

AUSTRALIAN MULTIHULL CLASS

RULES 2007

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AUSTRALIAN MULTIHULL CLASS RULES 2007

These rules are supplemented by the following documents

ISAF RADIO SAILING DIVISION “International Class Administrative Rules”

ISAF RADIO SAILING DIVISION “Sail Identification Mark Rules

ISAF RADIO SAILING DIVISION “Resolution, Error and Accuracy of Measurement”

1 GENERAL

1.1 Purpose of the Measurement Rules

1.1.1 The Australian multihull class is a development (radio control) Class with limitations

1.1.2 The intention of these rules is to give the designer and builder the freedom in design and construction, within the scope of these rules, to build and produce competitive multihulls with the following measurement limitations. The maximum overall length is 1300 mm

The maximum width is 1220 mm

The maximum Sail Area is 0.9 m²

1.1.3 Anything not specifically prohibited by these rules is permitted.

1.1.4 The Australian Multihull Class is a “Category B” class under IYRU definitions. Boat decoration is allowed, and can be derived from real size multihulls.

The following paragraphs of the *International Class Administrative Rules* are changed:

1.3.1 The Queensland Radio Controlled Multihull Owners Association is the current authority for the AMC.

1.3.2 The Qr/cMOA shall not accept any legal responsibility in respect of these class rules.

1.4.2 In the event of a discrepancy between these rules and the measurement forms, the matter shall be referred to the Qr/cMOA.

1.4.3 Change MYRD to Qr/cMOA in the text.

1.4.4 Not applicable

1.5.1 Unless specified to a greater number of decimal places, measurements and calculated values shall be taken and recorded as follows

Item	Units	Decimal places	Decimal places
		Measurement	Calculation
Length	Millimeters (mm)	0	0
Area	Square metre (m ²)	6	6
Final total area	Square metre (m ²)	4	6

2 ADMINISTRATION

2 The following paragraphs of the *International Class Administration* rules are changed:

2.2.1 The Class is administered by the Queensland Radio Controlled Multihull Association.

2.2.2 Not applicable

2.3.1 The Australian Multihull Class is a free Construction Class and no licence is required to become a builder. No building fee is due to Qr/cMOA.

3 HULL(S) / FLOAT(S)

3.1 Definition

- 3.1.1 The boat shall be a multihull made of more than one hull or float linked by one or more cross beam(s).
A hull or float is made of the floating structure, the deck, the rudder(s), the appendage(s), the bow bumper, but does not include the rig(s).
A catamaran is made of two hulls. A trimaran is made of a central hull and two floats. A proa is made of a hull and a float. Any other kind of multihull is permitted, as long as there are a minimum of one hull and one float.

3.2 Identification Marks

- 3.2.1 Each hull shall carry in an easily visible location, on the external surface of the hulls or decks, either painted, engraved or moulded in, the boats national letters and registration number, with a minimum height of 20 mm.
- 3.2.2 When a multihull has several sets of floats, each set shall be registered on the measurement certificate. The set registration number shall be the registration number suffixed by a letter (ex: 123/a)

3.3 Construction

- 3.3.1 (A) The multihull shall not be longer than 1300 mm, and shall not be wider than 1220 mm. The length is measured along the centreline of the multihull, between lines drawn at 90° of the centreline, tangent to the most forward stems and the most backward sterns. For the measurement, the multihull waterline should be held as parallel as possible to the surface plan used as a reference basis. The two lines define the overall length measurement lines. The width is measured at the widest point of the multihull, at a 90 deg angle from the centreline.
- (B) The forward 20 mm of a hull or float shall be made of elastomeric material.

4 APPENDAGES AND BALLAST

4.1 Ballast

- 4.1.1 Movable ballasts shall not extend beyond the multihull.
- 4.1.2 Ballast shall be made of a material of higher density than lead (11.3 kg/dm³)
- 4.1.3 Liquid ballast is permitted and shall be fresh, or water taken from the sailing area.
- 4.1.4 Solid and/or liquid ballast may be added, or removed at any time during a race or series of races.

5 RIG

5.1 Masts

- 5.1.1 The mast area is included in the total sail area when the average width is greater than 30mm (see Appendix 1)
- 5.1.2 All masts shall be measured.
- 5.1.3 All types of rigs are permitted.

5.2 Booms

- 5.2.1 The booms and the spars shall not exceed 30 mm in diameter.
- 5.2.2 Outriggers are permitted.

5.3 Other Rigging Rules

- 5.3.1 No part of a gig shall extend beyond the overall length measurement lines when the sails are held along the centreline of the multihull.

5.4 Measurement Bands

- 5.4.1 Measurement bands shall be of a colour which contrasts strongly with the colour of the mast and shall be of uniform width between 2 mm and 6 mm wide.

6 SAILS

6.1 General

- 6.1.1 The number of sails, the material, the construction and the shape are free.
- 6.1.2 Solid sails are permitted; the total calculated sail area shall include all vertical surface area exposed to the wind.
- 6.1.3 A genoa or a spinnaker is allowed only for speed runs done on one tack. The sail area is not limited for these sails
- 6.1.4 The sail plan is open.
- 6.1.5 The largest suit of sails shall be measured. All smaller suits shall fall entirely within the profile of the measured one. All sails shall have the area marked as near as practicable to the tack.

6.2 Identification Marks

- 6.2.1 Sails shall carry identification marks in accordance with the IYRR
- 6.2.2 The class insignia as shown on the front page. Height is 75 mm, width is 40 mm, and thickness is 5 mm. The class insignia is an A above an M above a vertical C, all conjoined.
- 6.2.3 Spinnakers need not carry such marks.

6.3 Construction

- 6.3.1 Sails shall be made and measured in accordance with the current *ISAF sail Measurement instructions*, except where varied herein and in Appendix 1 @ 2. When a term defined or a measurement given in the ISAF Sail measurement rules is used in these rules. It is printed in `italic` type.
- 6.3.2 The maximum dimension of any headboard shall not exceed 50 mm.

6.4 Headsails

- 6.4.1 The mid girth of a headsail, measured between the mid point of the *luff* and the *half leech point*. May exceed 50% of the length of the foot.
- 6.4.2 Forestays and jib tacks need not be fixed approximately in the centreline of the boat.

6.5 Measurement

- 6.5.1 The total measured sail area shall not exceed 0.9000 m².
- 6.5.2 Discontinuous attachments on a sail *luff* shall be disregarded for the purpose of measurement provided their total length, measured along the *luff*, does not exceed 10% of the length of the *luff*.

Appendix 1

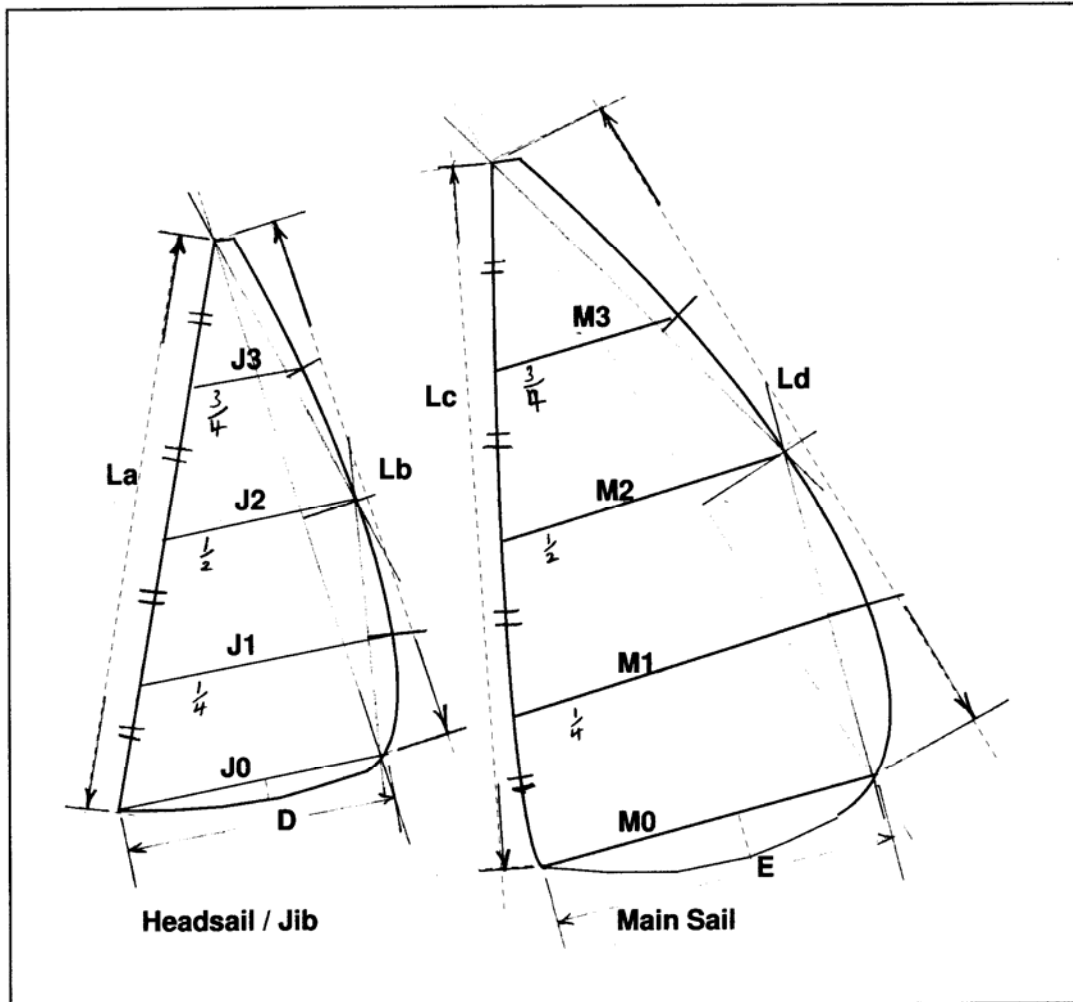
7 SAIL AREA MEASUREMENT

7.1 Sail Area

7.1.1 The total measured area is defined as:

$$S = S_{ms} + S_j + S_m$$

Where S_{ms} is the mainsail area. S_j is the jib sail area, S_m is the mast area.



7.2 Mainsail Area (S_{ms})

7.2.1 The mainsail area is computed by the following formula:

$$S_{ms} = L \times (M_0 + 4M_1 + 2M_2 + 4M_3) / 12 + 2 \times (M_0 \times E) / 3$$

Where L is the smaller of L_c & L_d

M_0 is the foot length

M_1 , M_2 & M_3 are girths measured from the quarter, half & three quarter leech points to the corresponding points found by dividing the luff.

7.3 Jib Area (S_j)

7.3.1 The jib area is computed by a similar formula:

$$S_j = L \times (J_0 + 4J_1 + 2J_2 + 4J_3) / 12 + 2 \times (J_0 \times D) / 3$$

where L is the smaller of L_a & L_b

J_0 is the foot length

J1, J2 & 13 are girths measured from the quarter, half & three quarter leech points to the corresponding points found by dividing the luff.

7.4 Mast Area (*Sm*)

7.4.1 The mast area is computed by the following formula:

$$S_m = H \times E$$

where:

'H' is the distance between the lower mark and the upper mark as defined in 7.4.3.

'E' is the average width of the mast, as defined in 7.4.3

7.4.2 The mast area shall be measured only when the average width of the mast exceeds 30 mm.

7.4.3 The average width of the mast is the average value of 5 measurements taken the following way:

- a) One measurement is done at the lower point determined by the crossing of a line extending the lower part of the main boom with the mast.
- b) If the boom is curved, then the line is a tangent to the lower part of the main boom in the tack area.
- c) If the line does not cross the mast, then the bottom end of the mast is taken, and a measurement band. is not required.
- d) The upper measurement is determined by the top of the mast if it exceeds 30 mm, or by the first point where the mast exceeds 30mm, downward from the top.
- e) Three other width measurements taken at equal distance between the upper and lower marks. When the mast area is measured. the upper and lower measurement points shall be identified with a 'measurement band, with the exception of 7.4.3.c.

SAIL AREA MEASUREMENT FORM

Issued by International Yacht Racing Union, 60 Knightsbridge, Westminster, London, SW1X 7JX, England

Class Sail Number

Owner's Name

Owner's Address

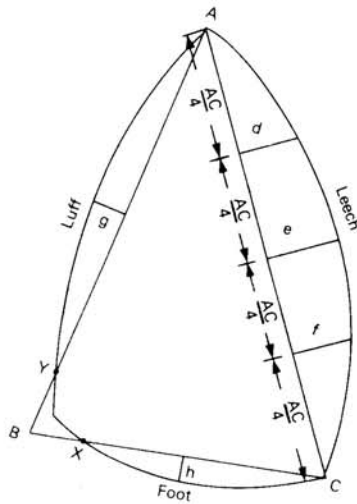
Measurer's Name

NOTES TO MEASURER

1. The measurer should refer to the I.Y.R.U. Sail Area Measurement Instructions.
2. If any round is not a fair curve the area of the segment shall be determined by dividing the segment into right angled triangles and/or quadrilaterals. (Note - This is not applicable to the International Moth Class.)
3. Calculations shall be carried out to three places of decimals. The total area of each sail shall be expressed to two places of decimals.

MAINSAIL

Sailmaker Sailmaker's Serial Number



	m	mm
AB		
AY		
BC		
CX		
AC		
d		
e		
f		
g		
h		

DEFINITIONS

d, e, and f are the perpendicular offsets from AC taken at quarter-length intervals. g and h are the perpendicular offsets from the luff and foot lines AB and BC, taken at the half distance point from A and C respectively to the point where the luff cuts AB and the foot cuts BC

CALCULATIONS

AB

BC

AC

Total

$$S = \frac{AB + BC + AC}{2}$$

Area of main triangle = $\sqrt{S(S-AB)(S-BC)(S-AC)}$ =

Area of luff round = $\frac{1}{2} AY \cdot g$ =

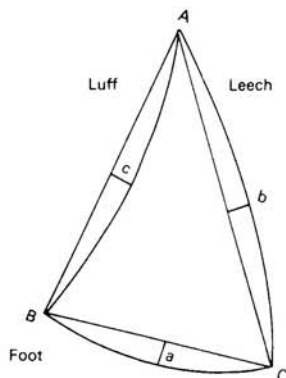
Area of foot round = $\frac{1}{2} XC \cdot h$ =

Area of leech round = $\frac{AC}{4} (1.16d + e + 1.16f)$ =

Total area* =

HEADSAIL

Sailmaker Sailmaker's Serial Number



	m	mm
AB		
BC		
AC		
a		
b		
c		

CALCULATIONS

AB
 BC
 AC
 Total

$$S = \frac{AB + BC + AC}{2} = \dots\dots\dots$$

Area of main triangle	=	$\sqrt{S(S-AB)(S-BC)(S-AC)}$	=
Area of luff round*	=	$\frac{1}{2} BA \cdot c$	=
Area of foot round*	=	$\frac{1}{2} BC \cdot a$	=
Area of leech round*	=	$\frac{1}{2} AC \cdot b$	=
Total area*	=		=

*Note: The areas of rounds shall be deducted if curves are concave.

SPINNAKER

Sailmaker Sailmaker's Serial Number

Width of foot SF	=			
Leech length SL	=			
Half-height width SMG	=			
Area of spinnaker	=	$\frac{SF \times SL}{2} + \frac{2 SL (SMG - SF)}{3}$	=	

Measurer recognised by (National Authority)

Signature of Measurer

Date