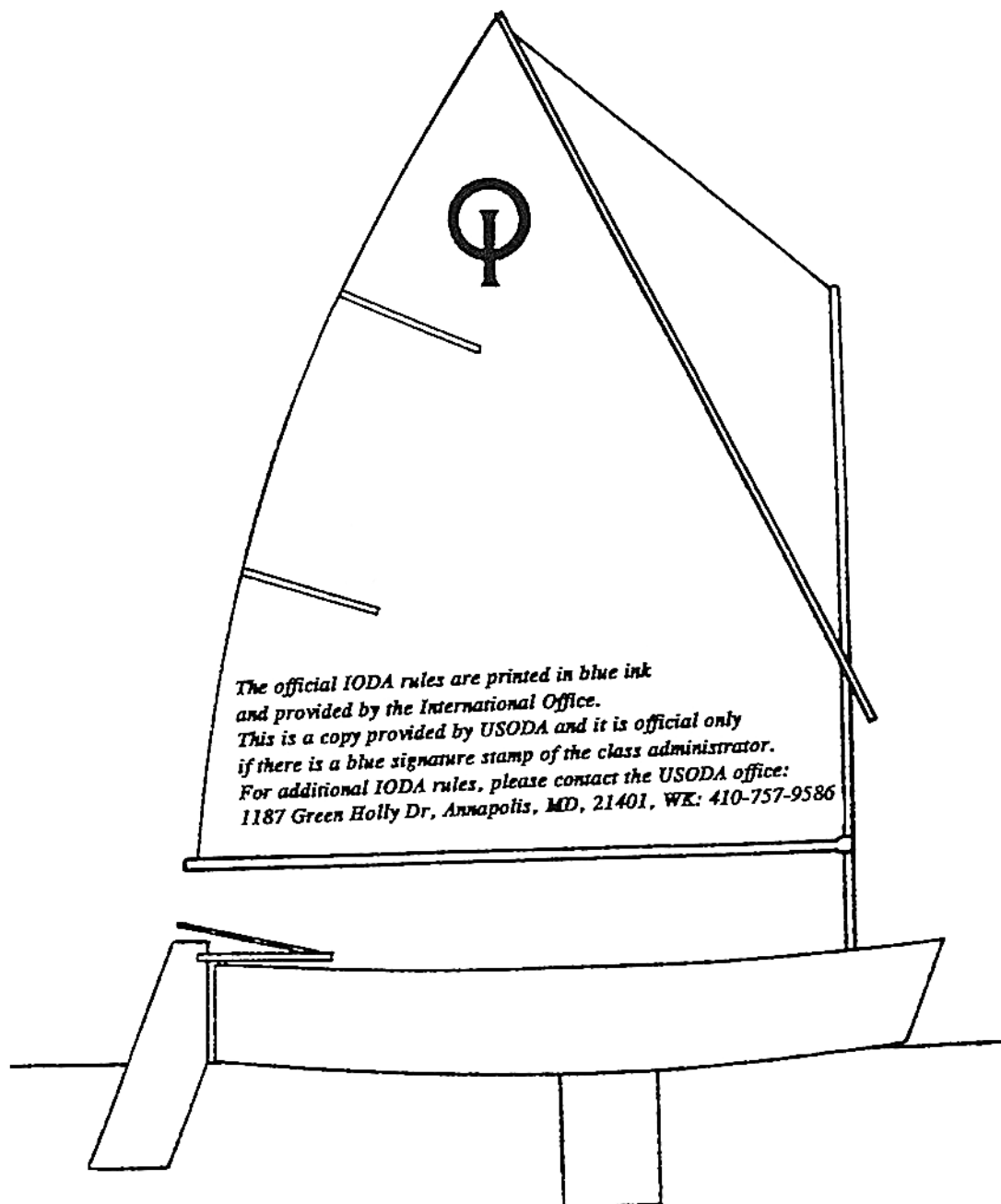


1994

# INTERNATIONAL OPTIMIST CLASS RULES

Authority\*: International Yacht Racing Union  
27 Broadwall, Waterloo, London SE1 9PL, United Kingdom



*The official IODA rules are printed in blue ink  
and provided by the International Office.  
This is a copy provided by USODA and it is official only  
if there is a blue signature stamp of the class administrator.  
For additional IODA rules, please contact the USODA office:  
1187 Green Holly Dr, Annapolis, MD, 21401, WK: 410-757-9586*

\* The International Yacht Racing Union (IYRU) is not a National Authority (NA).

## 1. GENERAL

- 1.1 The object of the class is to provide racing for young people at low cost.
- 1.2 The Optimist is a One-Design Class Dinghy. Except where these rules specifically permit variations, boats of this class shall be alike in hull form, construction, weight and weight distribution, rigging spars and sail plan.
- Note: In deciding whether an item is permitted it should be noted that, in a One-Design Class, unless the rules specifically state that something is permitted it shall be assumed to be prohibited.
- 1.3 These rules are complementary to the plans, measurement form and measurement diagram. Any request for interpretation and resolution thereof shall be made in accordance with current IYRU regulations.
- 1.4 In the event of discrepancy between these rules, the measurement form and/or the plans the matter shall be referred to the IYRU.

## 2. ADMINISTRATION

### 2.1 English Language

- 2.1.1 The official language of the class is English, and in the event of a dispute over interpretation the English text shall prevail.
- 2.1.2 The word "shall" is mandatory and the word "may" is permissive.
- 2.1.3 Wherever in these rules the words "class rules" are used they shall be taken as including the plans, diagrams and the measurement form.
- 2.1.4 The "National Class Association" is the International Optimist Class Association in the country concerned.

### 2.2 Builders

- 2.2.1 The Optimist may be built by any professional or amateur builder.
- 2.2.2 Professional builders shall be responsible for supplying boats complying with the class rules. The builder shall at his own expense correct or replace any boat which fails to pass measurement, due to an omission or error by the builder, provided that the boat is submitted for measurement within twelve months of purchase.
- 2.2.3 Manufacturers of kits or parts shall be responsible for supplying parts, which, when assembled in accordance with the manufacturer's instructions (if any), will produce boats complying with the class rules. The manufacturer of the kit or parts which is shown not to do this shall, at his own expense, replace the parts of the kit which are incorrect provided that the error is made known to the manufacturer not more than twelve months from the date of purchase.

### 2.3 International Class Fee

- 2.3.1 The International Class fee is US \$16.50 or its equivalent in other currencies, of which \$5.85 is due to IYRU, \$7.45 to IODA and \$3.20 to the National Association.
- 2.3.2 The amount of the International Class Fee is determined by the IYRU in consultation with IODA. The Executive Committee may alter this amount following consultation with the IYRU.

- 2.3.3 The International Class Fee shall be paid by the builder on each hull as soon as building or moulding commences or as each kit is manufactured, whether or not the boat is subsequently completed by that builder or another, and whether or not it is subsequently measured and registered.

- 2.3.4 The builder shall buy the building plaque from the National Optimist Association.

- 2.3.5 (a) IODA is responsible for collecting the International Class Fee on behalf of the IYRU.  
(b) IODA will buy from IYRU building plaques at \$5.85 each.  
(c) IODA sells the plaques to National Associations for \$13.30 each.  
(d) The National Association sells the plaques to the builder for \$16.50 each.  
(e) The difference between the selling and buying prices represents the proportion of the International Class Fee due to the IYRU, IODA and the National Association, respectively.  
(f) IODA may also sell the plaques to the builder for \$16.50 each, and shall then remit \$3.20 to the National Association.

Each plaque shall, at every stage, be sold with the official International Class Fee receipt. The International Class Fee receipt shall be sent to the appropriate National Authority when the boat's sail number is applied for.

- 2.3.6 For each International Class Fee paid the National Association shall issue an IYRU International Class Fee receipt and an IYRU plaque, which the builder or kit manufacturer shall deliver with the hull or kit to the owner. International Class Fee receipts are only valid if they are made out on the official forms issued by the IYRU.

### 2.4 Registration and Measurement Certificate

- 2.4.1 No boat is permitted to race in the class unless it has a valid measurement certificate.
- 2.4.2 Each National Authority shall issue sail numbers which shall be consecutive and the number shall be preceded by the national letter(s). Numbering may restart at 1 on reaching number 9999. A National Authority shall issue a sail number only on receipt of evidence that the building fee has been paid.
- 2.4.3 The certificate is obtained as follows:
- (a) The owner or builder shall apply to the appropriate National Authority for a sail number enclosing the building fee receipt. The National Authority shall enter the sail number on the building fee receipt.
- (b) The owner, or builder, shall have the boat measured by a measurer officially recognised by his National Authority. The completed measurement form shall be supplied to the owner of the boat.
- (c) The owner is responsible for sending the completed measurement form to his National Authority, together with any registration fee that may be required. On receipt of this the National Authority may issue a measurement certificate to the owner.
- 2.4.4 Change of ownership invalidates the measurement certificate but shall not necessitate remeasurement. The new owner may apply to his National Authority for a new certificate returning the old measurement certificate together with any re-registration fee required and stating the necessary particulars. A measurement certificate shall then be issued to the owner.
- 2.4.5 Notwithstanding anything contained in these rules, the IYRU or the National Authority shall have the power to refuse to grant a certificate to, or withdraw, a measurement certificate from any boat, giving written reasons for taking such action.
- 2.4.6 In countries where there is no National Authority or in which the National Authority does not wish to administer the class, its functions as stated in these rules shall be carried out by IODA or its delegated representatives (ie National Class Association).

## 2.5 Measurement

- 2.5.1 Only a measurer officially recognised by a National Authority shall measure a hull, spars, sails and equipment, and sign the declaration on the measurement form that they comply with the class rules.
- 2.5.2 The measurer shall report on the measurement form anything which he considers to be a departure from the intended nature or design of the boat or to be against the general interest of the class. A measurement certificate may be refused, even if the specific requirements of the rules are satisfied.
- 2.5.3 A measurer shall not measure a hull, spars, sails, or equipment owned or built by himself, or in which he is an interested party or has a vested interest.
- 2.5.4 All hulls shall comply with the current rules or the rules current at the time the boat was first registered. Fittings, spars, sails and other equipment shall comply with the current rules.
- 2.5.5 It is the owner's responsibility to ensure that his hull, spars, sails and equipment are maintained in accordance with the class rules so that the measurement certificate is not invalidated. Alterations or replacements to the hull, sails, spars and equipment shall comply with the current rules.
- 2.5.6 New or altered sails shall be measured by a measurer who shall stamp or sign and date the sails near the tack. The details shall be recorded on the certificate and the entry signed by the measurer or the secretary of the National Authority.

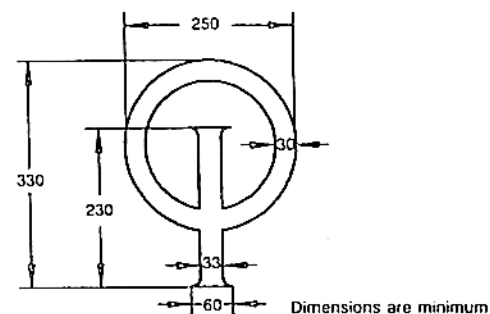
## 2.6 Measurement Instructions

Except where varied by these rules the IYRU Measurement Instructions shall apply.

## 2.7 Identification Marks

- 2.7.1 The Class Emblem shall be the letter I and O and shall conform in shape and size to the pattern held by the IYRU. Copies may be obtained from the National Class Associations, IODA or National Authority.
- 2.7.2 The building fee plaque shall be riveted or glued on the inside of the hull in a clearly visible position.
- 2.7.3 The hull shall have the sail number and National Letter(s) cut into the hog forward of the daggerboard case or in the mast thwart in figures not less than 10mm high in the case of a wooden boat and shall be clearly shown on a plaque firmly fixed to the hull of a non-wooden boat in a position corresponding to that for a wooden boat.
- 2.7.4 The sail number and National Letter(s) shall be clearly marked on the rudder, daggerboard and spars.
- 2.7.5 The sail shall carry identification marks indicated in rule 3.6 and each sail manufactured or measured after January 1st 1990 shall have permanently fixed near its tack an officially numbered sail button. No sail shall be accepted for its first measurement without a sail button. Buttons shall not be transferred from one sail to another. Buttons shall normally be obtained from the International Optimist Class organisation by the sailmakers, but may also be obtained, if necessary, by National Class Organisations.

- 2.7.6 All emblems, marks and numbers shall be clearly legible, of durable material and shall be securely attached.



## 2.8 Sponsorship

Advertising is allowed in accordance with current IYR Rules. In World and Continental events, a competitor may be required or induced to display advertising on a yacht, clothing or equipment.

## 3. CONSTRUCTION AND MEASUREMENT RULES

### 3.1 General

- 3.1.1 All boats shall be built in accordance with the class rules, plans, diagrams and measurement form.
- 3.1.2 Any attempt to concentrate the weight of the boat is prohibited.

### 3.2 Hull

#### 3.2.1 Materials

- 3.2.1.1 The hull shall be constructed of materials approved by the IYRU.

The following are the currently approved materials: wood, glass reinforced plastic, ABS plastic, and self-skinning polyurethane foam.

- 3.2.1.2 Plywood should be of marine or other weatherproof grade suitable for boat building. 12mm (nominal thickness) plywood shall have not less than 5 veneers.
- 3.2.1.3 In non-wooden hulls, foam core is permitted in the following:

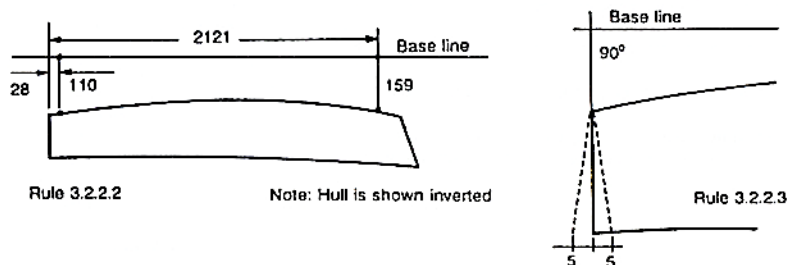
- (i) double-bottom
- (ii) daggerboard case
- (iii) mast thwart
- (iv) double-walled midship bottom frame
- (v) double-walled midship bottom frame side members

The foam core shall be durable, non-absorbent, closed cell foam and shall be bonded to the wall(s).

### 3.2.2 Hull Shape

3.2.2.1 The dimensions of the hull shall be as shown on the plans and as given in these rules, diagrams and measurement form and shall conform with the tolerances stated therein.

3.2.2.2 The base line shall be a horizontal line passing through points which are 110mm and 159mm below the outer surface of the hull on its centreline at 28mm and shall be 2121mm respectively from a vertical plane through the lower corner of the aft transom.



Rule 3.2.2.2

Note: Hull is shown inverted

Rule 3.2.2.3

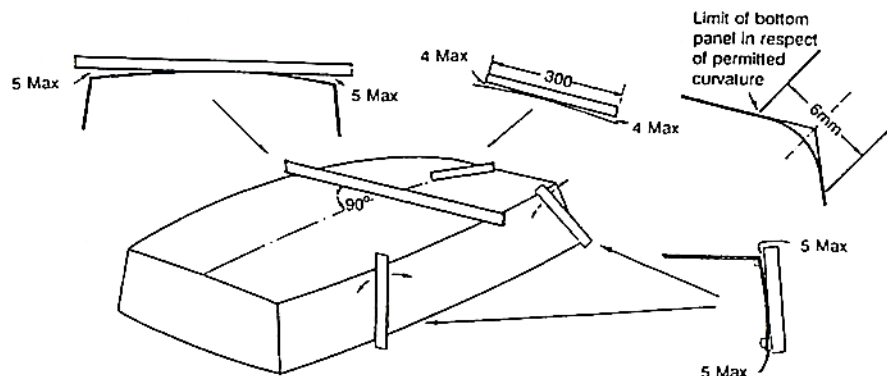
3.2.2.3 The aft transom shall be at right angles to the base line but a maximum deviation of 5mm, measured at the upper edge of the transom is permitted.

3.2.2.4 The overall length excluding rubbing strake, moulding overlap and rudder fittings, shall be 2300mm  $\pm$  15mm.

3.2.2.5 A straight edge long enough to span the bottom panel from chine to chine placed at any point on the panel at right angles to the fore and aft centreline shall nowhere be more than 5mm from the surface of the panel.

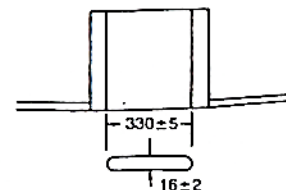
3.2.2.6 A straight edge placed anywhere in contact with the side panel and spanning the panel and so angled that it lies as close as possible to the panel shall nowhere be more than 5mm from the surface of the panel.

3.2.2.7 A straight edge 300mm long placed anywhere on the bottom panel parallel to the fore and aft centreline of the boat shall nowhere be more than 4mm from the surface of the bottom panel. No hollows are allowed. A straight edge 150mm long, placed in the same way, shall nowhere be more than 2mm from the bottom panel. For the purpose of this measurement the extent of the bottom panel will be limited by an edge zone, defined as a 6mm zone across the edge, visually centred on it.



3.2.2.8 The bow and aft transoms shall be flat with not more than 5mm tolerance.

3.2.2.9 The inside of the daggerboard case and of the slot in the hog and bottom panel shall be 330mm  $\pm$  5mm. The ends in the daggerboard case slot shall be parallel and square to the base line. A rake to taper not exceeding 5mm is permitted. The upper edge of the daggerboard case shall be parallel to the base line, with a tolerance of 5mm maximum.

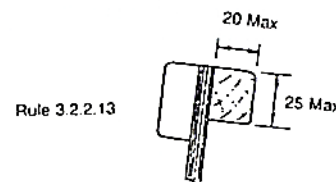


3.2.2.10 The inside of the daggerboard case and the slot in the hog and bottom panel shall be 16mm  $\pm$  2mm and it shall be uniform throughout its length and depth. The fore and aft ends of the slot may be semi-circular in cross section.

3.2.2.11 Bilge keels, maximum depth 20mm may be fitted.

3.2.2.12 The outside edges of the hull between the bottom, side panels and transoms may be rounded to a radius of not more than 5mm.

3.2.2.13 A rubbing strake of wood, rubber or plastic, of maximum dimensions 20mm wide x 25mm deep, is permitted.

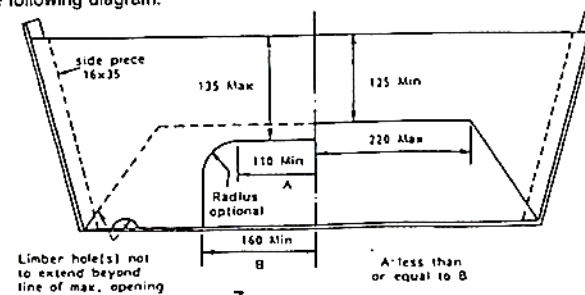


Rule 3.2.2.13

### 3.2.3 Inside Hull Details

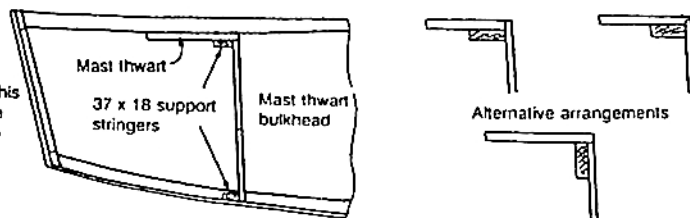
3.2.3.1 There shall be a mast thwart positioned as shown on the plan. It shall be 195mm  $\pm$  5mm wide and not less than 16mm nor more than 25mm thick.

3.2.3.2 There shall be a mast thwart bulkhead fixed to the aft side of the mast thwart, and in wooden hulls to the side pieces secured to the side panels. In non-wooden hulls the bulkhead may be bonded to the side panels by flanges, max width 40mm. For this purpose the forward side of the buoyancy cover if bonded to or moulded with the hull sides, is considered to be a flange. The bulkhead shall comply with the following diagram.



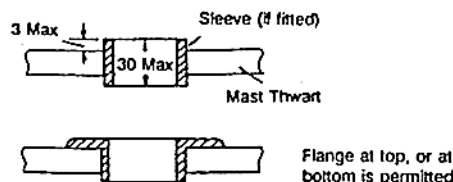
- 3.2.3.3 Support stringers may be fitted below the aft side of the mast thwart and along the bottom of the mast thwart bulkhead as shown on the diagram below. If fitted the stringers shall be of wood  $37\text{mm} \pm 2\text{mm} \times 18\text{mm} \pm 2\text{mm}$ .

Note: Although diagrams on this page show a wooden hull, the dimensions indicated apply to other boats



- 3.2.3.4 There shall be a midship frame positioned as shown on the plans. Limber holes not exceeding  $2000\text{mm}^2$  total area are permitted in the bottom frame. Two slots in the bottom frame are permitted for fastening toe straps. Each slot is not to exceed  $42\text{mm} \times 5\text{mm}$ . Position optional.

- 3.2.3.5 The mast hole in the thwart shall be approximately circular. The diameter is optional but shall not vary by more than 3mm in any direction. A sleeve of any material may be fitted in the hole to limit abrasion. The sleeve shall not extend more than 3mm above the mast thwart. The total height of the sleeve shall not exceed 30mm and its hole shall comply with the requirements of this rule.

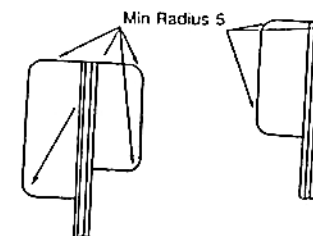


- 3.2.3.6 The shape of the hole in the mast step is optional. (See also rule 3.2.5.1 (h)).
- 3.2.3.7 Except as specified in these rules or on the plans, holes or cut outs in the daggerboard case, mast thwart, mast thwart bulkhead and midship frame are prohibited.

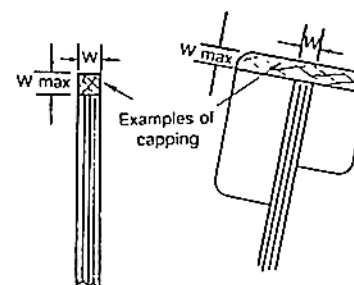
## 3.2.4 Construction details

### 3.2.4.1 Wooden Hull

- The scantlings shown on the plans for the frames, hog and stringers shall be complied with but exposed corners, except for gunwale stringers (see rule (f) below), may be rounded to a maximum radius of 5mm.
- The midship bottom frame and the daggerboard case sides shall be of plywood with a nominal thickness of 12mm.
- As optional construction, the bow and stern transoms shall be of plywood with a nominal thickness of 6mm and max. 12mm.
- The bottom and side panels, knees and mast thwart bulkhead shall be of plywood with a nominal thickness not less than 6mm.
- The bottom and side panels shall each be of uniform thickness.
- The exposed edges of the gunwale stringer and upper outer edge of the side and transom panels (or exposed edges of the rubbing strake if fitted) shall be rounded to a radius of not less than 5mm.

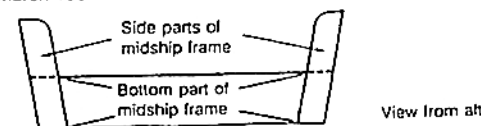


- The knees at the transoms may be inset so that their upper surfaces are level with the top of the gunwale stringers.
- Exposed edges of plywood may be capped with solid wood or plywood. The depth of the capping shall not exceed the thickness of the plywood being covered and its width shall not exceed the width of the part of assembled parts being capped.

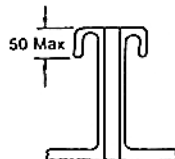


### 3.2.4.2 Non-Wooden Hull

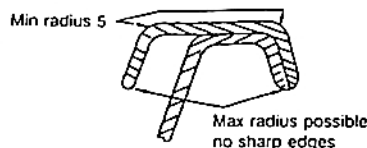
- A non-wooden hull shall not be inferior to a wooden hull with regard to safety, strength and buoyancy. All the rules for the wooden hull shall apply, except where differences in method or form of construction are specified in the following rules or as shown on the construction plan for a non-wooden hull.
- The bottom panel may be single-walled, single-walled with stringers, double-walled or double-walled with stringers. For hulls built after 1st March 1981, stringers (if fitted) shall be positioned as for the wooden hull. The total thickness of the bottom including stringers (if fitted) shall not exceed 30mm. The bottom shall, excluding stringers, be of uniform thickness. Anti-slip features not exceeding 0.5mm thickness may be incorporated. Any cavity in a double-bottom may be filled with non-absorbent foam.
- The sides, and fore and aft transoms shall be of single wall construction. The bottom (upper parts) may be fitted to the sides and transoms by flanges, not exceeding 80mm high. They shall not be thickened by stringers except that a gunwale stringer, chine stringer and rubbing strake are permitted. The sides shall not incorporate webs or other features which increase the stiffness of the sides except that steps or flanges are permitted within 40mm of the mast thwart, mast thwart bulkhead and midship frame.
- A straight edge 200mm long placed on the surface on the side of the daggerboard case so that it lies in a vertical plane shall, nowhere be more than 5mm from the surface of the side except within areas where stringers are required or permitted. This rule shall be effective from 1st March 1981.



- (e) The midship frame shall be as shown on the plans and may be of single or double-skinned construction and shall be positioned as for the wooden hull. The bottom part of the frame shall be not less than 196mm and not more than 220mm measured from the outside of the bottom of the hull, and it shall be of thickness not less than 12mm and not more than 16mm. Side members of 16mm +/- 4mm if fitted shall be aft of the bottom frame or of one piece with it. The midship frame shall be bonded to the side panel and bottom panel by flanges, max 40mm. For this purpose the aft side of the buoyancy cover, if bonded to or moulded with the hull sides, is considered to be a flange.
- (f) Inside the hull, at junction of sides, transoms, bottom, midship frame, mast thwart, mast thwart bulkhead, daggerboard case and gunwale stringer a radius not exceeding 20mm is permitted.
- (g) The daggerboard case shall be either of single or double-walled construction. The sides shall not be more than 50mm thick. If of double-walled construction the cavity may be filled with non-absorbent foam and the sides shall not incorporate any webs or other stiffening features other than that shown on the plans for non-wooden hull. The daggerboard case shall be fixed to the midship frame, throughout the depth of the midship frame.



- (h) The mast thwart shall be strong enough to bear a weight of 80kg at its centre without damage.
- (i) Any cavities in the construction of the hull shall not allow water to penetrate. They may be filled with durable non-absorbent foam (see rule 3.2.1.3). Drain holes with plugs are permitted.
- (j) To compensate for the lack of natural buoyancy, 30 litres (cubic decimeters) of durable non-absorbent foam shall be permanently contained within the hull in such a manner that it cannot escape in the event of a capsize. One or any combination of the following shall be used:
- (i) increasing the size of foam block buoyancy units;
  - (ii) encasing non-absorbent foam within a double-bottom, double-midship frame or double-daggerboard case sides.
- (k) The lower edge of the gunwale and rubbing strakes shall be rounded to the maximum possible radius.



- (l) Exposed edges may be covered with any material allowed in rule 3.2
- (m) The gunwale width shall be constant, its inboard edge to be a fair convex curve without steps or sudden changes and not vary more than 5mm at any point. The gunwale shall slope inboard from not more than 23mm from the sheerline.

#### 3.2.4.3 Non-wooden hulls with wooden components

- (a) A non-wooden hull with wooden components shall not be in any way inferior to a wooden hull with regard to safety, strength and buoyancy.
- (b) Non-wooden parts shall comply with the rules for a non-wooden hull and wooden parts shall comply with the rules for a wooden hull.

- (c) Compensation for the loss of natural buoyancy shall be provided as for a non-wooden hull (see rule 3.2.4.2(i)).

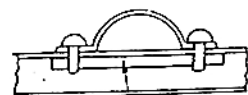
#### 3.2.4.4 Wooden Hull of 'Stitch and Glue' Construction

- (a) Except where differences in method of construction are specified below or shown on the construction plan for a 'Stitch and Glue' hull all the rules for a wooden hull shall apply.
- (b) The hog and bilge stringers shall be of plywood not less than 6mm nominal thickness bonded to the inside of the bottom panel. They shall each be of uniform thickness and shall each be of uniform width:
- (i) for the hog not less than 180mm wide;
  - (ii) for the stringers not less than 70mm wide, except forward of the mast thwart bulkhead where they may be tapered to conform to the shape of the bottom panels.
- (c) The chine stringers and the transom bottom frames shall be omitted. Instead the bottom panel shall either be stitched to the side panels and transoms with copper wire at spacings of not more than 60mm, and/or glued with epoxy glue. The joints may be taped inside and/or outside with glass tape and resin.
- (d) Joints between midship frame and bottom panel, midship frame and the sides, the mast thwart bulkhead and sides shall be taped with glass tape and resin.
- (e) The transom side frames shall each extend to not less than 180mm from the top of their respective transoms.

#### 3.2.5 Fittings

##### 3.2.5.1 The following fittings are permitted:

- (a) Mainsheet blocks (excluding those on the boom) shall be attached to the hull only on the daggerboard case or the hog (or equivalent position in a boat without a hog) not less than 790mm from the aft face of the aft transom.
- (b) One ratchet block for the mainsheet.
- (c) Toe straps and associated fixings.
- (d) Floorboards, which shall be removable for weighing the hull.
- (e) A compass and associated fixings, which shall all be removable for weighing the hull.
- (f) Rowlock plates.
- (g) Retaining clip(s) for a paddle or oars.
- (h) An adjustable mast step. Movement of the mast at the mast step or at the passage of the mast through the mast thwart shall not be able to exceed 3mm in any horizontal direction. The mast or mast stop shall not be adjusted while racing. Mast step devices which can be easily set while racing in such a way that this class rule is infringed, are prohibited.
- (i) Retaining clips for water bottles, food container or other personal equipment, which shall be removable for weighing the hull.
- (j) Retaining clip for fastening the tiller extension to the tiller.
- (k) Strips of non-metallic material may be fitted in the daggerboard slot within 30mm of the top and the bottom of the slot to achieve a uniform opening of 16mm +/- 2mm at the top and the bottom of the slot. Additional non-metallic material may be placed within 30mm of each end of the top and bottom of the slot to act as positioning and protection of the daggerboard. This additional material shall be removed upon request of the measurer, for the measurement of the slot.
- (l) A handle or ball may be used on the outer end of:
  - (i) Spirit halyard.
  - (ii) Boom downhaul.



Backing plate max 60 x 100  
If metal, max thickness is 5mm



Fixing pad max 60 x 100  
Max thickness of wood pad is 12mm



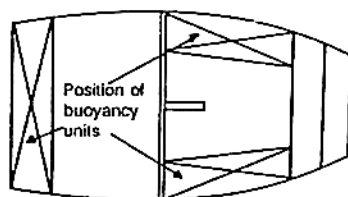
3.2.5.2 Backing plates or fixing pads each not exceeding 60mm x 100mm, of wood not exceeding 12mm thickness or metal not exceeding 5mm thickness, are permitted where there are fittings. Toe straps can be attached to the midship frame, using at most 4 fixing plates (two for each strap) of maximum dimensions of 60 x 30 x 2mm for metal plates, 60 x 30 x 8mm for wooden or plastic plates.

3.2.5.3 The following items, and others not specifically permitted by these rules, are prohibited:

- (a) Mainsheet cleats, mainsheet horse, track or traveller.
- (b) Suction bailers and bilge pumps.
- (c) Decking or spray covers of any sort.
- (d) Any apparatus or contrivance outboard, or extending outboard, which is, or may be used to assist in supporting the helmsman outboard.

### 3.2.6 Buoyancy

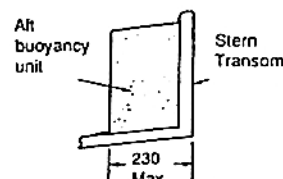
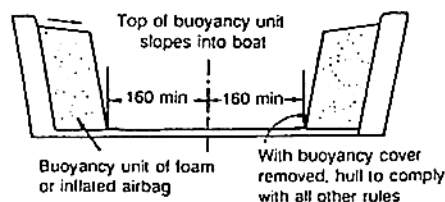
3.2.6.1 The hull shall be fitted with three buoyancy units in the form of foam blocks or inflated air bags. Each unit shall be of not less than 25 litres. The total volume of the three units shall be not less than 90 litres. In addition non-wooden hulls and non-wooden hulls with wooden components shall contain not less than 30 litres of non-absorbent foam as required by rule 3.2.4.2(j).



3.2.6.2 One unit shall be placed along the whole width of the stern transom and one unit shall be placed along each side between the midship frame and the mast thwart bulkhead.

3.2.6.3 Buoyancy units shall be securely fastened to the hull, by either:

- (a) not less than two straps for each unit, each strap being not less than 40mm wide.
- (b) (i) a cover of material complying with rule 3.2.1.1 fastened to the hull. Any such cover shall have not less than one inspection hole or hatch whose area is not less than a circle of 85mm diameter. The aft cover, excluding fixing flanges, shall not extend forward more than 230mm from the aft face of the stern transom. The forward covers, excluding fixing flanges, shall nowhere extend to within 160mm of the fore and aft centreline of the hull. The upper surfaces of the covers shall slope downward away from the side (for the forward covers) or transom (for the aft cover) so that they cannot act as decking.



- (ii) the hull shall continue to comply with all the class rules except 3.2.6 even if a buoyancy cover is removed (or cut away) and the associated buoyancy unit removed.

3.2.6.4 The surface of foam buoyancy units may be protected by paint, plastic or canvas.

3.2.6.5 The owner is responsible at all times for the buoyancy and for ensuring that at intervals of not more than 12 months the buoyancy is tested and the measurement certificate endorsed by a measurer or a responsible club officer.

3.2.6.6 The measurer shall witness a buoyancy test as follows:

The boat shall be swamped with water and with iron weights of not less than 60kg placed aft of and within 100mm of the midship frame, it shall float with the gunwales clear of the water. The measurer shall make sure that the buoyancy and its fastening are sound, and that inflatable buoyancy shows no visible signs of deflation.

3.2.6.7 The first buoyancy test shall normally be completed at the time of the first measurement of the boat. However, if the measurer certifies that the buoyancy test could not be taken at that time, but in all other respects the class rules are satisfied the measurement certificate may be issued but with the endorsement "Not valid until a buoyancy test has been passed."

### 3.2.7 Weight

3.2.7.1 The weight of the hull in dry condition, including rudder fittings permanently fixed to the stern transom, buoyancy, protective coatings, toe straps, and other permanently attached equipment required or allowed by the rules but excluding corrector weights, floorboards, mainsheet and sheet blocks, painter, bailer, paddle, oars, rowlocks, compass (with bracket if any) and fixings shall not be less than 32kg.

3.2.7.2 If the weight of the hull is less than 35kg but not less than 32kg wood corrector weights shall be fitted to bring the hull weight up to not less than 35kg. The corrector weights shall be permanently fitted, half to the bow transom and half to the stern transom. No corrector weights shall be removed or altered without the boat being re-weighed by an official measurer. The weight of each corrector shall be stamped or otherwise marked on the corrector and endorsed on the measurement certificate.

### 3.3 Daggerboard

#### 3.3.1 Materials

3.3.1.1 The daggerboard shall be made of wood, GRP and/or foam core, or any combination thereof. Foam shall only be used as core material for GRP.

3.3.1.2 Non-metallic reinforcement (bushing) of diameter not more than 20mm may be used around screws, rivets or bolts.

#### 3.3.2 Shape

3.3.2.1 The daggerboard shall be generally a rectangular flat plate in shape, except that the lower corners may be rounded to a radius of not more than 32mm, and the upper corners to a radius of not more than 5mm.

3.3.2.2 The thickness of the daggerboard (excluding bevels) shall be not less than 10mm nor more than 14mm. Beveling is permitted between the edges and the beveling limits, situated 60mm from all edges. The thickness of the daggerboard between the beveling limits shall nowhere vary by more than 0.5mm.

3.3.2.3 The overall length of the daggerboard shall not be more than 1067mm and the width not more than 290mm nor less than 275mm. Within these limits, the width shall not vary by more than 3mm.

- 3.3.2.4. The daggerboard shall be fitted with stop battens, one each side of the top of the board. Permitted materials are the same as for the daggerboard. The battens shall extend over the full width of the board, and the depth shall not be less than 35mm throughout. The thickness of the assembled stop battens and daggerboard shall be not less than 40mm. The exposed edges of the battens may be rounded to a radius of not more than 5mm. The battens may be fixed with glue, and/or not more than two bolts of 10mm diameter, or not more than the equivalent weight in smaller bolts, pins, rivets or screws. The length of these fasteners shall not exceed the thickness of the assembled daggerboard and stop battens. Alternatively, the battens may also be constructed as an integral part of the daggerboard.
- 3.3.3 The weight of the daggerboard, without attachment or positioning features, shall be not less than 2.0kg. Ballasting or cut-outs of the daggerboard are prohibited. The centre of gravity of the assembled daggerboard and stop battens shall not be less than 520mm away from the lower edge.
- 3.3.4 The daggerboard shall float, and shall be attached to the boat. One hole may be drilled through the daggerboard and the battens in any place, its diameter shall not exceed 10mm. An elastic cord or lanyard may be used to attach the daggerboard to the hull. A small shackle may be used to attach the cord or lanyard, either to the hull or to the daggerboard.
- 3.3.5 The daggerboard may be held in the daggerboard case by a loop of (elastic) cord. The cord may be fixed to the daggerboard case through two eyes or to the mast thwart bulkhead through two holes, with a diameter of not more than 10mm. The position of the eyes or holes is optional.
- 3.4 Rudder and Tiller
- 3.4.1 Materials
- 3.4.1.1 The rudder shall be made of wood, GRP and/or foam, or any combination thereof. Foam shall only be used as a core material for GRP.
- 3.4.1.2 The tiller and tiller extension may be made of any material.
- 3.4.1.3 Non-metallic reinforcement (bushing) of diameter not more than 20mm may be used around screws, rivets, or bolts.
- 3.4.2 Shape
- 3.4.2.1 The rudder shape is optional, but excluding the rudder fittings, it shall be capable of being laid within a rectangle of 750mm x 260mm. The rudder head is defined to be that part of the rudder located within a distance of 300mm from the upper edge of the rectangle. The rest of the rudder is the rudder blade.
- 3.4.2.2 The thickness of the rudder blade (excluding bevels) shall be not less than 10mm and not more than 14mm. Beveling is permitted between the edges and the beveling limits, situated 60mm from all edges. The thickness of the rudder blade between the beveling limits shall nowhere vary by more than 0.5mm.
- 3.4.2.3 The tiller, tiller extension and associated fittings may be of any type, but they shall have no sharp projections.
- 3.4.2.4 The tiller and tiller extension shall each be not more than 750mm long and their combined length shall not be more than 1200mm.
- 3.4.2.5 Any part of the tiller which is aft of the rudder head front line (see Class Rules 3.4.4 for definition) or its extensions shall be included in the rectangle (as defined in 3.4.2.1).
- 3.4.3 The assembled rudder, tiller and tiller extension shall float, and their total weight shall not be less than 1.5kg. Ballasting of any part of this assembly is prohibited.

#### 3.4.4 Definition of Rudder elements

- 3.4.4.1 Bearing lines: two horizontal lines (parallel to the baseline) through the bearing points of the rudder fittings.
- 3.4.4.2 Rudder head front line: line passing through the intersections of the forward edge of the rudder and the two bearing lines.
- 3.4.5 Fixing and positioning  
Boats built before 1 March 1992 may either use the rudder positioning method which was applicable at the time of building, or the current one. The positioning fittings of the rudder themselves shall then comply with the correspondingly dated rules for the rudder.
- 3.4.5.1 Two pintles shall be fixed on the rudder, their diameter shall be not more than nominal 6mm. The distance between the upper edge of the tiller and the bearing line of the upper pintle shall be not less than 85mm, measured along the rudder head front line. Two gudgeons shall be fixed to the aft transom, with holes not less than 6mm diameter. The distance between the bearing lines of the two gudgeons shall be not less than 200mm. The corresponding distance between the pintles shall be not more than 200mm. The depth of the pivoting holes in the two gudgeons shall not exceed 5mm, and the distances from those holes to the aft face of the aft transom shall not differ by more than 2mm.
- 3.4.5.2 The rudder and tiller assembly shall be fitted to the aft transom so that it does not become detached from the hull during a capsize. To this effect, an appropriate retaining clip/spring shall be fitted on the forward edge of the rudder head, not less than 5mm below the bearing line of the upper pintle.
- 3.4.5.3 When fitted to the aft transom, the distances from the rudder head front line to the aft face of the aft transom, measured at the position of both bearing lines, shall be not more than 40mm and shall not differ by more than 2mm.
- 3.5 Spars
- 3.5.1 Materials
- 3.5.1.1 The spars shall be made of either, aluminium alloy tube or, of solid wood. Wooden spars shall be of not more than two pieces of wood. Any exploitation of tolerances in order to achieve non-circular, tapered or otherwise variable spars, is prohibited.
- The wall thickness of the aluminium alloy tubing shall be constant throughout the spars. Internal sleeves, ribs and stiffening are prohibited.
- 3.5.1.2 Plastic, wood or metal may be used for end caps and fittings including the boom jaws. End caps, sprit end and jaws fittings shall be permanently fixed but may be glued to the spars. The length of the fittings and cap shall not exceed 100mm for the lower end of the mast, the outboard end of the boom and the jaws fitting, 60mm for the top of the mast and both ends of the sprit. At the top of the mast the height of the visible part of an end cap shall not exceed 10mm.
- 3.5.1.3 Spars shall be capable of floating for thirty minutes with no discernible water penetration for a sealed spar or loss of buoyancy for a foam filled spar.
- 3.5.1.4 Unless specifically permitted by these rules, fittings on spars shall be permanently fixed by means of rivets, screws, and/or nuts and bolts.
- 3.5.1.5 Non-metallic protective material may be used on either the sprit or mast at the area where they make contact. This material shall not exceed max. 150mm length and max. 1.5mm thickness.



### 3.5.2 Mast

- 3.5.2.1 The mast shall be approximately circular in section. At any cross section the diameter shall not vary by more than 3mm. The diameter above 50mm from the heel shall nowhere be less than 44mm.
- 3.5.2.2 Masts shall be of uniform section above 50mm from the heel. Wooden masts may be reinforced with a GFRP or plastic collar which shall extend not more than 800mm above the heel and shall not increase the diameter by more than 4mm.
- 3.5.2.3 An aluminium mast may be fitted with not more than two collars of GFRP or plastic to allow it to fit a larger diameter mast thwart hole and mast step. Each collar shall be of uniform section and shall not extend along the mast for more than 50mm.
- 3.5.2.4 The overall length of the mast shall be not more than 2350mm.
- 3.5.2.5 Standing rigging of any sort is prohibited.
- 3.5.2.6 The mast shall have either two holes, in any direction in the horizontal plane, or two eyes, which need not be permanently fixed, or one eye and one hole. The upper edge of one of the holes or eyes shall be not less than 20mm from the top of the mast and the upper edge of the other not less than 120mm from the top of the mast. Lacing lines shall pass through these eyes or holes and shall be lashed through the eyelet at the throat of the sail, see also CR. 3.6.6. A wind indicator or wind indicator fittings (CR. 3.5.2.12) may secure, or be secured by these lacing lines, but this does not release the lines from the obligation of passing through the holes or eyes.
- 3.5.2.7 Distinctively coloured bands, clearly visible while racing, and each not less than 10mm wide shall be marked on the mast as follows:
- (a) Band No. 1, the lower edge of which shall be not less than 610mm from the top of the mast.
  - (b) Band No. 2, the upper edge of which shall be not more than 635mm from the top of the mast.
  - (c) The lower edge of Band No. 1 and the upper edge of Band No. 2 shall be permanently marked by a scribed line or not less than two marks made with a centre punch.
- 3.5.2.8 The mast shall be positioned in the mast step by means of wedges, blocks or other devices so that it shall be unable to move more than 3mm in any horizontal direction. The position of the heel of the mast shall not be varied while racing.
- 3.5.2.9 The mast shall have a cleat in a suitable position for securing the boom downhaul.
- 3.5.2.10 The mast shall have, in a suitable position, for the sprit, either a cleat and one hole or eye (which need not be permanently fixed), or a toothed rack.
- 3.5.2.11 A locking device or other arrangement shall be fitted and used to prevent the mast from coming out of its step when the boat is capsized.
- 3.5.2.12 A wind indicator may be fitted to the top of the mast. The mast may have a fitting (which need not be permanently fixed) for securing the wind indicator. Such a fitting shall be positioned within 150mm below the top end of the mast and it shall have no sharp projections. The wind indicator or its attachment fittings may be used to help secure the lacing lines from the throat of the sail.
- 3.5.2.13 The mast may have a pin stop positioned on the forward side of the mast 1680mm  $\pm$  10mm below the top end of the mast. This pin shall not be more than 8mm diameter and within 10mm of the surface of the mast and shall have no sharp projections.

### 3.5.3 Boom

- 3.5.3.1 The boom shall be approximately circular and of uniform section throughout. The diameter shall be not less than 25mm and at any section it shall not vary by more than 3mm.
- 3.5.3.2 The boom, excluding the boom jaws, shall not exceed 2057mm in length.
- 3.5.3.3 The type of boom jaws and jaws fitting is optional but thickness of the jaws shall not exceed 35mm and the length of the jaws fittings shall not exceed 100mm. A rope may be fastened to the boom jaws or jaws fittings through two holes or through two eyes, and pass forward, around and over a pin positioned on the forward surface of the mast (See Rule 3.5.2.13).
- 3.5.3.4 A distinctively coloured band, clearly visible while racing, and not less than 10mm wide shall be marked on the boom with its forward edge not more than 2000mm from the aft edge of the mast. The inner edge of the band shall be permanently marked by a scribed line or not less than two marks made with a centre punch. The coloured band at the outboard end of the boom may be on a permanently fixed end cap, provided that no visible part of the end cap extends inward of the position of the forward edge of the band, and that the cap complies with the former part of this rule, and with class rule 3.5.3.2.
- 3.5.3.5 Either the boom or the end cap shall have a hole or lacing eye. The forward edge of the hole or the opening of the eye shall be not more than 40mm from the inner edge of the band at the outboard end of the boom.
- 3.5.3.6 A cleat with no sharp projections for securing a clew outhaul may be fitted on the boom. It shall be not less than 400mm from the outer end of the boom.
- 3.5.3.7 The boom downhaul may be attached to the boom in an optional manner by use of a fixed stop or lacing eye at a fixed position. The outer edge of the fitting used shall not be more than 200mm from the inner end of the boom excluding boom jaws.
- 3.5.3.8 The method of attachment of the mainsheet or mainsheet block(s) to the boom is optional (provided they cannot slip along the boom, and the maximum clearance between the span and the boom shall be not more than 100mm, at any position along the boom). The position of the blocks or the length of boom strops shall not be adjusted while racing.
- 3.5.3.9 There shall not be any fitting, rigging or device the purpose of which is, or may be, to control the position of the boom on the mast except for items specifically required or permitted by these rules.
- 3.5.4 Sprit
- 3.5.4.1 The sprit shall be approximately circular and of uniform section throughout. Its diameter shall be not less than 24mm and in any section it shall not vary by more than 3mm.
- 3.5.4.2 The sprit shall be not more than 2286mm in length, including end fittings.
- 3.5.4.3 The type of fitting at the upper end of the sprit shall be shown as in the rigging plan. If the upper end fitting exhibits a widening after an initial narrowing, this widening shall not be in excess of 13mm.
- The fitting at the lower end of the sprit shall be either one of the fittings permitted at its upper end, or the sprit may be fitted with an eye, a hook, or it may have a hole through the spar. The length of the end fittings on both ends shall not exceed 60mm. The eye, hook or hole at the lower end of the sprit if present, shall be located within 60mm of this end.

### 3.5.5 Running Rigging

3.5.5.1 The mainsheet arrangement is optional except as controlled by rule 3.2.5.1 and 3.5.3.8.

3.5.5.2 Downhaul. A single part downhaul of rope and/or wire shall be fitted to the boom not more than 200mm from the inner edge of the boom jaws. It shall be secured to a cleat on the mast. The downhaul shall not be adjustable from aft of the midship frame.

3.5.5.3 Only the lower end of the sprit shall be made fast to the mast. The only methods of attachment and adjustment of the lower end of the sprit shall be by means of:

(a) A rope or wire rope loop in conjunction with a toothed rack.

The maximum dimensions of the toothed rack are:

Length 150mm

Width 20mm

Thickness 3mm

Height of tooth 10mm

or,

(b) A halyard consisting of not more than two parts of rope or rope/wire combination, with no more than two single sheave blocks, to obtain no more than a double "Purchase" plus one hole or one eye, and one cleat which are fastened on the mast. The way of attaching the blocks on the lower end of the sprit or on the mast is optional. The sprit shall not be adjustable from aft of the midship frame.

3.5.5.4 Outhaul. The outhaul shall be made of rope, and consist of a single material. It may be adjustable. In this case it shall use no more than two purchases; no blocks are allowed; and the outhaul end shall then pass through the hole or lacing eye near the end of the boom (see Rule 3.5.3.5) and be secured to the outhaul cleat on the boom.

3.5.5.5 The use of wire is prohibited except for the boom downhaul, sprit halyard and strops on the boom for fitting sheet blocks.

3.5.5.6 No running rigging shall be allowed inside of hollow spars.

### 4. ADDITIONAL RULES

4.1 Only one person shall be on board while racing.

4.2 (a) The helmsman shall wear adequate personal buoyancy.

(b) With reference to International Yacht Racing Rule 61.1(b) the total weight of clothing and equipment worn or carried by a competitor, excluding footwear shall not be capable of exceeding 8kg when weighed as provided in Appendix 10 of the Racing Rules.

(c) Racing Rule 61.2 shall not apply.

4.3 The following equipment shall be on board while racing:

(a) A bailer, which shall be securely attached to the hull by a lanyard.

(b) A painter of buoyant rope, not less than 5mm diameter and not less than 4m long securely fastened to the mast thwart, bow transom or hog forward of the mast step.

4.4 An anchor need be carried only when specifically prescribed in the sailing instructions.

4.5 A paddle or oars, and rowlocks secured to the hull, need be carried only when prescribed in the sailing instructions.

4.6 Only one sail shall be used throughout any series of races.

4.7 If there is a national Optimist Class Association of the country in which the boat is registered the owner shall be a member.

5. Spare Number

### 6. SAIL

#### 6.1 General

6.1.1 Anything not specifically permitted by these rules is prohibited, see also CR. 1.2.

6.1.2 Sails shall be made and measured in accordance with the current 'YRU Sail Measurement Rules', except where varied herein. Where a term defined or measurement given in the 'YRU Sail Measurement Rules' is used in these rules, it is printed in *'italic'* type.

All measurements shall be taken along the surface of the *sail* and include any bolt rope and *tabling*. *Battens* shall not be removed for sail measurement purposes.

6.1.3 The manufacturer of the *sails* is optional.

6.1.4 The thickness in mm of the *body of the sail* shall be indelibly marked by the manufacturer, together with his signature, stamp, and date near the *peak point*. The thickness of the woven *ply* of the *body of the sail* (finished product) shall be checked according to YRU current instructions.

The thickness of the *body of the sail* shall be not less than 0.15mm. Applies to *sails* first measured after 1 March 1994. All *sails* used in the 1994 and 1995 World and Continental championships shall be of the new minimum thickness. Thinner *sails* shall cease to comply with this Class Rule on 1 March 1996.

#### 6.2 Mainsail

6.2.1 Construction

6.2.1.1 The construction shall be: *soft sail, single ply sail*.

6.2.1.2 The *body of the sail* shall consist of the same woven *ply* throughout. The *ply* fibres shall be of polyester or cotton.

6.2.1.3 The *sail* shall have two *batten pockets* in the *leech*. Local widening for *batten* insertion (if any) shall be on the upper edge of the *batten* pockets.

6.2.1.4 The following are permitted: stitching, glues, bolt ropes, *batten pocket* elastic, one trapezoidal window, *sail* maker label, *sail* button(s), tell tales. *Reinforcements* shall be of the same woven *ply* as the *body of the sail*. *Secondary reinforcements* shall not be stiffened by parallel, or nearly parallel, lines of stitching less than 40mm apart and not sewing the edges of reinforcing patches, nor by the use of bonding agents. Further to CR. 1.2 and 6.1.1, the following are prohibited: carbon fibres, titanium.

6.2.1.5 Wire or elastic cord shall not be used in the *sail*. Any bolt rope or *tabling* used to strengthen the *luff* or *head* of the *sail* shall be fastened to the *sail* throughout its entire length. If a bolt rope is enclosed in the *tabling*, it shall be sewn to the *sail* by visible stitches at those corners of the *sail* to which the rope extends.

6.2.1.6 On sails first measured after 1st March 1994 there shall be 8 eyelets in the *foot* of the sail, including those at the tack and clew.

On sails first measured after 1st March 1994 there shall be 8 eyelets in the *luff* of the sail, including those at the throat and tack.  
(See CR. 6.2.2 for spacing between eyelets in *luff* and *foot*.)

#### 6.2.2 Dimensions:

	minimum	maximum
1 Leech length	-	2800mm
2 Head length	-	1240mm
3 Diagonal	2450mm	2580mm
4 Half width	-	1700mm
5 Foot median	-	2130mm
6 Luff length	-	1730mm
7 Width of luff measurement band	5mm	-
8 Length of luff measurement band	60mm	-
9 Upper edge of luff measurement band to throat point	-	600mm
10 Thickness of woven ply anywhere in the body of the sail	0.15mm	-
11 Primary reinforcements: from corner measurement points	-	205mm
12 Secondary reinforcements: from corner measurement points	-	615mm
13 Batten pocket patches at each end of batten pockets	-	150mm
14 Flutter patches	-	150mm
15 Tabling width	-	40mm
16 Seam width	-	15mm
17 Trapezoidal window opening area	-	0.1m <sup>2</sup>
18 Shortest distance from window to any edge of sail	150mm	-
19 Batten pocket length (outside)	-	460mm
20 Batten pocket width (outside)	-	40mm
21 Peak point to intersection of leech and lower edge of uppermost batten pocket	900mm	1000mm
22 Peak point to intersection of leech and lower edge of lowermost batten pocket	1850mm	1950mm
23 Space between luff eyelets	230mm	260mm
24 Space between foot eyelets	270mm	300mm
25 Foot Irregularity	-	15mm

6.3 Spare Number

6.4 Spare Number

#### 6.5 Class Insignia, National Letters and Sail Numbers, Luff Measurement Band

6.5.1 The class insignia, sail numbers and letters as issued by the National Authority shall be in accordance with current IYRR, except where varied herein.

6.5.2 Numbers and letters on sails first measured after 1st March 1994 shall be of the following dimension (see also Sail Plan sheet 4/5)

	minimum	maximum
1 Height	230mm	240mm
2 Width (except "I" or "J")	150mm	160mm
3 Width for M and W	160mm	170mm
4 Thickness	30mm	40mm

The national letters shall be placed on the same line on opposite sides of the sail (see also sail Plan sheet 4/5). The numbers shall be placed in two rows below the letters with the starboard side numbers uppermost. The following spacings shall apply:

	minimum	maximum
5 Space between adjoining numbers or letters	40mm	50mm
6 Space between rows of numbers or letters	40mm	50mm
7 Space between the national letter groups on opposite sides of the sail	100mm	150mm
8 Distance between the luff and the closest letter or number in each row	150mm	
9 Distance between lower edge of uppermost batten pocket and the national letter which is closest to the leech	40mm	50mm

6.5.3 The class insignia shall conform with CR. 2.7.6, and have dimensions and requirements as detailed in the Sail Plan sheet 4/5. On sails first measured after 1st March 1994 no part of the class insignia shall extend beyond 1000mm of the *peak point*. The class insignia shall be placed back to back on both sides of the sail.

6.5.4 The sail shall have a sail measurement band on its *luff* (luff measurement band). This band, of a colour that strongly contrasts with the sail, shall be permanently fixed or marked on both sides of the sail. It shall be perpendicular to the edge of the *luff* of the sail, and shall start at its edge. See CR. 6.2.2, Sail Plan, Rigging Plan sheet 12/12, for position and dimension of bands.

#### 6.6 Additional rules

6.6.1 Only sails endorsed in accordance with CR. 2.5.6 shall be used.

6.6.2 The manufacturer of sail battens is optional. The construction material of sail battens is optional except that carbon fibre is prohibited.

#### 6.6.3 Fastening and positioning

6.6.3.1 The upper edge of the luff measurement band shall not extend above the lower edge of Band No. 1, and the lower edge of the luff measurement band shall not extend below the upper edge of Band No. 2. At the throat, both mast holes or lacing eyes referred to in CR. 3.5.2.6 shall be used to prevent any part of the luff measurement band rising above the lower edge of Band No. 1.

6.6.3.2 No part of the clew point shall extend beyond the inner edge of the boom band.

6.6.3.3 The luff of the sail shall be lashed to the mast at each eyelet so as to be within 10mm of the mast.

6.6.3.4 The foot of the sail shall be lashed to the boom at each eyelet so as to be within 10mm of the boom. Alternatively, at the tack eyelet, it may either be lashed to the jaw fittings or attached through two holes in the jaws or jaw fittings, so as to be within 10mm of the boom or its imaginary extension (see also Rigging Plan sheet 12/12).

5.6.3.5 The *sail* shall be fastened to the mast and boom with cordage only.

5.6.3.6 The *peak* of the *sail* shall be fastened to the upper end of the sprit either by means of an eyelet at the *peak*, or by means of a loop made of tape or rope sewn to the *peak* '.

PLANS - The following are the current official plans:

Wooden Boat -	General Class Plan (*Amended)	December 1982
	Sheet 2 - Construction Wooden Hull	January 1980
Rigging Plan		1991 - Amended 1994
Foil Plan		1992 - Amended 1994
Sail Plan		1994
Stitch and Glue - Sheet 5 (instead of Sheet 2 above)		September 1982
GRP Plans -	A of 6 - General Plan	1986
	1 of 6 - Hull Measurement	1986
	2 of 6 - Hull Details	1986
	3 of 6 - Gunwale, Midship Frame, Mast Step and Thwart Details	1986
	4 of 6 - Daggerboard Case Detail	1986
	5 of 6 - Daggerboard Case Detail	1986

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