The method of construction of timber Mosquito hulls is optional. The hull sides shall have a fair curve from top to bottom.
- 5.13 The deck curvature shall be within 5 mm of the deck template as drawn on the plan but the gunwale may be radiused to a maximum of 3 mm.

## 6 BEAMS

- 6.1 The hulls shall be joined by a main beam and rear beam which shall each be in one continuous piece. There shall be no beam or strut attached to the hulls other than the main beam and rear beam.

The main beam and rear beam shall each be of straight aluminium alloy of constant section along its length. Holes may be drilled in the beams for fastenings only. Holes remaining after the removal of redundant fittings are permitted.

- 6.2 The main and rear beam shall be; a Comalco rectangular hollow section E425 or equivalent 50 mm plus or minus 1 mm by 39 mm plus or minus 1 mm by minimum 3 mm wall. Beam edges may be rounded to a maximum of 2 mm radius.
- 6.3 There shall be no fairings fitted to the beams.
- 6.4 The main beam shall be fitted with a strut and tie as per drawing. The leading edge of the tie may be rounded but not sharpened, to not more than 5 mm from the leading edge. The strut shall be of circular cross-section of diameter not less than 21 mm and minimum length 152 mm.

The tie shall be of stainless steel and shall have the following minimum dimensions:

- width 35 mm
- thickness 3 mm

(as per plan drawing).

- 6.5 The central beam shall be 50 mm diameter x 1.5 mm wall thickness, or 50 mm square x 1.5 mm wall thickness (with rounded corners).
- 6.6 All beam fastenings shall be marine grade stainless, monel or aluminium. Lightening holes are not permitted in any part of the beams.

## **7 TRAMPOLINE**

- 7.1 The trampoline shall not extend beyond the front and rear beams or over the decks.

7.2 The method of attachment is optional.

7.3 Net trampoline materials are prohibited.

## **8 CENTREBOARDS**

8.1 Two centreboards shall be fitted, one per hull.

8.2 The centreboards shall have no moving parts except that uphaul/downhaul cords and latches are allowed.

8.3 Lightening holes are allowed in that part of the centreboard enclosed by the centrecase when the centreboard is in the fully down position.

8.4 The maximum length shall be 1220 mm. The maximum width shall be 305 mm. The thickness of the centreboards shall be 22 mm  $\pm$  2 mm. Width and thickness measurements are to be taken on that part of the board enclosed in the centreplate case when the board is fully inserted.

## **9 RUDDERS**

9.1 The rudder boxes are to be held captive to the transoms to prevent loss due to capsizing.

9.2 With the rudders in the fore-and-aft position the centre planes of each hull and its rudder shall coincide.

## **10 WEIGHT**

10.1 The total weight of the assembled hulls shall not be less than 55 kg when in dry condition to the measurer's satisfaction.

The assembled hulls may include the following items:

- the hulls including anti-skid material
- main beam, rear beam, centre beam
- mast step and main beam strut and tie
- trampoline and attachments for fitting to beam and hulls
- chainplates and rudder gudgeons
- mainsheet traveller track or hawse, car and associated control devices (excluding rope)
- jib track, hawse and barber-auler systems
- centre-board control fittings
- all shock cords and fittings used for attachment of trapeze systems to the platform
- hatch-cover mounting bases
- toe straps, foot straps and bracing lines
- all fixed mounting plates and brackets
- all fasteners (e.g. bolts, rivets, screws) for securing the above
- correctors

Any items not listed above shall be excluded.

No other fittings or equipment shall be included in the minimum weight. Any permanently-attached fittings in addition to the above shall be described (with weight stated) on the measurement certificate and duly endorsed by the State Measurer. Allowance for this endorsed weight shall be made at any State or National weighing.

- 10.2 The correctors shall be made of a solid material and when fitted shall be fixed in a visible location. They shall have no purpose other than to increase the weight of the boat to the minimum figure specified in clause 10.1.
- 10.3 If correctors are altered or removed, the boat shall be re-weighed by an

official measurer and a new certificate obtained.

## 11 MAST

- 11.1 The mast shall be made of an extruded aluminium alloy.
- 11.2 The maximum height of the top of the mast including all permanent fittings shall not be greater than 7360 mm above the top of the main beam.
- 11.3 The forestay attachment point shall be 5280 mm  $\pm$  100 mm from the top of the main beam. If more than one potential forestay attachment point is provided then all such points shall fall within the measurement tolerance.
- 11.4 Section:
- width 59 mm minimum;  
63 mm maximum
  - depth 86 mm minimum;  
91 mm maximum.
- 11.5 Tapered mast permitted, but when used tapering shall only be above the 5180 mm mark.

11.6 Mast rotation control must be fitted.

## 12 BOOM

- 12.1 The boom may be of any material, but shall be inherently straight and of constant section throughout its length.
- 12.2 Excluding fittings the boom shall pass through an 80 mm diameter circle.
- 12.3 Maximum length shall be 2800 mm measured along the length of boom from the back of the mast track to the end of the boom or outhaul fittings.

## 13 STANDING RIGGING

- 13.1 The standing rigging shall consist of the shrouds, the forestay(s), the forestay strop and the diamond stays.
- 13.2 There shall be one shroud to each hull, the attachment point being on the outer top-sides.
- 13.3 The mast shall carry one pair of diamond stays only, which shall be rigged below the hounds.
- 13.4 On Mark II yachts there shall be one forestay only which shall be attached to a strop between the hulls, but twin forestays may be fitted on Mark I yachts.
- 13.5 The bridle height shall be a minimum of 380 mm above the deckline. The measurement will be a vertical measurement to the centre of the bridle ring from a straight edge laid across the decks at the bridle attachment points.
- 13.6 Struts, stays or devices which limit the natural fore and aft movement of the forestay and forestay strop are prohibited (jib luff tension device excluded).
- 13.7 There shall be no other standing rigging.
- 13.8 All standing rigging shall be circular in section, minimum diameter 3 mm, and shall have no fairings.
- 13.9 Adjusting the standing rigging whilst racing is prohibited, except that diamond stays may be adjusted.

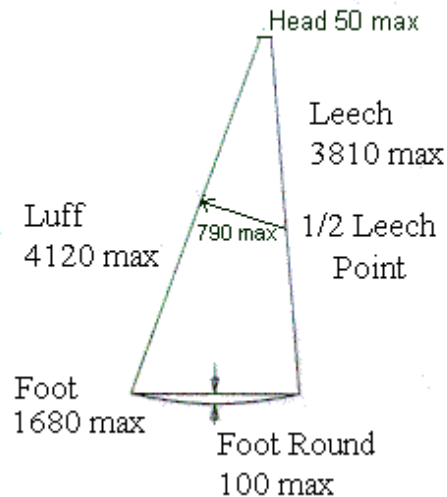
**14 SAILS**

- 14.1 The rig shall consist of mainsail and foresail for Mark II or mainsail only for Mark I.

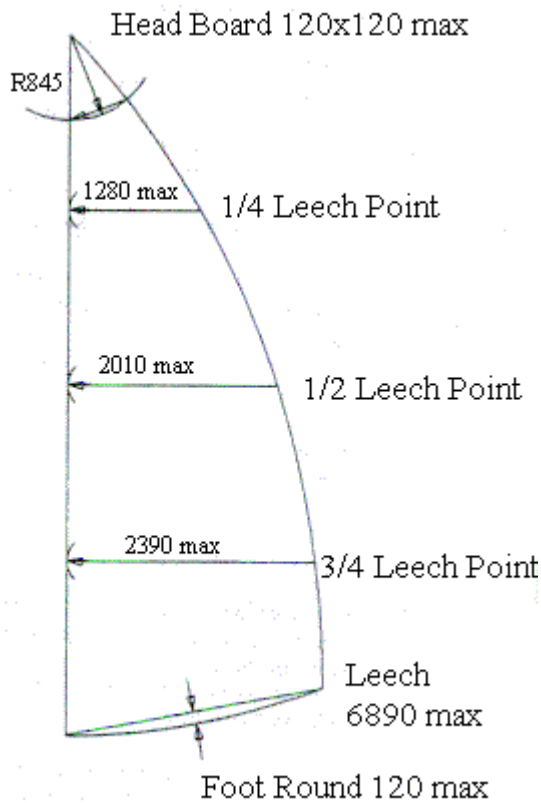
The IYRU International sail measurement instructions shall apply where no conflict with these rules arises.

- 14.2 Mainsail and foresail--battens shall be removed from the sails for measurement. Sails shall be measured on a flat surface, just sufficient tension shall be applied to remove waves and wrinkles at the lines of measurement. The curved edge of the leech shall be a fair continuous curve with no hollows having the effect of increasing the sail area.

**FORESAIL**



## **MAINSAIL**



### **14.3 Foresail**

- 14.3.1 A maximum of three foresail battens is allowed, in the leech only. Each batten shall be no more than 300 mm in length and 50 mm in width.
- 14.3.2 The jib shall either use hanks, a stitched double luff, zipper luff, nylon foil or other approved devices to attach it to the forestay. If a foil is used then this must be treated as part of the sail for measuring purposes.
- 14.3.3 The length of the luff shall not be more than 4120mm. The length of the leech shall be not more than 3810mm. The length of the

foot shall not be more than 1680mm. The maximum foot round shall be 100mm

- 14.3.4 At the half leech point the nearest point of the luff shall be not more than 790 mm. The half leech point shall be found by folding the head to the clew and smoothing the sail out flat.

- 14.3.5 The head of the sail shall not exceed 50mm.

- 14.3.6 The leech in no area shall be convex and must be a fair curve.

### **14.4 Mainsail**

- 14.4.1 The sail shall be loose footed and shall be attached to the boom or fittings at or near the tack and clew only.

- 14.4.2 There shall be a maximum of eight battens from the leech to the luff. There shall be no other battens and no batten may extend more than 100 mm beyond the leech of the sail.

- 14.4.3 The headboard shall not exceed 120 mm in height or width.

- 14.4.4 The sail shall be hoisted within the integral luff groove of the mast extrusion, and shall not be fitted with a sleeve, double luff or other fairing device. The head of the mainsail shall not extend beyond the top of the mast.

- 14.4.5 The mainsail shall be measured in accordance with Australian Yachting Federation and New Zealand Yachting Federation 1973–1977 yacht racing rules, Section III, Item 2.

Battens shall be removed and all cross measurements are taken to include the bolt rope. All cross measurements are taken to the nearest point on the luff with the exception of measurement 'A'.

Dimension 'A' is found by swinging an arc with a radius of 845 mm from the head of the sail to intersect the leech and the luff. The straight line intersecting these two shall be not greater than 750 mm.

14.4.6 All sails to have fair curves at all measurement points.

## 15 'BLACK BANDS'

15.1 A system of 'black bands' 25 mm wide of a colour contrasting with that of the mast and boom shall be used on the spars to mark the limits of extension of the main sail's length along its luff and foot.

15.2 Two bands shall be painted in any position on the mast with their inner edges 6900 mm apart, except when the mainsail is set to the mast head in which case only one band shall be used, with its upper edge positioned 6900 mm below the top of the mast.

15.3 One band only shall be painted on the boom with its inner edge 2550 mm (measured along the length of boom) from the aft edge of the mast track or its extension.

15.4 When the mainsail is set on its spar the luff and foot shall be wholly contained within the inner edges of the bands.

## 16 MAINSHEET TRAVELLER

16.1 The mainsheet traveller track shall be straight along the rear beam. The type of traveller is optional.

## 17 HIKING AIDS

17.1 Foot loops, blocks, toe straps, anti-slip surface treatment, trapeze gear and bracing lines are permitted. No other aids are allowed.

## 18 PROHIBITED FITTINGS

18.1 Hydrofoils, outriggers, ballast, suction bailers, keel bands except in the way of centreboard slot, rubbing stakes, spray deflectors, chines, and any projection from the skin other than normal fittings.

Any device not called for in the plans and restrictions and not de-restricted in Item 19.

Weight belts of any description are prohibited.

## 19 DE-RESTRICTIONS

Only items in the following list may deviate from the plan in the manner described.

19.1 Position of ports in deck.

19.2 Fittings type and manufacture of all fittings.

- 19.3 Mast rotation control. Rudders, tillers and associated mechanisms. Whisker pole, wind indicators, number of trapezes.
- 19.4 Boom vang circular track shall have a pitch circle diameter not greater than 0.7 m.
- 19.5 Leech lines.
- 19.6 Shape of centreboards within the limits of Clause 8.
- 19.7 Jib and mainsheet arrangement and fittings.
- 19.8 Jib and main luff tensioning devices.

## **20 SAFETY REQUIREMENTS**

Boats shall comply with current safety regulations of the Australian Yachting Federation.

## **APPENDIX 1 – PROCEDURE FOR ALTERATION TO PLANS, BUILDING RULES AND RESTRICTIONS**

A member may propose an alteration to the plans, specifications and/or restrictions by submitting a notice of motion detailing such alteration to the State/Territory Association for endorsement and forwarding to the National Association.

Any such motion of alteration shall then be circulated to other State Associations at least three months prior to a National General Meeting to allow time for adequate discussion of the proposed alteration. The method of voting on motions received from interstate shall be at the discretion of each association but a postal vote or special general meeting (to involve all members) is recommended.

Voting at the National General Meeting shall be by State Delegate who shall be accorded one vote for every 20 (or part thereof) currently financial members of his/her State Association.

A two-thirds majority of the votes shall be required for the proposal to be accepted, where upon it shall apply from a date specified in the proposal or, if no date is specified, from 3 months after the National General Meeting.

## CHANGE HISTORY – THIS SECTION DOES NOT FORM PART OF THE BUILDING RULES AND RESTRICTIONS

Accepted at Annual General Meeting, 11<sup>th</sup> January 2000:

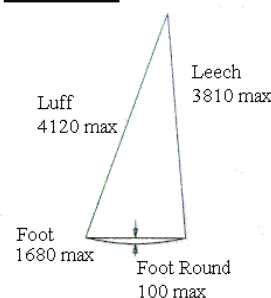
### 14.3 Foresail

#### Replace:

14.3.3 The foresail must lie totally within a triangle drawn to the maximum measurements adjacent, but excluding the foot round.

Luff 4120 mm  
Leech 3810 mm  
Foot 1680 mm  
Foot round 100 mm

#### FORESAIL



#### By:

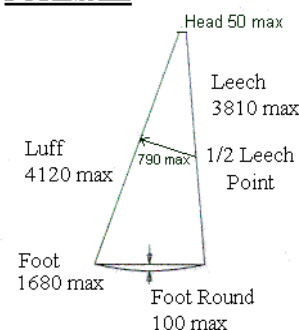
14.3.3 The length of the luff shall not be more than 4120mm. The length of the leech shall not be more than 3810mm. The length of the foot shall not be more than 1680mm. The maximum foot round shall be 100mm.

14.3.4 At the half leech point the nearest point on the luff shall not be more than 790mm. The half leech point shall be found by folding the head to the clew and smoothing the sail out flat.

14.3.5 The head of the sail shall not exceed 50mm.

14.3.6 The leech in no area shall be convex and must be a fair curve.

#### FORESAIL



Accepted at Special General Meeting, 14<sup>th</sup> January 2000:

## APPENDIX 1 – PROCEDURE FOR ALTERATION TO PLANS, BUILDING RULES AND RESTRICTIONS

#### Replace the following clauses:

Any such motion of alteration shall then be circulated to other State Associations at least three months prior to the National Annual General Meeting to allow time for adequate discussion of the proposed alteration. The method of voting on motions received from interstate shall be at the discretion of each association but a postal vote or special general meeting (to involve all members) is recommended.

Voting at the National Annual General Meeting shall be by State Delegate who shall be accorded one vote for every 20 (or part thereof) currently financial members of his/her State Association.

A two-thirds majority of the votes shall be required for the proposal to be accepted, where upon it shall apply from 1<sup>st</sup> July after the Annual General Meeting.

#### By:

Any such motion of alteration shall then be circulated to other State Associations at least three months prior a National General Meeting to allow time for adequate discussion of the proposed alteration. The method of voting on motions received from interstate shall be at the discretion of each association but a postal vote or special general meeting (to involve all members) is recommended.

Voting at the National General Meeting shall be by State Delegate who shall be accorded one vote for every 20 (or part thereof) currently financial members of his/her State Association.

A two-thirds majority of the votes shall be required for the proposal to be accepted, where upon it shall apply from a date specified in the proposal or, if no date is specified, from 3 months after the date of the National General Meeting.