



Keelboat Measurement System ©



Rules Book
Edition 13



Sportsboat Measurement System ©



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AMS and SMS Rating Revalidation

The Systems you choose when you want one that works

Current certificates expire at different times depending on the geographic region. Within Australia, some may expire on August 31st and most will have September 30th as the expiry date. Please check the date on your certificate to confirm the applicable date for your region. You will be able to access the system from **August 15th** to complete your revalidation.

If you were previously rated and did not revalidate last year you are still able to complete the process for the coming year. However, If you have purchased any new sails or made any changes to the previously measured sails, rig, hull, appendages or displacement then these changes must be measured by your local Measurer, who will advise the new data to the Rating Office at the email address noted above, before you revalidate.

Revalidations may be completed on line, at the website address noted on this letterhead. The Rules Book may also be downloaded. There is no change to the fee structure; the cost for revalidation is still \$65 and the cost for a new certificate is \$75, as new certificates involve more time to execute.

Please check that your name, address, and all other details are correct on your current certificate. We are trying to improve the database and would appreciate it if you would **also confirm your email address to info@raceyachts.org**.

The rating numbers continue to grow. Over the past 2 years a very strong fleet was established in South Australia and during last summer keelboats sailing on AMS joined the strong SMS fleet in Western Australia. Expansion in Queensland is progressing well.

We look forward to further expansion during the coming season.

Regards and good sailing from the team at YRSA.



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1.0 Introduction to AMS and SMS

AMS

2017 marked the 20th year of operation for AMS and it is growing rapidly throughout Australia.

There have been a number of Measurement rating systems over the years including the International Offshore Rule (IOR), Channel Rating System (CHS) and the International Measurement System (IMS). During the late 1980's the Channel Rating System attracted approximately 90 yachts in Victoria and this rating rule was replaced with the introduction of the International Measurement System.

During the mid 1990's there was a rapid decline in the numbers of boats sailing on IMS and the demand for a new rule, that could provide a single figure measurement rating for club and interclub use at a reasonable cost, became a priority.

During the 1996/7 season Sandringham Yacht Club and Royal Melbourne Yacht Squadron became interested in testing the Channel Rating System (CHS) again. A fleet of 15 boats were measured for CHS at Sandringham in order to evaluate the results over the summer racing season. Unfortunately the results were not satisfactory as the rule appeared to favour several classes and discussions with the Royal Ocean Racing Club Rating Office held at Sandringham in March 1997 were not able to resolve the problems.

Royal Ocean Racing Club subsequently relaunched the Channel Rating System as the IRC and IRM systems in January 2000. During August 1997 a group was formed under the Chairmanship of John Chatham to establish a new, Australian, measurement based rating system. Peter Brazier, with a background in computer programming created the initial algorithm with the support of others including Lova Paszko, John Chatham and John Duffin.

A Measurement Rating Group was established and Measurers were appointed in order to create a database for the Australian Measurement System (AMS).

AMS has always been managed by volunteers and initially operated its own website. For many years all of the certificates were created by Lova Paszko in his spare time. However the need for additional administrative support necessitated the creation of a Rating Office and this was operated out of the Yachting Victoria offices for a number of years.

Peter and Tom Coleman were instrumental in the creation of digital input forms that interface with the databases and also managed the creation of the web based systems through Majestic Computer Technology during 2013.

In August 2013 the systems were folded into the not for profit Yacht Racing Services Association Inc.

The AMS ratings have been incorporated into many Club, State and Ocean events, since the 1997 sailing season, held in Victoria, the Northern Territory, Tasmania, Western Australia, and New South Wales.

Victoria

The heartland of the system. Very strong fleets support the systems in Victoria and the AMS constitutes the biggest fleets in mixed rating events. New "no spinnaker ratings" have been tested over the past 2 years and will be launched nationally for all regions from August 2017.

NSW

Peter Walsh, a long- time supporter from Bateman's Bay, relocated to Gosford Sailing Club and has established a strong AMS group. Peter also assists a number of clubs in NSW to establish an AMS fleet. A system presentation was carried out at MHYC during 2013 and work continues in order to expand the systems.

SMS

During 2007 the YRSA Office was approached by Richard Parkes on behalf of the newly formed Australian Sportsboat Association (ASBA), with a request to develop a measurement system specifically for the rapidly growing sportsboat fleet. As the AMS was specifically designed for keelboats it was decided that the only way to create a measurement rating for sports boats that recognised their unique and experimental characteristics was through the development of a separate system. This system is now called the Sportsboat Measurement System (SMS) and the number of rated boats has grown rapidly over the past three years. Cameron Rae, Darren Spence and Peter Coleman were instrumental in measuring the fleet and Measurers have been appointed in all states of Australia. Airlie Beach race week adopted SMS in 2008 and YRSA sponsored the very successful National Titles held at CYCA in Sydney during early 2015.

South Australia

After a presentation of AMS was held at CYCSA during May 2013, William Strangways has been very successful in introducing the systems to the SA fleet and it is likely to continue to grow in the coming year.

Western Australia

The South of Perth Yacht Club adopted AMS and SMS. They are very well organised, under the leadership of Chris Hind and have a strong fleet.

Kevin Palassis, with the excellent support of Royal Freshwater Bay Yacht Club, is currently involved in establishing the systems on the North shore.

Queensland

Three Presentations to owners have occurred during 2016-17 and a Measurer training day was completed recently at Southport Yacht Club.

Hong Kong

The Sportsboat fleet in Hong Kong voted to adopt SMS and has measured Magic 25's under SMS as a One Design fleet. Dion Houghton is planning to update the fleet measurements during the 2015.

System Development

The rating systems are refined and a formal review is to be carried out as needed to keep pace with the innovation in new designs. New on line web based systems were implemented during 2013-14 and a new website is being launched and will be ready to run from August 2017.

Weighing Days

As an additional service, volunteers also organise weighing days in most states each year and these events provide a low cost opportunity for owners to weigh their boats prior to each summer season. Clubs and owners can also access a new YRSA load cell for weighing boats throughout the year at no charge (refer to page 8).

As most of the AMS/SMS workload is managed on a voluntary basis the costs can be minimised and the support of the many AMS and SMS approved measurers, listed on pages 8 and 9, has been essential to the long term success of the system.

1.1 AMS and SMS Principles and Limitations

1.1.1 The Australian Measurement System and the Sportsboat Measurement System are based on mathematical formulae derived from data obtained over several decades from Australian fleet racing. The systems utilise algorithms that do not use arbitrary factors other than those assigned for non-measured elements, such as drive shafts and keel types.

The Rating is a time on time single figure so that it is easily understood and can be used by sailors without complex calculations.

1.1.2 It is the objective of YRSA to develop and fine the rating formulae in order to provide low cost effective rating systems for boats sailing on measurement ratings.

An application for a Rating may not be accepted if the design does not fit within the parameters of the system. Any queries over the suitability of a design may be directed to the YRSA Office.

1.1.3 The AMS and SMS are not performance based systems and a boat cannot expect to do well nor to enjoy a favourable rating if the hull, the rigging and the sails are not in top condition and if the crew work is not of the highest order.

1.1.4 AMS® and SMS® Ratings, documents and associated information are the property of YRSA and the data may not be used in any other form or modified in any way to create a different Rating by any other party. Only current, valid Ratings may be used for the Rating of yachts in yacht races.

It is the aim of the system to protect the fleet from Ratings that are unfair and the YRSA Office may amend the system from time to time in order to provide ratings that provide the best assessment of the potential of each design.

1.1.5 The spirit of the rule requires that owners may not exploit the system in order to achieve a higher performance without an increase in rating.

1.1.6 These Rating systems do not assess the stability of a boat nor do they imply any standard in relation to the ability of the owner, crew or vessel to meet any safety obligations.

1.1.7 The issue of Ratings nor the use of these rules by Yacht Clubs or Race Officers does not provide any implied warranty as to the seaworthiness of the vessel.

1.1.8 Ratings are provided in good faith, with the assistance of volunteers and no liability is accepted for any error that occurs in the issue, management or use of the Ratings or of these rules.

1.1.9 The Measurement YRSA Office may supply a current or immediate past copy of a certificate for a boat in accordance with these rules and for

- the payment of a fee to any third party.
- 1.1.10 Any dispute over the interpretation or implementation of these rules should be directed to the YRSA Office

2.0 Policies and Procedures

2.1 AMS and SMS Certificates

Owners are issued with two copies of the certificate, a copy of which must be retained on the boat when racing as the certificate is the source document that specifies the Rating of the boat.

- 2.1.1 The formulae express the ratings as a time on time correction factor.
- 2.1.2 A boat may hold only a single, primary, current certificate at any time except that Ratings may also be provided for special events nominated in these regulations.
- 2.1.3 Special events or divisions include shorthanded (2 crew only) and no extras (no spinnaker) events. Entry conditions for these events will be included in the Notice of Race and the Ratings will be displayed on the primary certificate. These ratings are not intended for use in fleets where boats are competing using spinnakers.
- 2.1.4 A boat must display its sail number and name on its sails and hull as required by the national authority or local legal authorities.
- 2.1.5 Boats may be issued with provisional certificates until they are weighed and boats with provisional ratings must weigh at the first available opportunity and prior to the next revalidation date in order to retain a Rating. Provisional Ratings may be introduced at any time for all or some boats if the YRSA Office deems it necessary.
- 2.1.6 The Notice of Race may specify that yachts sailing on Provisional Ratings may not be eligible to win trophies.
- 2.1.7 The issue of a new certificate automatically supercedes the previous issued certificate.
- 2.1.8 All changes to the rated dimensions, sail number, name or ownership of the boat must be notified to the YRSA Office and an updated certificate issued before the next race.
- 2.1.9 In most instances the owner will be invoiced for the certificate when it is issued by the YRSA Office.
- 2.1.10 The YRSA Office may, at its sole discretion, refuse to issue a certificate if in its opinion the spirit of the system may be breached (Rules 1.1.7, 1.1.8)

or for any other reason.

- 2.1.11 The YRSA Office may withdraw a certificate without compensation, if at any time an owner is found to be in breach of these rules or a boat is found not to conform to its certificate.

2.2 AMS and SMS Ratings

- 2.2.1 The AMS and SMS use mathematical formulae to derive the relative rated speed of a boat. This relative speed is calculated using a formula for each design type and individual boats are allocated to a type category which best describes the parameters inherent in the design of the boat. Unlike other systems, this approach reduces the need to use arbitrary penalties and hull or rig factors to overcome problems with Ratings when individual boats don't quite fit the rule.
- 2.2.2 The accuracy of the rating is dependent on the data available and the database has grown substantially over the years. However new designs can be a challenge to Rating Systems and the YRSA Office may issue provisional ratings if more data is required in order to assess a new design.
- 2.2.3 Individual boats will not be penalised under the AMS or SMS system because they perform well. However, the formulae will be evaluated in June of each year so as to maintain the best available data in the system.
- 2.2.4 It is the objective of the YRSA Office to provide competitive on-water Ratings rather than attempt to control all of the factors that effect on water performance. Tests have shown that simple rating systems are equally as effective as the most complex systems at providing place positions in yacht races even though the corrected time separations may vary between systems.
- 2.2.5 As weather conditions and course layout favour some design parameters over others the Ratings are expected to provide good average results over a series of races sailed under varying conditions.
- 2.2.6 An owner or any third party with a legitimate interest in the Rating may request a rating review at any time and the YRSA Office shall establish the criteria for the review including any fee to be paid, the test of

significance to be applied to any change in the Rating found as a result of this process and the back date for the new certificate if any applies. (Rule 2.2.7).

- 2.2.7 A review of a Rating may be requested by a class association or by a manufacturer for series production boats where the measurement data has been standardised. The YRSA Office shall conduct the review and shall set standards to assess if any difference found in the Rating as a result of this process is significant. Any change to the Rating, if not significant, shall apply from the date of re assessment (Rule 2.1.8). If the difference is found to be significant then the certificate is invalid from the date of issue.

2.3 Special Rules

- 2.3.1 Subject to the Notice of Race RRS 52 shall not apply. The use of stored power to adjust running rigging excluding the hoisting of halyards or the reefing of sails shall be declared to the YRSA Office.
- 2.3.2 None of these rules may be amended by the Notice of Race or Sailing Instructions with the following exceptions:
- Rules relating to no extras and short-handed events. Rule 2.1.4
 - Review of, or contested, Ratings. Rules 2.2.6, 2.2.7.
 - Weight limits or crew numbers. Rule 3.2.8

2.4 Obtaining a Rating

- 2.4.1 AMS and SMS are not self measurement systems. The Measurer shall request copies of past and present measurement certificates and shall complete the measurement application in conjunction with the owner. The Measurer must measure the rig, sails and hull and complete and submit Application forms.
- 2.4.2 When facilities are available, all boats must be weighed and in the meantime provisional certificates may utilise displacement figures derived from various sources including if necessary, manufacturer specifications. An annual weighing day is held in some regions to ensure that all boats are weighed before each summer season.
- 2.4.3 When the forms are completed they shall be submitted by the

Measurer together with copies of all relevant previous measurement certificates, to the YRSA Office.

- 2.4.4 The new web based system allows the Measurer to submit data electronically, using the website and certificates will be collected by owners from the YRSA website.
- 2.4.5 The YRSA Office shall authorise all Ratings and Ratings may not be issued if the design of the vessel does not fit within the parameters of the AMS or SMS rule.

2.5 Updating Ratings

- 2.5.1 A Rating Certificate will be current from the date of issue through to the following September 30th whereupon all Ratings must be revalidated for the following period. Provisional Ratings may be altered at any time at the discretion of the YRSA Office.

2.6 Changing Ratings

- 2.6.1 The YRSA Office shall review all Ratings regularly and any changes to the system shall apply from October 1st each year.
- 2.6.2 If an owner is concerned about a Rating then he/she can discuss the matter with a Measurer in the first instance or write to the YRSA Office.

2.7 Measurers and Measurements

- 2.7.1 AMS and SMS Measurers are appointed at the sole discretion of the Measurement Rating Committee and they are responsible for the measurement of boats, according to the rule. The Committee takes into account the demand, location of existing Measurers, prior Rating measurement experience, training needs and geographic location when filling a vacancy for Measurers.
- 2.7.2 Owners may contact the YRSA Office (refer to section 2.13) or refer to the website to obtain contact details for Measurers or may contact a Measurer direct if known.
- 2.7.3 A recommended fee structure is available for Measurers. Refer to Appendix 3.
- 2.7.4 The owner is responsible for ensuring that all sails are presented to the Measurer in good condition and are laid out on an

appropriate surface. The boat must be located in a suitable position for measurements to be taken; it must be fitted out according to the measurement specification and be in racing trim at the correct weight. Refer to Rule 2.12.2.

- 2.7.5 The owner or a representative must be in attendance during the measurement process.
- 2.7.6 The Measurer shall forward the measurement data to the YRSA Office using the web based system. Certificates will be sent to the owner via the web site or by email. For ratings required to be issued within 5 days of lodgement, via the web based system, a fast processing fee may apply.
- 2.7.7 All measurements are to be taken in metric units as follows:
 - Displacement weights are to be read to the nearest kilogram. The Weighing Inspection form is to be completed and submitted to the YRSA Office for each boat that is weighed. Fuel levels are to be noted in litres and converted to kilograms using a specific gravity of 0.800
 - Linear measurements to be taken in metres to two decimal places (1 cm). Water tanks are to be empty and bilges dry.
- 2.7.8 Measurers will be invited to join YRSA Inc. at no cost.

2.8 New Designs

- 2.8.1 It is the objective of the Measurement Rating Committee that the AMS or SMS rule shall not favour new designs to the detriment of older, well-campaigned boats. In order to achieve this objective it may be necessary to utilise Provisional Ratings until the speed potential of a new design has been confirmed.
- 2.8.2 Owners wishing to test new designs or configurations may apply for a test certificate. A fee may be charged for the provision of test certificates and a limit may be imposed on the number of test certificates provided.

2.9 Divisions

- 2.9.1 As with all rating rules, the accuracy is improved when applied to boats of

similar speed and it is intended that keelboats racing under AMS should be grouped into divisions in order to maintain a close parity in boat speed and sailing characteristics.

- 2.9.2 AMS and SMS Ratings are not compatible and events combining both ratings are not possible.
- 2.9.3 Trailerable keel boats may apply for an AMS rating.

2.10 Courses

- 2.10.1 It is intended that the AMS or SMS rating shall be applied to races in closed waters on circular courses (i.e. courses that start and end at the same point), where there is a balance in the wind direction to allow windward and leeward sailing, and where all available sails may be used. As these conditions are not always met it is assumed that weather patterns effect all boats equally.
- 2.10.2 Experience over thirteen years has shown that the AMS Ratings provide good results for passage races on closed or ocean waters with a mix of weather conditions, as well as for short circular courses.
- 2.10.3 Course management is an important part of ensuring that the Ratings are relevant to the event.

2.11 Protests

- 2.11.1 A Rating protest may be heard by a Protest Committee and the Protest Committee may request the Rating Office to investigate the matter and to report back on the substance of the protest. The cost for any re assessment of the measurement data will be borne by the owner if the protest is upheld or by the party protesting if the protest is dismissed.

2.12 System Assumptions

- 2.12.1 The Ratings assume that the course meets the standard conditions Rule 2.10
- 2.12.2 The assumed configuration of the boat is as follows:
 - The boat is in optimum racing trim, carries at the least all equipment and fittings required by the Rating Certificate and which was on the boat at the time of its measurement. YA Special Regulations Safety Category 6 applies.

- The hull is fair and clean.
- Sails are in good condition
- A standard propulsion system and propeller is fitted.
- The vessel is well sailed.
- The sailing trim is as per the measurement trim when weighed with the engine attached in its operating position.
- The owner complies with the standards of fair play and immediately declares all changes that affect the rating.

2.13 Administration

All correspondence should be directed as follows:

**Yacht Racing Services Association,
PO Box 1082, Hampton North. Vic 3188.
Telephone: 0497 791 304**

Email: info@raceyachts.org

Website: www.raceyachts.org

Fees

AMS and SMS Fee structure (no change):

Initial Certificate:	\$75.00
Review of Rating	\$65.00
Revalidated Certificate:	\$65.00
Amended Certificate:	\$65.00
Copies of a certificate:	\$65.00
Fast turnaround (3 Days) extra fee:	\$40.00
Test certificate	\$40.00
Change of boat name/owner	\$35.00

YRSA Load cell hire fees: The Association is currently evaluating light weight load cells capable of weighing up to 15 tonne. The new cell will be easier to transport and to handle on site. Please contact the Association for further details.

All logistics and costs for transport, from and return to Victoria, will continue to be organized by the local Measurer.

YRSA General Committee

John Chatham- President (Marketing, Technical)
Lowa Paszko -Vice President (Technical)
Peter Coleman-Treasurer (Finance, Certificates)
Anthony Micheletto (Secretary)
Peter Chalkely (Electronic Systems)

Regional Managers

Jeff Cordell Tasmania
Peter Walsh New South Wales
William Strangways, South Australia
Chris Hind, Western Australia South

Kevin Palassis Western Australia, North
Tony Horkings Queensland, Gold Coast
Ross Chisholm Queensland, Mid Coast

International Representatives

Dion Houghton Hong Kong

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3.0 AMS and SMS Measurement Rules

3.1 Principles and Administration

- 3.1.1 It is the responsibility of all owners to work within the spirit of the Australian and Sportsboat Measurement Systems and no attempt should be made to achieve a better rating by exploiting, in an artificial manner, the elements of this system. This system can only work to the benefit of all participants if it is used in a fair and equal manner by all boat owners.
- 3.1.2 All measurements must be taken according to these guidelines and boat owners are duty bound to declare any matters that may affect the rating.
- 3.1.3 The measurements and the application form must be approved and signed (or electronically submitted) by the authorised Measurer and the boat owner.
- 3.1.4 Ratings are determined by the YRSA Office in good faith and to the best of the ability of the system. No responsibility is taken for the accuracy of the rating, except that the committee shall attempt to provide ratings that are fair and reasonable and should enable participants to compete in an equal manner as outlined in this document.
- 3.1.5 YRSA attempts to minimise the expense of sailing and through the use of volunteers, ensures that rating costs are minimised.
- 3.1.6 All yachts sailing under the AMS or SMS rule shall be responsible for obtaining a valid certificate and whilst every effort will be made to provide certificates in a timely manner, a lead-time of **two weeks** should be allowed from the date of submission of the data to the Rating Office. Expedited certificates within 3 working days may be provided for an additional fee.
- 3.1.7 The AMS and SMS algorithm will be

updated when new or better data is obtained and whilst this procedure will occur on a regular basis the Committee reserves the right to vary measurement systems if the need arises.

- 3.1.8 The Ratings and certificates provided under the AMS and SMS are protected by copyright.
Requests for interpretations of the AMS or SMS rules should be made in writing as detailed in paragraph 2.13
- 3.1.9 It should be noted that the issue of a certificate does not imply that the vessel meets the ISAF, National Authority, Club or Notice of Race safety requirements. It is the responsibility of the owner to ensure that these requirements are met and that the boat is suitable, sound and is properly crewed for the conditions encountered.

3.2 General Measurement Rules

- 3.2.1 Sails must be clean and dry and should be tensioned to remove wrinkles along the line being measured.
- 3.2.2 Dimensions shall be in metric units to the nearest centimetre or kilogram unless otherwise specified in these rules. (Rule 2.7.7)
- 3.2.3 The corners of sails shall be measured to the intersection point of the extension of the sides of the sail except in the case of a headboard where they shall be measured to the top edge of the headboard or as described. Refer to Figures 6 and 7.
- 3.2.4 Measurement dimensions may be provided from other rating certificates if they are consistent with the requirements of this system.
- 3.2.5 One Design Class ratings may be requested by a region or Class Association for a design that meets published One Design rules. The class must enforce these rules. Refer to Definition: "One Design"
- 3.2.6 The ISAF Equipment Rules of Sailing (ERS) apply to measurements except where specified otherwise in these rules. Changes to the ISAF ERS may not be adopted by the AMS or SMS.
- 3.2.7 RRS 50 applies to the setting and sheeting of sails unless altered in these rules.

- 3.2.8 RRS 50.4 does not apply. Refer to rule 3.7.1
- 3.2.9 Sails shall be measured according to ERS Part 3, Section H.5 unless specified otherwise in these rules.
- 3.2.10 Exotic materials used in sailcloth may be rated from time to time.
- 3.2.11 There are no crew weight or crew number limitations.
- 3.2.12 Transom width for designs without a transom shall be measured at a nominated distance determined by the YRSA Office taken from the Stern Point. Refer Figure 1 and Rule 3.8.
- 3.2.13 Unless noted otherwise on the certificate the Rating does not apply to vessels that utilise devices or procedures to move ballast. RRS 51 applies.
- 3.2.14 Unless noted otherwise on the certificate the Rating is based on the use of a mainsail, headsail, spinnaker, hull shape, ballast and overall design as broadly defined in these rules and the Yachting Australia Special Regulations, Part 1 of the RRS.

3.3 Boat Weighing Requirements

- 3.3.1 All boats must be weighed. When weighing, the water tanks must be empty and the bilges sponged out. Fuel in tanks may be estimated in litres from dip tubes or gauges. (Rule 2.7.7)
- 3.3.2 Outboard motors must also be weighed separately and must be carried on the transom or in a designated location ready for immediate deployment. An Inboard engine is to be fully installed.
- 3.3.3 One set of genoa and spinnaker sheets, guys and permanent control lines may be left on board when the vessel is weighed. Anything else not mandatory for Category 6 safety equipment must be removed. Bunk cushions, if always carried must be dry.
- 3.3.4 All fenders, warps, scullery gear, navigation gear, books, contents of drawers, tool kits, all sails, spare standing or running rigging, gas bottles, cooking and kitchen implements, food, clothing, bedding, spares, loose gear and crew may not

be left on the boat. Refer to Appendix 1 for further details.

- 3.3.5 Batteries and all permanent fixtures must be installed in their normal position.
- 3.3.6 If rated to a class standard then the standard fitout must be presented for weighing.
- 3.3.7 The weight of the permitted items (Rules 3.3.1, 3.3.2, 3.3.3, 3.3.4) if these are weighed separately, may be added to the empty weight of the boat.
- 3.3.8 All Ballast, Moveable Ballast and Unweighed Items must be declared. (Rule 3.8)
- 3.3.9 Weighing procedures are included in Appendix 1

3.4 Hull, Rig and Appendages

- 3.4.1 The measurements to determine the length of the waterline plane (LWP) and the overhangs, where required are shown in Fig 2. These measurement are to be taken with the boat in the correct weight trim. Overhangs are to be measured from a plumb line hung from the LOA positions at each end of the hull to the waterline intersection point using a floating rule.
- 3.4.2 All appendages must be declared. The YRSA Office may increase the draft to allow for the span of a wing keel.
- 3.4.3 Twin rudders are permitted.
- 3.4.4 Interior fitout is taken into account in determining a rating and must be declared.
- 3.4.5 Exotic materials with a specific gravity higher than lead may not be used as ballast in keels.
- 3.4.6 A Rig rating adjustment may be applied in the case of unusual, high tech or less efficient systems that are not already adequately rated in the standard system.

3.5 Headsails

- 3.5.1 The following dimensions are to be measured (shown in Fig 1) for the largest headsail carried:

Luff Perpendicular	LP
Half width	HHW
Three quarter width	HTW
Seven Eighth width	HUW
Sail headboard	HHB
Head Width	HWH
Luff Length	LL
Foot Offset	HFO

- 3.5.2 Headsails may only be sheeted from a single point on the sail.
- 3.5.3 A headsail is any sail tacked down in front of the forward mast except a sail defined as a spinnaker. Refer to rule 3.7.1
- 3.5.4 RRS 50.3 is amended as follows:
Headsails no larger than the measured largest headsail may be attached to a spinnaker or whisker pole provided that a spinnaker is not set, STL is not exceeded and any whisker pole length does not exceed the J dimension.
- 3.5.5 Where a bowsprit is primarily used to attach a headsail tack the J dimension shall be measured to the tack attachment point on the bowsprit.
- 3.5.6 Furling headsails do not receive a rating allowance.

3.6 Mainsail

- 3.6.1 Sails are to be measured as shown in Fig.1, Fig. 6 and Figs 7a and 7 b. Refer also to Section 3.8.
- 3.6.2 The adoption of new shapes for the head of the mainsail may require the measurement of the Head Width Mainsail HWM dimension in place of the Headboard MHB.
- 3.6.3 For the measurement of square top mainsails refer to Figures 7a and 7b.

3.7 Spinnakers

- 3.7.1 A spinnaker is a three cornered sail set forward of the foremost mast, where the half width (SHW) is greater than 75% of the foot dimension (SF) and which does not contain battens. Fig.1, Rule 3.2.7. All other sails tacked down forward of the mast are headsails.
- 3.7.2 Symmetric and asymmetric spinnakers are rated differently and the largest of each type must be measured by an approved Measurer. If an asymmetric and symmetric spinnaker are both carried then the largest of **each type** must be measured and the measurements submitted. Refer to Definition "Spinnaker Type".
- 3.7.3 A spinnaker may only be sheeted at a single point.
- 3.7.5 A spinnaker may not include a yard arm.
- 3.7.6 The STL dimension shall be taken from the forward face of the mast to the extremity of the longest spinnaker pole or to the extremity of any bowsprit to which the spinnaker is tacked or to any tack point on deck.

3.8 Abbreviations and Measurement

Definitions

(Refer also to ISAF Equipment Rules)

AMS Australian Measurement System

Beam The maximum horizontal width of the hull (and wings if any) as described in Fig. 7 excluding any fittings such as toe rail or rubbing strake.

Ballast Any item, material or substance built into, added or removed from the boat that is used for the purpose of changing its trim or stability.

Ballast Ratio: The Ballast weight permanently built into the boat (usually the keel) that is divided by the Displacement and entered as a number, not a percentage, on the Application Form.

Bands: Adopted in some locations for SMS. Bands are optional in AMS and must be used if multiple mainsails are to be measured. Painted on the boom and mast in contrasting colours to indicate the maximum effective P and E length permitted. Entered into the Input Form as P and E and noted on the form.

Moveable Ballast: Any item (including the keel, sails or provisions), material or substance that is moved during a race in order to change the trim or stability of the boat. Includes water ballast and canting keels.

BO Bow overhang. Measure the overhang of the bow at the water line from the forward end of the LWP to the forward end of the LOA. Use a plumb line off the bow and a floating ruler. To be measured in weighing trim.

DISP AMS weight measured in RRS Safety Category 6 racing trim or as otherwise specified for Sportsboats.

Draft The maximum depth of the vessel in measurement trim below the waterline.

Drive Saildrive, stern drive, in line (shaft)drive.

E The length taken along the boom to the inside edge of the band (Fig 1).

Es The length of the foot of the mainsail from the tack to the clew.

E-band The distance from the aft of the mast (bridge any gaps) to the inside edge of the band along the boom. Refer to ISAF, ERS.

ERS ISAF Equipment Rules of Sailing.

FL The forestay length taken from the deck at the attachment point to the mast set with the rig in its "base" rake position for 10-15 knots of wind.

Leech Aft side of a sail.

Luff Forward side of a sail.

Hull Form: Some examples of hull forms are included in Fig 8. Photos should be attached to Input forms if possible.

HHB The largest headboard top width for the largest headsail. Measured fore and aft at right angles from the luff extension to the aft leech extension of the sail at the widest point of the headboard or head of the sail. Refer to rule 3.5.3. and Fig 6. Also refer to **HWH** and **HWM** below.

HHW Headsail half width is the shortest distance measured from the half leech point to the luff. Any reverse curve or hollows in the leech must be bridged.

Hiking Lines Flexible lines, replacing lifelines in sportsboats, approved by official class rules and which do not contravene the Notice of Race for the event.

Hiking Devices Trapeze, Wings, Hiking lines or any other device that extends the crew weight to windward of the gunwhale. To be noted on the Application form.

HFO Headsail Foot Offset: The maximum distance from the foot of the sail to a chord line taken from the clew to the tack measurement points and expressed as a percentage of the chord length. Fig. 8

HTW Headsail three quarter width is the shortest distance measured from the three quarter leech point to the luff. Any reverse curve or hollows in the leech must be bridged.

HUW Headsail seven eighth width is the shortest distance measured from the 7/8 leech point to the luff. Any reverse curve or hollows in the leech must be bridged.

HWH Replaces HHB on headsails with square tops or without a conventional headboard.

HWM Replaces **MHB** on all mainsails as shown in Fig.7. Refer to MHB below.

J The foretriangle base measured from the foreside of the mast to the attachment point of the forestay to the deck or bowsprit. This dimension is parallel to the waterline and may need to be projected.

Keel Type: Determined with reference to the standard drawings in Fig.4. Photos should be attached to Input Forms if possible.

LOA The overall length of the hull from bow to transom. Exclude all fittings, rigging,

	bow sprit and pulpits. Do not included a transom hung rudder or rudder fittings. Do not include a transom scoop that artificially extends the LOA. Refer to definition of SC.	measurement point is obtained by folding the head of the sail to the three quarter leech point and marking the leech at the fold point. Measure the girth from the leech fold point to the nearest point of the luff including any boltrope. For square top mainsails the MUW measurement fold point may be located above the leech extension point used to measure HWM. In this case the MUW must be included as 0 (Zero) on the input form. Refer to Figures 7a and 7b. In this case MUW must be included as 0 (Zero) on the input form. Refer to Figures 7a and 7b.
LL	Measure the Jib Luff Length from the tack to the head along the luff using the intersection points of the sidelines if in doubt about the position of measurement points.	
LP	The shortest distance measured from the clew point at the intersection of the jib leech and foot lines to the outside of the luff including the luff tape.	
LWP	Calculate the length at the waterline by subtraction of the bow overhang and the subtraction of the stern overhang taken at the LOA measurement point, from the length overall (LOA). Refer to definition of LOA and Figure 3. To be measured in weighing trim.	
M	Mast dimension measured from the top of the boom to the base of the crane or to the base of the masthead turning block if no crane exists. Refer to Fig. 1. A measuring tape may be pulled up on the main halyard in order to take this measurement. (A retrieving line may be useful). Add the distance from the top end of the tape to the halyard attachment extremity of the shackle or to any stopping device on the halyard (ie a plastic ball).	One Design: A One Design class rating is based on the maximum sail, hull and rig dimensions and the minimum displacement permitted under the class rules.
MHB	The mainsail headboard measurement is no longer used to measure mainsail headboard width and is superceded by the Head Width Main (HWM). See Figure 6 and refer to HWM above.	P The length taken up the mast to the inside edge of the top band. (Fig 1). Refer to P-band below.
MRO	Measurement YRSA Office.	Ps The length of the luff of the mainsail from tack to head. Measure to the intersection points of the sidelines if in doubt about the position of the head and tack measurement points. If the tack is placed in a position that artificially shortens the Ps dimension then also measure P _{ext} and add 50% of P_{ext} to the measurement from head to tack to arrive at Ps.
MHW	Mainsail mid width measurement (measurement point is determined by folding the head of the sail to the clew and marking the leech at the fold point). Measure the girth from the leech fold point to the nearest point of the luff including any bolt rope.	P_band Used in place of Ps where mast bands are used. Indicates the extremities for the mainsail settings. Add 50% of P_{ext} to P-band where applicable. This is shown as P on certificates.
MTW	The mainsail three quarter (¾) width measurement point is obtained by folding the head of the sail to the mid leech point and marking the leech at the fold point. Measure the girth from the leech fold point to the nearest point of the luff including any bolt rope.	P_{ext} P _{ext} is the extension of Ps to a position consistent with a right angle formed with the position of the clew and the extension of the tensioned bolt rope. This dimension only applies where Ps is artificially reduced by raising the location of the tack. See Figure 6.
MUW	The mainsail seven eighth width	RRS Yachting Australia Racing Rules of Sailing.
		SC A transom scoop that artificially extends the LOA of the hull. Measure separate to LOA. Refer to Figure 3.
		SF The spinnaker foot length of the largest spinnaker is the distance between the clew and tack points measured according to Figure 6.

- SO** AMS only. Stern overhang taken to the LOA measurement point and to include dimension Y (Fig 3). To be measured in weighing trim.
- Spinnaker Type:** If an asymmetric and symmetric spinnaker are both carried then the largest of each type must be measured and the measurements submitted. The measurement for the spinnaker pole, SPL and /or bowsprit, STL to be used with each spinnaker type is to be submitted with the spinnaker dimensions.
- SPL** When the largest spinnaker pole or whisker pole is attached to the mast and measured from the front face of the mast held horizontal along the centerline of the boat to the end of the pole.
- Square Top Mainsail:** refer to Fig 6,7a and 7b.
- Stern** The *Stern Point* for the measurement of TW is defined on vessels without a transom to be the aft intersection of the deck and the hull. Refer to Figure 1.
- STL** For bowsprits, measured to the extreme end of the pole or bowsprit including the end fittings, or to any other tack point on the deck. If there is any extension piece between the block and the tack point then tension the block forward and measure to the aft edge of the block snap shackle.
- SHW** The half width of the largest spinnaker carried is the distance measured between the mid luff and mid leech points from luff to leech.
- SLE** The length of the leech of the largest spinnaker measured along the edge of the sail from clew point to head.
- SLU** The length of the luff of the largest spinnaker measured along the edge of the sail from clew point to head.
- SMS** Sportsboat Measurement System
- TW** The maximum width of the transom excluding any fittings such as a toe rail or rubbing strake. If no transom exits then this measurement is taken at a defined distance for that particular design forward from the *Stern Point*. Refer to Figure 1.
- Unweighed:** All additional items not weighed other than sails, running rigging, personal gear, reasonable quantities of provisions, cooking equipment and items specified in the RRS Special Regulations for the Race Safety Category and which are not part of the weighed Displacement (DISP) and are carried in a race. To be noted on the application form.
- Wings** Any extension to the beam of the boat, including flared topsides, incorporated into or added to the sides of the hull. To be included into the beam measurement of the boat and to be noted on the application form.
- Y** AMS only. Height above the water at the underside of the transom intersection point. Fig.3..



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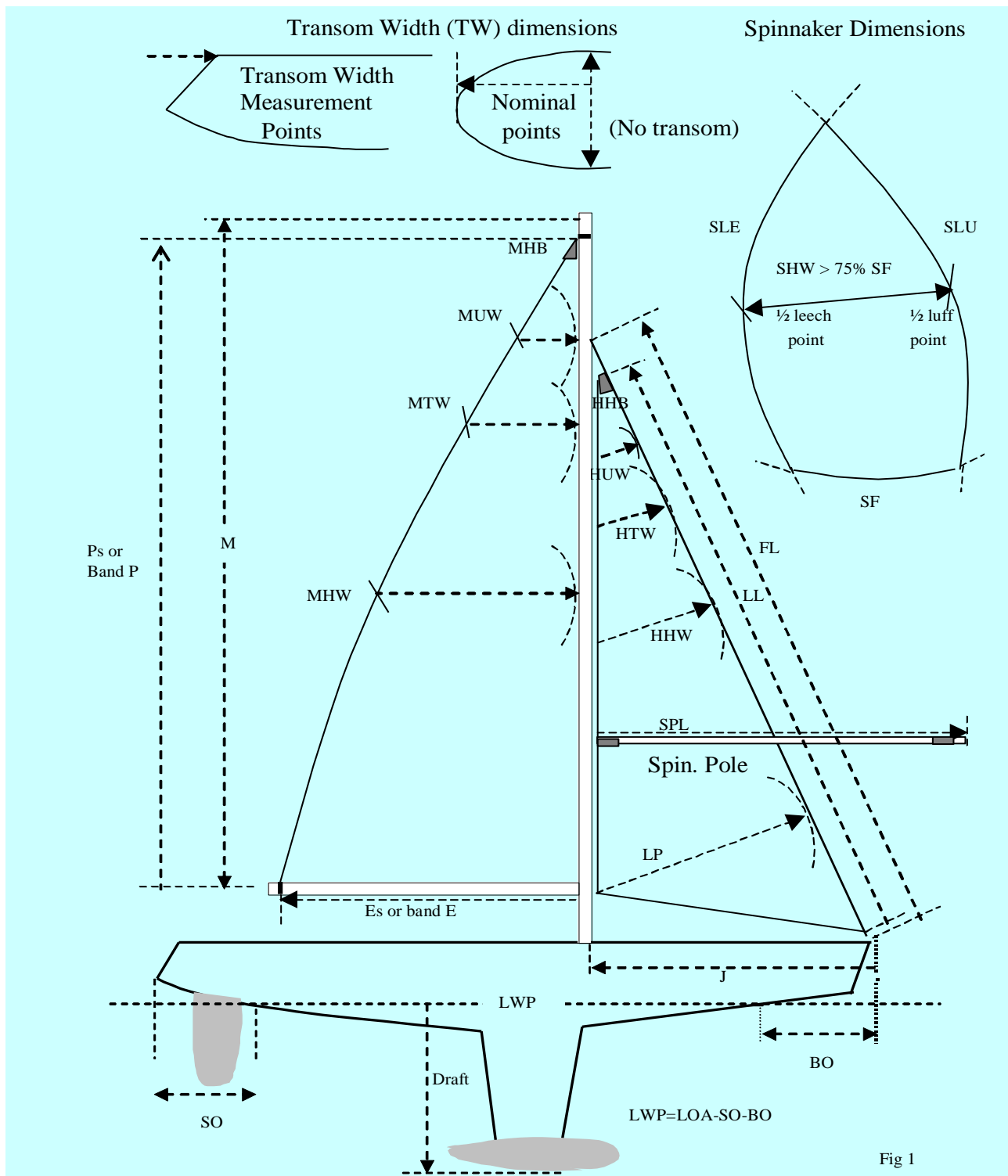
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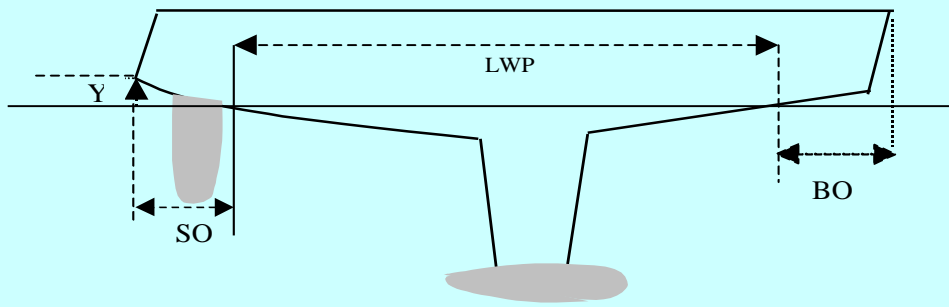
3.9 Measurement Diagrams and Hull Forms

- Figure 1 Summary of Boat and Sail measurement points
- Figure 2 Waterline Plane and Overhang measurement points
- Figure 3 Expanded Overhang measurement points
- Figure 4 Keel Shapes
- Figure 5 Rig and Sail plans
- Figure 6 Sail Corner Measurement Points
- Figure 7a Mainsail Head Width HWM
- Figure 7b MUW measurement for Square top mainsails
- Figure 8 Foot Offset
- Figure 9 Beam and Extended Beam Measurement points
- Figure 10 Hull Forms



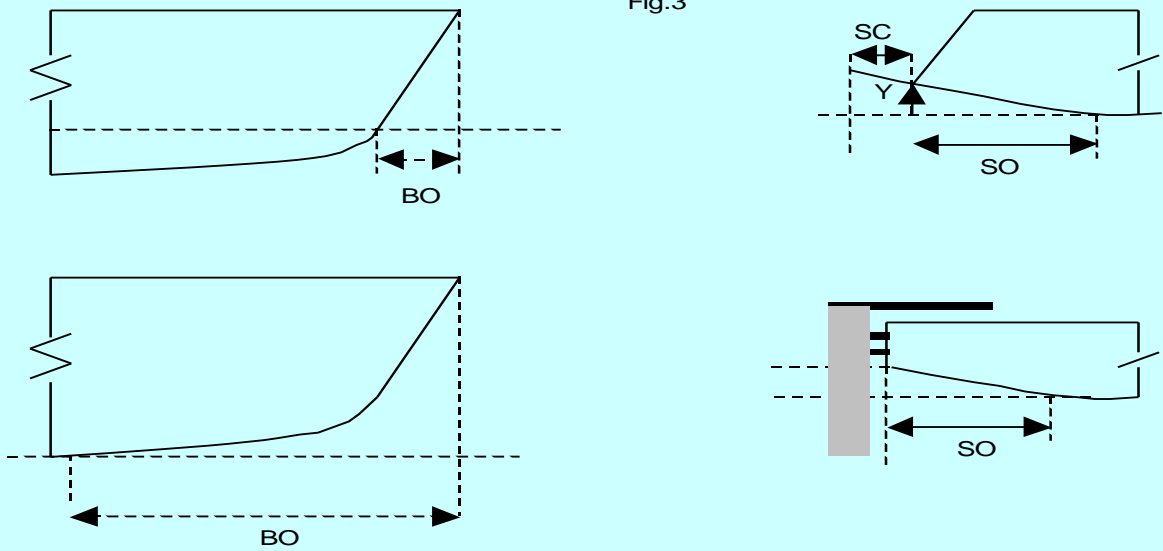
LWP, SO, BO, dimensions - AMS only

Fig. 2



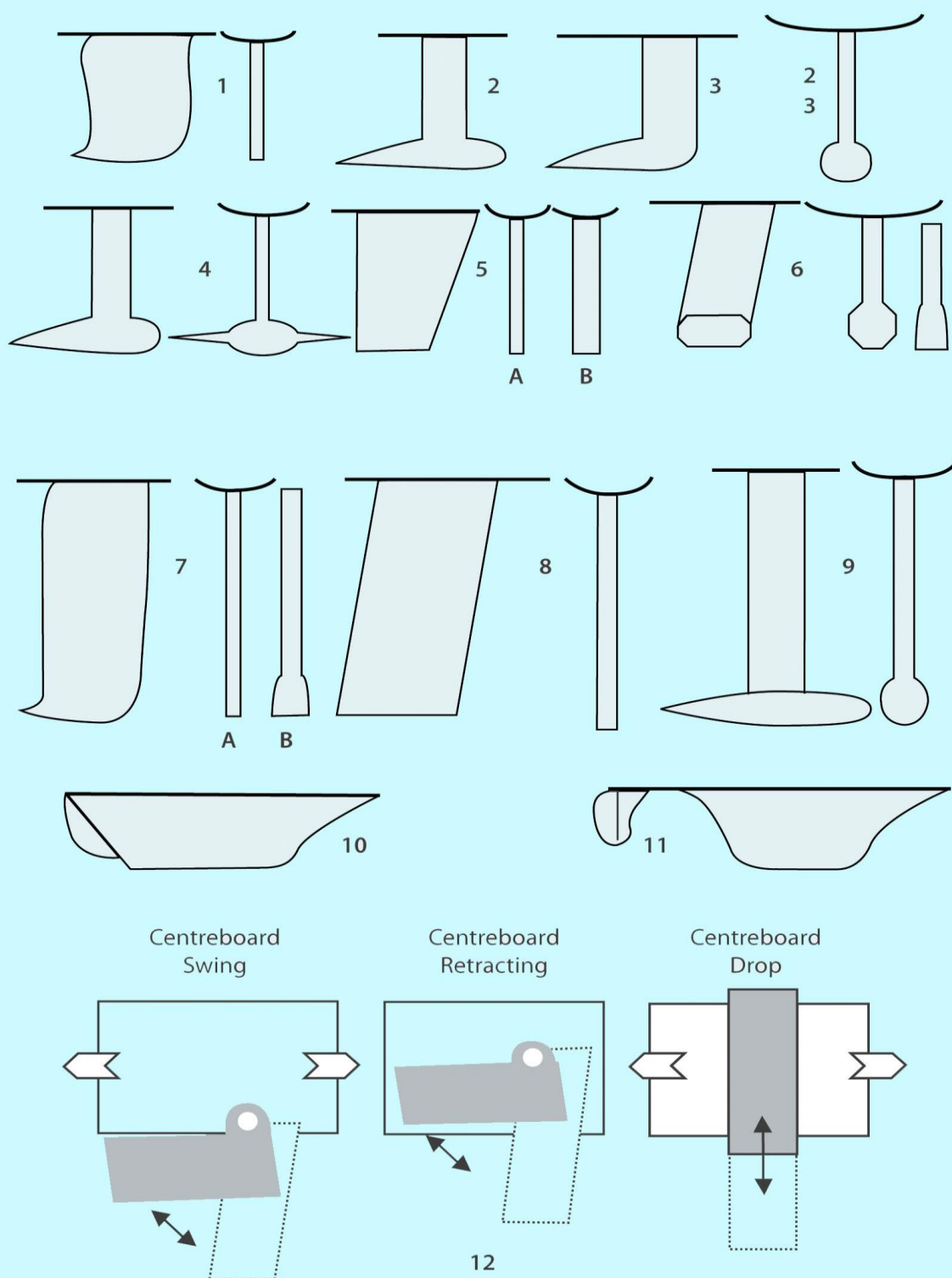
AMS only overhang measurement points

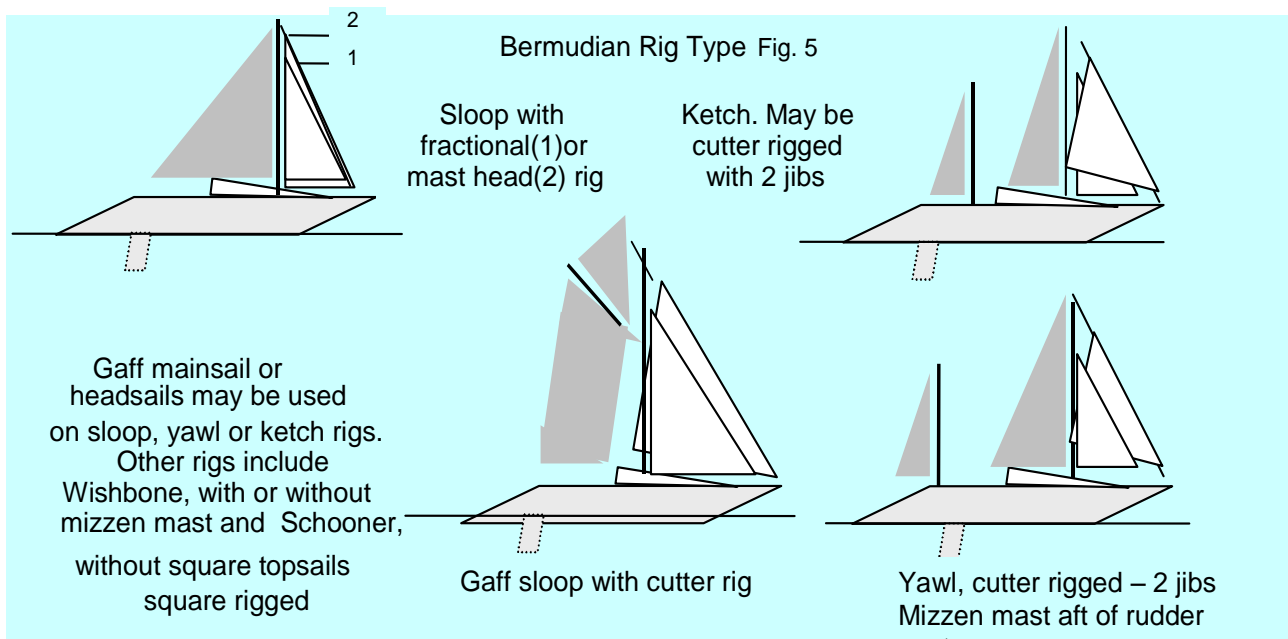
Fig.3



Keel Types Fig. 4 Keelboat (1-11), Trailerable (12) and Sportsboats (2,8)

1	IMS FIN	IMS Type Keels	7A	Low CG Fin	Deep
2	Centre bulb	Shallow	7B	Low CG Fin	Addition
3	Swept bulb	Shallow	8	Low CG Fin	Deep (2005+)
4	Wing	1984 onwards	9	Centre bulb	Deep (2007+)
5A	Fin	(Shallow, thin)	10	Long keel	RORC/CCA
5B	Fin	(Shallow, thick)	11	3/4 keel	RORC/CCA
6	Low CG Fin	Shallow with addition	12	Centreboard	Trailerable





ISAF introduced a Question and Answer service for the Equipment Rules of Sailing in January 2012 relating to the headboard (MHB or HHB) measuring procedure for sails with high roach at or above the MUW or HUW measurement points. The ISAF ruling has been included in Fig 6, drawing (3) below although it is not accepted by all rating systems. Also refer to Fig. 7a and 7b.

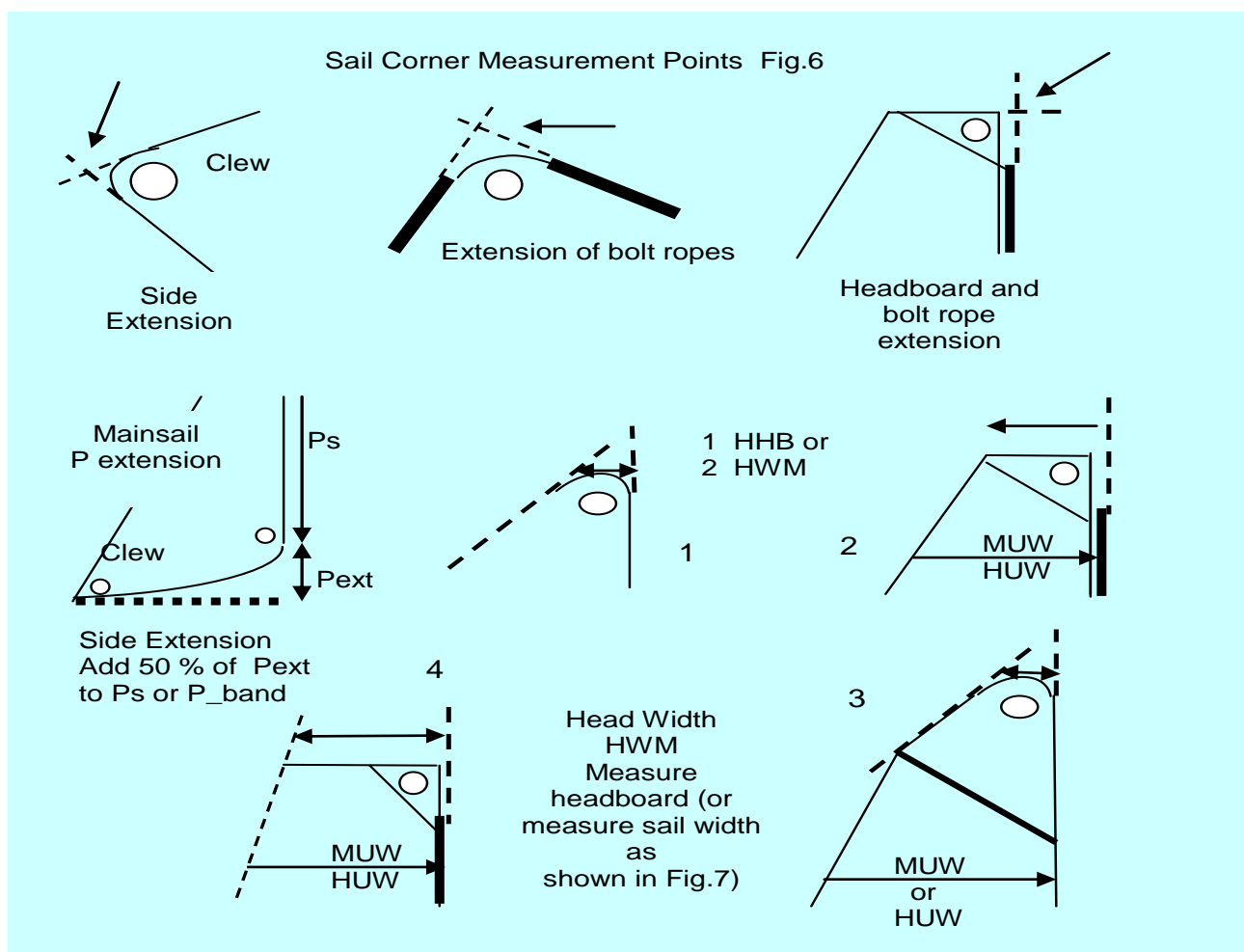
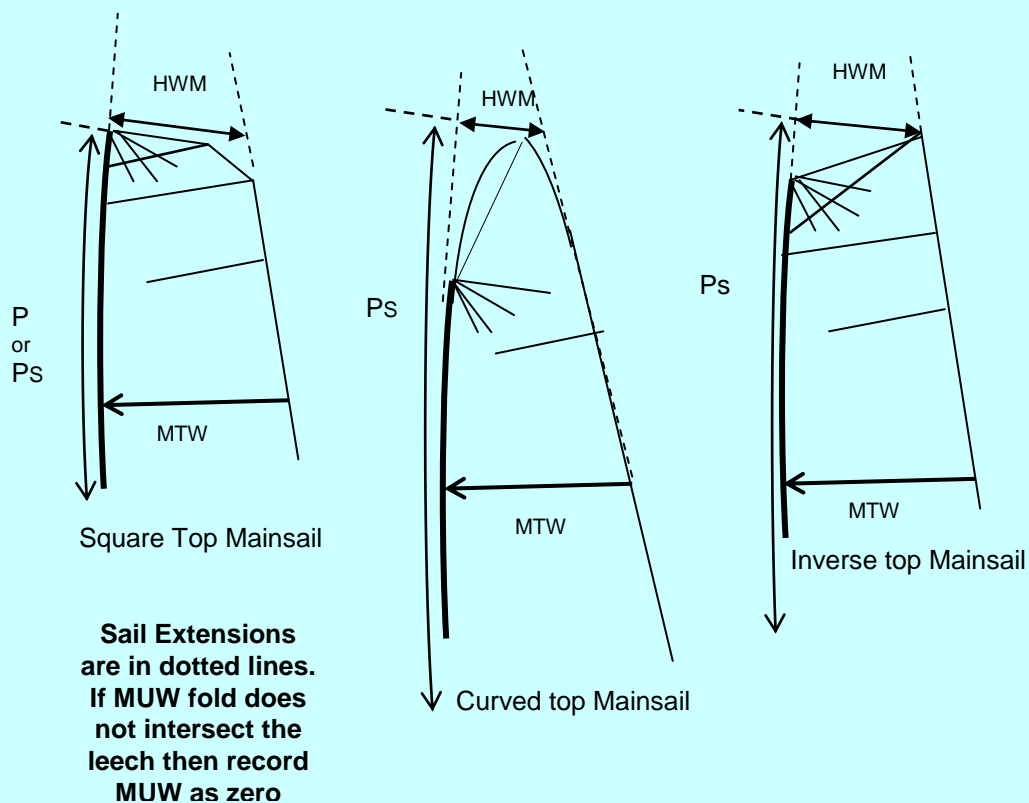


Fig.7a
HWM replaces MHB



When square top mainsails are particularly wide at the top (high HWM) the fold point for MUW may be located above the leech extension point of the sail.

In such cases MUW is entered as 0 (zero) on the input form.

This situation is shown in Figure 7b. In this case the MUW fold point is located on the head of the sail as defined by HWM although ISAF may still define this area as the leech.

Fig. 8 Headsail foot offset
(Offset*100)/chord= HFO%

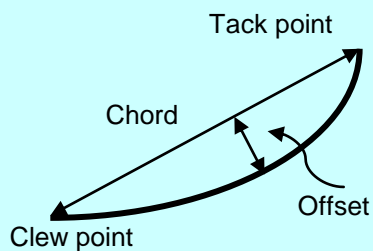
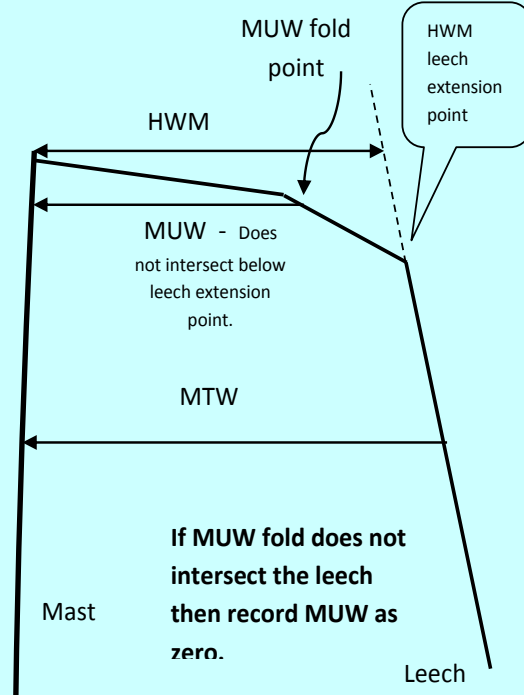
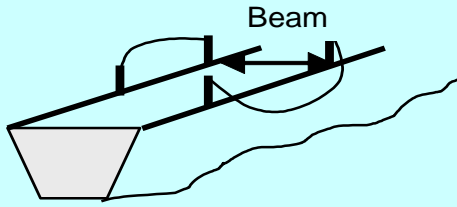


Fig 7b

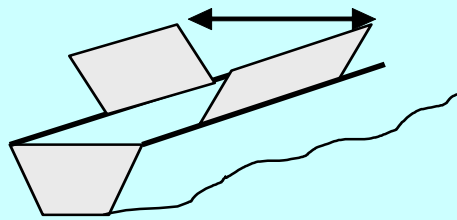


Extended Beam Definitions and Measurements Fig.9

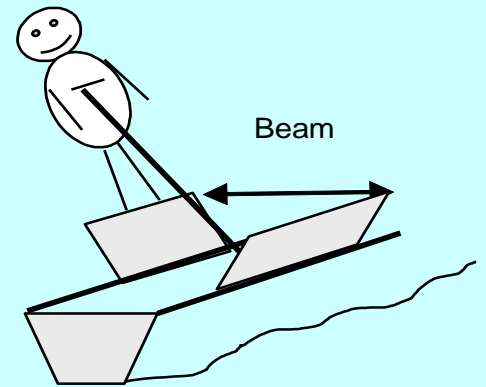
Extended Beam
Hiking Lines noted.



Beam



Extended Beam
Wings noted.
Beam measurement to include
wings fully extended.

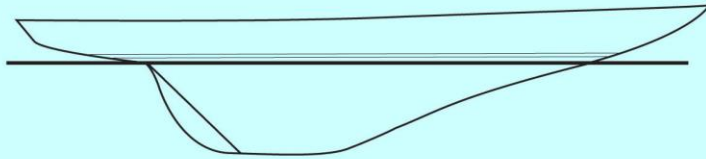


Extended Beam
Flares, Trapeze & Wings:
Trapeze noted
Wings noted
Beam measurement to include
wings fully extended.

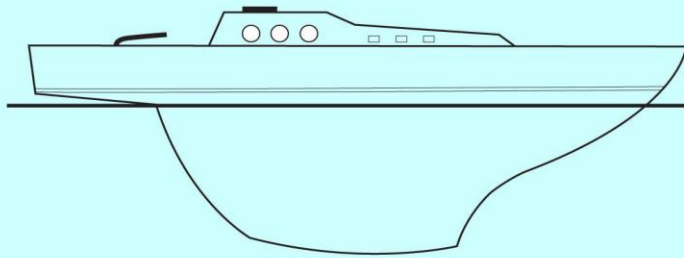


Part of the SMS fleet: Istanbul, Turkey_ October 2012

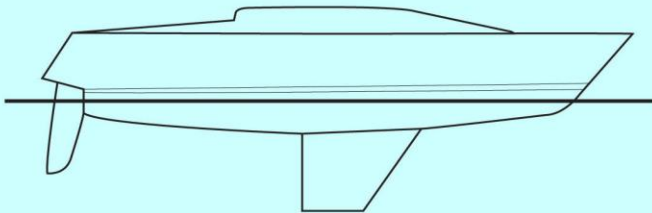
Keel Boat Hull Types Fig 10



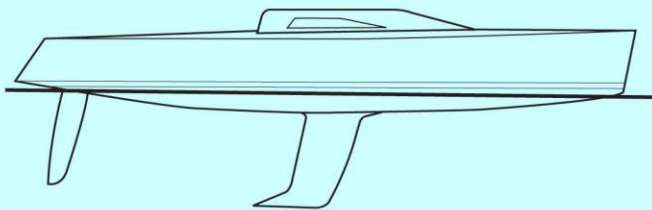
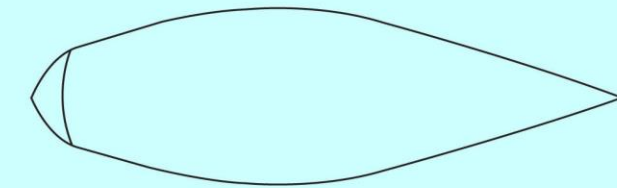
Metre boats appeared in 1906. They include various keel configurations ranging from Long and 3/4 to an early Fin style.



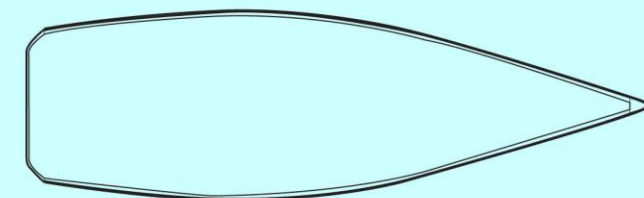
RORC or CCA designs, mainly from the 1930's until the 1970's had Long or 3/4 keels and these marked the emergence of the "Ocean Racer".



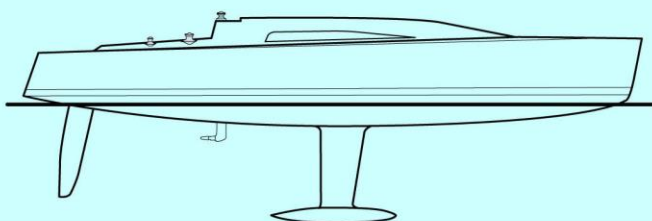
International Offshore Rule (IOR) designs emerged in 1969 and it was used through 3 versions until approximately 1991. This rule was the basis of many Production Cruiser racers that were designed during this period and which were also characterised by the thin or chunky fin keels. Rudders also evolved into the spade shapes. Numbers declined throughout the 1980's as the IMS rule slowly replaced IOR throughout the world.



The International Measurement System (IMS) was based on further development of the Velocity Prediction Program at MIT although the concept was initially used as early as 1976 under the name of MHS. IMS expanded rapidly from 1989 in Australia, peaked in 1993 and declined rapidly thereafter. Keels included various designs such as fin and swept back



AN IRC design in 2008. Keels may be deep fin, swept bulb or centre bulb types with low centre of gravity and design may have a high ballast ratio.



Appendix 1

AMS and SMS Mesurer Checklist

This form may only be used by Measurers when recording measurements as the data is submitted on an electronic input form via the website. It is also a guide for owners as to the dimensions required.

Fast Processing:	Please issue the certificate within 5 working days: If changed, fast turn around additional fee is: \$40.00.	Tick box <input type="checkbox"/>
------------------	---	-----------------------------------

AMS or SMS		Owner Name	
Boat Name		Address	
E-mail	Telephone	Hm..... Wk..... Mobile..... Fax #.....
Yacht Club		Sail No.	
State		Country	
Build Year		Design type	
Designer		Design year	
Measurer		Application date	
Measurer Signature		Owner Signature	

Hull and Fitout		AMS	IRC	IMS	Measurement Data	
Length overall of hull		LOA	LOA	LOA	LOA:	Scoop:
Bow overhang (AMS only)		BO	BO			
Stern overhang (AMS only)		SO	SO			
Height of transom from water (AMS only)		y	y			
Transom width (with nom dist. if applicable from stern point.)		TW			_____ at _____ from stern point	
Waterline plane (calculated)(AMS only)		LWP	LWP			
Weight and date weighed		Cat 6	Empty	DSPM-2%	Date:	
Draft		Draft	Draft	DHKO		
Beam		Beam	Beam	MB		
Beam Extensions: YES/NO		Hiking Lines:		Wings:	Trapeze:	
Engine type	Inboard:	Outboard:		Make:	Model:	
Propeller type	Folding:	Feathering:		Fixed:	No. Blades:	
Propeller location	Aperture:	Retracting:				
Drive	Sail Drive:	Shaft:				
Hull type (AMS only) See attached sheet	Metre:	RORC:		IOR:	IMS:	
	IRC 2008+:	Day Racing:		Trailable:	Other:	
Hull Material	Glass	Glass s'wich:		Carbon:	Aluminium:	
	Wood:	Ply:		Steel:		
Keel type (AMS only) See attached sheet	(1):	(2):		(3):	(4):	
	(5A):	(5B):		(6):	(7A):	
	(7B):	(8):		(9):	(10):	
	(11):	(12):				
	Water Ballast: Yes..... No	Canting Keel: Yes No.....		Max Degrees of Cant.....	Ballast Ratio =	
Keel Material	Steel:	Lead:		Steel/Lead:	GRP/Carbon:	
	Wood:					
Stored Power	Yes.....No....	Used for:				
Accommodation	Spartan:	Racing:		Cruising:	Heavy:	
	Day Racer:					
Major fixed items:	Weight	Location				
1.						
2.						

Rigging			Measurement Data	
Mast(s) Material			Alloy, Carbon or Wood	
No. Spreader pairs				
Jumper struts	Yes:	No:		
Runners	Yes:	No:		
Checkstays	Yes:	No:	Number of checkstays:	
Rig Type See Fig 5.			Bermudian only: Sloop, Cat, Ketch, Yawl, Gaff, Schooner, Wishbone	
Mast Head or Fractional				
Sails		Working sails	Mizzen	Measurement Data
Mainsail luff (Uses Band YES: NO:		Ps or P_band+50% Pext	Py	
Mainsail Luff Extension		Pext	Pext	
Mainsail foot (Uses Band YES: NO:		Es or E-band	Ey	
"M" Dimension				
Foretriangle base		J		
Forestay length		FL		
Mast Dimension (top of boom to block)		M		
Spinnaker pole length		SPL		
Spinnaker tack length		STL		
Luff length largest headsail		LL		
Headsail foot offset. If > 7.5% list length		HFO(metres). Fig 8		
Headsail luff perpendicular		LP		
Headsail half width (>50%LP <75%HF)		HHW		
Headsail three quarter width >25%LP		HTW		
Headsail Upper (7/8) Width		HUW		
Headsail headboard width or		HHB or		
Headsail Head width		HWH		
Mainsail half width		MHW	MHWy	
Mainsail three quarter width		MTW	MTWy	
Mainsail upper (7/8) width. Note Fig. 7b		MUW	MUWy	
Mainsail Headboard Width or		HWM	HWMY	
Mainsail Head Width (Note Fig 6, 7a, 7b)				
Symmetric spinnaker luff		SLU		
Symmetric spinnaker leech		SLE		
Symmetric spinnaker foot		SF		
Sym spinnaker 1/2width >75% SF		SHW		
Asymmetric spin luff. See Clause 3.7.2		ASLU		
Asymmetric spin leech		ASLE		
Asymmetric spin foot		ASF		
Asym. spin 1/2 width >75% SF		ASHW		
Mizzen staysail			LLy	
Mizzen Luff Perpendicular			LPy	
Other relevant Information:				
Certificates attached	IMS/ORC:	IRC:	Other:	

Note any modifications from standard design: Additional ballast, weight or modifications from standard. Include items (eg. gas bottles, corrector weights), provisions in excess of reasonable requirements or as specified in RRS Special Regulations, mast lowering equipment other equipment and changes:

Appendix 2

Boat Weighing Procedures

Measurement Rating systems rely heavily on the weight (or displacement) of the boat for its calculated Rating. All boats must be weighed under supervision of an AMS Measurer, using approved equipment and procedures, before a non-provisional rating can be assigned.

The only acceptable weighing method is a single point crane lift using a calibrated load cell scale.

Weighing Procedure:

The boat must be presented for weighing in the correct trim and at an agreed time. Failure to do so may incur a financial penalty.

The boat to be weighed must be in its required form (see below for each Rating system) and dry. High winds affect weighing accuracy, and boats will not be weighed under adverse conditions. Each boat will be inspected for compliance with the rule before weighing.

If you are weighing "empty weight only" then the boat should be presented as included in the boat weighing procedures. If you wish to weigh only in AMS then please present in AMS configuration as included in the procedures. If weighing both please present in the empty weight configuration as the AMS Cat 6 safety gear will be weighed separately.

Empty Weight:

Empty Weight is the weight of the boat in the following dry condition:

1. Fully rigged with all spars, (including spinnaker pole(s) and Jockey pole (if any)), standing rigging, backstay, runners and checkstays, halyards, main sheets and vang
2. Main engine installed, or outboard engine and empty fuel tank in stowed position (it is acceptable to weigh the outboard engine separately and add to the hull weight)
3. Batteries and fitted berth cushions in their normal positions if carried while racing. These items to be noted on the boat's certificate
4. All permanent fixtures and fittings and items of accommodation whether detachable or not, including washboards, bunk and floorboards and saloon table (if fitted for racing) on board in their normal positions
5. Standard fitout if rated to a class standard data
6. Fixed cooking, navigation, communication equipment
7. Fire extinguishers and blankets
8. Nothing to be left on the boat that would fall off if it was turned upside down.

Items to be excluded:

1. All sails, sheets and braces, spare standing and running rigging
2. Fuel, water and the contents of other tanks. Gas bottles shall be removed
3. Food, cooking and catering utensils
4. Anchors, chains, warps, mooring lines and fenders
5. Clothing, bedding, and personal effects
6. All removable safety equipment
7. Tools and Spare parts
8. Loose gear
9. Additional loose ballast
10. Crew
11. All other loose items

For AMS only the following additional items to be included:

1. One set of spinnaker sheets and braces, one set of genoa sheets
2. One anchor with regulation chain
3. All safety equipment required by Victorian Boating Regulations and YA Blue book for Cat 6 races
4. One set of PFD's for all crew members

Where it is impossible to remove all items and equipment (e.g. fuel) then the estimate of this weight must be noted on the weigh sheet and it will be deducted from the gross weight of the boat

A) Weighing using a yard crane *Note the crane load limit, and do not exceed it*

1. Ensure the boat has been correctly prepared and the Measurement and Condition check list has been signed off.
2. Ensure the Weigh scale has a current calibration certificate, and acceptable range for boats to be weighed
3. If the boat is in the water, soak slings for a few minutes
4. Attach the lifting slings to the scale, set tare to zero.
5. The boat owner/representative to attach lifting slings to boat.
6. Lift boat clear of water/cradle, ensuring scale/crane load limit is not exceeded
7. Let water drain off, take reading to nearest 5 kg.
8. Lower boat, remove slings from boat and re-weigh slings only. Note tare reading

B) Weighing using a mobile crane

NOTE: A qualified rigger must be used to attach all load slings and to direct crane operations. Backstays may have to be removed to allow sling access. The boat owner/representative is responsible for the sling location to prevent damage to drive components. The owner must authorise the Rigger to proceed with the lift. No personnel is to be on board during lifting

1. Ensure the boat has been correctly prepared and the Measurement and the Condition check list has been signed off.
2. Ensure the Weigh scale has a current calibration certificate, and an acceptable range for boats to be weighed
3. Soak the slings in water for a few minutes
4. Attach the lifting slings to the scale, set the tare to zero.
5. The boat owner/representative to advise location of lifting slings
6. Lift boat clear of the water/cradle, ensuring the scale load limit is not exceeded
7. Let water drain off, take reading to nearest 10 kg
8. Lower boat, remove slings and re-weigh slings only. Note tare reading



**HYDRALIFT
CRANES PTY LTD**
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Supporting the Victorian AMS boat weighing day
Call Ian on 03) 95748884 Email: Ian@hydralliftcranes.com.au.



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MEASUREMENT CONDITION CHECK LIST

This checklist is intended to help the Owner prepare the boat for measurement. Each item checked to be initialised by Owner and Measurer. The completed document will be returned to the Measurer for retention.

Sail No. _____ Boat name _____ Date: _____

Location of Weighing: _____ Yard/Mobile Crane? _____

Load Cell No: _____ Calib. Cert. No. _____ Calib. Date: _____

	Owner Initials	Measurer Initials
1. Office received Insurance Certificate for the boat.
2. All sails removed from boat
3. Ballast Sealed
4. Heads, Sinks, Bowls etc dry
5. Bilges dry
6. Tankage and voids checked
7. Navigation and cooking equipment stowed as specified
8. No clothing, bedding, food or stores on boars
9. Cushions dry
10. All stowages opened and checked
11. No liferaft or dinghy on board
12. Quantity of fuel in tank =Litres @ 0.8kg/l =kg		
13. List Ballast, Moveable Ballast or Unweighed items. Use reverse page if necessary.		
14. For AMS only, Minimum of Cat 6 safety equipment on board.

Weighing: Initial Tare:kg Gross Weight:kg
 Final Tare:kg Average Tare:kg
 Nett Weight:kg

Fuel:kg Declared Weight:kg

The owner hereby agrees that he/she or their appointed representative is responsible for confirming that the slings are placed in the appropriate position for lifting the boat and for authorising the lift to proceed.

The owner confirms that the vessel is insured.

It is also agreed that the owner is responsible for ensuring that the allocated time slot and the tide height are suitable to accommodate the draft of the vessel. High tide is at approximately _____ hours at _____ (Location) on _____ (Date).

Sign Owner Measurer

Print Name Owner Measurer