

MODEL YACHTING ASSOCIATION SIX METRE CLASS RULE

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Ratified by MYA Council 31.5.97 to come into force from 1.6.97

Amended by MYA Council 17.1.98 - Rule 3.3.5

Amended at 2007 AGM – Rules 3.3.5; 3.4.1; 5.3.3; 5.6; 6.1

MODEL YACHTING ASSOCIATION

SIX METRE CLASS RULE

The rule should be read in conjunction with:

The ISAF Sail Measurement Rules.
The MYA National Class Supplementary Rules.

1. GENERAL

1.1 Purpose of the Measurement Rules

- 1.1.1 The Six Metre Class is a development class and anything not specifically prohibited or restricted by the rules is permitted.
- 1.1.2 The intention of these class rules is to give the designer and builder the freedom in design and construction to build and produce boats which rate no greater than 833 mm calculated by the following formula

$$\text{Rating} = \frac{\mathbf{L} + 2\mathbf{d} - \mathbf{F} + \sqrt{\mathbf{S}}}{2.37} + \text{Penalties}$$

where **L** is the length given in 3.5.1
d is the girth difference given in 3.5.7
F is the freeboard given in 3.5.8
S is the sail area given in 5.7
Penalties are as given in 3.5.9

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

1.2 Units of Measurement

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

Measurement	Units	Decimal Places Measurement	Decimal Places Calculation
Length	millimetres	0	0
Rating	millimetres	0	0
Area	square millimetres	-	0
Displacement	cubic millimetres	-	0
Weight	kilograms	1	-

- 1.2.2 Maximum and minimum values shall be taken as absolute limiting values. Measurement shall not be rounded before comparison.
- 1.2.3 Measurements and calculated values shall be correctly rounded to the required number of decimal places before recording on the Measurement Form.
- 1.2.4 Any previously calculated value used in subsequent calculations shall be the correctly rounded recorded value.

2. MEASUREMENT

- 2.1.1 Except as in 2.1.2 and 2.1.3, the hull and hull appendages shall either conform with the class rules in force when the boat was first measured or conform with these class rules.
- 2.1.2 Alterations, replacements or repairs to the boat shall be made in accordance with these class rules and shall be checked by an Official Measurer in cases where the rating may be affected or where such items are required to be measured.
- 2.1.3 On all boats the rig (see 4.1), equipment (see 6), measurement marks (see 3.6) and the forward 13 mm of the hull (see 3.3.11) shall conform with these rules.
- 2.1.4 When control measured at an event, provided the boat weighs within 0.1 kg of the recorded weight and complies with the recorded rig or sail measurements it shall be considered to conform to the class rules. Larger rig and sail measurements are not permitted even if they would comply with the restrictions in these class rules.

3. HULL

3.1 General

- 3.1.1 The boat shall be a monohull.

3.2 Definitions and Abbreviations

- 3.2.1 WATERLINE PLANE is the plane of the water surface level remote from the hull.
- 3.2.2 PROFILE is the side view of the boat viewed as if from infinity.
- 3.2.3 FORWARD WATERLINE ENDING is the point at which the forward PROFILE cuts the WATERLINE PLANE.
- 3.2.4 AFT WATERLINE ENDING is the point at which the aft PROFILE cuts the WATERLINE PLANE.
- 3.2.5 LWL, the waterline length, is the length between the FORWARD and AFT WATERLINE ENDINGS of the hull.
- 3.2.6 BOW STATION is the vertical transverse plane through the hull where the bow PROFILE is 13 mm above the WATERLINE PLANE.
- 3.2.7 STERN STATION 1 is the vertical transverse plane through the hull where the stern PROFILE is 13 mm above the WATERLINE PLANE.
- 3.2.8 STERN STATION 2 is the vertical transverse plane through the hull where the stern PROFILE is 25 mm above the WATERLINE PLANE.
- 3.2.9 GIRTH STATION is the vertical transverse plane through the hull at 0.55 of the LWL from the FORWARD WATERLINE ENDING.
- 3.2.10 DISPLACEMENT is the weight of the boat in kilograms multiplied by 1,000,000.
- 3.2.11 DECK EDGE at any section is taken as the lowest point of contact between the hull and a tangent at 30 degrees to the horizontal. (See diagram)
- 3.2.12 SHEERLINE is the DECK EDGE seen in profile.
- 3.2.13 FREEBOARD MEASUREMENT POINTS are the DECK EDGES at the BOW STATION, GIRTH STATION and STERN STATION 1.
- 3.2.14 EXTREME BEAM is the maximum beam of the hull measured horizontally in any transverse plane.

3.3 Hull

- 3.3.1 The afterbody shall be so shaped that a chain girth measurement can be taken at STERN STATION 2.
- 3.3.2 STERN STATION 2 shall not be less than 26 mm aft of STERN STATION 1.
- 3.3.3 The SHEERLINE shall be a fair and continuous concave curve between a point 50 mm aft of the foremost point of the hull and STERN STATION 1.

- 3.3.4 There shall be no hollows in the surface of the hull above the WATERLINE PLANE except in the PROFILE of the stern forward of STERN STATION 1 as follows:
- a) at the stern immediately resulting from the hollow permitted in the stern PROFILE providing that any such hollows fall within the buttock line 32 mm from the fore and aft centreline and below STERN STATION 1.
 - b) in the foremost 50 mm of the hull to accommodate the fitting of elastomeric material.
 - c) at the bow immediately resulting from the hollow permitted by 3.3.4 c)
 - d) hollows which do not exceed 1 mm in depth when checked with a straight edge 300 mm long.
- 3.3.5 The camber of the deck between the DECK EDGES in any transverse section shall not exceed 13 mm. Hatch covers allowing access to control gear and control gear containers with their lids, and cabin and coach roofs shall be ignored when measuring the camber of the deck.
- 3.3.6 More than two underwater appendages capable of movement in relation to the hull are prohibited.
- 3.3.7 Centreboards and similar contrivances are prohibited.
- 3.3.8 The beam of the boat measured at any point more than 104 mm below the WATERLINE PLANE shall not exceed 250 mm.
- 3.3.8 If fitted, winglets on the keel shall be incapable of being retracted and/or adjusted in trim while sailing.
- 3.3.10 Where any appendage extends beyond the AFT WATERLINE ENDING it shall not exceed 13 mm in thickness and no part of it shall cut the WATERLINE PLANE beyond the AFT WATERLINE ENDING.
- 3.3.11 The forward 13 mm of the hull shall be made of elastomeric material.

3.4 Flotation and FORWARD and AFT WATERLINE ENDINGS

- 3.4.1 The FORWARD and AFT WATERLINE ENDINGS shall be established with the boat floating in fresh water in sailing trim with the heaviest rig available at the time of measurement, in its normal position. (for sails/rigs added later see 6.1.2)
- 3.4.2 All other measurements shall correspond to this trim.

3.5 Hull Measurements for the Formula

- 3.5.1 The length L is the length between the BOW STATION and the STERN STATION 1 PLUS the Bow Tax (see 3.5.2) PLUS the Stern Tax (see 3.5.3 and 3.5.4) PLUS the Displacement Penalty (see 3.5.5) PLUS the Beam Penalty (see 3.5.6)
- 3.5.2 The Bow Tax is one and one half times the difference between the chain girth at the BOW STATION measured to points 42 mm above the BOW STATION's lowest point and 84 mm. For the purpose of calculation the minimum girth difference at this station shall be 25 mm.
- 3.5.3 The Stern Tax is one third of the difference between the chain girth, from DECK EDGE to DECK EDGE, at STERN STATION 1 and the sum of the vertical heights of the hull to the DECK EDGES at this station. For the purpose of calculation the minimum girth difference at this station shall be 83 mm.
- 3.5.4 Should the difference between the chain girth, from DECK EDGE to DECK EDGE at STERN STATION 2, and the sum of the vertical heights of the hull to the DECK EDGES at this station be less than 65% of the girth difference at STERN STATION 1, the deficiency shall be added to the girth difference at STERN STATION 1 before calculating the Stern Tax.

- 3.5.5 Displacement Penalty (added to length L). When the LWL is greater than $5 \times (3\sqrt{D} - 21)$, where D is the DISPLACEMENT of the boat, the difference between the LWL and the calculated figure shall be doubled for this penalty.
- 3.5.6 Beam Penalty (added to the length L). Should the beam, measured in the horizontal plane one third of the height of the girth station freeboard above the WATERLINE PLANE at the GIRTH STATION, be less than 254 mm then the deficiency shall be multiplied by four for this penalty.
- 3.5.7 The girth difference, d in the formula, shall be measured at the GIRTH STATION and shall be the sum of the differences between the skin girth and the chain girth measured on both sides of the boat from the DECK EDGES to the corresponding points on surface of the hull or appendage at a level 104 mm below the WATERLINE PLANE.
- 3.5.8 The freeboard, F, is the sum of the average heights of the FREEBOARD MEASUREMENT POINTS above the WATERLINE PLANE at each station, divided by three. The maximum freeboard, F, for use in the formula is 101 mm.
- 3.5.9 Hull penalties included in the rating of the boat.
- a) Draught Penalty. The maximum draught without penalty is $0.16LWL + 69$ mm. Three times any excess shall be included in the rating.
 - b) Tumblehome Penalty. The maximum tumblehome, measured to the DECK EDGE on either side of the boat, without penalty is 2% of the EXTREME BEAM. Three times any excess shall be included in the rating.

3.6 Measurement Marks

- 3.6.1 Measurement marks shall be of a colour which contrasts with the colour of the deck and shall be of uniform width between 2 and 6 mm wide and a minimum of 10 mm in length.
- 3.6.2 Deck
- a) The mast measurement mark shall be placed with its forward edge at the foreside of the mast
 - b) The fore-triangle measurement mark shall be placed with its aft edge at the measurement point.
- 3.6.3 Where it is possible to move the mast fore and/or aft, additional marks shall be placed 13 mm forward and/or aft of the mast and fore-triangle measurement marks.

3.7 Identification Marks

- 3.7.1 The boat's national letters and registration number shall be legibly marked either on the outside of the hull or within the hull in an easily visible location.

4. RIG

4.1 General

- 4.1.1 The rig is defined as the mast, running and standing rigging, main boom, headsail boom if used, spinnaker boom if used, one mainsail, one headsail, one spinnaker if used, and any associated fittings and equipment.
- 4.1.2 No part of a rig shall extend beyond the limits of the boat's overall length when the sails are held on the centreline of the boat.
- 4.1.3 The headsail tack shall be connected to the deck no more than 5 mm from the centreline plane of the boat or, when a headsail is set on a boom, the pivotal axis of the fitting connecting the boom to the deck shall cut the deck no more than 5 mm from the centreline plane of the boat and at least $0.5 J$ mm before the mast.

4.2 Mast

- 4.2.1 Rotating masts and masts with rotating fairings are prohibited.

4.2.2 The mast may be moved no more than 13 mm from the measured position without the boat requiring re-measurement.

4.2.3 Permanent set in the foreside of the spar between the upper mast band and the spar at deck level shall not exceed 10 mm.

4.3 Main Boom

4.3.1 The maximum dimension of the spar cross section shall not exceed the maximum dimension of the mast spar cross section.

4.3.2 The depth of the spar at any point shall not exceed twice its maximum width.

4.3.3 Permanent set in the upper edge of the spar measured between the fore end of the spar and the main boom band shall not exceed 5 mm.

4.4 Spinnaker boom (if used)

4.4.1 The maximum dimension of the cross section of the spar shall not exceed 19 mm.

4.4.2 The distance between the outermost point of attachment to the spinnaker and the nearest point on the centreline of the mast shall not exceed J mm.

4.4.3 The spinnaker boom shall be controlled independently of the main boom.

4.5 Fittings

4.5.1 A fitting that is faired into a spar shall be considered to be part of that spar.

4.6 Measurement Bands

4.6.1 Measurement bands shall be of a colour which contrasts with the colour of the spar and shall be of uniform width between 2 mm and 6 mm.

a) The upper mast band shall be placed with its lower edge no higher than 1806 mm above the deck.

b) The middle mast band shall be placed with its lower edge no higher than 1355 mm above the deck.

c) The lower mast band shall be placed with its upper edge where a line extended along the top of the main boom spar cuts the aft side of the mast and no higher than 153 mm above the deck.

4.6.2 The main boom band shall be placed with its forward edge at the measurement point on the upper edge of the spar.

5. SAILS

5.1 Sail Plan

5.1.1 The sail plan shall consist of one mainsail, one headsail and, optionally, one spinnaker.

5.2 General

Where a term defined or a measurement given in the "ISAF Sail Measurement Rules" is used in these rules it is printed in *italic* type.

5.2.1 Sails shall be *soft sails* and measured in accordance with the current "ISAF Sail Measurement Rules", except where varied herein.

5.2.2 Battens need not be removed from sails during measurement.

5.2.3 Discontinuous attachments on a sail *luff* shall be disregarded for the purpose of measurement provided their total length, measured along the *luff*, does not exceed 10% of the total length of the *luff*.

5.2.4 Where a sail is fitted with a bolt rope or sliders which is/are held in a recess in the spar, the sail shall be measured ignoring the bolt rope or the sliders in the recess.

5.3 Mainsails

5.3.1 The mainsail shall be basically triangular and bounded by the *luff*, *foot* and *leech*.

- 5.3.2 *Double-luff* mainsails are prohibited.
- 5.3.3 The mainsail may include a pocket of unlimited width at the luff through which runs a jackline attached at intervals to the mast, provided that the jackline does not exceed 1mm in diameter. The jackline need not be removed during sail measurement.
- 5.3.4 *Quarter, half and three quarter widths* shall not exceed $0.75 B + 90$ mm, $0.5 B + 110$ mm, $0.25 B + 105$ mm respectively.
- 5.3.5 More than four battens are prohibited. Battens shall be placed no more than 20 mm from points that would divide the *leech* into equal parts as shown in the diagram.
- 5.3.6 Batten lengths shall not exceed the following:
- | | |
|---------------|--------|
| Upper batten | 167 mm |
| Other battens | 205 mm |
- 5.3.7 The *leech* between the centreline of the upper batten, if necessary projected to the leech, and the *aft head point* shall not project more than 25 mm from a straight line between these points.
- 5.3.8 The *leech* between the centreline of the lower batten, if necessary projected to the leech, and the *clew point* shall not project more than 25 mm from a straight line between these points.
- 5.3.9 For the purposes of 5.3.6 and 5.3.7, the *leech* of a sail with no battens shall be treated as though the sail had four battens with the centreline of the battens at points that would divide the *leech* into equal parts.
- 5.3.10 The *foot* shall not project more than 25 mm below a straight line joining the tack point and the *clew point*.
- 5.3.11 Where the *clew point* and/or the *tack point* are not clearly defined, these points shall be identified by marks on the sail or by lines which when projected intersect at the required point.
- 5.3.12 A headboard is not considered to be part of the mainsail and it shall not exceed 22 mm wide by 22 mm high.
- 5.3.13 The *aft head point* shall not extend more than 22 mm aft of the mast.
- 5.3.14 The *head point* shall not extend above the lower edge of the upper mast band.
- 5.3.14 The *tack point* shall not extend below the upper edge of the lower mast band.
- 5.3.15 The *clew point* shall not extend aft of the forward edge of the main boom band.

5.4 Headsails

- 5.4.1 Headsails set on a boom,
- a) The width, measured from the mid point of the *luff* to the nearest point on the leech, shall not exceed $0.5 J + 50$ mm.
 - b) More than three battens are prohibited.
 - c) The length of a batten shall not exceed 100 mm.
 - d) Headboards are prohibited.
 - e) When held on the centreline of the boat, the *head point*, *tack point* and any part of the *luff* or luff spar shall not extend forward of a straight line between the middle mast band and a point on the centreline of the deck J mm before the mast.
- 5.4.2 Other headsails - not set on a boom.
- a) The *foot* length shall not exceed $J + 417$ mm.
 - b) These sails shall not be set on a boom.
 - c) Battens are prohibited.
 - d) Headboards are prohibited.
 - e) The attachments points of the head and tack shall not be forward of a straight line between the middle mast band and a point on the centreline of the deck J mm before the mast.

5.5 Spinnakers

- 5.5.1 a) Headboards are prohibited.
b) The length of the *leeches* shall not exceed $I + 150$ mm
c) Battens are prohibited.
- 5.5.2 A spinnaker may be attached only by the head and clews.
- 5.5.3 The attachment point of the head to the mast shall not be forward of a straight line between the middle mast band and a point on the centreline of the deck J mm before the mast.
- 5.5.4 The attachment point of one clew shall be to the spinnaker boom.

5.6 Identification Marks

- 5.6.1 Sails measured after December 31st 2007 shall carry identification marks in accordance with the current ISAF sail marks rules.
- 5.6.2 Sails measured prior to December 31st 2007 shall conform to the sail marks rules relevant to the class at the time of their measurement or with the current rules.
- 5.6.3 The class insignia shall be the figure "6" of the following dimensions: height 25-28 mm, width 19-28 mm, thickness 5-7 mm.

5.7 S - The Area for the Formula

- 5.7.1 The area for the Formula, S , is given by :

$$S = \frac{A \times B}{2} + \frac{0.85 \times I \times J}{2}$$

where

- A Main-triangle Height, is the distance between the upper edge of the lower mast band and the lower edge of the upper mast band.
- B Main-triangle Base, is the distance between the aft side of the mast at the lower mast band and the forward edge of the main boom band.
- I Fore-triangle Height, is the distance along the foreside of the mast between the deck and the lower edge of the middle mast band.
- J Fore-triangle Base is the distance between the forward edge of the deck mast measurement mark and the rear edge of the fore-triangle measurement mark.

6. EQUIPMENT

6.1 Replacements and additions.

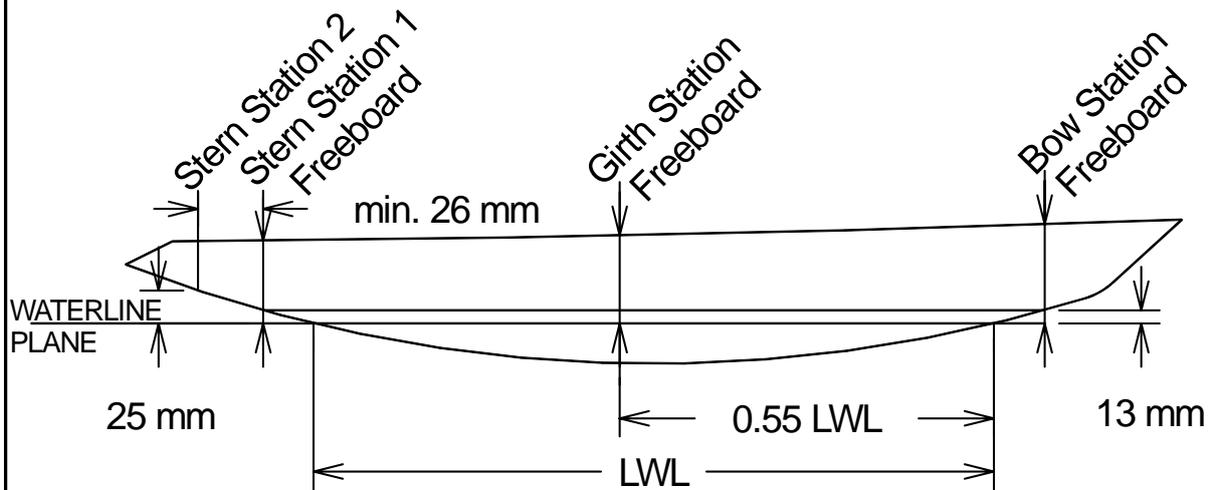
- 6.1.1 Except in the case of authentic damage or loss during an event, when replacements used shall be substantially the same as the originals, the boat shall sail with the mast, main boom, appendages, control gear and ballast as measured.
- 6.1.2 Additional sails and jib booms may be used provided that they have been checked for compliance with the relevant rules, and the sails signed by an Official Measurer and that their weight when fitted does not exceed that of the corresponding items fitted during measurement, by more than 100 grams.

6.2 Prohibited Equipment

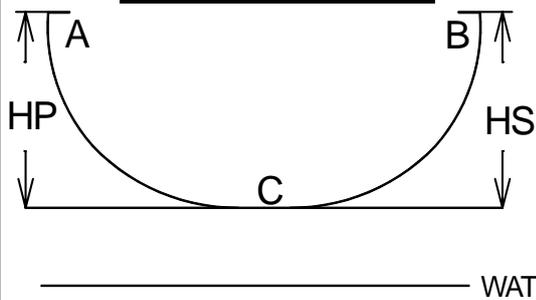
- 6.2.1 Self steering devices are prohibited.
- 6.2.2 Electronic equipment for automatic steering and/or automatic rig trimming is prohibited.

Free Sailing boats shall comply with these rules as amended by the
MYA National Class Supplementary Rules

SIX METRE HULL DIAGRAMS



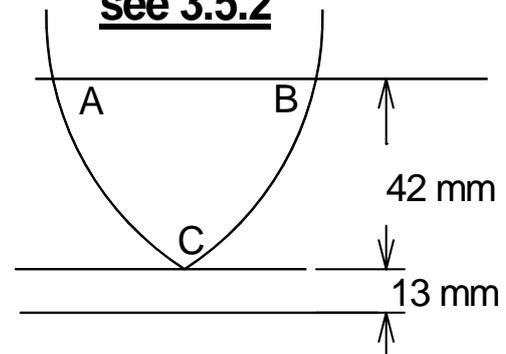
Stern Girth see 3.5.3 & 3.5.4



Girth (ACB) through stern stations to deck edges

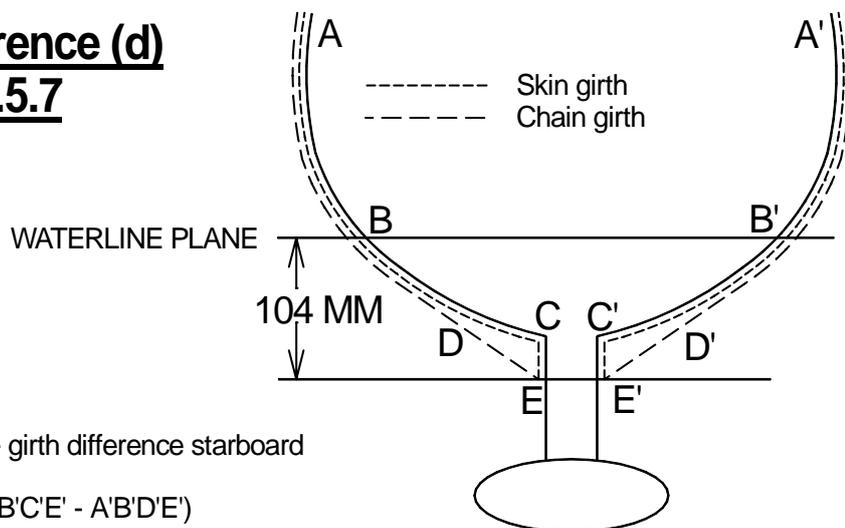
C is 13mm above Waterline Plane for SS1
 C is 25mm above Waterline Plane for SS2
 HP = Vertical height port
 HS = Vertical height starboard

Bow Girth see 3.5.2



Girth (ACB) at Bow Station to points 42mm above the lower profile

Girth Difference (d) see 3.5.7

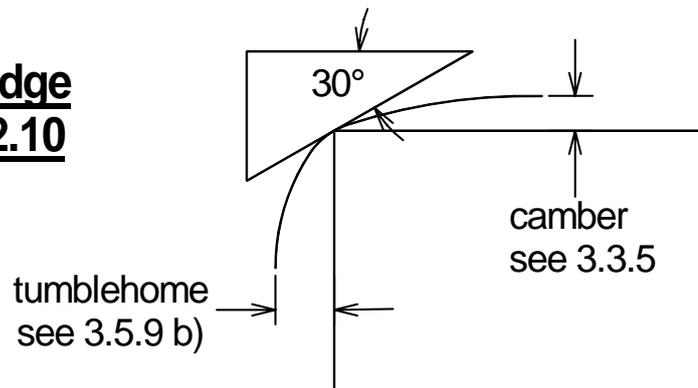


$d = \text{girth difference port} + \text{girth difference starboard}$

$d = (ABCE - ABDE) + (A'B'C'E' - A'B'D'E')$

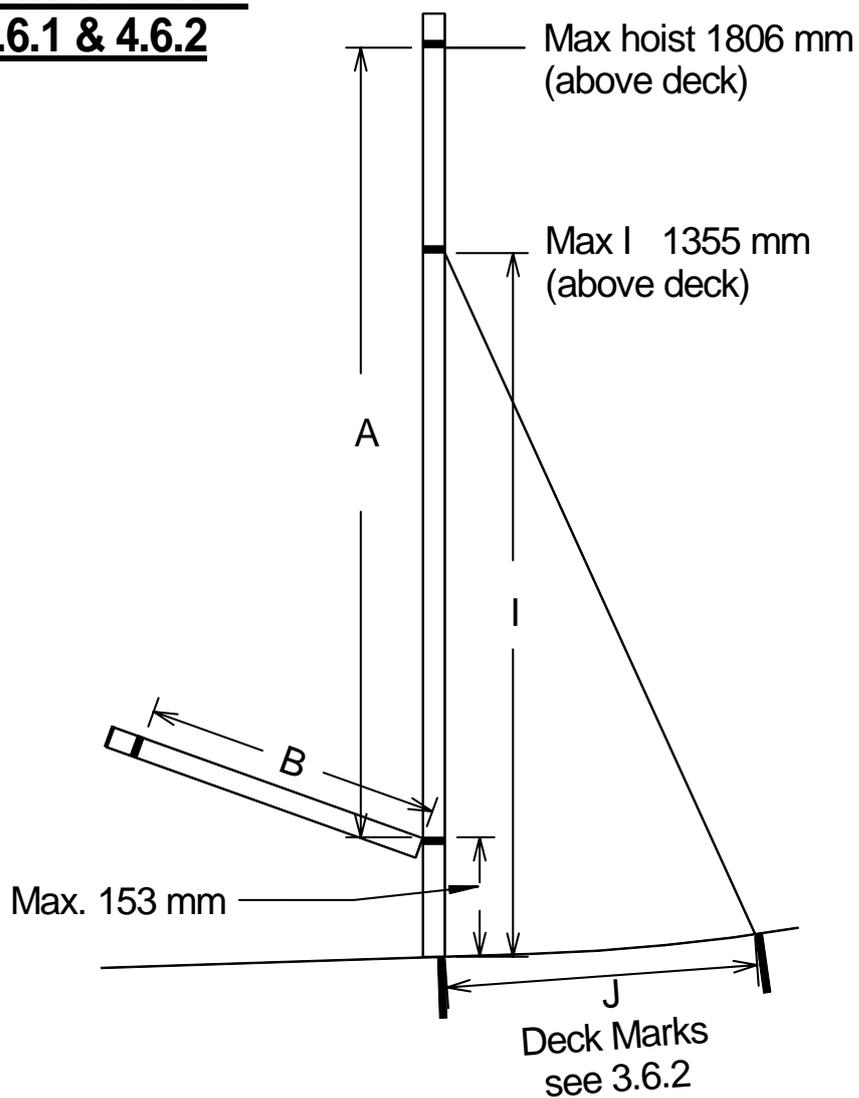
SIX METRE HULL DIAGRAMS (2)

Deck edge
see 3.2.10



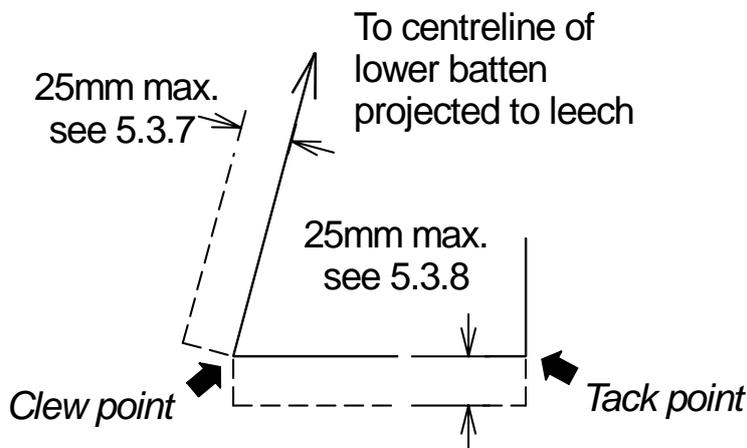
SIX METRE - RIG

Measurement bands
see 4.6.1 & 4.6.2

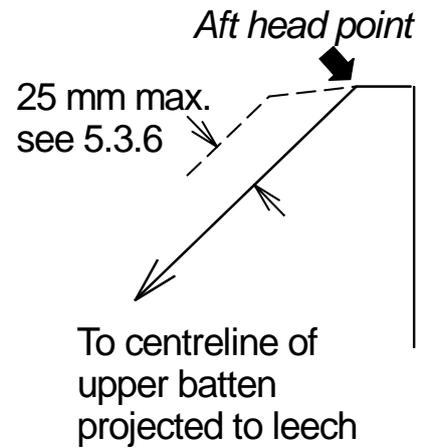


SIX METRE MAINSAIL DIAGRAMS

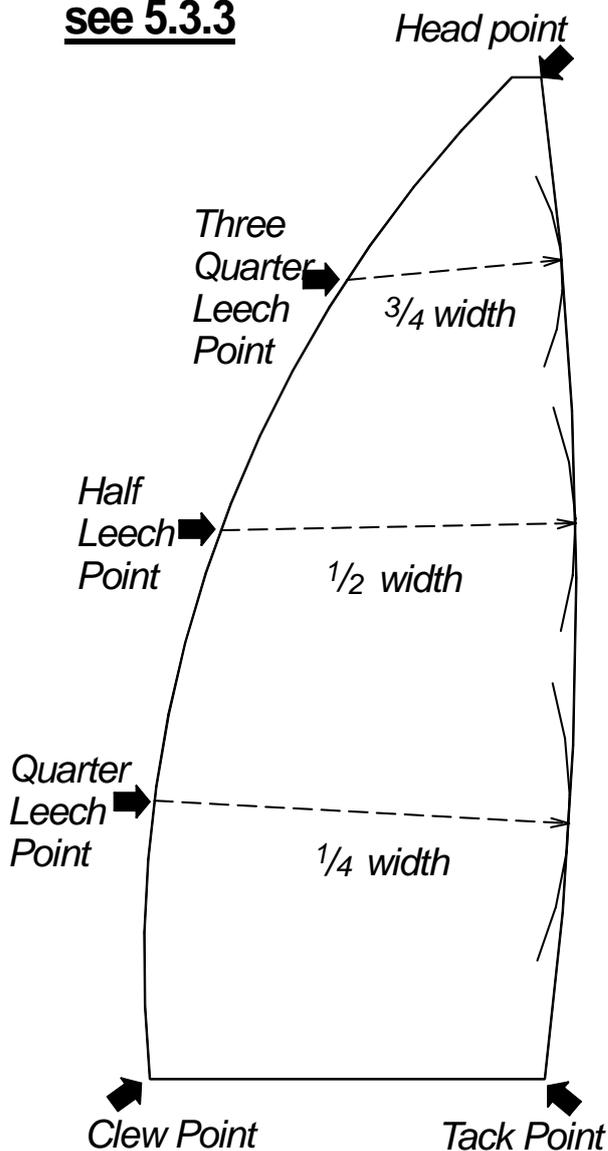
Limit of leech and foot round at clew and tack point



Limit of leech at aft head point



Mainsail widths see 5.3.3



Batten spacing see 5.3.4

