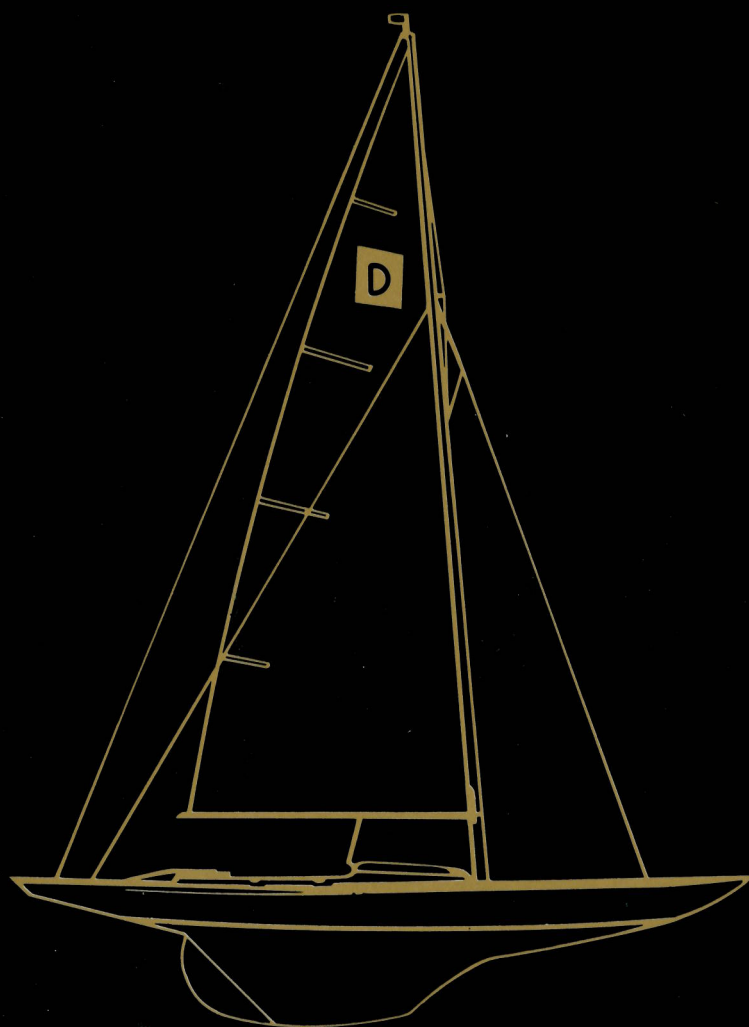


DRAGON HANDBOOK



1929 – 1989

Officers of the I.D.A.

President:

His Majesty King Constantine

Vice-President:

H.R.H. Prince Henrik of Denmark

Chairman:

Conor Doyle

Secretary:

**Donald Biddle,
No. 1 Riding House Street,
London, W1A 3AS,
England.**

Tel. (01) 637 5377

Telex 25187

Treasurer:

**Rene Estoppey,
La Neigette,
2533 Evillard, BE
Switzerland.**

Technical Committee Chairman:

Philip Tolhurst

Chief Measurer:

**David G. Chivers,
34 Nelson Street,
Brightlingsea,
Essex, C07 0DZ,
Great Britain.**

Tel. (020630) 5107

Fax (020630) 5434

ERRATA

(Please Note the following should read)

Page One :

Vice-Chairman:
Timo Nurmilaukas

Page Twelve :

WORLD CHAMPIONSHIPS WINNERS

1987 Australia V. Bandolowski Denmark

Foreword

I am delighted to take this opportunity to write the foreword to the latest Dragon Handbook.

The Dragon, now 60 years old, continues to go from strength to strength. While the Class has endeavoured to adapt to improvement made in yachting generally, it has avoided radical alterations.

More than ever, the Dragon Class must guard its one design nature. In an age when many are bewildered by rapidly evolving yacht design and development of materials, with all their attendant costs, the Dragon Class is a refuge where one can enjoy fair racing.

Long may this remain.

PRINCE HENRIK

Index

	Pages
SIXTY YEARS OF THE DRAGON – Conor Doyle	4
REFLECTIONS FROM THE SECRETARY’S OFFICE – Donald Biddle	5
CLASS RULES – WHERE TO NOW? – Philip Tolhurst	6
NATIONAL CLASS SECRETARIES	7
INTERNATIONAL DRAGON ASSOCIATION RULES	10
DRAGON WORLD CHAMPIONSHIP RULES.....	11 – 12
DRAGON GOLD CUP RULES	13 – 15
EUROPEAN CHAMPIONSHIP RULES	16 – 17
INTERNATIONAL DRAGON CLASS RULES	24 – 40

Sixty Years of the Dragon

It is 60 years since Johan Anker the Norwegian designer launched his day sailor for his home waters. The Dragon, which Anker called his creation, had two berths and was ideally suited for cruising. In less than 10 years, the Dragon had spread all over Europe and was very popular as a sailing boat.

In 1937, the Gold Cup was presented by the Clyde Yacht Club. This quickly became the principal championship of the class to complement the burgeoning local racing.

The Royal Hellenic Cup in memory of King Paul of Greece was donated as the trophy for the World Championships in 1965. This is raced for every two years in Europe, North America and Australia. The Yacht Club de France presented the Coupe de Virginie Heriot for the European Championships in 1963.

In 1948 the Dragon became an Olympic Class. Many would argue that the Olympic years from 1948 to 1972 were its highwater mark. In these years the Dragon was truly international.

When the Dragon was dropped from the Olympics it was widely felt that the class might die. Although there are many countries that no longer have a fleet, the class is stronger than ever in others. It is all the healthier for being spared the "Arms Race" campaigners after Olympic medals.

Another feature of the class is the stability of its membership. There are people in the class whose names appear as often at the top of the fleet now as they did in the 1950's and 60's. Others who do not necessarily feature among the winners have sailed in Dragons all their lives. To put it another way, thinking of leaving the Dragon class is contemplating turning one's back on a way of life.

In the last 60 years, the class has faced the twin challenge of adapting improvements made in yachting generally without making radical changes which would have divided the class. The main preoccupation of those responsible for policing the class over the last 60 years has been to preserve the one-design character of the hull. It is easy to forget now the trauma the class faced over the introduction of G.R.P. hulls. In 1973 thanks to much hard work by Borge Borresen a G.R.P. specification was adopted. The recent change in the specifications for a wooden laminated hull has not to date increased the production of many extra wooden boats. Those that have been built have not, as feared, been faster due to their possible extra stiffness. The future for the Dragon class looks exciting. In Australia there are over 180 boats on the register. There are fleets in Tasmania, Victoria, Western Australia and New South Wales.

In Northern Island – New Zealand at Whengarei a dedicated group are leading a Dragon revival.

Canada has an enthusiastic Dragon fleet and in 1988 they had a full and varied calendar. They had regattas at Vancouver, Toronto, Cork and Pictor on Lake Ontario. Canada is hosting the 1991 World Championships.

There are over 290 registered Dragons in the United States and the A.I.D.A. is tireless in its efforts to trace as many as possible. In 1986 they had only 8 paid up members – by 1987 this was 38. Since then there has been a growth in interest in the Upper Great Lakes and the Chesapeake Bay region of the East and Southern California in the West. 18 Dragons competed in the Great Lakes Championship at Lake Erie in 1987.

In Hong Kong there is a thriving fleet. They sail in ideal conditions and thanks to the tirelessness of Lowell Chaing and others, are well represented at Dragon events.

The Egyptian Dragon fleet has added a delightful event to the calendar with their regatta in Alexandria every Autumn.

The European Dragon fleet is strengthening very satisfactorily. Germany has the largest fleet with over 500 boats. Next door Austria is having a welcome revival. We are told that we will be able to combine Dragon sailing and the Salsburg festival. Belgium has the testing waters of the North Sea. Denmark has a growing class of astonishingly high standard. Finland, which hosted the European Championships in 1987 seems set to become a favourite Dragon venue. The French Dragon fleet is growing steadily. The French Dragon calendar has some very charming regattas, not least Arcachon at Easter or Cannes in September. The British Dragon Association which is hosting the 1989 World Championships is facing the problems of success. Because of the attractiveness and accessibility of Torquay they will be running the biggest World Championships ever. The British fleet itself has expanded rapidly in recent years. The Netherlands Dragon fleet while small has an astonishingly high standard. Dutch helmsmen have won the Gold Cup for the last two years. The Irish Dragon Association is hosting the Gold Cup at Dun Laoghaire in 1990. Although the fleet is small, it is usually well represented at the main regattas. In Sweden the class is making a strong comeback. We can look forward to seeing many more boats from Sweden at regattas.

In 1989 the most welcome revival of all is, of course, the Norwegian Dragon fleet. It seems only right that Dragons should be seen on the Fjords again. The enthusiasm and commitment of the Norwegian Dragon owners must surely herald a very strong class there. We do hope so.

Here's to another 60 years of the Dragon.

– CONOR DOYLE –

Reflections from the Secretary's Office

I took over the secretaryship from Jacque de Yong in November, 1983 and will therefore be completing my sixth year in November, 1989, when I think the time will have come for a change. A new face must be seen from time to time in all such posts.

The last five years have been a period of good progress although punctuated, as always, with problems. On the positive side, there has been a revival of building of boats, with new builders in England, Hong Kong and Australia. We have now, I think, reached a position where there is a reasonable selection of builders available in Europe and Australia, although it is sad that there is no builder operating in North America.

We have also seen over these years an increase in international racing with greater support for international events. This not only applies to the Continental and World Championships and the Gold Cup, but also in the support for National Championships. I would urge members who are prepared to travel, to do more racing in National Championships. There is a wonderful opportunity in the Dragon Class to race in such events and from a look at the programme for 1989 you will see that there are invitations next summer to travel to regattas in such places as Egypt, Norway and Austria where you will race in smaller events than the big world events, but will probably have just as much or even more fun, and even if you are only my sort of standard you have a chance of finishing nearer the front!

There is also a welcome increase in inter-club team racing and it was great fun to take part in the triangular match in Denmark last summer and I look forward to a similar match in Hong Kong next year. I'm also happy to record that the Seawanhaka Cup formerly the preserve of the 6 metre class in inter club racing, is to be raced for in Dragons next September after the World Championship.

We have been happy to enroll additional fleets into the IDA during the period of my secretaryship. In particular we have now good support in Scandinavia with Norway and Sweden both re-establishing fleets and a great strengthening in Denmark. We are also pleased to have been joined by Egypt and Italy. There is, however, a lot more to be done in this area to make us a more truly world-wide class. I believe that there are Dragons in Greece, Turkey, Hungary, Spain and Russia and we should seek to re-establish fleets in these countries; any help that members can give through contacts in these countries would be very welcome.

One area in which we have not made as much progress as we would like is in the field of communication with members. There is undoubtedly a need for a regular magazine such as the one run by the Flying Dutchman Class and the Star Class. It is, however, a major task and beyond the facilities of the present secretariat. I hope very much that such a magazine will be introduced before long, maybe with professional assistance.

A great deal of time has been spent on technical measures and particularly on the area of developing swing tests, which come into force in March, 1989. This represents a large block of work by, in particular, Borge Borresen and Tony Watts, and I hope, thereby, that we will not only bring to an end the arguments on the distribution of weight, but will also, in due course, simplify considerably the measurement rules. The objective must be to allow greater simplification of the rules of construction without changing the racing characteristics of the hulls. We are now in the forefront of measurement development in the international racing classes in this matter.

The future of the Class lies in a one design hull, but we will continue to allow cautious development in rigging, sails and equipment. We have, I think been uniquely successful in being able to maintain an international class where the old boats continue to race successfully with the new; this must remain a prime objective in the future.

There continues to be discussion as to whether Dragons should or should not re-enter the Olympics and there are opposing views on this matter. It would certainly bring in further fleets and top helmsmen if we did once again become an Olympic Class, but many feel that this would be at the expense of the truly amateur sailor. I myself believe that the future of the Class lies with the true amateur and not through sponsored boats whether they be sponsored by business or by Government. It is only in this way that we will keep the unique quality of the Dragon Class where we can all race worldwide in a friendly and civilised atmosphere.

– DONALD BIDDLE –

Class Rules – Where To Now?

Eighteen months ago, I received a call from the Chairman of the Class to ask if I would agree to being proposed for Chairman in a re-vamped Technical Committee. Confidence among Dragon sailors in the class rules was at a very low ebb – the problems with GRP Dragons built under-weight had reached something of a crisis and those outside Europe felt very remote from what was going on.

The first priority was clearly to sort out the problems of the under-weight boats and by involving all those who were involved in the dispute we were able to reach an accord that all sides felt satisfied. As a result, over forty boats which were not Dragons could be brought in class, subject to the very specific conditions attached to the dispensation. This has formed an important stage in re-establishing confidence amongst Dragon sailors generally.

The second stage was to overcome the problems that had been caused by the work overload at the IYRU which had substantially contributed to the prolongation of the dispute over the light-weight boats. In mid-February we appointed David Chivers as Chief Measurer to the class. Dragon class sailors have realised that it will go a long way to establish fair handedness whilst the IYRU welcome it as it eases their work-load. The builders have actively promoted the idea because they can see the merits of having someone that they can go to for rule interpretation. David Chivers will be travelling around the world, not only to regattas, but also to the various yards where Dragons are built to see that the rules are applied by everyone and that the interpretation of those rules is the same for everyone.

The rules are in many respects difficult to follow. Frequently one finds the answer to a question not in that part of the rule where one would expect to find it. The measurement forms do not correspond with the rule itself. We had already taken the decision to have the drawings, some of which have been in existence for fifty years, completely revised and it is with that exercise that many of these anomalies have been discovered. Over the next few months we will be publishing new drawings which contain most of the relevant information that Dragon sailors would want.

The rules were only written using the data from the drawings and so we must now repeat that process, so that the rules once again follow the drawings. This will be a major exercise and although drawings may be available later this year, I think it unlikely that we will have the final form re-written rules until the summer of 1990.

In trying to re-write the rules, one question continually reoccurs: why have particular restrictions been inserted? What does particularly concern us is the lack of consistency that has evolved over sixty years and it will be a most difficult matter to redress this in the rewrite. With minimum weight distribution rules now policed by the new swing test, there is a strong argument for saying that many of the minor detail rules can be removed. For example, to comply with the class rule it is almost impossible to build an under-weight GRP hull. It follows that any boat that is under-weight probably does not comply strictly with the class rule. If we concentrate on the weight issues, what builders may or may not do with the component parts becomes less important. Anyone trying to concentrate weight in the middle to the boat will now fall foul of the swing test rule.

But what of the other issues? Should we ban mast rams or other expensive gadgetry? Bearing in mind the one design nature of the hull. We could leave more open other parts of the rule to make possible further technical improvement, provided that any such 'improvement' does not add greatly to the cost of the boat. Where it does so we must have careful regard to balance any advantage against that cost.

– PHILIP TOLHURST –



National Class Secretaries

Mr. Kim Burges,
Secretary,
Australian International
Dragon Association,
P.O. Box 657,
Freemantle W.A. 6160,
Australia.

Dipl. Ing. J. Oberkofler,
c/o Petromontan,
Handelsgesellschaft m.b.H.,
Obersteingasse 11/2,
A 1190-Wein,
Austria.

Mr. Paul de Herdt,
Secretary,
Association Belge de la Classe Dragon,
Chaussee de Waterloo 1433,
1180 Bruxelles,
Belgium.

Mr. Guy Walters,
Secretary,
Canadian International Dragon Council,
205-2256 West 7th Avenue,
Vancouver, B.C. V6K 1Y2,
Canada.

Mr. Per Brondum,
Secretary,
Dansk Drageklub,
Enghavevej 49,
5700 – Svendborg,
Denmark.

Dr. G.A. Mokhtar,
Director General Office,
Arab Maritime Transport Academy,
P.O. Box 1029,
Miami,
Alexandria,
Egypt.

Mr. Erkki Hintsanen,
Secretary,
Finnish Dragon Association,
Wallininkuja 4 A 20,
SF – 00530 Helsinki,
Finland.

Dr. Louis Zizine,
Association Francaise de la Serie
Internationale des Dragon,
26 rue Saint Guillaume,
75007 Paris,
France.

Chris Dicker, Esq.,
British Dragon Association,
Hill House,
Ranworth,
Norfolk NR13 6AB,
Great Britain.

Mr. Mike Pollett,
41 Perth Road,
Milnathort,
Kinross KY13 7XU,
Scotland.

Mr. Theo P. van den Driest,
Secretary,
Netherlands Drakenclub,
de Wieken 132,
1622 GV Hoorn,
Holland.

Mr. A.J.M. Dubois,
Secretary,
Nederlands Drakenclub,
Oranje Nassaulaan 3,
1075 AH Amsterdam,
Holland.

Miss Patricia Loseby,
Secretary,
Hong Kong Dragon Association,
Room 1, Ground Floor,
Baskerville House,
22 Ice House Street,
Hong Kong.

Conor Doyle, Esq.,
Chairman,
International Dragon Association,
No. 1 Connell Street,
Cork,
Ireland.

Alan Crosbie, Esq.,
Irish Dragon Association,
c/o Cork Examiner Publications,
95 Patrick Street,
Postbox 21,
Cork,
Ireland.

Mr. Piero Guidi,
Via Malaguti 16,
40126 Bologna,
Italy.

Mr. Minoru Takarabe,
Chairman,
Japan Dragon Association,
Dr. Kishi Memorial Hall,
25 Kannami-cho,
Shibuya – Ku,
Tokyo,
Japan.

Mr. Terje Ullahammer,
Secretary,
Norske Dvakekenll,
Giskegt 35,
N-6005 Aalesund,
Norway.

Mr. Matz Brown,
Secretary
Svensk Drakklubb,
Solbacken Pl. 22403
S-45900 Ljungskile,
Sweden.

Frau Therese M. Schrockel,
Secretary,
Swiss Dragon Fleet,
Hermannstrasse 11,
CH-8400 Winterthur,
Switzerland.

Mr. Murray Hestley,
Secretary,
American International Dragon
Association,
787 Mendon-Ionia Road,
Ionia, NY 14475,
U.S.A.

Herr Norbert Geissler,
Gartenstrasse 3,
8134 Pöcking,
West Germany.



FAST

Over the past years North Sails has shown total domination.

The results speak for themselves:

- 1. in the World Championship in Australia
- 1. in the Gold Cup in Scotland
- 1. in the European Championship in Finland
- 1. in the Kiel Week
- 1. in the German Championship in Berlin

These victories were achieved not only in four totally different surroundings and four different boats but with four different sailors. Doesn't this proof that NORTH SAILS makes the fastest allround Dragonsails, wherever you may sail?



NORTH SAILS

NORTH SAILS E. WAGNER GMBH · Alte Traubinger Str. 16 · 8133 Garatshausen · Tel. (08158) 2021-24
 NORTH SAILS SCANDINAVIA · Varebrovej 25 · DK-4040 Jyllinge-Denmark · Tel. 2-131429/2-131517
 NORTH SAILS(U.K.) LTD. · Newgate Lane · GB-Fareham, Hampshire PO141BP England · Tel. 0329-231525

International Dragon Assoc. Rules

Rules of the International Dragon Association, as adopted by the General Assembly of I.D.A. in Hanko, 23rd July, 1962.

1. Objects of the Association

The International Association (I.D.A.) was founded on 31st October, 1961, with London as Headquarters.

The principal objects of I.D.A. are:

- (a) To further the interests of the International Dragon Class.
- (b) To serve in an advisory capacity to the I.Y.R.U.
- (c) To co-ordinate National Association views on the Dragon Rules prior to I.Y.R.U. meetings.
- (d) To keep all countries racing Dragons in touch with each other and to help to co-ordinate International fixtures.

2. Membership

Membership is open to National Dragon Class Associations.

3. Subscriptions

The subscription shall be due annually on 1st November and shall be payable to the Secretary, who is also the Treasurer. An Association whose subscription is overdue shall not be entitled to be represented or to vote at a Meeting. The amount of the annual subscription shall be decided at the Annual General Meeting which shall take place during the main regatta for the class. The venue of such meeting shall be decided at the annual General Meeting of the previous year.

4. Management

- (a) The affairs of the Association shall be conducted by the Association in General Meeting. The preparation of the agenda for General Meetings and the day-to-day management of the Association in accordance with the wishes of the Association in General Meeting shall be the responsibility of an Executive Committee.
- (b) The duration of office shall be as follows:
Chairman 4 years
1st Vice-Chairman 3 years
2nd Vice-Chairman 2 years
None of the above shall be eligible for re-election until one year has elapsed after he ceases to hold office.
The post of Secretary and Treasurer are unlimited in duration.
- (c) The Association shall elect a President and may, at its discretion, elect Vice-Presidents. The Offices of President and Vice-President shall be reserved for those whom the Association specially wishes to honour by reason of their interest in the class.
- (d) The Executive Committee shall consist of the Chairman, the two Vice-Chairmen the Secretary and Treasurer.
- (e) At a General or Special Meeting the accredited representatives of five National Associations shall form a quorum.
- (f) Each National Association represented at the meeting shall have one vote. In the event of

equality of votes the Chairman shall have a casting vote.

- (g) The Secretaries of National Associations shall nominate in writing to the Secretary of I.D.A. the person who shall represent them at a Meeting.
- (h) The agenda for General Meetings shall be sent to each National Association one month before the date of the Meeting, and no decision may be taken at the Meeting concerning the rules of the International Dragon Class which is not included on the agenda.
- (i) No decision affecting the rules of the Association or recommendation for change in the Dragon Rules may be taken unless there is a two-thirds voting majority. All other matters shall be decided by a straight vote.
- (j) Items for the agenda at General Meetings shall only be accepted from the Secretary of a National Association, and shall be in the hands of the Secretary of the International Dragon Association six weeks before the date of the Meeting.
- (k) Minutes of Meetings shall be prepared by the Secretary and circulated to all Members of the Association.

5. Finance

The Statement of accounts shall be made up to 31st May, in each year and submitted for approval to the Annual General Meeting.

6.

The official language of I.D.A. will be English.

Dragon World Championship Rules

The Royal Hellenic Cup

Whereas the International Dragon Association have decided that it would be to the advantage of the Class to hold World Championship Races, these Races shall be run under the following conditions:

1.

The races shall be held under the Rules of the IYRU, the racing rules of the country giving the Races and the Olympic Rules in force one year before the date of the Races subject to amendments approved by the Association and the Conditions herein.

2.

Races shall be held every two years in the year next following and in the year preceding an Olympic Games. The first races shall be held in 1965.

3.

Races shall take place in the following areas in rotation:

North Europe:

Finland, Sweden, Norway, Denmark, Germany, Holland, U.K. and Ireland.

America:

North and South American continent, Bermuda, Jamaica.

South Europe:

Belgium, France, Switzerland, Portugal, Spain, Italy, Greece.

Australia and Pacific:

Australia and countries having a Pacific seaboard and countries in the Southern hemisphere other than above.

Only countries that are members of the Association may run the Races. New member countries shall be allocated to a suitable area by the Association.

The area to hold the first races shall be North Europe.

4.

The area designated shall select the country that is to hold the Races two years before such Races at a meeting or by a postal vote of the countries in the area. In the event of a postal vote, each voter shall be informed of the conditions to be expected as to sea, current, weather and accommodation at, and means of transport to the venues under consideration.

The decision of the area is subject to the approval of this Association.

5.

The formula for the number of entries (per country) reads as follows:

Registered Dragons per country	Permitted maximum entries
1 - 5	3
6 - 49	5
50 - 99	6
100 - 149	7
150 - 199	8
200 - 249	9
250 - 299	10
300 - 349	11
350 - 399	12
...and so on	

An additional entry will be accepted from the winning helmsman of the preceding World Championship.

The organising country shall be notified of the intention to enter and the number of boats to be entered at least three months prior to the Races.

The names of helmsman crew and boat shall be in the hands of the organising country at least 14 days before the first race - unless dispensation is obtained.

6.

The helmsman and at least one crew shall be members of the country making the entry, and any such members may take the helm. One non-national crew member is permitted, but in which case he shall not take the helm. The designation World Champion shall apply to the helmsman and crew.

Helmsman and crew may be substituted during a series for good and sufficient reason approved by the Race Committee.

For the purposes of entry the definition of "country" shall be that in force in the Olympic rule three months before the date of the Races.

7.

Entries shall be limited to boats holding a valid certificate of measurement which shall be exhibited to the organising country as directed in the Sailing Instructions.

Boats and sails may be subject to remeasurement in accordance with the International Dragon Class Rules. A maximum of 12 sails may be submitted for measurement, and only such sails shall be used during the races.

8.

Courses, the number of races to be sailed, the number of races to count for points and the scoring system shall be that of the Olympic Rule in force one year prior to the races, except that

should it be impossible to complete more than five races, the Trophy may be awarded on the result of the best four of those races. If fewer than five races can be sailed the Trophy shall not be awarded. A minimum overall speed of 2 knots must be attained.

If the leading yacht finishes the race within the time limit, the duration of the race concerned shall be prolonged by half-an-hour. Yachts failing to finish in this extra time shall be awarded points for the position one more than the last placed yacht. The course shall not be shortened except that in heavy weather the course may be shortened, at the discretion of the Jury, provided that a minimum of four legs of the course have been completed.

9.

The Race Committee responsible for the running of the races shall be under the direction of a Jury of five persons to be nominated by the Association. The Jury's decision shall be final, provided that permission for such procedure can be obtained when required by The Racing Rules. (Rule 1.7.(a)).

10.

The President has presented the Royal Hellenic Cup known as Epathlon Vassileos to the International Dragon Class as World Championship Trophy, in memory of the late King Paul who showed so much interest in Dragons. The trophy will be held by the winning helmsman until the next Races, but will remain the property of the donor. It will be the responsibility of the holder to see that the Trophy is in the hands of the organising country by the start of the next Races.

The Trophy will be insured by the Association. This Association will provide a prize to be awarded to the winning helmsman, and medals to the helmsman and crew of the first three boats.

11.

The above Conditions shall be subject to interpretation and amendment by the Association.

An amendment to these conditions shall require a two-thirds majority of those voting.



Norwegian Dragons back on the Fjords.

World Championships Winners

1965	Sweden	Ole Bernsen	Denmark
1967	U.S.A.	G. S. Friedrichs	U.S.A.
1969	Spain	Robert Mosbacher	U.S.A.
1971	Australia	Gebr. Sundelin	Sweden
1973	Greece	Roger Eliasson	Sweden
1975	U.S.A.	Bengt Palmqist	Sweden
1977	Switzerland	Harry Ferreberger	Australia
1979	Australia	Robert Porter	Australia
1981	Germany	Marcus Glas	Germany
1983	Canada	Bob Burgess	Canada
1985	France	Rappel	Germany
1987	Denmark	V. Bandolowski	Australia



Dragon Gold Cup Rules

The International Dragon Cup was presented in 1937 by members of the Clyde Yacht Clubs' Conference with the intention of bringing together as many competitors of different nationalities as possible for Yacht Racing in a friendly spirit, in order to perpetuate the good feeling which existed at the first International Clyde Fortnight. The Clyde Yacht Clubs' Conference has been reconstituted as the Clyde Yacht Clubs's Association, and the International Dragon Cup has become known as, and is now renamed, the 'Dragon Gold Cup'.

1.
The Cup shall be called the Dragon Gold Cup and shall be raced for by yachts of the International Dragon Class belonging to any country.

2.
The Cup shall be sailed for annually, and shall be retained by the winner for one year only. A trophy presented by the Royal Forth Yacht Club in 1979 shall be awarded to the runner-up in the event.

3.
Races shall take place in rotation in Scotland, Sweden, Western Germany, Holland and Denmark. This rota may be altered, but the number of countries participating shall not at any time exceed six. The following organising authorities shall have full charge of the arrangements when races take place within their jurisdiction.

In Scotland – The Clyde Yacht Club Association.

In Holland – Royal Netherlands Yacht Club.

In France – Yacht Club de France.

In West Germany – Norddeutscher Regatta Vrein.

In Sweden – Royal Gothenburgh Yacht Club.

In Denmark – Kongelig Dansk Yacht Klub.

The Organising Authority shall circulate to the other Authorities and interested bodies, the date, and if possible location of the Gold Cup Races not later than 30th November before the event. Invitations and a Preliminary Notice should be circulated not later than 31st January, before the event.

4.
The Races shall be in accordance with the IYRU Racing Rules. The special provisions required by the appropriate National Authority shall apply except where these are varied by the Rules of the Dragon Gold Cup and the Conditions

and Sailing Instructions of the Organising Authority.

5.
The Organising Authority shall provide for the following:

(a) that all starts are to windward;
(b) that courses are of Olympic type and it is recommended that the full course should be at least twelve sea miles in length;

(c) that no mark shall be laid closer to the land than approximately one sea mile if at all possible;

(d) that the length of the starting line in metres is at least 13 times the number of entrants and that it is laid out as nearly as possible at an angle of 65° to the mean true direction of the wind measured from the starboard end of the line;

(e) that a special Starting Rule, such as the Five Minute, One Minute or Round the Ends Rule, may be applied at all starts, (it is recommended that the One Minute Rule should only be applied after a general recall).

(f) Sailing instructions must be approved beforehand by the CYCA. Organising authorities should submit their sailing instructions for approval not later than 31st March.

6.
The Organising Authority shall be expected to present a memento to the winner, and such other prizes as they consider appropriate.

7.
It was the original intention of the donors that as many entries as possible should be accepted. Some restriction on the number of entrants may, however, become necessary. This Organising Authority should state in the advertisement for the Races the maximum number of entrants which will be accepted which must not exceed 120 and should take whatever steps it considers necessary to ensure that this number is not exceeded by restricting the entrants either from its own or any other country.

8.
There will be a series of 6 races, none of which may be discarded for points and every effort must be made to complete 6 races.

In the event of adverse weather, or other circumstances beyond the control of the organisers, the trophy may be awarded as follows:

If 4 or 5 races are completed, all shall score, but if fewer than 4 races are completed, no result will be declared and the trophy shall be returned to the Clyde Yacht Clubs' Association.

If it is anticipated by the Organising Authority that the total number of starters will exceed 50 boats (or, at their discretion 70 boats), they will divide the number into four groups as nearly equal as possible and each group will be given a different colour, for example, white, yellow, red, green, and boats will show their identity colour as directed in the sailing instructions. In allocating boats to groups, the Organising Authority will first divide all competing Olympic helmsmen and previous winners of the Gold Cup by lot as evenly as possible amongst the four groups and thereafter the remaining entrants also by lot. The draw should take place as near to the date of the first race as possible so that known non-starters can be eliminated.

9.
Each Group will sail a total of six races comprising two races against each of the other groups in turn, viz.:

	Start 'A'	Start 'B'
Race 1	White & Yellow	Red & Green
Race 2	White & Red	Yellow & Green
Race 3	White & Green	Yellow & Red
Race 4	Red & Green	White & Yellow
Race 5	Yellow 7 Green	White & Red
Race 6	Yellow & Red	White & Green
Starts 'A' and 'B'	will be made at intervals in that order.	

10
In each race points will be awarded in accordance with the following formula based on the Olympic Scoring System (IYRU 1967).

Each boat finishing shall score points as follows:

First place	0
Second place	3
Third place	5.7
Fourth place	8
Fifth place	10
Sixth place	11.7
Seventh place & thereafter place + 6	

The Dragon Gold Cup will be awarded to the boat with the lowest total score for six races.

Any boat which starts within the meaning of the rules and does not finish, including any boat which commits a breach of the rules but retires within reasonable time, shall score the points for a last place finish, that is to say for the finishing place equal to the number of boats allocated to the start of the race.

Dragon Gold Cup Rules (Contd.)

Any boat which commits a breach of the rules but fails to retire within reasonable time or is disqualified pursuant to the provisions of IYRU Racing Rules 72 and 73 shall score the points for a last place finish plus 10% of the number of boats allocated to that start of the race, fractions being raised to the next higher whole number. Any boat which does not start shall score the points for the finishing place equal to the number of boats allocated to that start of the race.

When the Protest Committee decides that a boat is entitled to the relief granted by IYRU Racing Rule 12, an equitable arrangement may be deemed to be the awarding to the boat whose finishing position has been materially prejudiced of points for that race equal to the average points, to the nearest tenth of a point, of her best five races.

In the event of a tie in any race, the points for the place for which the boats have tied and for the place immediately below shall be added together and divided equally.

In the event of a tie on total points between two or more boats, the tie shall be broken in favour of the boat or boats with the most first places, and if any such boats remain tied, the most second places, and so on, if necessary for the six races. If this method fails to resolve the tie, the tie shall stand as the final placing of the series. Each of the joint

winners shall hold the cup for an equal part of the following year, the exact dates being decided by the Organising Authority.

11. No boats may 'team race' with other boats in any race. No boat shall tactically interfere with a boat allocated to another start of the race.

12. The owner and helmsman of each yacht must be a citizen of the country from which the yacht enters, but this rule need not apply to other members of the crew. When possible, the authority in charge of the arrangements for races, should make efforts to have yachts loaned to helmsmen from other countries who must be Dragon owners, and to their crews. Applications for such loans must be in the hands of the Secretary of the Authority in charge of the races not later than two months before the date of the first race of the series.

13. All boats, sails, crews, etc., must conform to the Rules and Conditions laid down for the International Dragon Class, and the owner of each yacht may be required to produce a measurement Certificate. The Organising Authority may have any yacht measured (including sails) or weighed.

14. All protests occurring during the races for the Cup shall be submitted to a Jury of the Organising Authority, subject to the right of appeal to an International Jury appointed by the Organising Authority; alternatively, the Organising Authority may arrange for all protests to be heard by the International Jury in the first instance. The decisions of the International Jury shall, in all cases, be final, and not subject to further appeal.

15. (a) Alterations to these Rules shall be made only by The Clyde Yacht Clubs' Association after consulting with the Authorities referred to in Rule 3 and the International Dragon Association. (b) Should the Dragon Class cease to exist, or should the Competition for the Gold Cup in the opinion of the Clyde Yacht Clubs' Association after consulting with the Authorities referred to in Rule 3, and the International Dragon Association cease to be of first class importance, the Cup shall be returned to the Clyde Yacht Clubs' Association.

By Order,
W. COWAN, Chairman,
J. WATSON, Hon. Secretary,
The Clyde Yacht Clubs' Association,
113 West Regent Street,
Glasgow, G2 2RU, Scotland.



Gold Cup Winners

1937	Olso	Rolf Billner	Sweden
1938	Travemünde	Herbert Döhler	Germany
1939	Göteborg	Harald Gedda	Sweden
1947	Clyde	W. H. Barnett	N. Ireland
1948	Arendal	Thor Thorvaldsen	Norway
1949	Marstrand	Ole Berntsen	Denmark
1950	Vejle	Thor Thorvaldsen	Norway
1951	Clyde	Consul Thorkil Warrer	Denmark
1952	Hankoe	Oivind Christensen	Norway
1953	Marstrand	Theodor Thomsen	Germany
1954	Skovshoved	Ole Berntsen	Denmark
1955	Amsterdam	Theodor Thomsen	Germany
1956	Clyde	Consul Thorkil Warrer	Denmark
1957	Hankoe	Ole Berntsen	Denmark
1958	Marstrand	Sergio Sorrentino	Italy
1959	Skovshoved	Walter Windeyer	Canada
1960	Amsterdam	Ole Berntsen	Denmark
1961	Clyde	Sir Gordon Smith	England
1962	Hankoe	Ole Berntsen	Denmark
1963	Marstrand	Aage Birch	Denmark
1964	Travemünde	Aage Birch	Denmark
1965	Ijselmeer	Henning Jensen	Denmark
1966	Copenhagen	Aage Birch	Denmark
1967	Clyde	Börge Börresen	Denmark
1968	Hankoe	Aage Birch	Denmark
1969	Marstrand	Aage Birch	Denmark
1970	Travemünde	Aage Birch	Denmark
1971	Medemblik	A. W. Henry	U.S.A.
1972	Copenhagen	Aage Birch	Denmark
1973	Clyde	D. Young	U.K.
1974	Le Havre	N. Truman	U.K.
1975	Marstrand	T. Krogh	Denmark
1976	Travemünde	P. Stülcken	Germany
1977	Kinsale	P. Stülcken	Germany
1978	Ebeltoft	B. Palmquist	Sweden
1979	Edinburgh	B. Palmquist	Sweden
1980	Enkhuizen	Achim Ulrich	Germany
1981	Douanenez	Alo Schaefer	Germany
1982	Travemünde	Dieter Krautgartner	Germany
1983	Marstrand	Klaus Oldendorff	Germany
1984	Skovshoved	V. Bandolowski	Denmark
1985	Clyde	B. Börresen	Denmark
1986	Enkhuizen	V. Bandolowski	Denmark
1987	Clyde	A.F.G. Bakker	Netherlands
1988	Le Havre	F. Imhoff	Netherlands

European Championship Rules

The Virginie Heriot Cup

1. In memory of Madame Virginie Heriot and in accordance with her often expressed wish to encourage yachting, the Committee of the Yacht Club de France decided at a meeting on the 21st May, 1946 to initiate an International Cup and name it the "Coupe Virginie Heriot".

The Cup is assigned to the International Dragon Class, but remains the property of the Yacht Club de France.

In agreement with the Committee of the International Dragon Association the "Virginie Heriot Cup" will be the Trophy for the European Dragon Championship.

For the purpose of these Rules the definition of "Country" should be that in force in the Olympic Rules three months before the date of the races.

2. Races will take place every even year in European waters, The races will be organised in accordance with a schedule decided between the Committee of the Yacht Club de France and the International Dragon Association.

Every European Country having a Dragon Fleet will be entitled to apply to run the European Championship, giving at least two years notice of their willingness to run the Regatta. The selection will be made by the IDA and will be subject to the approval of the Yacht Club de France.

3. The "Virginie Heriot Cup" is open to all countries which have the right to be represented by a number of Dragons in accordance with the following formula, and to be selected by their National Association failing which their National Authority.

Registered Dragons per country	Permitted maximum entries
1 - 5	3
6 - 49	5
50 - 99	6
100 - 149	7
150 - 199	8
200 - 249	9
250 - 299	10
300 - 349	11
350 - 399	12
...and so on	

Entries must be sent to the Yacht Club de France or the organising Club as early as possible and at least one month before the date fixed for the start of the first race. Entries must include:

the Yacht Club under which the yacht is entered;

the name of the Yacht;
the number of her sail;
the name of the owner;
the names of the members of the crew and, where possible the names of crew replacements.

The Yacht Club de France will forward all entries received to the organising Club.

4. Dragons entered in accordance with paragraph 3 may represent one or more Yacht Clubs recognised by their National Authority.

The Yacht Club represented by the winning Dragon shall have temporary possession of the Cup for the period of one year. The Club shall be responsible for the care of the Cup and its presence at the following year's races.



5. The title of European Champion will be awarded to the competitor best placed in the series of races according to the Olympic Scoring System.

These races are for individual competition. Team racing is prohibited.

6. There will be six races, of which the best five will count. If only 5 races can be sailed the best four will count. If less than five races can be sailed the Cup will not be awarded. The course must be at least 10 sea miles, and must be laid out in accordance with the principle of olympic courses. A minimum overall speed of 2 knots must be attained.

If the leading yacht finishes the race within the time limit, the duration of the race concerned shall be prolonged by

half-an-hour. Yachts failing to finish in this extra time shall be awarded points for the position one more than the last placed yacht. The course shall not be shortened except that in heavy weather the course may be shortened, at the discretion of the Jury, provided that a minimum of four legs of the course have been completed.

If one race has been missed for any reason, then two races per day should be allowed to bring the programme back to schedule.

7. The Race Committee responsible for the running of the races shall be under the direction of a Jury of five persons to be nominated by the Association. The Jury's decision shall be final, provided that permission for such procedure can be obtained when required by The Racing Rules. (Rule 1.7(a)).

8. The Committee may at their discretion either before or during the races take such measures as they consider useful:

- (a) To verify that the measurements of entered Dragons conform to the certificates of measurements, which must be produced;
- (b) To check the measurement of sails which competitors intend to use during the races for the Cup - these not to exceed 12 sails.

9. The helmsman and at least one crew shall be members of the country making the entry, and any such members may take the helm. One non-national crew member is permitted, but in which case he shall not take the helm.

10. A miniature of the Cup will be presented to the owner of the winning yacht as his personal souvenir. Furthermore, this owner shall have the right of being one of the representatives of his country in the next Championship year following his victory. Equally a souvenir will be presented to the helmsman and crew of the winning boat, recalling that they have been Champion of Europe by reason of their winning the "Virginie Heriot Cup" in the year in question.

11. When the Committee of the Yacht Club de France or the Committee of the International Dragon Association may find it opportune, and when no entries have been received, they may modify these rules by mutual agreement.

European Championships Winners

1963	Greece	Parry	U.K.
1964	France	A. Birsch	Denmark
1965	U.K.	S. Tait	U.K.
1966	Denmark	G. S. Friedrichs	U.S.A.
1967	France	Briand	France
1968	Finland	Anesimov	U.S.S.R.
1969	West Germany	A. Holm	Denmark
1970	Ireland	H. Long	U.S.A.
1971	Sweden	Sundelin	Sweden
1972	France	Borowski	East Germany
1973	Spain	B. Börresen	Denmark
1974	Netherlands	E. Hirt	West Germany
1975	Sweden	U. Seipolt	West Germany
1976	West Germany	U. Seipolt	West Germany
1977	France	M. Glas	West Germany
1978	U.K.	C. Doyle	Ireland
1979	Belgium	E. R. Frech	Netherlands
1980	West Germany	G. Scheinecker	Austria
1982	Switzerland	M. Glas	West Germany
1984	Ireland	B. Börresen	Denmark
1986	Belgium	M. Glas	West Germany
1987	Finland	M. Glas	West Germany
1988	Denmark	H. Jensen	Denmark

POWERED by

ELVSTRÖM SAILS

Elvström Sails: Uglekær 1, 6200 Aabenraa, Tlf. 04 62 48 00 - Elvström Sjølland: Dyrølægegaards Allé 164, 3600 Frederikssund, Tlf. 02 78 35 65



**A Quality Boat
deserves
A Suunto Compass**

Suunto means a choice of seventy compasses... for use under power or sail... for cruising or racing. Suunto means dependability, precision and the highest quality. Suunto means specialization in the research, development and production of directional instrumentation. To the most prestigious boatbuilders and thousands of boatowners worldwide, Suunto is the first and last word in marine compasses.

C-65/K	A sturdy power boat compass with course memory for all power boats.
D-135/K/W/SEC	A binnacle model ideal for application on all standard sailing pedestals or for deck mounting on motorsailers and power boats.
NEW! SUUNTO FLUXGATE	A high performance electronic transmitting compass for sailing and powercraft where conventional compasses would be affected by strong magnetic disturbances.
KB-77/360 RT	Accurate prismatic hand-bearing compass for boating covered by a new rubber housing (optional).
COMMANDER	A unique and versatile marine compass for small to mid-size power and sailboats. Commander can be used as an all purpose compass or hand-bearing compass.



SUUNTO
Marine Compasses

SF-02920 ESP00, Finland
Tel. (Int.) +358-0-847033
Telefax (Int.) +358-0-843810
Telex 122497 suntto sf







More than 50 years ago
worlds best Dragons were built
by Børresen...
-they still are!



**B B BØRRESENS
BADEBYGGERI A/S**

Dragevej 11 · Postbox 187 · DK-7100 Vejle
Int. tlf.: 0045 5 82 59 00

International Dragon Class Rules

Authority:

International Yacht Racing Union,
60 Knightsbridge, London SW1X 7JX,
England.

Note:

The International Yacht Racing Union is not
a National Authority.

1.0 General

The Dragon was designed in 1929 by
Johan Anker of Norway.

1.10 Purpose of the Class Rules

1.11

The intention of these rules is to ensure
that the yachts are as identical as
possible in hull shape, weight, weight
distribution and sail plan. The
construction of the hull, and the spars,
sails and rigging are controlled by these
rules.

1.20 Authority

1.21

The international authority for the class
is the IYRU which will co-operate with
the International Dragon Association
(IDA) in all matters concerning these
rules.

1.22

Neither the IYRU nor the International
Dragon Association accept any legal
responsibility in respect of these rules
and plans or any claim arising
therefrom.

1.23

In countries where there is no national
yachting authority (NA), or the NA does
not wish to administer the class, its
functions as stated in these rules shall be
carried out by the IDA or its delegated
representatives, a national Dragon class
association.

1.30 Language

1.31

The official language of the class is
English and in the event of dispute over
translation, the English text shall
prevail.

1.32

The word "shall" is mandatory and the
words "may" and "can" are permissive.

1.33

Wherever in these rules the words "class
rules" are used they shall be taken as
including the plans, diagrams and the
measurement form.

1.40 Interpretation

1.41

These rules shall be read in conjunction
with the official plans and measurement

form. (*Note:* The official plans are listed
at the end of these rules).

1.42

Departure of any kind from the plans is
prohibited, unless either a plan of the
proposed departure has been approved
by IYRU, or it is authorised by these
rules.

1.43

In the event of a discrepancy between
the rules, measurement form or plans
the matter shall be referred to the IYRU.

1.44

Any interpretation of these rules shall be
made by the IYRU which may consult
the IDA.

1.50 Measurement and Measurers

1.51

Except where other methods of
measurement are specifically indicated
all measurement shall be carried out in
accordance with the IYRU
Measurement Instructions.

1.52

Only a measurer nominated by a
national authority and approved by the
IDA shall measure a yacht, its spars,
sails and equipment, and sign the
declaration on the measurement form.

1.53

A measurer shall not measure a yacht,
its spars, sails or equipment owned or
built by himself, or in which he is an
interested party, or has a vested interest.

1.54

New or substantially altered sails shall
be measured by a measurer who shall
stamp, sign and date the sails.

1.55

Templates used for measurement shall
be made accurately to designs supplied
by IYRU, and registered with IYRU.

1.60 Application of Rules and Re-measurement

1.61

If a yacht is to be re-measured (see rule
1.64 below) this shall be carried out in
accordance with the rules in force at the
time the yacht's original measurement
certificate was issued, except that spars,
rigging and sails shall be measured in
accordance with the current class rules.

1.62

Re-measurement of the hull after a
major repair or alteration shall be
carried out in accordance with either the
current class rules or those in force when
the yacht's original measurement
certificate was issued.

1.63

Replacement spars, rigging and sails
shall be measured in accordance with
the current class rules.

1.64

Re-measurement may be carried out on
the instructions of IYRU, a national
authority, IDA or the race committee
except that re-measurement of the hull
shall be permitted only if there is reason
to think:

- .1 the hull shape has been altered, or
- .2 the yacht had been incorrectly
measured before the measurement
certificate was issued.

1.65

Adjustment of the corrector weights at
station 8 shall be made only after the
yacht has been officially re-weighed by
an official measurer with a scale that has
been officially certified within the
preceding twelve months:

- (1) Before an international regatta.
- (2) On the instructions of the owner.
- (3) On a protest.
- (4) Under circumstances requiring
re-measurement.

1.66

The revised details of the corrector
weights shall be entered on the
measurement certificate which shall be
sent to the owner's national authority to
be re-validated or re-issued.

1.70 International Class Fee

1.71

An International Class Fee (ICF) as
prescribed by IYRU shall be paid on
each yacht built. This amount shall be
paid to the IYRU which shall issue an
official international Class Fee Receipt
and, for yachts first registered after 1st
March, 1986, an IYRU sticker. Yachts
first registered after 1st March, 1986
shall have an IYRU sticker permanently
fixed inside the hull.

1.72

The IYRU is responsible for the
collection and distribution of the ICF.

1.73

The ICF is payable by the builder on
each boat built, whether or not it is
subsequently measured and registered.
The ICF receipt shall be delivered by the
builder to the owner on sale of the boat.

1.74

ICF receipts shall be valid only if made
out on official receipts by the IYRU.

1.75

The International Class Fee Receipt
number or IYRU sticker number shall

International Dragon Class Rules (*Contd.*)

be entered on the yacht's measurement
certificate.

1.80 Measurement Certificate

1.81

No yacht shall take part in class races
unless it has a valid measurement
certificate and its owner is a current
member of a national Dragon
association.

1.82

A valid measurement certificate is an
original or copy of the measurement form
which has been stamped by a NA or is a
special measurement certificate issued
by a NA.

1.83

To obtain a Measurement Certificate:

- .1 The builder pays the ICF to IYRU
who will issue an official ICF receipt
and sticker.
- .2 The owner shall apply to his NA for a
sail number. (Each country shall
issue sail numbers which shall be
consecutive beginning from one. The
number shall be preceded by the
national letter(s). Each number shall
be used once only).
- .3 An official measurer shall measure
the yacht and complete a
measurement form.
- .4 The owner sends the completed
measurement form to his NA,
together with any registration fee
required.
- .5 On completion of the above the NA
may issue a Measurement
Certificate.

1.85

Change of ownership invalidates the
certificate and the original certificate
shall be returned to the NA together with
a written application containing the
name, address and club of the new
owner and any re-registration fee that
may be required by the NA. A certificate
shall then be issued to the new owner.
Re-measurement shall not be necessary
to revalidate a certificate.

1.91

It is the responsibility of the owner to see
that his yacht, spars, sails and
equipment comply with the class rules
and relevant International Yacht Racing
Rules at all times and that alterations,
replacements or repairs to the yacht,
spars, sails or equipment do not
invalidate the measurement certificate.

Note: Alterations, repairs or
replacements which are not
re-measured may invalidate a yacht's
certificate.

2.0 HULL

2.10 General

2.11

The yacht shall be constructed in one of
three ways:

- carvel planked (see rule 2.20), or
- cold moulded plywood (see rule
2.30), or
- glass reinforced plastic (see rule
2.40).

2.12

Except as specifically stated in these
rules combinations of the different
methods of construction are prohibited.
(See rule 2.4.14).

2.13

The shape of the hull shall be in
accordance with the lines plan and the
table of offsets and be within the
tolerances specified in the rules and the
measurement form.

2.14

Stations are spaced at 600mm.

2.15

Stations 2, 4, 8, 12 and 14 shall be
permanently marked (by screws in a
wooden hull or countersinks in a GRP
hull) on the covering board and in the
hull just above the ballast keel at station
8 on both sides of the yacht, and on the
centreline of the stem (at stations 2 and
4), and of the counter (at stations 12 and
14).

2.16

The transom shall be flat.

2.17

Two lifting eyes shall be attached to the
keel, keel bolts or floor timbers. The
weight of each lifting eye shall not
exceed 3kg.

2.18

The national letter(s) and sail number of
the yacht shall be carved in the horn
timber of a wooden hull, or in the
equivalent position in a GRP hull. The
letters and numbers shall not be less
than 50mm in height and carved to a
depth of not less than 2mm.

2.19

The builder shall permit the measurer to
inspect the work at any time during its
progress.

2.191

Buoyancy tanks, bags or compartments
are permitted. Any bulkhead shall only
be constructed at or within 300mm of
stations 5 or 12 or at the forward and aft
ends of any internal moulding and shall
have a removable panel.

2.20 Carvel Planked Yacht

2.201

The yacht shall be constructed in
accordance with the Construction Plan.

2.202

The sizes of timber shown on the
Construction Plan are minimum finished
sizes.

2.203

Where particular kinds of wood are
mentioned, other kinds of wood may be
used provided they have specific
weights and durability not less than
those specified.

2.204

Where the inboard edges of structural
members are not flayed to other
structural members, they may be
rounded off. Such rounding shall not
exceed 5mm radius.

2.205

The stem, wood keel, counter timber
and stern post shall be of oak. The
deadwood shall be of oak or pine.

2.206

The transom shall be of oak or mahogany
not less than 20mm thick.

2.207

The planking shall not be less than
17mm thick. Any kind of wood may be
used for the planking provided the
weight of such wood is not less than
550kg/m³. The planks shall be fastened
to the frames with copper nails (11
gauge) clenched on roves or turned over,
or with 5mm dia. silicon bronze or
stainless steel screws 32mm long.

2.208

The two frames abreast the mast and the
frames at stations 4, 8 and 12 shall be of
ash, oak or elm 30mm x 34mm. If of oak
the frames may be grown or laminated. If
of ash or elm they shall be laminated.

2.209

All other frames shall be of ash, oak or
elm at 200mm centres. They shall be
25mm x 30mm between stations 3.5 and
11, and beyond those stations they shall
be 22mm x 25mm. These frames may be
hot bent or laminated except at stations 2
and 14 where they shall be laminated or
grown.

2.210

Floor timbers shall be oak, sided 70mm,
for the length of the ballast keel and
50mm beyond the keel. For one half of
their length the siding may be tapered
down to 46mm.

International Dragon Class Rules (Contd.)

2.211 The mast step shall be of oak 1350mm x 150mm x 60mm. The siding shall not be less than 150mm throughout although its moulding may be tapered as shown on the official plans.

2.212 The shelf shall be of Scandinavian pine or fir, Larch or Oregon pine, 27mm x 100mm or 24mm x 115mm.

2.213 The round (camber) of beams shall not exceed 9.5mm per 305mm of its length (e.g. at station 6 where the yacht's beam is 1834mm the round shall not exceed 58mm).

2.214 Beams and the carling shall be of larch, Scandinavian pine or fir, or Oregon pine of the following dimensions:

Mast beams and beams at the end of the cockpit and cabin top openings: 40mm x 60mm at the centreline reducing to 40mm x 40mm at the sides.

Complete beams between stations 3 and 13: 30mm x 45mm at the centreline reducing to 30mm x 30mm at the sides.

Half beams at the sides of the cockpit, etc.: 25mm x 38mm at the inboard ends reducing to 25mm x 25mm at the sides. Spacing shall not exceed 254mm centre to centre.

The carlings shall be a minimum of 50mm x 40mm.

2.215 The deck shall be of larch, Scandinavian pine or fir, Oregon pine, spruce, or plywood, not less than 14mm thick and weighing not less than 432kg/m³ and covered with canvas of not less than 236g/m² and painted, or covered with any other material of equivalent weight.

2.216 The deck may be of plywood, or plywood overlaid with teak, of not less than 15mm total thickness and weighing not less than 7.6kg/m².

2.217 The covering and margin boards shall be of mahogany, not less than 14mm thick and not exceeding 95mm wide.

2.218 The cabin sides shall be of mahogany not less than 16mm thickness, and the cabin roof shall be of wood or plywood (type optional) not less than 10mm thick on wooden beams. The cabin roof may be covered with canvas or other material.

2.219 A covering board of optional width is permitted round the cabin top.

2.30 Cold Moulded Yacht 2.31 The keel, stem and horn timber, shall be laminated from timber weighing between 530kg/m³ and 575kg/m³ (This weight bracket includes Khaya, Honduras and West African mahoganies). The total thickness of the centreline structure shall not be less than 60mm or more than 65mm, but may be increased to 80mm from station 2 forward. The deadwood shall be in accordance with rule 2.205 and the plans.

2.32 The hull-skin shall not be less than 16mm thickness and shall comprise of not less than 3 veneers of wood. The weight of the hull skin including glue shall not be less than 12kg/m².

2.33 Two frames between stations 5 and 6 and one further frame between stations 11 and 12 are mandatory; their dimensions shall not be less than 50 x 30mm. These frames shall be of wood and may be laminated.

2.34 All other construction of the hull, including the floor timbers but excluding frames and fastenings shall comply with the rules for the carvel planked yacht.

2.40 Glass Reinforced Plastic yacht

2.401 General These rules permit the construction in glass reinforced polyester resin (GRP) and are supplementary to, and shall be read in conjunction with the official plans.

Example of Construction

Stations	Total Weight of Keel Laminate kg/station (excludes weight of hull shell)	Area up to d One Side m²	Total Area of 450g Glass Used m²	Suggested No. of Layers of 450g Glass at Max. Thickness
0 - 1	1.4	0.12	0.9	5
1 - 2	3.5	0.22	2.3	7
2 - 3	3.5	0.17	2.3	9
3 - 4	3.5	0.15	2.3	10
4 - 5	4.2	0.15	2.8	12
5 - 6	4.5	0.15	3.0	13
6 - 7	5.3	0.18	3.5	12
7 - 8	6.8	0.23	4.5	13
8 - 9	8.9	0.30	5.9	13
9 - 10	11.0	0.37	7.3	13
10 - 11	7.2	0.29	4.8	11
11 - 12	3.6	0.18	2.4	9
12 - 13	2.4	0.15	1.6	7
13 - 14	2.1	0.15	1.4	6
14 - 15	1.8	0.15	1.2	5

2.402 Builders GRP Dragons shall only be constructed by builders licensed by IYRU Holdings Limited. Sub-contracting by a licenced builder is permitted providing the IYRU has been informed in writing. The licenced builder is solely responsible for ensuring the class rules are complied with.

- 2.403 Materials
- 1 Any long strand glass fibre material may be used with a rigid high strength, low water absorption rate polyester resin suitable for marine use. The glass content of the combination shall be not less than 30% of the total weight.
 - 2 Unless otherwise specified the glass reinforcement shall be uniformly distributed over the whole of the moulding.
 - 3 The lay up shall not include adjacent layers of woven rovings or cloth.
 - 4 Three samples of any proposed lay up of the hull shell shall be supplied to the IDA Chief Measurer (to the IYRU if no IDA Chief Measurer appointed) for checking that it complies with the Class Rules. One shall be returned, stamped as approved, to the Builder and be available for measurement of hulls using approved electronic gauges.

2.404 Hull Shell The weight of the exterior hull moulding shall be not less than 12kg/m² and the total weight of moulding shall be not less than 248kg. The total weight of the glass in the laminate shall be not less than 3.600kg/m².

International Dragon Class Rules (Contd.)

Example of construction:

2 layers of gelcoat	0.60kg/m²
8 layers of 450g glass mat and resin	11.00
1 finishing resin coat	0.40
Total Weight	12.00kg/m²

2.405 Keel Reinforcement The centreline of the hull shell moulding shall be reinforced in way of the stem, keel and stern with additional glass and resin. The keel reinforcement shall extend from the centreline of the yacht, for a distance, g, around the girth, to a point, d, 250mm from the centreline (see diagram).

The laminate shall be of uniform thickness below a point ½g distance from the centreline. Above the ½g distance the laminate shall reduce uniformly to the upper limit of the reinforcement. The weight of glass and resin shall be evenly distributed along the centreline in accordance with the following table. The total weight of the keel reinforcement shall be 70kg ± 7kg.

2.406 Internal Moulding A separate internal moulding shall be bonded to the exterior hull moulding and it shall extend at least from station 5 to station 11.

The minimum horizontal width of the moulding shall be:

at station 8	1700mm
at each end	1300mm

The top edge of the moulding shall not be below a continuous fair curve on each side of the yacht. No part of the moulding shall extend below 1000mm from a line joining the two sheerlines nor shall it, at any point, extend higher than 200mm below the deck.

The internal moulding may incorporate a web or frames, at its forward and aft ends.

The weight of the laminate in the internal moulding shall not be less than 3.5kg/mw.

Example of construction:

Gelcoat	0.5kg/m²
2 layers of 450g glass	3.0
Total	3.5kg/m²

Where the internal moulding does not touch the hull moulding (for instance, in way of seat mouldings floor boards etc.) the weight of the laminate shall be increased by not less than 3kg/m². (For example 2 additional layers of 450kg glass). The internal moulding shall be bedded on a uniform wet laminate of not less than 3kg/m².

2.407 Mast Step The mast step shall be incorporated in the interior hull moulding and shall not be less than 500mm long and connected to not less than 3 floors. The other dimensions of the mast step are optional. The mast step shall incorporate an additional weight of laminate of not less than 3kg/m², over and above the specified amounts for the internal hull moulding.

2.408 Floors A minimum of 8 floors shall be fitted. The maximum spacing between adjacent floors shall be 700mm. The floors may be formed as part of the internal hull moulding. No part of a floor shall extend below 1000mm from a line joining the sheerlines. The floors shall extend up to the underside of the cabin sole. The floors shall be of uniform laminate of 7.5kg/m² (for example: 5 layers of 450g mat). The floors shall be bonded to the hull with a laminate of not less than 6kg/m² (for example: 4 layers of 450g mat).

2.409 Weight of Internal Hull Mouldings. The total weight of the internal moulding, mast step, floors and bedding laminates shall be not less than 58kg. nor more than 72kg.

2.410 Deck, Coamings and Cabin The deck shall be of balsa or foam sandwich construction of minimum weight 9kg/m².

If the core is of balsa its thickness shall not be less than 12mm and its density shall not be less than 130kg/m³.

If the core is of foam its thickness shall not be less than 15mm and its density shall not be less than 80kg/m³.

The internal and external laminates shall each comprise a minimum of 3 layers of glass. The total weight of glass and resin on each side of the core shall be not less than 3kg/m².

Example of construction of sandwich deck:

2 layers of gelcoat	0.7kg/m²
3 layers of 300g glass	3.0
12mm of balsa	1.6
(Resin for balsa	0.4)
3 layers of 300g glass	3.0
1 internal resin coat	0.3

Total: 9.0kg/m² Four deck beams shall be fitted the full width of the deck moulding, one in each of the following positions: Station 4 Between Station 5 and the mast

One immediately aft of the mast One between the aft end of the cockpit and Station 12

The weight of the beam laminate shall not be less than 4kg/m² (for example: 4 layers of 300g glass).

The beams shall have a balsa or foam core of density not less than 80kg/m³.

The beams shall be of constant depth over 70% of their length. Outside that limit beams may be uniformly tapered.

Minimum dimensions of the beams shall be:

	Centre 70%	Ends
width at underside of deck	70mm	50mm
width of top	50mm	20mm
depth	50mm	20mm

see diagram on page 15.

The inner (lower) deck laminate shall be continued over the beams giving a minimum weight of laminate on the face of the beams of 7kg/m². In addition to the specified laminates for the deck, the coamings and cabin sides and top shall incorporate additional laminates weighing not less than 3kg/m² (for example: 2 layers of 450g glass).

Additional laminates, minimum 3kg/m², shall be used in way of mast, rigging and other high stress areas to strengthen the moulding.

Plywood crush pads shall be fitted in way of winches, forestay, mast, shrouds, rudder, cleats and sheaves. The weight of plywood incorporated shall be not less than 3kg.

2.4.11 The total weight of the complete deck, coamings and cabin top shall not be less than 116kg.

2.4.12 Bonding Hull to Deck The deck and hull shall be bonded together and reinforced with a laminate which is uniformly distributed longitudinally. The total weight of this bonding laminate shall be not less than 21kg.

(Example of construction: 5 layers of 450g glass 19m long x average width 0.15m).

The width of each successive layer of glass in the bonding laminate shall be less than the previously applied one in order to reduce local high stress points. Additional support for the deck moulding shall be provided at the aft end of the cabin by including either plywood knees or partial bulkheads.

International Dragon Class Rules (Contd.)

2.4.13 Weight of Assembled Hull and Deck Mouldings.

The weight of the completed hull and deck mouldings shall not be less than 520kg.

If the assembled hull weighs less than the specified minimum correctors shall be fixed to the hull as required in rule 10.

2.4.14

A wooden cabin top and sides may be permitted subject to prior approval being obtained from the IYRU of details of its connection to the GRP cabin sides.

Wooden coamings in accordance with the rules for the wooden yachts may be permitted subject to prior approval being obtained from the IYRU of the details of their connection to the GRP deck.

A wooden deck, in accordance with the rules for the carvel planked yacht may be permitted subject to prior approval being obtained from the IYRU of the details of its connections to the GRP hull. (*Note:* For the purpose of this rule the covering board can be considered to be part of the deck).

2.4.15

Additional reinforcement of a yacht with a GRP hull shall be of wood, plywood, foam and GRP in accordance with the following may be fitted:

.1 Between stations 5 & 6

(a) Two internal frames each not exceeding 60mm thick x 150mm deep except within 510mm of the sheerline.

(b) Two additional deck beams each not exceeding 60mm thick x 75mm deep measured from the underside of the deck. (*Note:* These beams are in addition to those specified in rule 2.4.10.), Alternatively, the existing deckbeams may be enlarged to 60mm x 75mm

.2 Between stations 11 and 12 not more than one deck beam and/or internal frame with associated knee not exceeding the equivalent measurements as stated above. Alternatively, the existing deck beam may be enlarged to the equivalent dimensions.

.3 If the above reinforcement is fitted the weight of the assembled hull and deck mouldings shall not be less than 535kg.

2.4.16 Measurement

.1 The builder shall weigh each moulding in order to satisfy himself

that the weights specified in this rule have been attained.

.2 The measurer shall satisfy himself, as far as he is able, that the yacht complies with the requirements of these rules and he shall so state on the measurement form.

3.0 CABIN, COCKPIT AND HATCHES

3.10 Cabin

3.11

The length of the top of the cabin top shall not be less than 1000mm.

3.12

The aft end of the cabin top and the forward end of any cabin hatch shall not be forward of Station 8.

3.13

The height of the cabin sides above the top of the deck, shall not be less than 180mm at station 8. The arch of the cabin top measured at the same station shall not be less than 100mm.

3.14

The shape of the cabin top is optional but its breadth 1000mm from its aft end shall not be less than 500mm. At this point the height of the cabin side shall not be less than 80mm.

3.15

The cabin may be totally enclosed. The internal arrangements of the cabin and cabin fittings are optional.

3.20 Cockpit

3.21

The arrangement and layout of the cockpit are optional, except that:

3.22

The cockpit shall not extend forward of Station 8 nor further aft than 200mm forward of Station 12.

3.23

The width of the side deck outside the cockpit shall not be less than 300mm.

3.24

The height of the cockpit coaming aft of the cabin shall not be less than 100mm

3.25

The cockpit coaming shall fair into the cabin sides.

3.30 Hatches

3.31

One hatch forward of the mast is permitted. If fitted it shall not exceed 508mm x 508mm and it shall be properly framed, and have a hinged or sliding cover so constructed that it is retained permanently between the

slides. It shall be capable of being secured in the closed position. The hatch cover shall not be less in weight than that of the deck it replaces.

3.40 Floorboards

3.41

Floorboards shall not exceed 16mm in thickness and shall be of wood. (*Note:* The original floorboards in boats laid down before 15th November, 1958 may be retained).

3.42

The area of floorboards shall not be less than 1.2m².

3.43

The weight of the floorboards and stiffeners shall not exceed 40kg in a wooden hull and 15kg in a GRP hull.

4.0 BALLAST KEEL

4.10

The ballast keel shall be cast iron. Uneven surfaces or blow holes shall not be filled with lead.

4.20

The weight of the keel shall be 1000kg $\pm$ 10kg if it excludes keelbolts or studs, or 1010kg $\pm$ 10kg if it includes bolts or studs.

4.30

The keel shall be officially weighed and a certificate of its weight issued. This weight (indicating whether the keelbolts or studs are included) shall be recorded on the measurement form.

4.40

The keel shall be measured and templates applied at stations 5(a), 6, 6(a), 7 and 8.

4.50

The template stations 7, 6(a), 6 and 5(a) are to be positioned by reference to the aft end of the keel, where it joins the hull. The distance of Station 7 from that point shall be 1930mm $\pm$ 10mm, measured along the top surface of the keel. The other template Stations (6(a), 6 and 5(a)) are to be found by measuring along the top of the keel 304mm for each station as indicated on the diagram below.

4.60

Station 8 on the keel (1317mm from its aft and measured along the top surface) shall be within 5mm of the Station 8 mark on the hull on all boats built and measured after 1st March, 1988.

4.70

The templates shall be applied with the top of the templates level with the top of the iron keel. The clearance between the templates and the keel shall not exceed 8mm.

International Dragon Class Rules (Contd.)

5.0 RUDDER AND TILLER

5.10

The rudder shall comply with the measurement diagram.

5.20

The rudder shall be made of wood or GRP. If of GRP the maximum thickness of the laminate shall be along the line of the rudder stock and the laminate shall taper towards its aft edge.

5.30

The rudder stock shall not be less than 25mm diameter of solid steel or bronze.

5.40

The rudder pipe shall be of the same material as the rudder stock except that a short length of plastic or rubber tube may be used to connect the upper and lower sections of the rudder pipe in a GRP yacht.

5.50

The tiller shall be above the deck and shall not be of divided or hooped design.

5.60

The length of the tiller from the centre of the rudder head shall not exceed 1200mm. A hinged extension to the tiller, not exceeding 750mm in length from the point of attachment is permitted.

5.70

The weight of the rudder, excluding tiller and fittings, shall not exceed 9kg.

6.0 SPARS

6.10 Mast - General

6.101

The mast shall be made of either one kind of wood or of aluminium alloy (minimum 90% aluminium). See rules 6.20 and 6.30 below.

6.102

The fore and aft position of the mast is optional, except that it is prohibited to make changes while racing. The heel of the mast shall be fixed and not be capable of being moved while racing. However, free movement of not more than 10mm shall not be considered as infringing this rule.

6.103

A metal mark 20mm wide shall be fixed on the deck on each side of the mast opening, in such a position that their centre points mark the measurement position of the foreside of the mast. The foreside of the mast shall not be outside the limits of these marks while racing. The marks shall be clearly visible while racing.

Another metal mark 76mm measured fore and aft, shall be placed within 50mm of the yacht's centreline, with its forward edge 1850mm forward of the centre points of the mast marks. See diagram at end of rules.

The forestay or its extension, shall lie within the limits of this forward mark when racing.

If the mast is moved more than 10mm forward or aft at the deck, partial re-measurement shall take place and position of the marks altered accordingly.

6.104

The mast hole in the deck shall not permit more than 10mm clearance around the mast. A larger rectangular mast hole is permitted if it is closed with screw or nail fastened filling pieces to permit not more than 10mm clearance around the mast.

6.105

A permanently bent or rotating mast is prohibited. However a permanent set not exceeding 100mm between upper and lower measurement bands is not considered to contravene this rule.

6.106

A bracket or chock may be fitted at the mast head to keep the backstay (preventer) clear of the sail. This bracket shall not extend more than 102mm from the aft edge of the mast.

6.107

Measurement bands each not less than 15mm wide and clearly discernible while racing shall be marked on the mast as follows:

- (1) with its upper edge 800mm $\pm$ 100mm above the deck,
- (2) and with its lower edge 9200mm maximum above the upper edge of the lower band.

A stop shall be fitted to prevent the top of the boom being below the top of the lower measurement band.

6.108

Jumper struts of any material shall be fitted with their upper edges 6300mm $\pm$ 15mm above the lower measurement band and shall not be less than 300mm long. They shall be connected at points within 30mm of their outer ends by a cross member of diameter not less than 4mm. A straight line between the bearing points of the jumper struts shall not be less than 30mm from the foreside of the mast.

6.109

Spreaders of any material shall be fitted with their upper edges not less than 3200mm and not more than 3615mm above the lower measurement band. They shall not be less than 450mm long measured from the side of the mast. Each spreader may be secured with one bolt, however, the fore-and-aft movement shall not exceed 10° either way.

6.110

The spinnaker halyard shall be attached not more than 6300mm above the lower measurement band and not more than 30mm from the face of the mast. For the purpose of this rule, if the halyard is led through a fairlead, or bull's eye, its bearing surfaces shall be taken as the points of attachment.

6.111

The genoa/headsail halyard shall not be attached higher than the forestay.

6.112

The weight of the mast including all fixed fittings, jumper struts and diamond shrouds, but excluding all other standing rigging, running rigging, slides on any track fixed to the mast, and lower spreaders shall not be less than 30kg. The centre of gravity of the mast stripped for weighing shall be not less than 3400mm above the lower measurement band. Any corrector weights shall be permanently fixed (*Note:* This rule shall apply to all masts regardless of the date of construction).

The mast complete with all fixed fittings, jumper struts, diamond shrouds, spreaders, standing and running rigging, shall weigh not less than 13kg when it is supported at the lower measurement band and weighed at the upper band. For the purpose of the measurement the halyards shall be in the sailing position and the standing rigging secured along the mast. The ends of the rigging below the lower coloured band may rest on the ground or be removed so as not to affect the tip weight. In case of doubt the first paragraph of this rule shall prevail.

6.20 Aluminium Mast

6.21

The mast shall be constructed with a continuous fixed groove for the mainsail luff rope.

6.22

The untapered section of the mast shall comply with the following minimum dimensions:

- (1) If the luff groove is extruded with the section:

athwartships	70mm
fore and aft	110mm overall, or
- (2) If the mast is constructed from a circular tube its diameter shall not be less than 75mm. The depth of the luff groove is optional.

6.23

The section weight of the mast shall not be less than 2.20kg/m.

6.24

The fore and aft dimension of the mast may be reduced by the depth of the luff groove, or the luff groove opened, below

International Dragon Class Rules (Contd.)

a point 400mm above the lower measurement band.

6.25

The mast may be tapered above a point 6700mm above the lower measurement band. The taper shall be convex or straight. However, local hollows not exceeding 3mm in depth will not be considered as contravening this rule.

6.26

The dimension of the mast at the upper measurement band shall not be less than 45mm fore and aft excluding the luff groove and athwartships.

6.27

The mast may be squared at the deck by the addition of any material.

6.28

The method of attachment of standing rigging is optional.

6.29

The hauling parts of halyards and topping lifts may be led internally down the mast and where jumper stays are adjusted below the deck they may be led internally from the position of the lower spreader to the point of adjustment.

6.30 Wood Mast

6.31

The mast shall be made of one kind of wood only except that a mainsail luff groove (if fitted) may be strengthened at the lower part with hardwood, which shall not extend more than 500mm along the mast.

6.32

The mast diameter shall not be less than those shown on the official plan, except at the heel in way of a metal heel fitting.

6.33

A luff groove may be formed in the mast and it shall not impinge upon the minimum permitted diameters. The groove shall be made of the same material as the mast.

6.34

The fore and aft dimension of the mast may be reduced by the depth of the luff groove below a point 400mm above the lower measurement band.

6.40 Boom – General

6.41

The boom shall be of either one kind of wood or of aluminium alloy (minimum 90% aluminium). See rules 6.50 and 6.60 below.

6.42

The boom may incorporate a groove for the mainsail foot rope. The boom may be cut away to a maximum depth of 50mm

or the groove opened out for not more than 250mm forward of the boom measurement band for the insertion of a track, or other device, to control the clew of the mainsail; and for not more than 250mm measured from the aft side of the mast, to permit the insertion of the mainsail foot rope.

6.43

A measurement band not less than 15mm wide and clearly discernible while racing shall be marked on the boom with its forward edge not more than 3450mm from the line of the aft edge of the mast, projected if necessary and disregarding any local projections or cut outs.

6.44

A permanently bent boom is prohibited. However, a permanent set not exceeding 50mm between the forward end and the measurement band is not considered to contravene this rule.

6.50 Aluminium Boom

6.51

The sectional weight of an aluminium boom shall not be less than 1.5kg/m

6.52

The boom section shall be not less than 80mm nor more than 100mm deep including the groove for the mainsail foot rope (which shall be continuous). Its width shall not be less than 64mm.

6.53

The boom shall not be tapered or cut away except as permitted in rule 6.42.

6.60 Wood Boom

6.61

A wood boom shall be solid.

6.62

The section of the boom shall be circular or oval and a groove not exceeding 22mm deep is permitted.

6.63

The transverse width of the boom shall not be less than 80mm.

6.70 Spinnaker Boom

6.71

The spinnaker boom shall be of wood or of aluminium alloy.

6.72

No part of the spinnaker boom, including fittings, shall be capable of extending more than 2250mm from the surface of the mast.

7.0 RIGGING

7.10

Standing rigging shall be in accordance with the plans and shall be of wire rope of not less than the following diameters:

main shrouds	5mm
lower shrouds	5mm
forestay	one of 5mm or two of 4mm

jumper stays	4mm
permanent backstay (preventer)	3mm
running backstays	3mm

The dimensions of other rigging are optional.

7.20

Shrouds shall intersect or pass through the deck not less than 700mm from the yacht's centreline and shall be attached to steel chain plates inside the hull. The fore and aft position of the shrouds at the deck and their position relative to each other is optional.

7.30

Shrouds shall be adjusted with turnbuckles only.

7.40

Adjustment of the forestay is prohibited while racing.

7.50

Wire or rod ties are permitted between chainplates, or the deck where the shrouds pass through the deck, and/or the heel of the mast or the mast step.

Such wires or rod ties shall not be adjusted while racing.

8.0 FITTINGS

8.10

Fittings are optional except where specifically restricted or prohibited by these rules.

8.20

A furling device for headsails is permitted but it shall not be in a recess in the deck.

8.30

Winches, tackles, levers and other devices not specifically prohibited are permitted for any purpose on board, except for the adjustment of shrouds and forestay.

8.40

The method of sheeting the mainsail and headsails is optional except that fittings for sheets shall be placed so that they do not protrude outboard of the sheerline.

8.50

Hydraulic equipment is prohibited.

International Dragon Class Rules (Contd.)

9.0 SAILS

9.10 General

9.11

Sails shall be made and measured in accordance with the current IYRU Sail Measurement Instructions, except where varied herein.

9.12

Sails shall be made of woven cloth and shall be of single ply construction. Sails shall be of the following weights:

Mainsail, Headsail (Formerly headsail number 1):	270g/m ² minimum 304g/m ² maximum
Genoa:	150g/m ² minimum 304g/m ² maximum
Spinnaker:	38g/m ² minimum

Note: A sail may be made of different cloth weights within the above limits.

9.13

Two unweaved transparent panels, the total area of each of which shall not exceed 0.2m² are permitted in each sail. No part of such a window shall be closer to the luff, leech or foot than 150mm.

9.14

The class insignia (letter D), national letters and sail numbers shall be placed as laid down in International Yacht Racing Rule 25.

Letters and numbers shall not be less than the following dimensions:

Height	380mm
Width (excluding number 1 and letter I)	250mm
Thickness	64mm
space between adjoining letters and numbers	75mm

9.15

Double-luffed sails (except as permitted in rules 9.34 and 9.43) and loose-footed mainsails are prohibited.

9.16

Each sail shall be measured and approved by an official measurer who shall stamp or sign and date a mainsail or headsail near the tack, and a spinnaker near the head.

9.20 Mainsail

9.21

The mainsail shall comply with the measurements on the measurement diagram.

9.22

Cross widths shall be measured between points on the luff (including the bolt rope) and leech, found as follows:

The mid-point of the leech shall be

found by folding the sail so that the head (see diagram) is over the clew (see diagram).

The mid-point of the luff shall be found by folding the sail so that the head (see diagram) is over the lowest edge of the bolt rope nearest the tack or, if the bolt rope is cut away at the tack, the intersection of the lines of the luff and foot.

The three-quarter height points shall be found by folding the sail in a similar way to the mid-points of the leech and luff.

9.23

There shall be four batten pockets on the leech of the sail, each within 127mm of the respective point which divides the leech into five equal parts.

9.24

The lengths of the batten pockets shall not exceed:

Top	650mm
Middle two	950mm
Bottom	650mm

9.25

No part of the sail shall extend beyond the inner edge of the boom measurement band or the lower edge of the upper mast measurement band. The line of the top of the boom shall not be below the upper edge of the lower mast measurement band.

9.30 Genoa

9.31

The genoa shall comply with the measurements on the measurement diagram.

9.32

The distance from the head to the mid-point of the foot shall not exceed the average of the length of the luff and leech by more than 30mm. The mid-point of the foot shall be found by placing the centre of the clew cringle over the tack.

9.33

The foot of the genoa shall be nowhere concave.

9.34

The genoa may enclose the forestay but not more than one zip shall be used and provided the sail can be attached and removed without disconnecting the forestay. A sail enclosing the forestay shall be measured with the zip closed and the width of the luff pocket so formed shall not exceed 60mm.

9.40 Headsail

9.41

The headsail shall comply with the measurements on the measurement diagram.

9.42

Two batten pockets are permitted on the leech of the headsail, each not exceeding 350mm in length, dividing the leech into equal parts with a tolerance of 100mm.

9.43

The headsail may enclose the forestay provided the sail can be attached and removed without disconnecting the forestay. A sail enclosing the forestay shall be measured with the zip closed and the width of the luff pocket so formed shall not exceed 60mm.

9.50 Spinnaker

9.51

The spinnaker shall be a three cornered sail symmetrical about its centreline and shall comply with the measurements on the measurement diagram.

9.52

The luffs and the foot shall be taped with stretch resistant tape.

9.53

The dimension of the attachment of the swivel or, the cringle at the head of the spinnaker and which is within the sail, shall not exceed 38mm. The horizontal dimensions of any device or fitting at the head of the spinnaker shall not exceed 38mm.

9.54

Measurements on the centrefold shall be taken with tensions applied at the head and centre of the foot sufficient just to remove the wrinkles across the line of measurement.

9.55

Not more than two spinnakers shall be on board while racing.

10.00 WEIGHT OF YACHT

10.10

The weight of the hull, shall not be less than 1650kg, weighed complete with floor boards, seats, pumps and all fittings normally used on board whilst racing but excluding the following: Mast and boom with their fittings, spinnaker boom, standing rigging, halyards and sheets and loose equipment.

10.11

The weight of the yacht that is the hull complete as stated in Rule 10.10 and together with the mast, boom, spinnaker boom and their fittings, standing and running rigging and one set of sheets for each of the headsail, mainsail and spinnaker shall be not less than 1700kg.

International Dragon Class Rules (Contd.)

10.20 Swing Test
When the hull as defined in rule 10.10 is swung from the class approved swing test gear then:

- (a) the centre of the bearing point of the swing test gear ("the swing centre") shall not be less than 40mm nor more than 90mm forward of station 8 of the hull
(b) when 10kg. are placed 4700mm forward of the swing centre the distance by which a point on or level with the deck 4800mm forward of the swing centre shall drop below its original position shall be measured ("D1")
(c) the depth of the swing centre below the sheerline ("D2") shall not be more than 545mm for a D1 measurement of 350mm or where D1 is greater or less than 350mm D2 shall be such a distance as is proportionate thereto calculated by the following formula

D2 ≤ 938.29mm - 135899mm / D1

Provided that if the weight of hull specified in rule 10.10 is more than 1650 kg. D2 may be increased by 1mm for every 4kg. that the weight of the hull exceeds 1650kg.
(d) when the 10kg weight in subparagraph (b) is removed the hull shall be allowed to oscillate for 10 cycles and then time taken shall be not less than 46 secs for a "D1 measurement of 350mm plus or minus 1 second for every 20mm by which the D1 is either greater or less than 350mm.

(e) the arrangement of lifting eyes, frames, internal moulding and/or fittings shall be such that they shall not obstruct the use of the class approved Swing Test gear.

10.30
If the yacht is found underweight the difference shall be made up with lead correctors. Not more than 20kg of such correctors may be fixed at station 8 (or as close as possible to that station) and then not below 508mm vertically below the underside of the deck.

10.31
Any correctors required shall be fixed in accordance with rule 10.30.

10.32
Correctors shall only be adjusted in accordance with rules 1.65 and 1.66.

11.0 EQUIPMENT

11.10
The following equipment shall be on board while racing:

- .1 An anchor of not less than 10kg or an anchor of not less than 5kg with chain so that the combined weight at anchor and chain is not less than 10kg. The anchor shall be of a recognised pattern.
.2 Not less than 30m of anchor rope weighing not less than 3kg in dry condition.
.3 Two mooring lines each not less than 10m long and weighing not less than 1kg.
.4 One bilge pump.
.5 Three life jackets.
.6 Two oars or paddles (or one of each).
.7 One bucket or bailer.

12.0 PROHIBITIONS

12.10
Altering the effective length of the shrouds or forestay while racing is prohibited.

12.20
Devices transmitting or correlating data relative to wind direction or speed or boat speed and location, by means such as, but not limited to digital compasses, electronic, mechanical, hydraulic or pneumatic are prohibited. Depth sounders may be permitted by the National Authority in races confined to yachts of its nationality.

12.30
Except for corrector weights in accordance with rule 10 inside ballast is prohibited.

12.40
Self bailers or means other than pumps for draining the cockpit while racing.

13.0 CREW

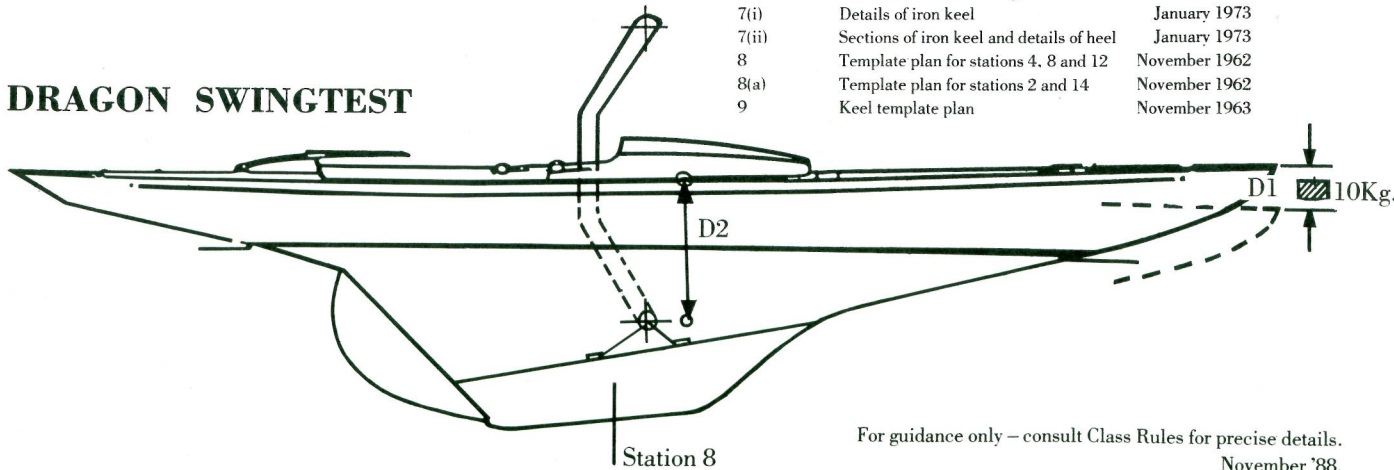
13.10
There shall not be more than three persons on board while racing, all of them amateurs.

13.20
The use of any apparatus or contrivance the purpose of which is to support or assist in supporting a member of the crew outboard or partially outboard is prohibited. When hiking no part of the crew's body between the middle of the thigh and feet shall be outboard of the sheerline.

International Dragon Class Rules (Index)

Table with 3 columns: 1986 Rule No., Description, Pre 1986 Rule No. Rows include GENERAL (1.0-1.90), HULL (2.0-2.40), CABIN, COCKPIT AND HATCHES (3.0-3.40), BALLAST KEEL (4.0), RUDDER AND TILLER (5.0), SPARS (6.0-6.70), RIGGING (7.0), FITTINGS (8.0), SAILS (9.0-9.50), WEIGHT OF YACHT (10.0), EQUIPMENT (11.0), PROHIBITIONS (12.0), CREW (13.0).

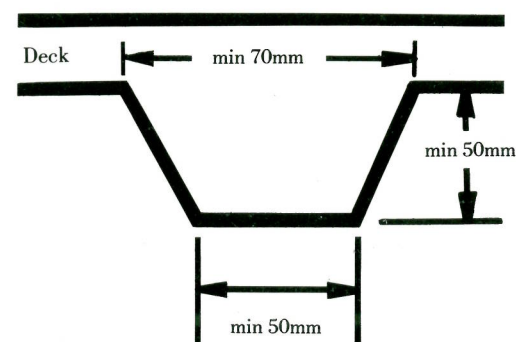
DRAGON SWINGTEST



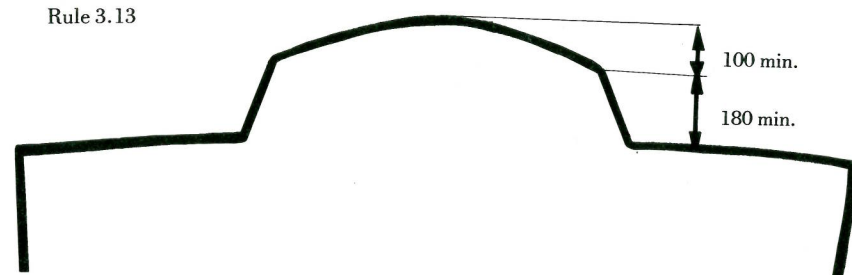
International Dragon Class Rules (Contd.)

SECTION THROUGH CENTRE 70% OF DECK BEAM

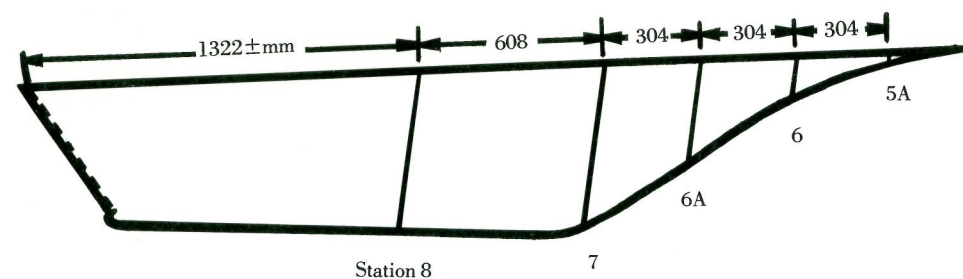
2.410



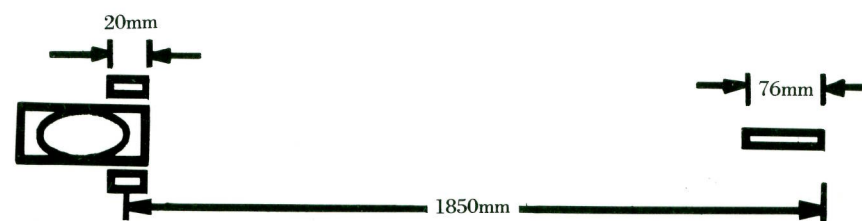
Rule 3.13



Rule 4.0

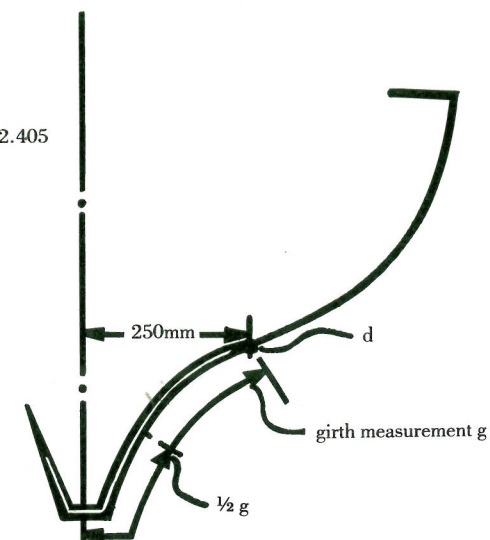


Rule 6.13

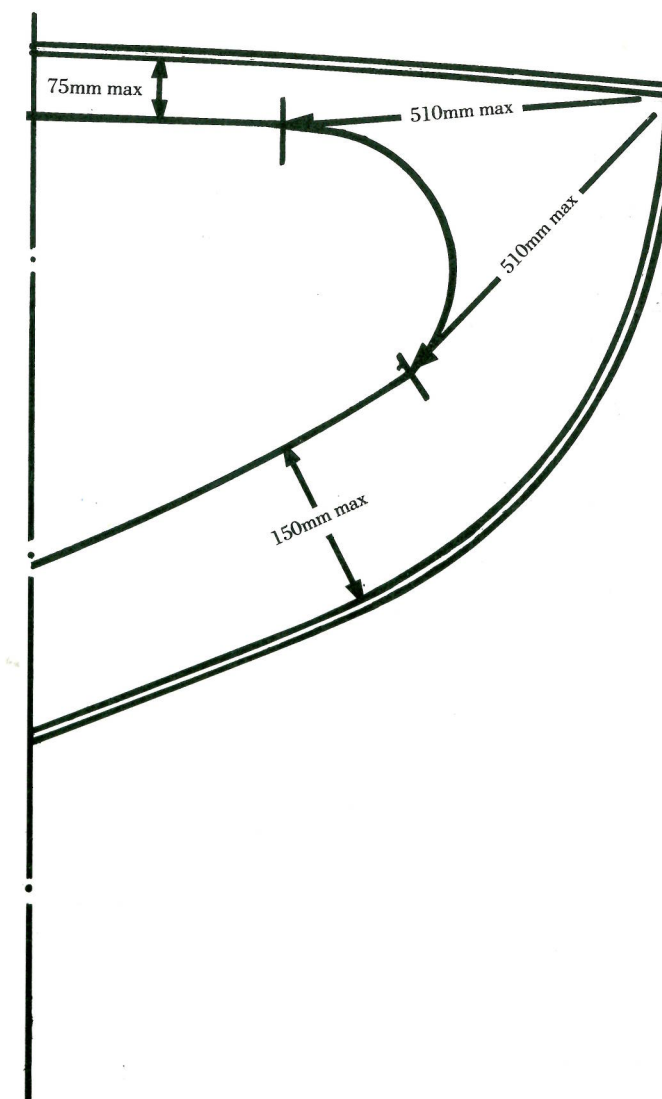


International Dragon Class Rules (Contd.)

Rule 2.405

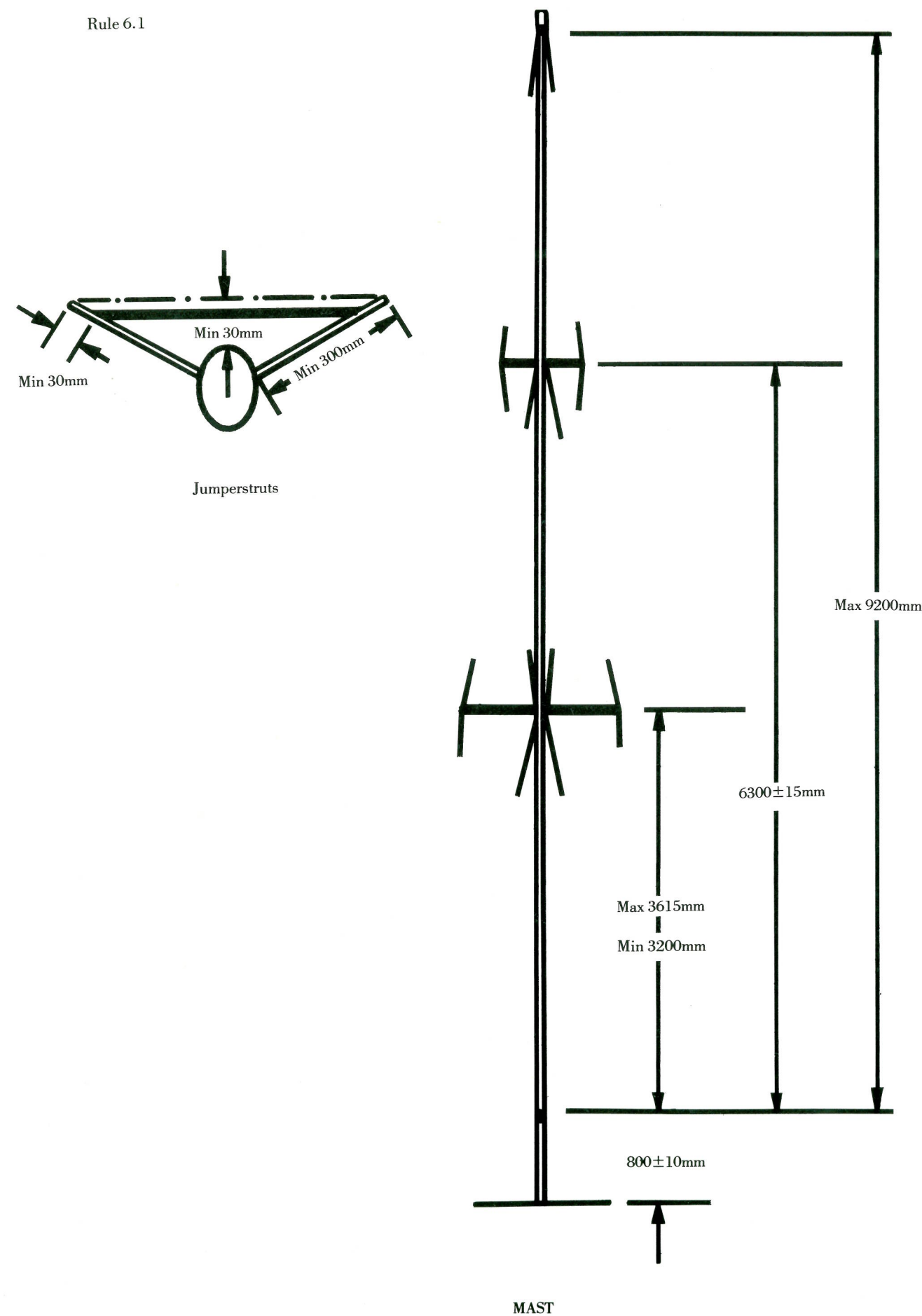


Rule 2.4.15

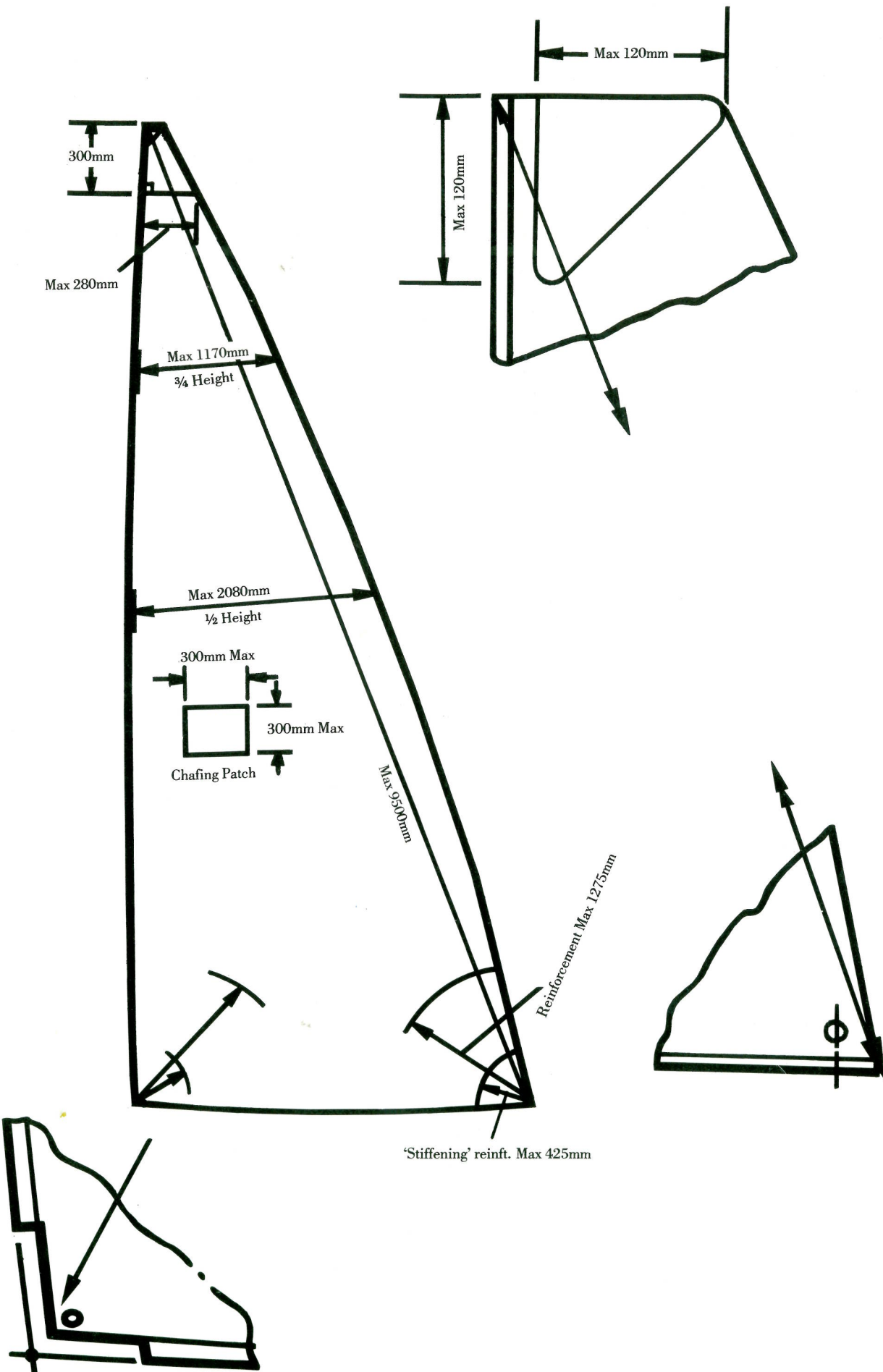


International Dragon Class Rules (Contd.)

Rule 6.1

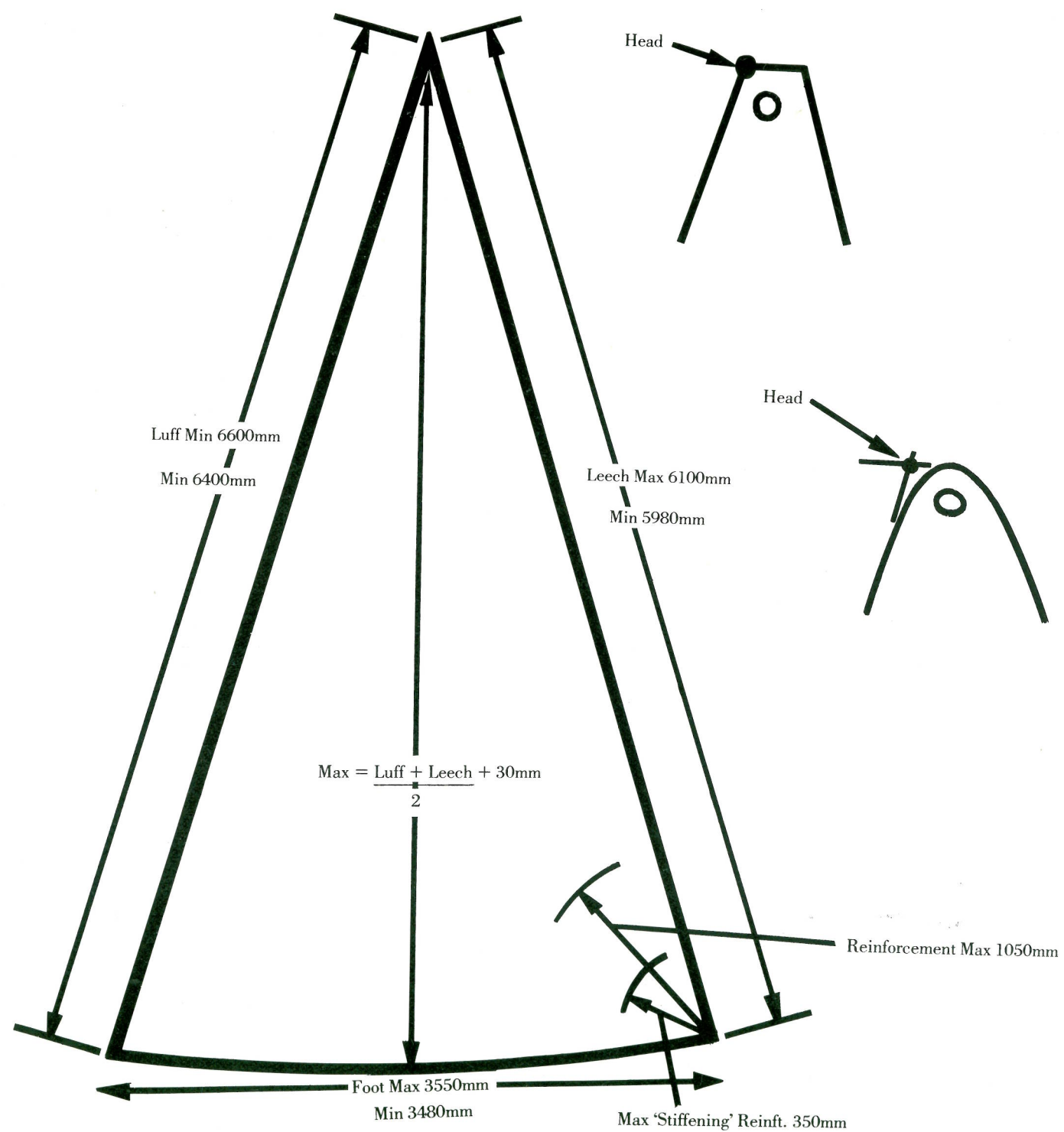


International Dragon Class Rules (Contd.)



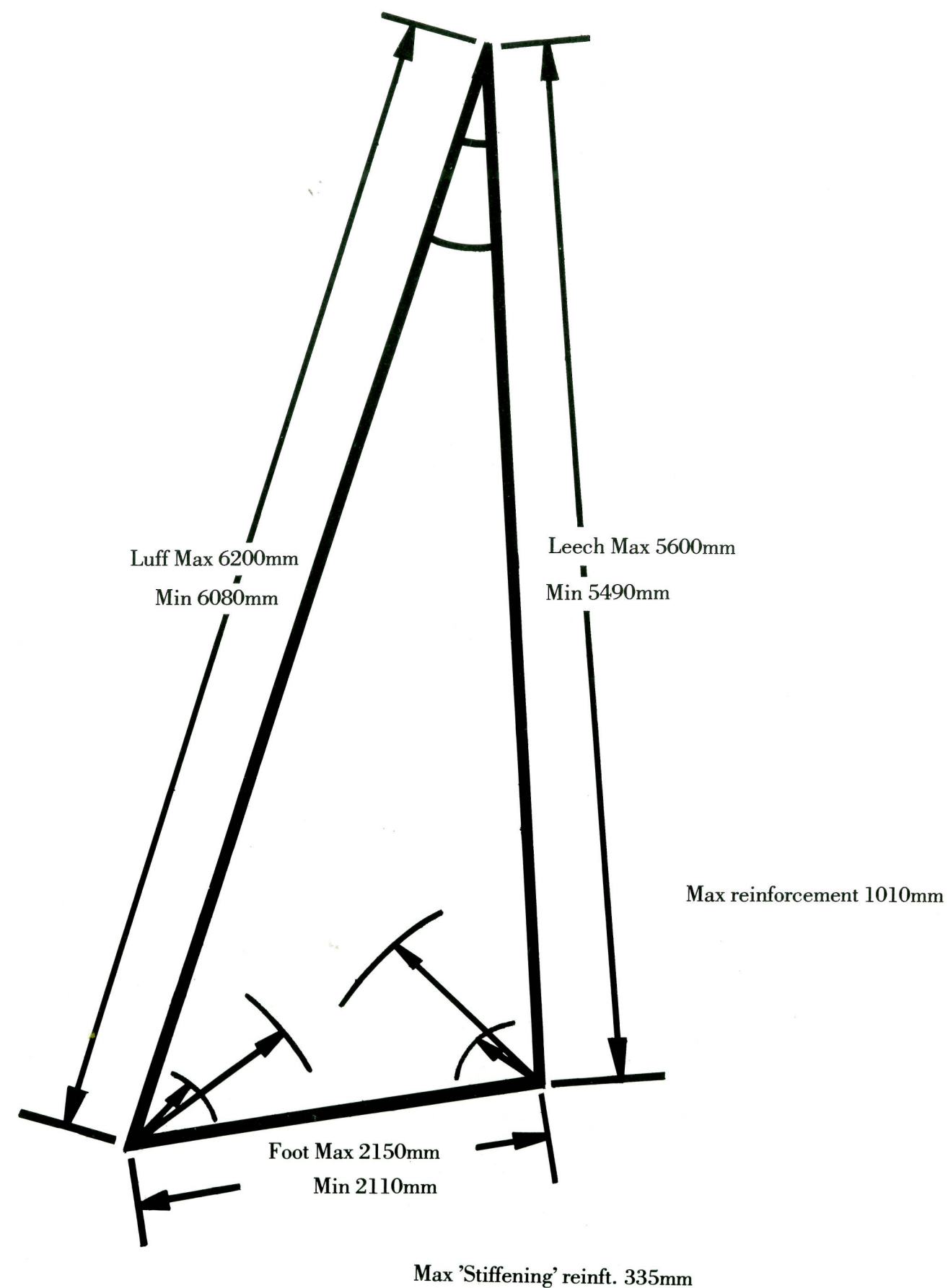
International Dragon Class Rules (Contd.)

GENOA

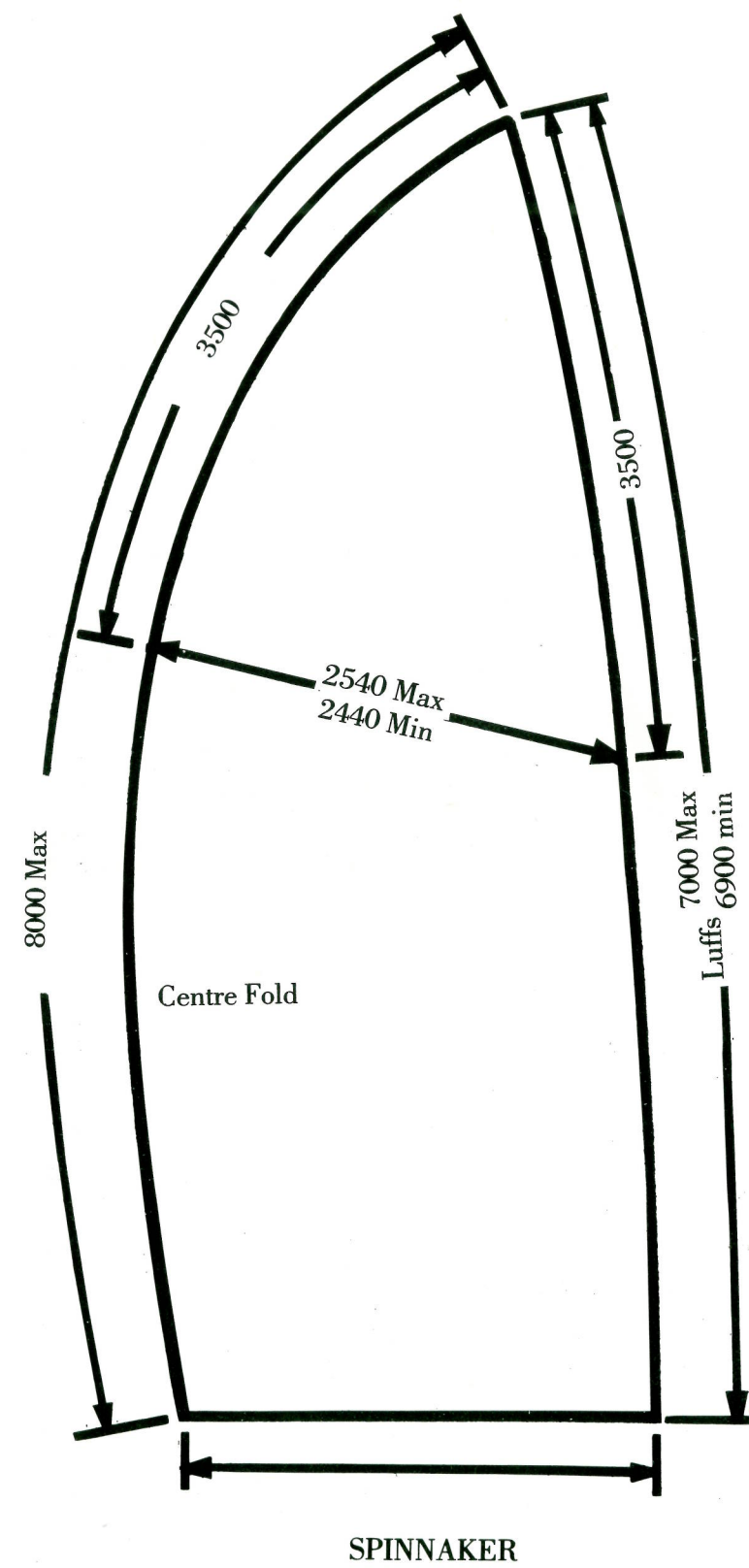


International Dragon Class Rules (Contd.)

HEADSAIL

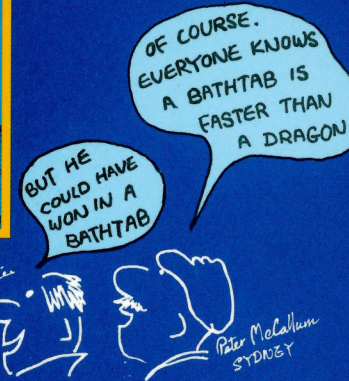


International Dragon Class Rules *(Contd.)*



1987 World Champion

NORDJYLLOONG sailed by Valdemar Bandolowski,
Soren Hvalso and Erik Hansen



In order to build a high-quality Dragon that goes fast, within Class Rules, we —

- A** Insist on a fast hull shape
- B** Use the best material and fittings available
- C** Work with a high glass-resin ratio for extra strength
- D** Vacuum bag the deck to get tight bonding onto the foam
- E** Design in structural components on the floors, deck and ring frames for more stiffness
- F** Optimise weight distribution in placement of fittings etc to reduce pitching
- G** Use clear gelcoat on the hull for easy inspection of fibreglass work
- H** Protect the gelcoat with four layers of paint (epoxy-polyurethane) to reduce chances of osmosis
- I** Leave the hull in the mould during construction until the floor, ring frame and deck are bonded on, to ensure proper shape (a period of at least two months)
- J** Fibreglass-skin the keel
- K** Set controls up for optimum crew work

Write to us, with your racing record, to ensure a high-quality, fast boat for your next Championships. We can only produce 3-4 fully fitted boats per year.

Lowell Chang Yachts Ltd, 501-503 Hennessy Road 2/F, Causeway Bay, Hong Kong.
Tel 5-8330089, Telex 74498 GCTC HX, Fax (852-5) 8921199