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INTERNATIONAL ONE METRE INTERNATIONAL CLASS ASSOCIATION

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The IOM: Origins and recent history

Origins

An International One Metre class was first adopted by the IMYRU in 1958 after application by France and Italy. The class rules limited length to 1000 mm and sail area to 0.4 m². There appears to have been much freedom over choice of rig design. No significant international competition appears to have taken place and it is assumed the class effectively died out some time in the 1960's.

In the 1980's there appeared a number of 'one metre' classes in the US, Japan, France, and Germany (Naviga E class rule). The original reasons for interest in this new format are now unclear but it was almost certainly enhanced by the escalating cost of maintaining a Marblehead. This concept clearly appealed to model yachtsmen outside those countries and one metre long yachts to various designs and 'rules' appeared elsewhere.

The various classes had only the hull length in common. The US One Metre had no restrictions on materials or rig proportions; the French class used a One Design hull and rigs; the German class had many restrictions on the hull, foils and RC but permitted much freedom in choice of sail profile.

It was clear that a One Metre boat with tightly restricted rigs and equipment could produce an inexpensive class and close competition for experts and beginners alike. This class would complement the Marblehead class in nature and the lower cost might enable the popularity of the sport as a whole to be maintained or improved by providing a class which would permit mass manufacturers to produce a competitive boat.

IYRU One Metre - 1988 Class Rules

During the development of the 1988 class rules a clear principle was established under the guidance of the Chairman of the IMYRD Technical Committee, that is the boats permitted by the rule would be capable of being built by non-expert

builders, either from a kit or from scratch, or inexpensively by a commercial builder, without being at a disadvantage in terms of performance when compared to yachts built using an unlimited amount of time and other resources. In order to achieve this the following policy and intent were employed:

- Construction materials to be limited to certain inexpensive ones which are commonly available and capable of being used to produce yachts down to weight with no special building skills. Reasons: a) to encourage simple building methods, b) to limit cost.
- Other materials would be permitted only in the foils. Reason: it would be difficult to test positively for their absence here and their speed enhancing effect is limited.
- Fin and ballast would be removable. Reason: to permit a minimum and maximum weight limit for this unit in order to limit the righting moment provided by the fin and ballast.
- The range of permitted weight of fin and ballast was chosen large enough to permit yachts built to the Naviga rule to comply without modification. Reason: to boost class numbers.
- Restrict nature and position of foils. Reason: for simplicity.
- Minimum total weight was set quite high. Reasons: a) to permit relatively crude building quality so that there was minimal emphasis on or benefit from exotic techniques so that builder quality is relatively unimportant, b) to limit cost.
- Draft minimum and maximum figures were chosen to accommodate certain existing yachts without modification. Reason: to boost class numbers.
- Range of permitted draft kept small. Reason: to keep potential degree of tuning of yachts to specific conditions to a minimum thereby discouraging use of alternative fins/ballasts.
- Mast materials limited to wood or aluminium. Reasons: a) to limit cost, b) to limit choice to materials commonly available everywhere.
- Generous minimum mast diameter. Reason: to ensure that one pair of shrouds and one set of spreaders would give an adequately stiff mast. This would tend to make each rig simpler to install in the boat and easier to tune thereby maximising similarity of performance between expert and novice.
- Mast section limited to round. Reasons: a) to prevent shaping or tapering of masts thereby ensuring uniformity and simplicity, b) to limit cost.

In addition the following limitations/restrictions were considered essential: Mast fittings limited to essential minimum. Booms treated in much the same way as the masts. Standing rigging and other rigging restricted to good 'minimal' current practice. Number of permitted suits of sails limited to three. Sail sizes and construction tightly restricted. RC equipment limited to two channels of control. Reasons: a) to ensure simplicity and uniformity, b) to limit cost.

1989 and 1992 Rule Revisions

Not unnaturally the first few years of use of the class rules uncovered some areas that needed more attention. Principally the changes were:

- To permit mast heel and mast strut fittings. Reasons: a) the former had been omitted in error, b) the latter enables deck-stepped masts to be used efficiently.
- Hull depth was limited to 60 mm. Reason: to prevent stability gain by building very deep and light hulls with internal ballast placed low down.
- Draft was increased to 370-420 mm. Reasons: a) to improve sailing qualities, b) few of the existing boats expected to join the class had done so.
- Permit non-woven sail material. Reason: this had been omitted in error.
- It was made clear that vacuum formed plastic can be used if it is the only material in that part. Reason: in order to make it clear that the use of plastic foam sheet bonded under vacuum into GRP hulls is not permitted, a method currently considered to be not in keeping with the policy to keep boats simple.
- A plastic container would be permitted for the RC containment. Reason: this is a commonly used and simple method of keeping RC equipment dry and there was no need to prohibit it.
- It was made clear that internal ballast in the hull may be used. Reason: to remove doubt.
- Weight of the rudder limited to 75 grams. Reason: to prevent possible gain of stability by using ballasted and deep rudders.
- It was made clear that the kicking strap shall be below the boom and shall work in tension only. Reasons: a) to limit cost, b) for simplicity.
- Checkstays would be permitted. Reason: these permit deck stepped masts to be supported well and are to be used only when the mast is deck stepped. They are prevented from becoming lower shrouds by having their position restricted.
- Jib boom counterbalance weights would be permitted. Reason: these are seen as essential for good downwind sailing and in any case many builders were using very heavy jib tack fittings to achieve the same end result. Permitting their use enables all to achieve uniformity with the minimum of effort and cost.

1994 Rule Amendment and 1995 Rule Revision

A request for an interpretation during early 1994 made it clear that the lack of definitions for hull, deck, R/C equipment, and fittings made it impossible to police the intent of the class rules properly. For example; the hull depth below the waterline was restricted to 60 mm but nothing restricted the fittings from extending below this level. Thus the keel fixing bolt which would not be weighed as part of the fin and ballast could be made to extend down to the full draft of the boat and constructed of dense and heavy material. It was also realised that the list of permitted materials for the hull and deck had not included adhesives, paint, varnish and so on. Additionally it was found that the 'tunnel hull' rule 3.2.2.c prohibited decks with more than 3 mm hollow; recesses for R/C containers were commonplace even though the rules prohibited them. It was realised that attempting to limit the place where rigging could be adjusted is futile when 'permanent' attachments could simply be untied and re-tied.

Immediately prior to the 1994 World Championship an amendment to the class rules was ratified which dealt with the immediate problems identified at that time. Soon after that time four proposals to amend the class rules were received from DMs and a thorough rule revision was started.

The version ratified in January 1995 included the following changes:

- To include a general prohibition on materials denser than lead. Reason: to prevent the use of denser materials in the fin.
- To include definitions of rig, keel (fin plus ballast), rudder (blade plus stock), hull (yacht less rig, keel, rudder) and the structure of the hull. Reason: to permit simpler, shorter rules to be written which are more readily understood.
- To exclude plastic or readily removable containers of R/C equipment from the items which shall be made of the list of permitted materials. Reason: to accord with the majority view.
- To permit many commonly used 'low tech' materials to be used in the hull and spar construction. Reason: to accord with common practice.
- To permit 'Formica' and similar wood based products in the construction of the hull. Reason: to accord with the majority view.
- To permit sheet plastic (which may be vacuum moulded) items to be used in any part of the hull. Reason: it is impossible to differentiate deck from hull without a definition of the deck edge.
- To prohibit tunnel hulls, multi-hull forms, and foils on the hull, and yet permit decks with transverse hollows exceeding 3 mm. Reason: to accord with the majority view and earlier interpretations.
- To restrict hollows in the plan view and the profile of the hull below the waterline. Reason: to prevent the use of foils other than the fin and rudder.
- To permit all rigging and fittings to be adjustable unless specified otherwise. Reason: for simplicity.
- To permit rig corrector weights to be used. Reason: to enable all rigs to be brought to an equal weight simply.
- To introduce a maximum distance which the clew and tack points may extend beyond boom ends. Reason: to limit the minimum size of booms.
- To introduce tolerances for the roundness of masts and the section of booms. Reason: to avoid interpretations.
- To introduce a minimum aluminium content for spars. Reasons: a) to avoid need for interpretation, b) to limit cost of spars.
- To make it clear that butt jointed seams between sail panels are not permitted. Reasons: a) to keep sail making simple and inexpensive, b) to keep sail performance equal, c) for simplicity.
- To permit the use of cringles and eyes in sails. Reason: to correct the earlier omission.
- To remove the administrative and sail marks sections. Reasons: a) for consistency with other class rules, b) to shorten the text of the rules.

Two proposals by DMs were rejected. One, to permit an additional pair of shrouds did not find favour with the DMs which responded to a questionnaire.

The other, to introduce a minimum value of the maximum fin thickness at any horizontal section to deny the performance advantage of thin fins made from high stiffness materials, received approximately 50% support when counting 'active' boats. Most of these were from a small number of DMs. The DMs with smaller and emerging fleets were largely in support of the proposal.

The preference of DMs to permit the use of foam plastic in an early questionnaire was partially reversed when it was pointed out that this would permit foam sandwich construction. It was decided not to attempt to prohibit the use of foam in sandwich construction while permitting foam for other purposes and, for simplicity, to prohibit foam altogether.

2000 Rule Amendment

An interpretation in 1997 prohibited the use of a mainsail head and tack attachment that rotates around the mast because it was not permitted by the class rules. This system is now permitted by an amendment (1 March 2000) that added a new rule 5.5.12. Reasons: a) for common practice, b) to accord with the majority view.

Amendment in the future

A new version of the One Metre Class Rules is in progress to replace the existing 1995 version and all the existing interpretations. This will be based on the definitions and terms in the Equipment Rules of Sailing 2001-2004. The principle modifications consist of:

- The presentation of the document.
- The use of the term 'Closed class' to describe what was formally called 'one design' in order to reflect the nature of the class.
- Different levels of measurement (Fundamental measurement, sail manufacturer certification, Event measurement) in order to shorten the time of the measurement process.
- The use of ball/roller bearings in the kicking strap attachment /gooseneck until March 31st 2005.
- The specification of the category of advertising.
- The introduction of a deck datum point.

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