

THE RULES
OF THE
INTERNATIONAL
DRAGON
CLASS

*With acknowledgement to the designs by
Johan Anker*

British Authority:
Royal Yachting Association
171 Victoria Street,
London, S.W.1.
Date: November, 1960

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171 Victoria Street
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On a poll taken at a general meeting and on a ballot for the election of members of the council every **full and life member** has one vote.

CONSTRUCTION.

These rules must be complied with in order that a certificate of registration may be issued by the national authority after construction is completed in accordance with I.Y.R.U. racing rule 3.

These rules shall be read in conjunction with the official set of plans. Should any difference exist the text shall prevail. The builder shall supply a certificate to the measurer stating that the yacht has been built to the current international DRAGON class rules and to the current official set of plans.

In these rules where particular kinds of wood are mentioned, other kinds of wood may be used provided they have the same specific weight and durability.

Where the inboard edges of structural members are not fayed to other structural members, they may be rounded off. Such rounding shall not exceed 5 millimetres ($13/64$ inch) radius. (This applies to boats that have been contracted and laid down after 15th November, 1958.)

1. Stem, wood keel, counter timber and sternpost to be of oak. Deadwood to be of oak or pine, to dimensions given on the plans.

The ballast keel must be made of cast iron to weigh 1,000 kilogrammes (2,205 pounds) as defined in rule 26. Uneven surfaces or blowholes must not be filled with lead. Inside ballast is not permitted.

The measurer shall check that the fore end of the keel conforms to the measurements (plan no. 3).

2. Rudder stock to be of at least 25 millimetres (one inch) diameter round iron, galvanized or bronze. Rudder pipe of same material as rudder stock.

3. Sternboard or transom to be of oak or of a wood of equivalent specific weight, 20 millimetres ($13/16$ inch) thick. Transom to be flat.

4. Planking to be at least 17 millimetres ($11/16$ inch) thick. Any kind of wood may be used for planking provided that the minimum weight of such wood shall not be less than 550 kilogrammes per cubic metre (34.4 pounds per cubic foot). To be fastened to frames with No. 11 guage copper nails 38 millimetres ($1\frac{1}{2}$ inches) long clenched on rooves or turned over or with No. 11 brass screws 32 millimetres ($1\frac{1}{4}$ inches) long.

5. Bent frames to be of ash, oak or elm, spaced 200 millimetres ($7\text{-}7/8$ inches) centre to centre. To be moulded 25 millimetres x 30 millimetres (1 inch x $1\text{-}3/16$ inches) for half the yacht's length

amidships, and moulded 22 millimetres x 25 millimetres ($\frac{7}{8}$ inch x 1 inch) at the ends. Two frames abreast the mast are to be moulded 30 millimetres x 34 millimetres ($1\frac{3}{16}$ inches x $1\frac{3}{8}$ inches) and these may be grown or laminated frames if made of oak. Frames at the sections 4, 8 and 12 are to be of ash, oak or elm moulded to 30 millimetres by 34 millimetres. If of oak they shall be laminated or grown, if of ash or elm they shall be laminated. Sections to be spaced 600 millimetres ($23\frac{5}{8}$ inches) centre to centre.

6. Shelf to be of Scandinavian pine or fir or larch or Oregon pine at least 27 millimetres x 100 millimetres ($1\frac{1}{16}$ inches x $3\frac{15}{16}$ inches) or at least 24 millimetres x 115 millimetres ($15/16$ inch x $4\frac{1}{2}$ inches).

7. Beams to be of larch, Scandinavian pine or fir or Oregon pine of the following dimensions:—

Mast beams and beams at end of cockpit and cabin top openings — 40 millimetres x 60 millimetres ($1\frac{9}{16}$ inches x $2\frac{3}{8}$ inches) at middle line to 40 millimetres x 40 millimetres ($1\frac{9}{16}$ inches x $1\frac{9}{16}$ inches) at sides.

Complete beams between sections 3 and 13 — 30 millimetres x 45 millimetres ($1\frac{3}{16}$ inches x $1\frac{3}{4}$ inches) at middle line to 30 millimetres x 30 millimetres ($1\frac{3}{16}$ inches x $1\frac{3}{16}$ inches) at sides.

Half beams at sides of cockpit, etc. — 25 millimetres x 38 millimetres (1 inch x $1\frac{1}{2}$ inches) to 25 millimetres x 25 millimetres (1 inch x 1 inch) at sides.

Spacing not to exceed 25.4 centimetres (10 inches) centre to centre.

The round of beam shall not exceed 9.5 millimetres ($\frac{3}{8}$ inch) in 305 millimetres (12 inches) of its length.

8. Deck to be of larch, Scandinavian pine or fir, Oregon pine, plywood or spruce, with a minimum weight of 432 kilogrammes per cubic metre (27 pounds per cubic foot), not less than 14 millimetres ($\frac{9}{16}$ inch) thick, and covered with canvas, of not less than 7 ounces per square yard, and painted, or other material of equivalent weight.

The deck may be of plywood only, then it must be 15 millimetres ($\frac{19}{32}$ inch) thick, and of 7.6 kilogrammes per square metre (1.56 pounds per square foot).

9. Covering board to be of mahogany 95 millimetres ($3\frac{3}{4}$ inches) maximum width. It is also permitted to have a mahogany covering board of optional width round the cabin top.

10. Floor timbers to be of oak, sided 70 millimetres ($2\frac{3}{4}$ inches) for the length of the ballast keel and 50 millimetres (2 inches) beyond the keel. For one half of their length the siding can be tapered down to two-thirds of the specified width.

11. The mast step is to be made of oak 1350 millimetres x 150 millimetres x 60 millimetres (4 feet 5-1/8 inches x 5-15/16 inches x 2-3/8 inches). The siding should be 150 millimetres throughout. The moulding may be tapered as shown on the official drawings.

When weighing it is required to have two lifting bolts attached to the keel or the floor timbers. The weight of this arrangement shall not be excessive.

CABIN, COCKPIT AND HATCHES.

12. The cabin, which may be totally enclosed, shall have built-up cabin sides of 16 millimetres ($\frac{5}{8}$ inch) mahogany and a coach roof of 10 millimetres ($\frac{7}{16}$ inch) of optional wood or plywood, on wooden beams. The wooden cabin roof may be covered with canvas or other material, and the length of the top must be not less than 1,000 millimetres (3 feet 3-3/8 inches).

Where the mast passes through the cabin, the distance from the aft side of the mast to the aft side of the cabin top must not be less than 900 millimetres (2 feet 11-7/16 inches). The shape of the cabin top is optional but its breadth must be at least 500 millimetres (1 foot 7-11/16 inches) at a distance of 1,000 millimetres (3 feet 3-3/8 inches) from the after end of the cabin top, and at this point the height of the coaming must not be less than 80 millimetres ($3\text{-}3/16$ inches).

The after end of the cabin top must never come forward of section 8, and in no place may the cockpit or any portion thereof, or the opening of any cabin hatch, be forward of section 8 during races.

The height of the cabin sides above the top of deck, measured vertically from the under side of the coach roof at section 8, must be at least 170 millimetres ($6\text{-}11/16$ inches) and the arch of the coach roof measured at the same place must be at least 100 millimetres ($3\text{-}15/16$ inches).

The height of the cockpit coaming abaft the cabin must be at least 100 millimetres ($3\text{-}15/16$ inches). The coaming may be plumb or sloping.

Internal arrangements of cabin and cabin fittings are optional

and a hatch forward of the mast is permitted, but its size must not exceed 508 millimetres (20 inches) square, and it must be properly framed out and have a hinged top, or a top permanently secured at one point at least.

Floor boards shall not exceed 16 millimetres ($5/8$ inch) in thickness and shall be of wood. The original floor boards in boats contracted and laid down before 15th November, 1958 may be retained but all floor boards fitted in any boat after that date shall conform with this rule.

13. The cockpit must not be extended further aft than 200 millimetres ($7-7/8$ inches) forward of section 12, and this coaming must follow a fair convex curvature. The minimum width of the deck outside the cockpit coaming is to be 300 millimetres (11-13/16 inches), and the coaming should fair into the cabin sides. Rounded corners are permitted at the after end of the cockpit but the radius of these rounded corners must not exceed 152 millimetres (6 inches).

Extension of the coaming forward of the cabin top and abaft the cockpit is not obligatory.

The arrangement and layout of the cockpit are optional.

14. The tiller must not be placed below deck nor may any extension be made to the tiller. Maximum length of tiller to be 1.20 metres (3 feet $11\frac{1}{4}$ inches). The shape of tiller to be optional.

RIGGING, SPARS, ETC.

15. The standing rigging and spars must be in accordance with the plans. The sizes of the standing rigging are minimum sizes and it is to consist of the best galvanised plough or stainless steel wire.

The runner backstays and topmast backstay, whether standing or running must be galvanised or stainless steel wire, plough or flexible. They shall not be smaller than shown on the plans.

The dimensions of the other running rigging are optional.

It is permissible to have topping lifts and to run the jumper stays through fairleads at the lower crosstrees and down along the mast.

The halyards may be run through the deck.

The mainsail luff rope and the halyard may run in a groove, provided such a groove is outside the prescribed minimum sectional dimensions of the mast.

The attachment of the spinnaker halyard shall be at a maximum of 7.10 metres (23 feet $3\frac{1}{2}$ inches) above the deck and not more than 30 millimetres ($1\text{-}3/16$ inches) out from the mast.

Backstays or runners and top mast stay or preventer are obligatory, but their location on deck is optional in the fore and aft directions, and they may be stretched either on or below the deck.

The extension of the forestay must intersect the mast at 7.00 metres (22 feet $11\text{-}5/8$ inches) above the deck and go directly to or through the deck at a point between 1.825 metres (5 feet $11\text{-}7/8$ inches) and 1.85 metres (6 feet $7/8$ inch) forward of the mast. Double forestays are permitted.

The shrouds are to be fixed to steel chain plates inside the hull. The shrouds may pass through the deck inside the gunwale but not nearer the centreline than 0.70 metres (2 feet $3\text{-}9/16$ inches).

16. The mast is to be made of one kind only of optional wood. The diameter of the solid section must not be less than is shown on the plans.

A runway track or groove for the mainsail luff rope and the halyard is allowed, but it must not impinge upon the prescribed minimum diameter of the solid part of the mast.

The groove at the back of the mast may be strengthened at the lower part with hardwood or metal.

A bracket or chock may be fitted at the mast head to keep the preventer clear of the sail. This bracket must not extend aft more than 102 millimetres (4 inches) from the back of the mast.

The mast must not be made to rotate and the mast hole in the deck must not allow more than 10 millimetres ($3/8$ inch) clearance around the mast.

The fore and aft position of the mast in the deck and of the longitudinal position of the mast step are optional. It is not permissible to make changes during a race. The structural member forming the mast step must comply with plan no. 4. Mechanical devices for moving the mast at the step are not allowed. If the mast is moved more than 10 mm. ($24/64$ inch) forward or aft at the deck, then partial remeasurement must take place and the position of the marks altered accordingly. A metal mark 20 mm. ($13/16$ inch) in width shall be placed on deck on either side of the mast opening, in such a position that its centre point shall mark the measurement

position of the foreside of the mast. The foreside of the mast when racing must not lie outside the limits of these marks.

A further metal mark 25 mm. (1 inch) in width shall be placed on deck across the centre line with its after edge 1.825 metres (5 feet $11\frac{7}{8}$ inches) forward of the centre point of the mast marks.

The forestay extension must lie within the limits of this forward mark when racing.

17. Jumper struts are to have their upper edge at 7.10 metres (23 feet $3\frac{1}{2}$ inches) above deck and are to have a minimum length of 300 millimetres (11-13/16 inches).

The angle between the arms of the jumper struts must not exceed 150 degrees. They may be made of optional material.

The crosstrees are to have their upper edge at 4.4 metres (14 feet $5\frac{1}{4}$ inches) and are to have a minimum length of 450 millimetres (1 foot $5\frac{3}{4}$ inches) from the side of the mast. They may be made of optional wood and may be secured with one bolt allowing a movement in the fore and aft direction not exceeding 10 degrees either way.

18. The boom is to be solid, of optional wood. It must have a circular or oval transverse section and a groove for the foot rope is allowed. Depth of the groove not to exceed 22 millimetres ($7/8$ inch) and the least transverse width of the spar is to be 80 millimetres (3-1/8 inches).

The length of the boom from its after end to the aft side of the mast must not exceed 3,550 millimetres (11 feet 7-13/16 inches).

19. Winches, tackles and levers are allowed to be used for any purpose on board, with the exception of shrouds, which have to be trimmed with turn buckles only.

Method of sheeting the mainsail and headsails is optional, but fittings for sheets must be placed so that they do not protrude outside or beyond the hull.

20. The spinnaker boom must be circular and solid. Length 1.85 metres (6 feet $7/8$ inch) and is to be measured in the position of the greatest extension from the mast to the inner edge of the eye of the tack fitting.

Over a minimum distance of half its middle length the spinnaker boom must have a diameter of at least 50 millimetres (2 inches), tapering evenly towards the ends.

The spinnaker boom may have a claw or pintle for attachment to the mast or an arrangement with guide or fitting in the spinnaker boom in the middle of the front of the mast is permitted.

If a claw is used, the spinnaker boom is to be measured according to the International Rule. It is permitted to carry a spare spinnaker boom on board.

PAINTING.

21. Reinforced coatings are not permitted on the topsides or on the under water body except on the rudder.

SAILS.

22. Sails which can be considered to have been intentionally made so that they do not comply with the following dimensions are not allowed. These measurements must not be exceeded when the sail is first measured.

Mainsail.	Luff 9.20 metres (30 feet 2-3/16 inches)
	Foot 3.45 metres (11 feet 3-13/16 inches)
	Leech 9.50 metres (31 feet 2 inches)

The measurement across the sail from the middle of the luff to the middle of the leech, and from a point 75 per cent. of the luff to a point 75 per cent. of the leech, measured from the boom upwards, shall never exceed 2.08 metres (6 feet 10 inches), and 1.17 metres (3 feet 10 inches) respectively.

The width across sail at a distance of 300 millimetres (11-13/16 inches) below the highest point of the headboard measured at right angles to luff shall not exceed 280 millimetres (11 inches). All the above cross measurements are to be measured from the fore side of the luff rope.

Foresail No. 1	<i>Maximum</i>	<i>Minimum</i>
Luff	6.20 metres (20 feet 4-1/8 inches)	6.08 metres (19 feet 11-3/8 inches)
Foot	2.15 metres (7 feet 5/8 inch)	2.11 metres (6 feet 11-1/16 inches)
Leech	5.60 metres (18 feet 4½ inches)	5.49 metres (18 feet 1/8 inch)

Foresail No. 2	<i>Maximum</i>	<i>Minimum</i>
Luff	5.20 metres (17 feet $\frac{3}{4}$ inch)	5.10 metres (16 feet $8\frac{3}{4}$ inches)
Foot	1.90 metres (6 feet 2-13/16 inches)	1.86 metres (6 feet $1\frac{1}{4}$ inches)
Leech	4.50 metres (14 feet 9-3/16 inches)	4.41 metres (14 feet 5-5/8 inches)

Two battens are allowed in the respective jibs, maximum length 300 millimetres (11-13/16 inches).

Genoa	<i>Maximum</i>	<i>Minimum</i>
Luff	6.60 metres (21 feet 7-7/8 inches)	6.47 metres (21 feet $2\frac{3}{4}$ inches)
Foot	3.55 metres (11 feet $7\frac{3}{4}$ inches)	3.48 metres (11 feet 5 inches)
Leech	6.10 metres (20 feet 3/16 inch)	5.98 metres (19 feet 7-7/16 inches)

Spinnaker. Leeches 7.00 metres (22 feet 11-5/8 inches).
 Foot 4.80 metres (15 feet 9 inches).

To be made and measured in accordance with the official spinnaker measurement diagram and the measurement instructions related thereto. No sail may be used after the 7th November, 1958 which does not conform to this plan, except that national authorities may prescribe that in races in which only yachts of their own national registration take part, spinnakers certified before 7th November, 1958 may be used.

As from 15th November, 1958 sailmakers shall make the following declaration:—

“We certify that to the best of our ability we have checked the weight of the cloth and built the sail to conform with the dimensions given in the class rules.

23. Sails registered after 1st November, 1957 shall be made of woven fibre cloth of the following weights:—

Mainsail, foresail number 1, foresail number 2 and heavy genoa: minimum 8.0 ounces per square yard (270 grammes per square metre); maximum 9.0 ounces per square yard (304 grammes per square metre).

Light genoa: minimum 4.5 ounces per square yard (150 grammes per square metre); maximum 5.5 ounces per square yard (185 grammes per square metre).

Spinnaker: minimum 1.5 ounces per square yard (50 grammes per square metre).

During racing it is prohibited to use more than one mainsail, one foresail number 1, one foresail number 2, one light and one heavy genoa staysail and one spinnaker, and no sail may be used unless the serial number is clearly stamped thereon by the sailmaker and the boat's certificate of measurement carries the appropriate endorsements.

Sails registered prior to 1st November, 1957 shall comply with the regulations for weight and material in force at the date they were registered.

One unwoven transparent panel not exceeding 3 square feet (.279 square metre) may be permitted below half height in any sail. Sails shall be capable of being stowed in sail bags of conventional dimensions.

Sizes and Numbers of Letters on Sails

Minimum height of figure and letters	....	.380 metres (15 inches)
Minimum width occupied by each figure except figure 1	....	.25 metres (10 inches)
Minimum thickness of every portion of each figure or letter and of line between		.075 metres (3 inches)
Minimum space between adjoining figures		.10 metres (4 inches)

(National authorities may prescribe that in races in which only yachts of their own national registration take part, races shall be sailed under the following rule 23:—

“The mainsail, number 1 foresail, number 2 foresail and heavy genoa are to be made from cloth of the same weight and texture as swallow wings number 620, the weight of which is 8.7 ounces per square yard (295 grammes per square metre). A tolerance of 1 ounce per square yard (34 grammes per square metre) plus, and $\frac{1}{2}$ ounce per square yard (17 grammes per square metre) minus is allowed. The weights allowed will thus be not more than 9.7 ounces per square yard (329 grammes per square metre) nor less than 8.2 ounces per square yard (278 grammes per square metre). A light genoa is permitted from cloth of the same weight and texture as swallow wings number 460 (now called 466), the weight of which is 6 ounces per square yard (203 grammes per square metre). A tolerance of $\frac{1}{2}$ ounce per square yard (17 grammes per square metre), plus or minus is allowed. The weights allowed will thus be not more than 6.5 ounces per square yard (220 grammes per square metre) nor less than 5.5 ounces per

square yard (186 grammes per square metre). The spinnaker to be optional quality, weighing not less than 2.25 ounces per square yard (76 grammes per square metre), and fitted with wires in the leech and luff, the minimum diameter of which shall be 1.25 millimetres (1/20 inch). Nylon, silk or similar material are not permitted in any sails, cotton canvas only may be used. Spinnakers measured and stamped in 1949 or earlier are permitted even if they have no wire leech until 1st January, 1953.

During racing it is prohibited to use more than one mainsail, one foresail number 1, one foresail number 2, one light and one heavy genoa staysail and one spinnaker, and no sail may be used unless the serial number is clearly stamped thereon by the sailmaker and the boat's certificate of measurement carries the appropriate endorsements.")

24. Patent reefing gear for the mainsail is permitted, also reefs for number 1 and number 2 foresails. The pockets in the leech of the mainsail shall not exceed by more than 50 millimetres (2 inches) the measurements given for the battens on the sail plan, which are for the lower and upper battens maximum 600 millimetres (1 foot 11-5/8 inches) and for the two middle battens maximum 900 millimetres (2 feet 11-3/8 inches). The battens shall each be spaced within 5 inches above or below the respective points on the leech of the sail which divide the leech into five equal parts. No dimension of the headboard is to exceed 120 millimetres (4 $\frac{3}{4}$ inches).

The luff is measured from the top of a black band, below which the top of the boom cannot be lowered, to the bottom of the black band above which the top of the headboard cannot be hoisted. Stops are to be fitted at these positions.

EQUIPMENT.

25. Equipment must include:—

- (a) Anchor or anchor and chain which together must weigh not less than 12.7 kilogrammes (28 pounds). The anchor must weigh not less than 5 kilogrammes (12 pounds) and be of a recognised pattern.
- (b) One anchor rope at least 30 metres (100 feet) in length, weighing not less than 6 kilogrammes (13 pounds), and two mooring ropes each not less than 10 metres (33 feet) in length, weighing not less than 2 kilogrammes (4 $\frac{3}{4}$ pounds) each.

- (c) One bilge pump, three life-belts or jackets, two oars or paddles, or one of each, one bucket or baler.

WEIGHT.

26. The minimum weight of a DRAGON shall be 1,700 kilogrammes (3,747 pounds). For the purpose of weighing a DRAGON, the hull shall be complete, painted and ready for racing and free of water and shall not have on board any items other than enumerated below:—

Floor boards, seats, all winches and handles for same, levers if used, tracks, leads, blocks above and below deck—one set only, of a size and weight normally used, cleats, fairleads and all fixed deck fittings, mast and rigging including running rigging, main boom and fittings, one set of sheets for working the main and headsail, spinnaker sheets, spinnaker topping lift and downhaul, one spinnaker boom.

All the above items, which shall be on board when weighing, must be kept on board while racing.

Note: If weighed over the water, a pump may be on board but its weight must be deducted.

Should a DRAGON weigh less than 1,700 kilogrammes, lead correctors are to be placed at section 8. No part of the correctors shall be lower than 20 inches vertically below the underside of the deck. Corrector weights shall be recorded on the certificate.

For the purpose of this rule the keel must be weighed separately in the presence of a measurer or a disinterested person whom he may appoint and who is qualified to issue a certificate of weight. The keel weight which shall not be more than 1010 kilogrammes (2,227 pounds) and not less than 990 kilogrammes (2,183 pounds) shall be inserted on the certificate together with a note that the keel measurements have been taken.

DRAGONS may be reweighed and the compensating weights adjusted:—

- (a) Before any international regatta provided due notice is given.
- (b) After protest.
- (c) On the instructions of the owner.
- (d) Under circumstances requiring remeasurement.

The measurer shall satisfy himself that the weighing apparatus is accurate.

CREW.

27. During a race there may not be more than three persons on board, all amateurs.

28. A yacht of which the keel is laid down after 1st January, 1958, shall have the letter(s) showing her nationality and the number awarded by her national authority to her first owner carved in her horn timber. These shall not be less than 50 millimetres (two inches) in height and carved to a depth of not less than 4.5 millimetres ($\frac{3}{16}$ inch). International racing rule 17 refers.

OBLIGATION OF OWNER

29. It is the obligation of the owner, when acquiring a Dragon, to satisfy himself that the one design principle has not been violated and to do nothing during the course of his ownership to cause this principle to be violated.

MEASUREMENT INSTRUCTIONS.

Before the certificate of measurement is issued, the following special requirements must be checked. In the event of any discrepancy the metric system shall prevail:—

1. <i>Length Overall</i>	<i>Maximum</i>	<i>Minimum</i>
8.900 metres (29 ft. $2\frac{1}{2}$ inches)	8.944 metres (29 ft. $4\frac{1}{4}$ inches)	8.855 metres (29 ft. $0\frac{3}{4}$ inches)
2. <i>Width over deck, under:—</i>		
<i>Section 4</i>	<i>Maximum</i>	<i>Minimum</i>
1.468 metres (4 feet 9-13/16 inches)	1.480 metres (4 feet 10-5/16 inches)	1.456 metres (4 feet 9-5/16 inches)
<i>Section 8</i>	<i>Maximum</i>	<i>Minimum</i>
1.958 metres (6 feet 5-1/16 inches)	1.974 metres (6 feet 5-11/16 inches)	1.942 metres (6 feet 4-7/16 inches)
<i>Section 12</i>	<i>Maximum</i>	<i>Minimum</i>
1.550 metres (5 feet 1 inch)	1.560 metres (5 feet 1-7/16 inches)	1.540 metres (5 feet $\frac{5}{8}$ inch)

It is the responsibility of the builder to mark sections 4, 8 and 12 by permanent wood-screws on the upper side of the covering board

on the starboard and port sides, and in the middle of the wood keel at section 8, on the centre line of the stem at section 4 and on the centre line of the horn timber or outreach on section 12.

3. The form of sections 4, 8 and 12 shall be checked by metal templates certified and stamped by the national authority.

The allowed deviation plus or minus is:—

at section 4	.. ..	6 millimetres (15/64 inch)
at section 8	.. ..	8 millimetres (5/16 inch)
at section 12	.. ..	5 millimetres (13/64 inch)

The templates are to be cut to the allowed plus deviation. The greatest allowable clearance between the template and the skin is to be marked on the templates, thus, 12 millimetres on section 4, 16 millimetres on section 8 and 10 millimetres on section 12.

When applying the templates they are to be set to the correct width over the deck at the covering board plus the allowed deviation at each measurement section. At section 8 the template shall be set at the top of the iron keel which is 170 millimetres (6-11/16 inches) plus the allowed deviation.

The templates shall be made in the form shown on drawing no. 8. When applying templates, the levelling bars are to be sighted in line (in transit). These templates apply from 15th November, 1958.

4. A certificate from the foundry that the weight of the keel is:—

	<i>Maximum</i>	<i>Minimum</i>
1000 kilogrammes (2205 pounds)	1010 kilogrammes (2227 pounds)	990 kilogrammes (2183 pounds)

A deviation of plus or minus 1 per cent, as shown, is allowed.

All Dragons first registered after December 1st, 1960 shall have their keels measured in the following manner:—

The templates shall be shown up at stations 5a, 6, 6a and 7 and the following tolerances shall be permitted:—

Station 5a.	+ or — 4 millimetres (+ or — 5/32 inch) each side and in depth.
Station 6.	+ or — 5 millimetres (+ or — 13/64 inch) each side and 7 millimetres (9/32 inch) in depth.
Station 6a.	+ or — 6 millimetres (+ or — 15/64 inch) each side and 8 millimetres (5/16 inch) in depth.
Station 7.	+ or — 7 millimetres (+ or — 9/32 inch) each side and 10 millimetres (25/64 inch) in depth.

These templates shall be 'U' shaped and shall be of plywood or aluminium alloy, the top of the template being aligned with the top of the iron keel and each to be provided with aluminium alloy gauge bar, in each case 50 millimetres (2 inches) long by

- 8 millimetres ($5/16$ inch) square for station 5a;
- 10 millimetres ($25/64$ inch) square for station 6;
- 12 millimetres ($15/32$ inch) square for station 6a;
- 14 millimetres ($35/64$ inch) square for station 7.

There shall be a bevelled chock at the top of the foreside, 50 millimetres ($1-31/32$ inches) fore and aft by 30 millimetres ($1-3/16$ inches) deep, bevelled to suit the angle of the top of the keel to the line of section.

The templates shall be applied to the stations with a fore and aft plus or minus tolerance equal to the depth tolerance. The gauge bar shall be used to see that the keel is not smaller at any point than indicated by the thickness of the gauge bar and that the depth tolerance is not being used to fine the keel section, i.e. the round at the bottom must follow the design line, and any tolerance gap shall not be reduced anywhere on the round. The position of the stations shall be marked with a station marker forward from station 8 as follows:—

- Station 7. 0.608 metres (1 foot 11- $15/16$ inches);
- Station 6a. 0.912 metres (2 feet 11- $29/32$ inches);
- Station 6. 1.215 metres (3 feet 11- $7/8$ inches);
- Station 5a. 1.521 metres (4 feet 11- $7/8$ inches).

All measured along the top of keel line (not horizontal).

This measurement instruction is to assist the measurer in checking the shape of the keel and nothing herein overrides the requirements that the keel shall conform to Plan No. 3 and the keel must fall within the keel limits.

5. That the mast has an upper black band marked upon it, the lower edge of which is the maximum height permitted for the mainsail, 10 metres (32 feet 9- $11/16$ inches) from the deck, and a lower black band marked upon it, the upper edge of which determines the lowest position of the top of the boom at mast, 0.80 metres (2 feet 7- $1/2$ inches) from the deck.

That the boom has a black band marked upon it, the inner edge

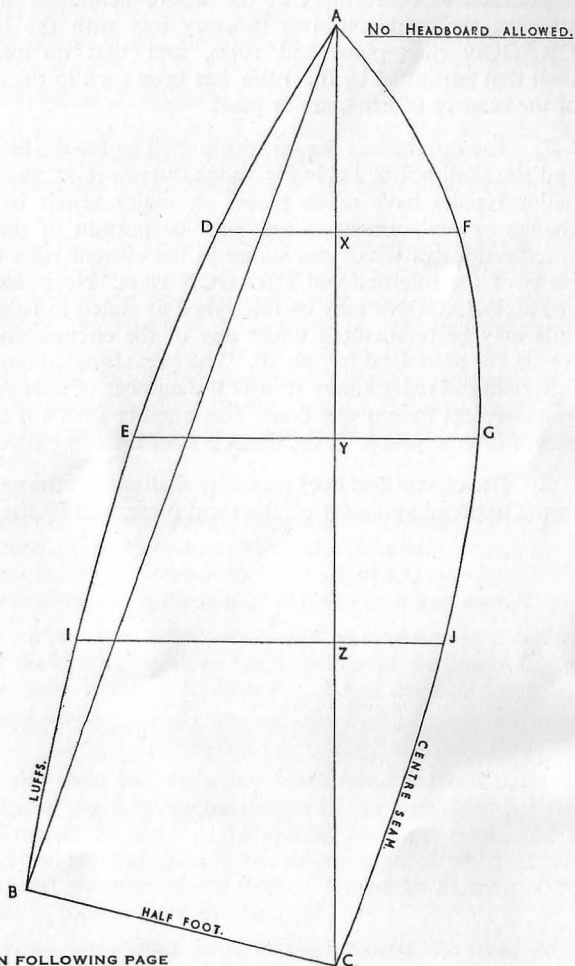
of which determines the maximum outhaul of the sail, 3.45 metres (11 feet 3-13/16 inches) from the after side of the mast.

6. It is the responsibility of the measurer to satisfy himself that in addition to conforming at the above-mentioned measurement stations, the boat conforms in every way with the international DRAGON class plans and rules, and that no material other than that permitted by the rules has been used in the construction of the boat or of her spars or gear.

7. The duration of the certificate shall be for the life of the boat and she shall not be liable for re-measurement at any time unless major repairs have taken place. A major repair is any repair, change or replacement to any part or portion of the yacht, the specifications of which are stated in the current rules and current plans of the international DRAGON class. Notwithstanding the above, DRAGONS may be reweighed as stated in rule 26 and the sails may be remeasured under any of the circumstances (a), (b), (c) or (d) contained in rule 26. The organising committee of any international regatta may restrict the number of sails presented for measurement by any one boat. This number shall not be exceeded, except in emergency, at the discretion of the committee.

8. The official keel boat measurer shall submit the measurements to the national authority on the form prescribed by the I.Y.R.U.

DRAGON CLASS
ONE DESIGN SPINNAKER DIAGRAM
NOT TO SCALE



SEE NOTES ON FOLLOWING PAGE

NOTES ON THE SPINNAKER DIAGRAM

Measurements

ADEIB	7.00 m. (22 ft. 11 $\frac{5}{8}$ in.)	Measured on curve
AB	6.98 m. (22 ft. 10 $\frac{7}{8}$ in.)	Measured straight
AC	7.20 m. (23 ft. 7 $\frac{5}{8}$ in.)	„ „
BC	2.40 m. (7 ft. 10 $\frac{1}{2}$ in.)	„ „
AD	1.74 m. (5 ft. 8 $\frac{1}{2}$ in.)	„ „
AE	3.47 m. (11 ft. 4 $\frac{1}{2}$ in.)	„ „
AI	5.13 m. (16 ft. 10 $\frac{1}{4}$ in.)	„ „
AX	1.60 m. (5 ft. 3 in.)	„ „
XY	1.60 m. (5 ft. 3 in.)	„ „
YZ	1.60 m. (5 ft. 3 in.)	„ „
DX	0.71 m. (2 ft. 4 in.)	„ „
EY	1.33 m. (4 ft. 4 $\frac{3}{8}$ in.)	„ „
IZ	1.85 m. (6 ft. 0 $\frac{1}{4}$ in.)	„ „
DF	1.71 m. (5 ft. 7 $\frac{1}{4}$ in.)	„ „
EG	2.51 m. (8 ft. 2 $\frac{3}{8}$ in.)	„ „
IJ	2.70 m. (8 ft. 10 $\frac{1}{4}$ in.)	„ „

These sizes must not be exceeded by the sailmaker when cutting and making the sail, nor may the sail subsequently differ from them except where shown by the following tolerances:—

DF	Plus or minus	0.05 m. (2 in.)
EG	„ „ „	0.05 m. (2 in.)
IJ	„ „ „	0.05 m. (2 in.)
AB	minus	0.05 m. (2 in.)
AC	„	0.05 m. (2 in.)
ADEIB	„	0.05 m. (2 in.)
BC	„	0.025 m. (1 in.)

Notes to Sailmakers

The sail must be made flat in two halves and joined at the centre seam. The seams of the sail must be cut straight (except the centre seam).

The wires in the luffs to be 7.00 m. (22 ft. 11-5/8 in.) long, of uniform thickness, the minimum diameter being 1.25 m.m. (1/20 in.) and to be securely fastened to the sail at the points A, D, E, I and B.

The foot must be taped with non-stretch tape.

Notes to Measurers

Before measuring the sail, the diagram must be marked, full size, on the floor or other flat surface. The sail is then laid thereon folded in half, with the luffs together and placed on the line A.D.E.I.B. The sail must then be able to lie flat and conform to the remaining dimensions as specified, and shall lie within the confines of the diagram.

I.Y.R.U. November, 1958

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International DRAGON Class

Correction Sheet

Authority:- I.Y.R.U. permanent committee, Minute 4(v) 2nd November, 1961.

Class rule 4 (paragraph 1)

To delete "38 millimetres ($1\frac{1}{2}$ inches) long"

Class rule 5

To delete this rule.

To insert the following new rule:

Sections are spaced 600 millimetres ($25\frac{5}{8}$ inches) centre to centre. Two frames abreast the mast and frames at sections 4, 8 and 12 are to be of ash, oak or elm moulded 30 millimetres by 34 millimetres ($1\frac{3}{16}$ ins. x $1\frac{3}{8}$ inches). If of oak they shall be laminated or grown, if of ash or elm they shall be laminated. All other frames to be of ash, oak or elm 200 millimetres ($7\frac{7}{8}$ inches) centre to centre. To be moulded 25 millimetres x 30 millimetres (1 inch x $1\frac{3}{16}$ inches) for half the yacht's length amidships, and moulded 22 millimetres x 25 millimetres ($\frac{7}{8}$ inch x 1 inch) at the ends. These frames can be hot bent or laminated.

Class rule 22

To insert the following new sentence after "7th November, 1958 may be used":

No unwoven material, or woven material of abnormal thickness, is to be introduced as a stiffener or strengthening except flexible anti-chafing material in way of the rope or where the rope would normally be.

To delete from the penultimate and last line of the rule:

"dimensions"

To insert:

requirements

Class rule 23

To delete the ultimate paragraph.

To insert the following new ultimate paragraph:

One unwoven transparent panel not exceeding 3 square feet (.279 square metre) (3 square feet) may be permitted below half height in any sail. No part of the window shall be closer to the luff, leech, or foot than 150 mm. (6 inches). Sails shall be capable of being stowed in bags of conventional dimensions.

Class rule 26

To insert before "corrector weights shall be recorded on the certificate":

Any correctors in excess of 40 kilogrammes should be divided into four equal weights, placed up under the deck and permanently attached to the beam stringer at sections 4 and 12. These additional correctors are to be permanently secured for the life of the yacht.

To delete: "compensating weights adjusted"

to insert: compensating weights at section 8 only adjusted.

Class rule 27

To add the following last paragraph to this rule: