



Multihull Yacht Club Queensland Inc

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The Offshore Multihull Rule
First issued February 1997

by the Multihull Yacht Club Queensland (inc)
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1. Acknowledgement

- 1.1 This rule is a development of the Texel Rule, developed in Holland.
The MYCQ gratefully acknowledges the development work of Nico Boon and the KNWV.
(Royal Dutch Watersport Association)

2. Administration

Authority: The authority for the administration and development of this rule is the MYCQ (Multihull Yacht Club Queensland Inc). Only electronic ratings issued by the MYCQ and appearing on its website register, or ready for uploading by the OMR rating officer, will be accepted in MYCQ events.

Development: This is a development rule. The MYCQ reserves the right to alter or amend the rules, formulae or interpretations as it sees fit, without notice.

Interpretation: The MYCQ Sailing Committee shall appoint an OMR officer, who shall be the impartial arbiter of these rules. The OMR officer shall interpret any part of the text, or sailing innovation in accordance with the spirit of the rule, to ensure fair sailing for all race competitors.

Owners responsibilities: It remains the owners responsibility:

- to prepare the boat, sails and equipment for measuring
- to ensure that he is the holder of a current rating
- to ensure that the vessels measurements agree with the rating issued
- to ensure that, during races the yacht is equipped in accordance with the prescriptions of the rating

A failure to do so shall require the vessel to be disqualified from any race in which the vessel is not properly equipped.

Ratings: A Rating shall be issued by the rating officer and shall remain current until a change is made to any parameter applicable to the rating. A full reweighing and measuring is mandatory should any changes be made to the structure of the vessel or its rig.

Remeasurement: If remeasurement is requested at any time, a fee decided by the committee, shall be incurred.

Multiple Ratings: A yacht shall have only one current valid rating.

Notification: A current rating must be available before a yacht's entry in an OMR event will be accepted. When a regatta includes races of different safety categories, only one rating will be valid for the duration of the regatta.

MYCQ Measurement Fees: The following fees will be charged by MYCQ. (Any extra costs incurred by the measurer such as traveling, accommodation etc. will be charged additionally.)

1: **Weighing Equipment Maintenance Levy:** This fee covers cost of weighing equipment and recalibration. For Brisbane-based boats, MYCQ Club members shall have the Weighing Equipment Levy waived in the first instance.

2: **Sail Re-measurement:** This a processing fee charged for re-measurement of any new sail configuration and subsequent rating recalculation and website listing. The measurer may also charge a further fee.

3: **Annual Listing Fee:** This annual fee is payable by the owner of each boat, and covers website re-listing of ratings annually.

3. Abbreviations and units of measurement

3.1. Units of Measurement.

All dimensions are given and recorded in metres to two decimal places, square metres and kilograms.

3.2 Abbreviations.

The following abbreviations are used.

AOC	Aft overhang component, hull
ARG	Aspect ratio genoa. Equals $MSAG/LPG^2$
ARM	Aspect ratio mainsail. Equals $MSAM/LPM^2$
EFM	Efficiency Rating Mainsail Equals $65*ARM^{0.298}$
EFG	Efficiency Rating Genoa/jib Equals $72*ARG^{0.298}$
EFD	Efficiency Rating Drifter Equals $72*ARD^{0.298}$
EFS	Efficiency Rating Staysail Equals $72*ARG^{0.298}$
FOC	Forward overhang component, hull
LOA	Length overall, hull
LPG	Perpendicular from clew to luff of Genoa
LPM	Perpendicular from tack to longest side of triangle contained by the head, tack and clew of the main
MSAD	Measured sail area drifter. See para "Drifters"
MSAG	Measured sail area genoa. See para "Jibs and Genoas"
MSAM	Measured sail area mainsail. See para "Mainsails"
MSAS	Measured sail area staysail. See para "Staysails"
MSASc	Measured sail area screecher. See para "Screechers"
MSASp	Measured sail area spinnaker. See para "Spinnakers"
OMR	Offshore Multihull Rating. See para "Rating Calculation"
RL	Rated length, Hull. Equals $LOA-FOC-AOC$.
RSA	Total rated sail area. See paras "8 to 13"
RSAD	Rated sail area drifter. See para "Drifter"
RSAG	Rated sail area genoa.
RSAM	Rated sail area mainsail.
RSAMz	Rated sail area mizzen.
RSAS	Rated sail area staysail.
RSASc	Rated sail area screecher. Equals $.05*MSASc$ or dependent on other downwind sails carried See Rating Calculation
RSASp	Rated sail area spinnaker. Equals $.3*MSASp$ See Rating Calculation
RW	Rated weight. Equals $WS + WC$
WC	Declared minimum crew weight
DWC	Default crew weight
WE	Weight of movable equipment declared
WM	Weight of boat and all equipment
WS	Weight of boat with racing equipment. Equals $WM-WE$.

For measurements and abbreviations for sails see relevant paragraphs.

4. Preparation for measurement

1. The owner or his representative shall be present when measurements are taken, and shall check and sign off on all forms supplied by the measurer.
2. All equipment shall be stowed in the location where it is normally kept while racing.
3. An inventory shall be made of all moveable equipment and its location and provided to the measurer at the time of measurement. Inventory forms are available from MYCQ measurers.
4. The owner may elect to carry whatever equipment or fittings he desires, so long as all equipment is inventoried and remains on the vessel while racing.

5. A copy of the inventory list, signed by the measurer, shall be carried aboard at all times and shall be produced to the race committee on demand.
6. The boat shall be dry and bilges free from water. Water tanks and fuel tanks shall be empty or pressed up. If pressed up, the calculated weight of their contents shall be subtracted from WM. Portable toilets, or waste holding tanks where carried, shall be empty.
7. Sails shall be laid out flat ready for measurement.
8. No personnel shall be aboard during the measurement of waterlines and overhangs.
9. The measurer shall mark each measured sail with his name and the date of measurement.
10. Measurement shall be undertaken upon appointment only.
11. The vessel must be ready in all respects.
If not ready another appointment will be necessary.
12. Payment of all fees is the responsibility of the owner.
13. Ratings will not be issued until fees are paid. Discounts may apply to MYCQ members.

5. Hull measurement

- 5.1. Measure the length of the hull overall. LOA
Calculate the height of the rated waterline. This is measured 1.5% of the LOA above the true waterline, with no crew aboard, and all equipment in its usual position.
- 5.3. At the position .015*LOA above the true waterline, measure AOC and FOC.
- 5.4. Rated length equals LOA - AOC - FOC.

6. Weight

- 6.1 The weighing technique must be accurate within the allowable parameters.
(Refer to weighing/measuring appendix).
- 6.2 Accuracy shall be to a tolerance of +/- 0.5% of the weight in kilograms.
The vessel shall be weighed with all fixed equipment and accessories normally carried when racing, but not including fuel, water or consumables or crew comforts. (WM)
- 6.3 Weight of the declared and inventoried equipment which may include sails, ground tackle, safety equipment, tools, spares, mattresses which are intended to be removed from the boat for certain race categories. Each item with its weight shall be noted in the inventory. (WE)
- 6.4 Weight of complete boat WS = WM-WE (when applicable)
- 6.5 Crew weight shall be the 'Declared minimum weight of Crew' WC or 'Default Crew Weight' DWC.
- 6.6 Should a yacht, for whatever reason, not declare a minimum weight of crew, then the OMR officer shall assign a "Default" crew weight based on the Texel formula where:
Default crew weight DWC = (RL*40)-70
- 6.7 Declared nominal minimum Weight of Crew (WC)
 - a. Each skipper shall declare a minimum weight of crew and 'carry on' kit (wet weather gear, personal safety harness and safety items, clothes and other personal items, not including consumables) normally carried on the yacht while racing.
 - b. A yacht may carry more than the minimum weight of crew without penalty.
 - c. In cases where a yacht may be short handed for an event, or a significant weight differential occurs when substitute crew are carried, such that the yacht fails to meet its declared minimum crew weight component, then that yacht shall make up the difference in the form of fixed ballast. This ballast shall be declared to the race committee prior to the start of the event.
 - d. The fixed ballast shall be "fresh water" carried in labeled, sealed, plastic containers which shall be secured approximately on the centerline of the vessel.
 - e. The ballast shall not be treated as movable ballast to assist the sailing balance of the yacht while racing.
 - f. The ballast shall be separate from, and in addition to the normal drinking water required to be carried on the vessel.

The greater of WC or DWC will be used to calculate the rating.

6.7 Rated weight RW = WS + WC

7. Sail Measurement:

7.1. The true area of each sail is to be measured as accurately as practicable.

Although parameters and formulas for measurement are given for conventional sails, these procedures shall not restrict the measurer from using alternative means to obtain an accurate area for any sail which is an unusual shape and is deemed to require a different measuring technique. The measurer shall record the method and parameters used together with the actual measurements of such sails. Any doubts shall be referred to the OMR officer for a final decision.

7.2. For sail identification, the measurer shall mark on **each** measured sail an identification number (**unique to that sail only**) based on format **MXXX-YY**, where MXXX is the vessels normal sail number and YY is the sequence number for individual measured sails FOR THAT VESSEL. A separate serial number applies to each measured sail. Each of these sail serial numbers shall be recorded on the measurement form, and will be displayed on the website data for later identification of valid sails.

7.3. Sail serial numbers will be marked on measured sails near the tack point, using indelible marking pen, in figures 50mm high, and signed. This will allow future confirmation by race officials and other competitors that correctly rated sails are being used.

8. Mainsails

8.1. All mainsails are presumed to be full battened mainsails. For sails without full length battens the MSAM is reduced by 6%. A sail shall not be considered full battened if the Sum of the lengths of the battens does not exceed E and the length of the top batten does not exceed 30% of E.

For vessels with a mizzen or more than one mainsail in fore and aft configuration, the MSAM shall be the area of the largest of the mizzen or mainsail plus 50% of the area of each additional mizzen or mainsail.

For vessels carrying two mains in parallel, the sums of the rated areas of both sails shall be used to determine the rated area of the main.

8.2 The measurer shall record,

- B The sum of the lengths of all the battens (if the sail is not full battened)
- Tb The length of the top batten (if the sail is not full battened)
- P The length of the luff from Tack to head.
- Pr The depth of the chord, or round of the luff to the vertical P.
- E The length of the foot from tack to clew.
- Er The depth of the chord or round of the foot to the horizontal E.
- ML1 The distance from the head of the mainsail at the luff, to the clew of the mainsail.
- ML2 The distance from the outer, or leech end of HB to the clew.
- HB The width of the head of the sail at the headboard or square head or parabolic head of the sail measured from ML1, and perpendicular to ML1 to the leech of the sail.
- RDM The roach depth of the main measured perpendicular to ML2
- LPM The perpendicular measured from line ML1 to the tack.
- VLM The vertical length of the main overall from its highest to lowest points. (calculated.)
- MC The circumference of a mast in cases where the mast rotates.

8.3 Measured sail area Mainsail,

$$\text{MSAM} = .5(\text{ML1} * \text{LPM}) + .5(\text{ML1} * \text{HB}) + .66(\text{P} * \text{Pr}) + .66(\text{ML2} * \text{RDM}) + .66(\text{E} * \text{Er})$$

Rated Area Mast

8.4 Rated sail area mainsail,
 $RSAM = (MSAM * ERM) + \text{Measured Area Mast (If mast is rotating)}$

9. Jibs and Genoas

9.1 The largest triangular sail set forward of the mast, not otherwise defined, which has a midgirth of less than 50% of the foot, shall be measured as a genoa.

9.2 The measurer shall record,

LL The luff length of the genoa
LLrg The luff round (+) or hollow (-) of the genoa measured from LL
FG The foot of the genoa
Frg The foot round (+) or hollow (-) of the genoa measured from FG
LG The leech length of the genoa
Lrg The leech round (+) or hollow (-) of the genoa measured from LG
LPG The luff perpendicular of the genoa measured from LL to the clew.
(Note: Attention is drawn to Para 7 Sail Measurement:)

9.3 Measured sail area genoa,
 $MSAG = .5(LL*LPG)+.66(LL*LLrg)+.66(LG*Lrg)+.66(FG*Frg)$

9.4 Efficiency Rating of Genoa (ERG) = $0.72(AR \text{ Genoa}^{0.298})$

9.5 Rated sail area genoa,
 $RSAG = MSAG * ERG$

10. Staysails

A staysail is a headsail used in addition to a genoa or other headsail, which is flown between that Genoa or other headsail and the main mast.

A staysail, its area, efficiency rating (ERS) and rated sail area shall be calculated in the same manner as a genoa. Where any sail with a midgirth of less than 50% of the foot is carried on a spinnaker pole, that sail shall be measured as a genoa, and any additional sail carried between it and the mainsail shall be measured as a staysail.

11. Drifters

A drifter is a lightweight headsail constructed of nylon sailcloth of not more than 1.5 US ounces per square yard (64 gm/m²). It shall be measured (MSAD) in the same manner as a genoa. Lightweight headsails of other materials shall be measured as genoas.

Rated sail area drifter
 $RSAD = 0.3((MSAD*ERD)-RSAG)$

Where ERD = Efficiency Rating Drifter and is calculated in the same manner as a genoa

A drifter may not be carried in conjunction with another headsail without rating adjustment
See staysail **(10)**.

12. Spinnakers

12.1 A spinnaker shall be a lightweight sail whose midgirth equals or exceeds 75% of its foot measured at the mid-point of luff and leech.

The measurer shall record,

SL1 The longest luff of a spinnaker whether it be symmetrical or not, from tack to head along the edge.
SL2 The length of the other luff or leech of the spinnaker along the edge.
SF The length of the foot of the spinnaker measured along the edge.
SMG The mid girth of the spinnaker measured between the midpoint of SL1 and SL2.

12.2 Measured sail area spinnaker,

$$MSASp = SF(SL1+SL2)/4 + (SMG-SF/2)(SL1+SL2)/3$$

12.3 Rated sail area spinnaker,

$$RSASp = ("Z" \text{ constant} * 0.3 * MSASp)$$

SF and SMG shall not exceed LOA.

12.4 For the purposes of the rating calculation, the rated area of the spinnaker shall not be less than the rated area of the genoa, or the rated area of the screecher.

13. Screechers

13.1 A screecher is a lightweight sail not attached to a stay whose mid girth measured at the mid point of luff and leech exceeds 50% of the foot but is less than 75% of the foot. It shall be measured,

$$MSASc, \text{ in the same manner as a spinnaker.}$$

13.2 Rated sail area Screecher, $RSASc$, shall $=("Z" \text{ constant} * 0.05 * MSASc)$ except where the screecher is the largest or only off wind sail carried other than the jib/genoa. The rating shall then be $RSASc = ("Z" \text{ constant} * 0.3 * MSASc)$

13.3 For the purposes of the rating calculation, the rated area of the screecher shall not be less than the rated area of the genoa.

14. Centerboards

All yachts are presumed to have an effective centreboard or fixed keel system.

Yachts deemed not to have such an effective centreboard or keel system by the rating officer shall have their OMR decreased by a factor of 0.98

Yachts fitted with a keel or fin which cannot be retracted when sailing shall have their OMR decreased by a factor of 0.995

A yacht with a pivoting centerboard where the underwater case opening remains open when the centerboard is deployed and has no means of improving water flow such as flaps shall have their OMR decreased by a factor of 0.99

The measurer shall decide whether such an allowance is applicable and shall record same on the measurement form. Any doubt shall be referred to the OMR officer for a final decision.

15. Propellor corrections.

All yachts are presumed to have either no propellers, or retractable leg systems. Yachts with propellers remaining in the water while racing shall have their OMR decreased in accordance with the following table.

One folding or feathering propellor	0.98
One fixed propellor	0.975
Two folding or feathering propellers	0.97
Two fixed propellers	0.964.

The rating officer may apply an appropriate factor for propellers which are considered to be minimal or apparently intended to provide a rating advantage.

15.2 Any yacht having more than one special adjustment, propellers or centerboards shall have the product of each individual adjustment applied to the OMR. For example a trimaran with a fixed propellor and no effective centreboard, the factor would be $0.975 * 0.98..$

16. Rating Calculation

Rated Sail Area, $RSA = "Configuration RSA" + RSAS + RSAD + RSAMz$

The four major sail **configurations** covering the majority of the current multihull racing fleet are as follows:

Mainsail and Genoa / Jib only

Windward component + Offwind Component + Close-reaching component
(.65 RSAM + .65 RSAG) + (.3 RSAM + .3 * RSAG) + (.05 RSAM + .05 * RSAG)

Where

RSAM is Rated Sail Area of Mainsail

RSAG is Rated Sail Area of Genoa

Mainsail, Genoa / Jib and Spinnaker only

(.65 RSAM + .65 RSAG) + (.3 RSAM + .3 * Z * MSASp) + (.05 RSAM + .05 * RSAG).

Where

Z is a correction constant – see Z note below.

MSASp is Measured Sail Area of Spinnaker

Mainsail, Genoa / Jib and Screecher only

(.65 RSAM + .65 RSAG) + (.3 RSAM + .3 * Z * MSASc) + (.05 RSAM + .05 * Z * MSASc)

Where

Z is a correction constant – see Z note below.

MSASc is Measured Sail Area of Screecher

To be classed as a Screecher, MSASc must be equal to or larger than MSAG

Mainsail, Genoa / Jib, Spinnaker and Screecher

(.65 RSAM + .65 RSAG) + (.3 RSAM + .3 * Z * MSASp) + (.05 RSAM + .05 * Z * MSASc)

Where

Z is a correction constant – see Z note below.

MSASp is Measured Sail Area of Spinnaker

MSASc is Measured Sail Area of Screecher

NOTE

To be classed as a Screecher, MSASc must be equal to or larger than MSAG

To be classed as a Spinnaker, MSASp must be equal to or larger than MSASc

“Z” constant:

For the downwind component, the measured areas of the downwind sails (spinnaker & screecher), are used, unmodified by aspect ratio or other efficiency factor, to minimize any constraints on the design or cut of these sails. To compensate for the extra weighting that measured areas of downwind sails would add to the formula relative to the efficiency rated areas of windward sails, a constant correction factor (“Z” = 0.85) has been calculated from the extensive club OMR data base reflecting the overall reduction between measured and rated areas for the mainsail and genoa /jib, as a result of the application of efficiency factors. In calculating the rated sail area of these sails. In the case of the genoa/jib, this was 82% and in the case of the mainsail, 85.3%. On a combined pro-rata basis, the figure is 85%. This is the constant correction “Z” applied uniformly to the downwind component of the above mentioned foresails.

$$16.3 \quad OMR = (Drag \text{ Factors} * 1.0 * RL^{0.3} * RSA^{0.4}) / (RW^{0.325})$$

17. Data from other clubs

17.1 Each club which provides OMR rating measurements or data for on-line listing must ensure clear identification the origin of the data, measurement form and inventory listings, completed with owners and measurers signatures.

17.2 Before accepting a copy of a rating certificate issued by another club, the race committee must validate the copy by contacting the issuing club.

18. Weighing and measuring techniques.

Acceptable techniques and paradigms are noted in the appendix. The MYCQ committee shall decide on changes or additions to allowable paradigms and techniques as may be required from time to time.

19. Time Correction Factor

19.1 The OMR Time Correction factor is provided to three decimal places

19.2 Corrected time = Elapsed time * OMR

Appendix

OMR Review Report (See for more detailed explanation of relevant Paras.)

Measurement (To be detailed in measurement manual)

Sail Measurement

Weighing Instructions