

INTERNATIONAL MARBLEHEAD CLASS

M

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INTERNATIONAL SAILING FEDERATION
RADIO SAILING DIVISION



ISAF
AFFILIATE MEMBER

INTERNATIONAL MARBLEHEAD CLASS RULES 2000

1 GENERAL

1.1 Purpose of the Measurement Rules

- 1.1.1 The Marblehead is a Development Class.
 1.1.2 Anything not specifically restricted or prohibited is PERMITTED.

1.6 Materials

- 1.6.1 Except for remote control equipment, material of higher density than lead (11.3 kg/dm³) is prohibited.

1.7 Sail Area

- 1.7.1 The measured sail area shall not exceed 0.5161 m².

1.8 Depth Restriction

- 1.8.1 The hull appendages shall be constructed so that the depth restriction gauge, when placed transversely, can be passed under the appendages without either of the two upper corners of the gauge losing contact with the hull.

2 ADMINISTRATION

2.6 Measurement

- 2.6.2 Except as in 2.6.3, the hull shall either conform with the class rules in force when the hull was first measured or conform with the class rules. Hull appendages, rig, sails and equipment shall conform with the class rules.

3 HULL

3.1 Definition

- 3.1.1 The hull is defined as the boat including all equipment but excluding the rig and the appendages.

3.2 Identification Marks

- 3.2.1 The boat's national letters and registration number shall be:
- Painted on, engraved in or moulded in an easily visible location.
 - Displayed on the external surface clearly and legibly with a minimum height of 20 mm.

3.3 Construction

- 3.3.1 The hull shall be a monohull of minimum length 1275 mm and maximum length 1290 mm.
 3.3.2 The forward 13 mm (minimum) of the hull shall be made of elastomeric material.
 3.3.3 Except for hollows or voids formed by trunkings or tubes for appendages:
- Hollows which exceed 3 mm, or voids, in the underwater profile or the plan view of the hull are prohibited.
 - Hollows in the undersurface of the hull, tested transversely and parallel to the waterline, shall not exceed 3 mm.

4 APPENDAGES

4.1 Construction

- 4.1.1 The following are prohibited:
- Appendages containing or forming concentrated ballast which can be moved or rotated relative to the hull or which have elements which can be so moved.
 - Retracting appendages.
 - Appendages attached to the hull more than 15 mm from the centreline plane.
 - Appendages which project forward or aft of the hull.

5 RIG

5.1 Definitions

- 5.1.1 A rig is defined as, and is restricted to, no more than; one mainsail, one jib, one mast, one luff spar, four booms, fittings, wind indicator/s, standing rigging and running rigging.
- 5.1.2 A mast is defined as a spar and all its fittings attached along the luff of a mainsail.
- 5.1.3 A luff spar is defined as a spar and all its fittings attached along the luff of a jib.
- 5.1.4 A boom is defined as a spar and all its fittings, other than a mast or luff spar, attached to any part of a sail or another boom.
- 5.1.5 A boom which extends fore and aft of the mast is defined as two booms.

5.2 Sail Plan

- 5.2.1 The A, B, G, H, I, Q, R and width dimensions (maximum) for no more than three rigs, designated Rig A, Rig B and Rig C, shall be recorded on the certificate.
- 5.2.2 The height above deck of the lower edge of the upper mast band, H, shall not exceed 2160 mm.
- 5.2.3 The height above deck of the lower edge of the middle mast band, I, shall not exceed 80% of H for the relevant recorded rig.
- 5.2.4 A line taken through the jib *tack point* and *head point* shall not cut the forward face of the mast higher than the lower edge of the middle mast band when the jib clew is on the centreline plane of the hull.
- 5.2.5 Height measurements for all rigs of the same designated rig letter shall be taken to the same point on the deck next to the relevant mast position(s).
- 5.2.6 Except as permitted by 5.2.7, the A, B, G, H, I, Q, R and width measurements shall not exceed the equivalent dimensions of the relevant recorded rig.
- 5.2.7 When in racing trim the height above deck of the upper edge of the lower mast band shall not vary by more than 10 mm from the relevant recorded rig dimension, G.
- 5.2.8 Sails may be used with more than one rig if they are marked with all appropriate designated rig letters and do not exceed the relevant recorded rig dimensions.
- 5.2.9 No part of a rig shall be forward or aft of the hull when the main and jib clews are held on the centreline plane of the hull.

5.3 Spars

- 5.3.1 The cross section of spars shall not exceed 20 mm except that;
- (a) for the last 100 mm at one end of each boom spar the cross section shall not exceed 40 mm,
 - (b) where boom spars meet, the minimum combined cross section at all points shall not exceed 40 mm, and
 - (c) below the upper edge of the lower mast band the mast spar cross section shall not exceed 40 mm.
- 5.3.2 Mast bands shall be of a colour which contrasts with the mast and shall be not less than 3 mm wide.
- 5.3.3 Except as in 5.3.4, three mast bands shall be placed on each mast.

- 5.3.4 The middle and/or upper mast band(s) may be omitted from a mast whose length makes it impossible to infringe 5.2.6.
- 5.3.5 A main boom may be placed at any height with respect to the lower mast band.
- 5.4 Other Rigging Rules**
- 5.4.1 A fitting that is faired into a spar shall be considered to be part of the spar.
- 5.4.2 A fitting attached to a rotating spar shall be no bigger than is reasonably required for its purpose.
- 5.4.3 No more than three rigs of each designated rig letter may be used during an event. Only one rig shall be used at any one time.
- 5.4.4 Forestays and jib tacks need not be fixed on or approximately on the centreline plane of the boat.
- 5.4.5 Except as in 5.2.9 any part of a rig may be outboard of the hull.

6 SAILS

6.1 General

- 6.1.1 Sails shall be *soft sails* made and measured in accordance with the current 'YRU Sail Measurement Rules', except where varied herein. Where a term defined or a measurement given in the YRU Sail Measurement Rules is used in these rules it is printed in *italic* type.
- 6.1.2 *Sails* shall comply with the measurement diagrams.
- 6.1.3 During measurement battens need not be removed and *sails* may remain attached to spars.
- 6.1.4 Discontinuous attachments on a sail *luff* shall be disregarded for the purpose of measurement provided that their total length, measured along the *luff*, does not exceed 10% of the length of the *luff*.
- 6.1.5 Battens shall not exceed 105 mm in length and 20 mm in width. Their centrelines shall divide the *leech* into parts where the inequality does not exceed 25 mm.
- 6.1.6 The *foot* round shall not exceed 25 mm measured to a straight line between the *tack point* and *clew point*. The foot irregularity shall not exceed 3 mm.
- 6.1.7 All *sails* shall be marked at the clew with the designated rig letter.
- 6.1.8 Headboards shall not extend more than 20 mm from the *head point*.
- 6.1.9 Parts of wire supporting the head of a sail which are less than 2 mm in diameter and not covered with sail material shall not be taken as parts of the *sail*.

6.2 Mainsails

- 6.2.1 There shall be no more than four battens.
- 6.2.2 The *head point* shall not extend above the lower edge of the upper mast band and the *tack point* shall not extend below the upper edge of the lower mast band.
- 6.2.3 If the *luff* is set in a luff groove and except as permitted by 6.1.4, the B measurement and widths shall be taken to the aft edge of the mast spar.
- 6.2.4 The B measurement and widths shall be taken to the fore edge of articulated flaps and/or fairings if they are used

6.2.5 If the *sail* has a *double luff*, the B measurement and widths shall be taken to the *luff* with the mast in place, or to the fore edge of the spar, whichever gives the greater dimensions, and the *head point* shall be taken at the aft edge of the spar.

6.3 Jibs

6.3.1 There shall be no more than three battens.

6.3.2 If the *sail* is set on a luff spar, the R measurement and widths shall be taken to the *luff* with the spar in place, or to the fore edge of the spar, whichever gives the greater dimensions, and the *head point* shall be taken at the aft edge of the spar.

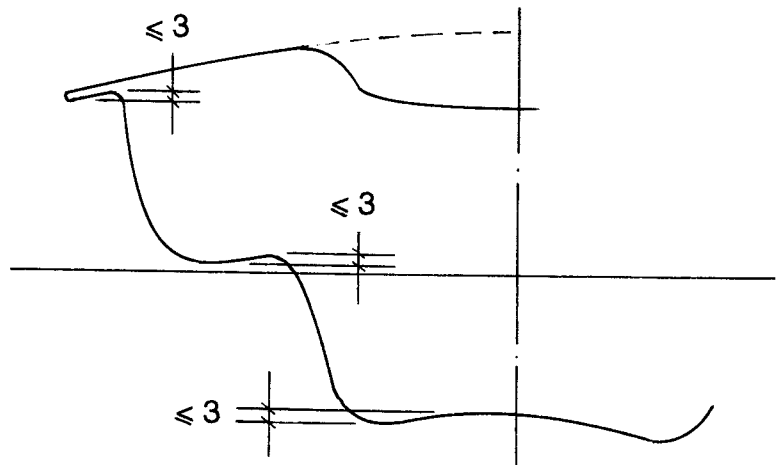
6.4 Identification Marks

6.4.1 *Sails* shall carry identification marks in accordance with the IYRR.

6.4.2 The class insignia shall be the letter 'M' of the following dimensions: height and width 25 - 30 mm, thickness 6 - 8 mm.

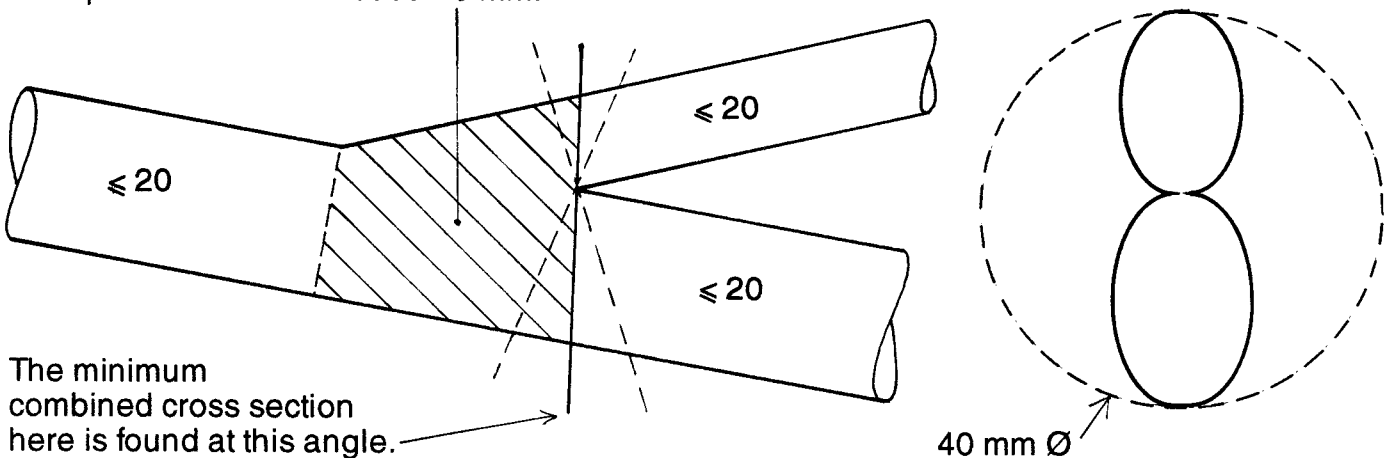
Construction 3.3.3 (b)

Hollows in the undersurface of the hull, tested transversely and parallel to the waterline, shall not exceed 3 mm.

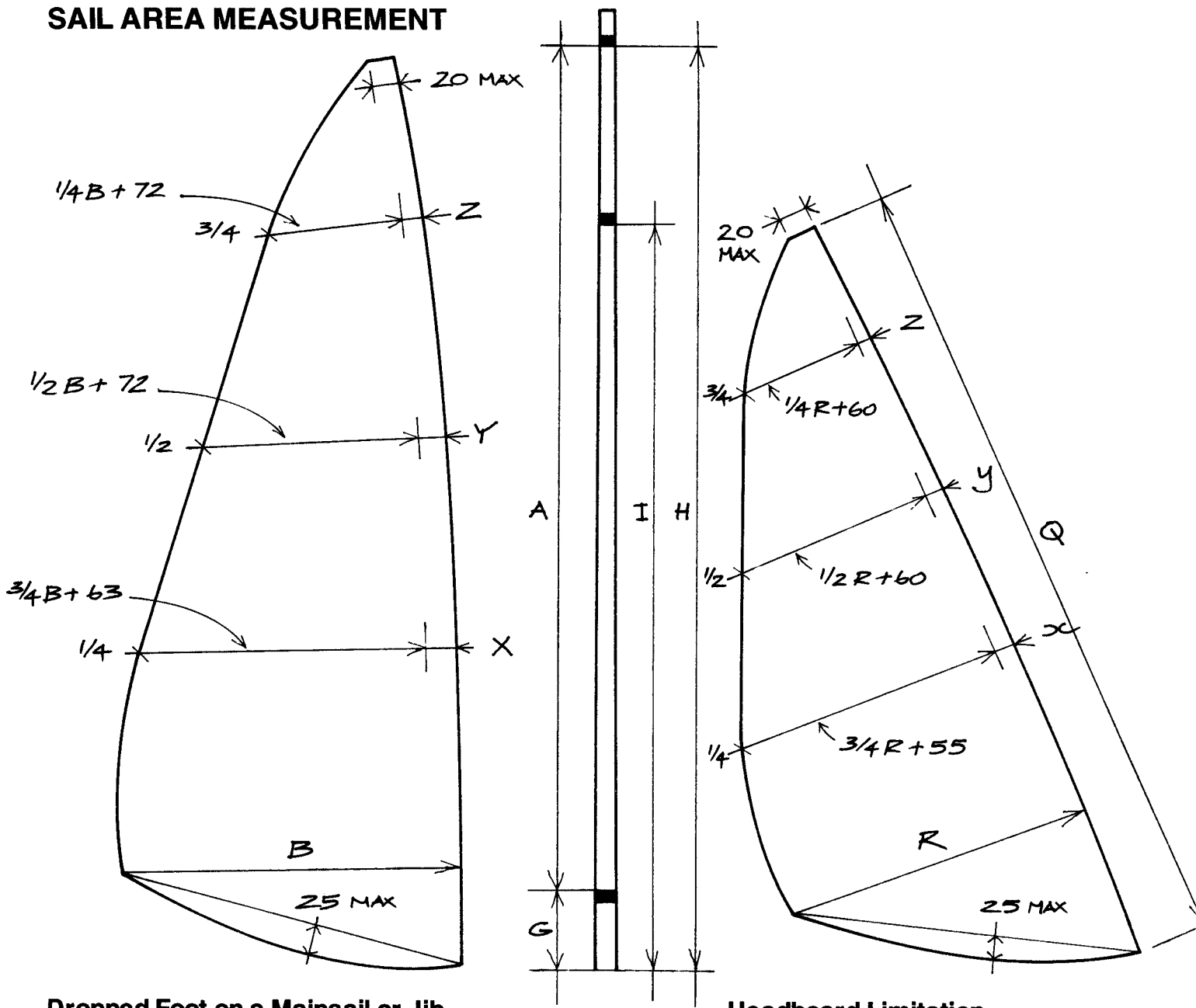


Spars 5.3.1 (b)

Where boom spars meet, the minimum combined cross section at all points shall not exceed 40 mm.

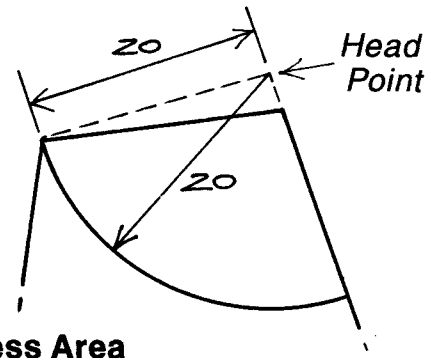
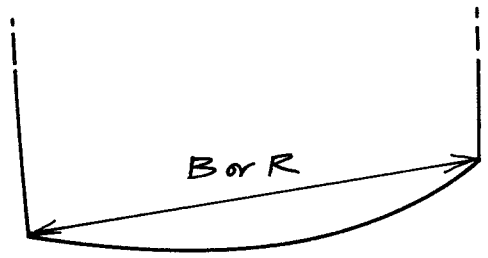


SAIL AREA MEASUREMENT



Dropped Foot on a Mainsail or Jib

Headboard Limitation



SAIL AREA CALCULATION

Triangular Sail Area

Mainsails

$$0.5 \times A \times B$$

Jibs

$$0.5 \times Q \times R$$

Excess Area

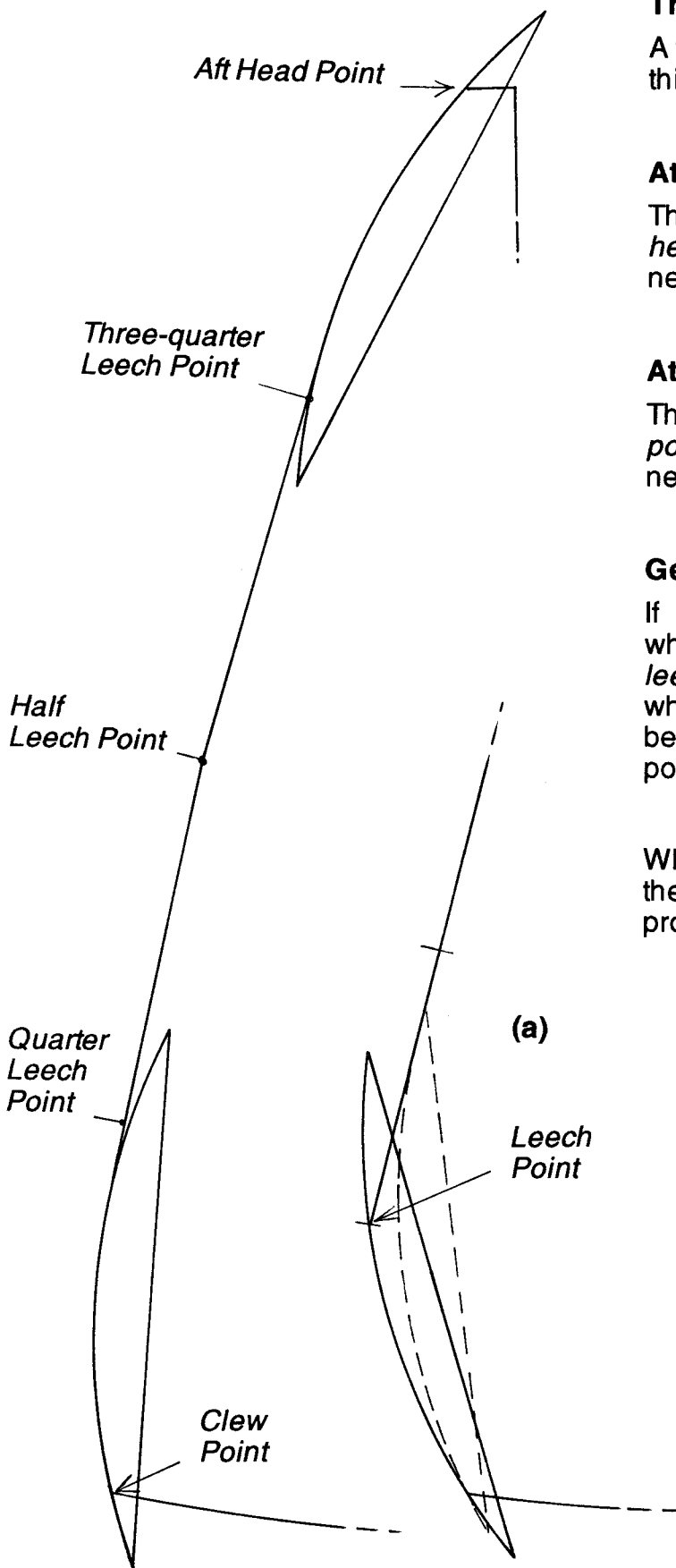
$$A \times (2X + Y + 2Z) / 6$$

$$Q \times (2x + y + 2z) / 6$$

Where:

X and x are the excesses in the **quarter widths**
 Y and y are the excesses in the **half widths**
 Z and z are the excesses in the **three quarter widths**

CONTROL OF THE UPPER AND LOWER LEECH PROFILE



The template

A template of 900 mm radius shall be used for this purpose.

At the head

The template shall be placed to touch the *aft head point* and a straight line through the two nearest *leech points*.

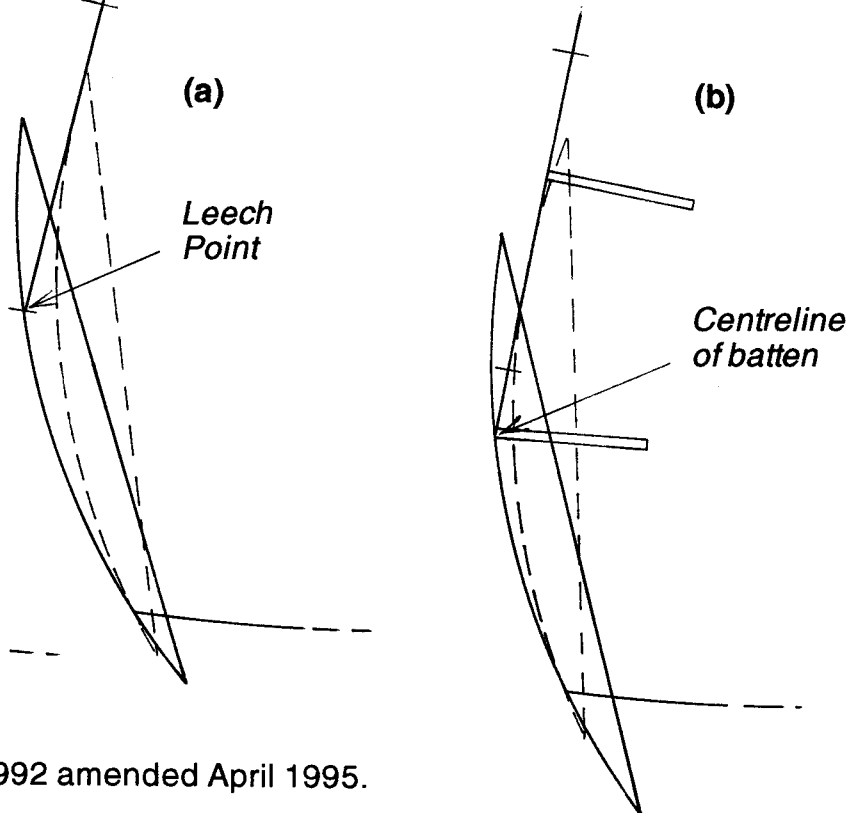
At the clew

The template shall be placed to touch the *clew point* and a straight line through the two nearest *leech points*.

General

If a *leech point* (diagram a) and/or a point where the centreline of a batten intersects the *leech* (diagram b) falls outside the template when positioned as above, the template shall be repositioned to either point so that neither point appears outside the template.

When the template is positioned according to the instructions above, the *leech* shall not project outside the template.



Effective 1 June 1996
 Previous issue: 1 May 1992 amended April 1995.

CONTROL OF HULL APPENDAGES

The hull appendages shall be constructed so that the depth restriction gauge, when placed transversely,.....

can be passed under the appendages without either of the two upper corners of the gauge losing contact with the hull.

