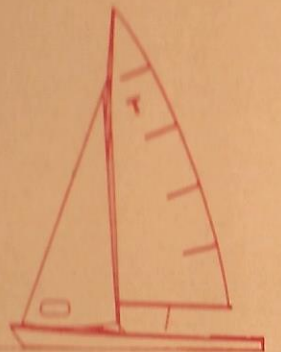


international *Tempest* association

1971



**INTERNATIONAL
TEMPEST
ASSOCIATION**



**HANDBOOK
1971**

CONTENTS

3. Introduction by the Chairman
5. I.T.A. Committee and addresses
6. National Association Secretaries addresses
6. I.Y.R.U. address
7. Tempest builders' addresses
9. Sailing Programme 1971
9. Annual General Meeting 1971
10. Championship History (World, European, North American)
12. World Championship 1970
16. Championship Observations
18. International Tempest Association Rules
23. Class Rules
36. Specifications
41. Registration and obtaining a certificate
42. Notes for Guidance of Measurers
44. Championship Rules
47. Arrangements for Building and obtaining a Building Licence
48. Tempest Fleets and Secretaries
50. Tempest lines plan
51. Owners list
65. Advertisements

INTRODUCTION

by the **CHAIRMAN**

The past year has been exciting for Tempest, with many new owners joining the Class and continued spread into new countries. We now have Tempests sailing in the far East in such places as Thailand and Hong Kong. The entries at championships and open meetings have gone up enormously. Standards of helmsmanship and equipment are improving rapidly as we learn more about our still young class and new owners bring fresh ideas from other classes.

The Tempest concept of rigid one-design, controlled by all boats being built in common moulds taken from one master plug, coupled with tight rules and hull specifications, has so far stood up well to the pressure of increased competition. Boats produced by all the builders around the world have raced together with no apparent difference in boat speed.

For the future we must try to steer the class on the difficult course of avoiding escalation of cost through the introduction of too much sophisticated and expensive gear, whilst at the same time maintaining sufficient development to make the boat attractive to top level helmsmen and crews.

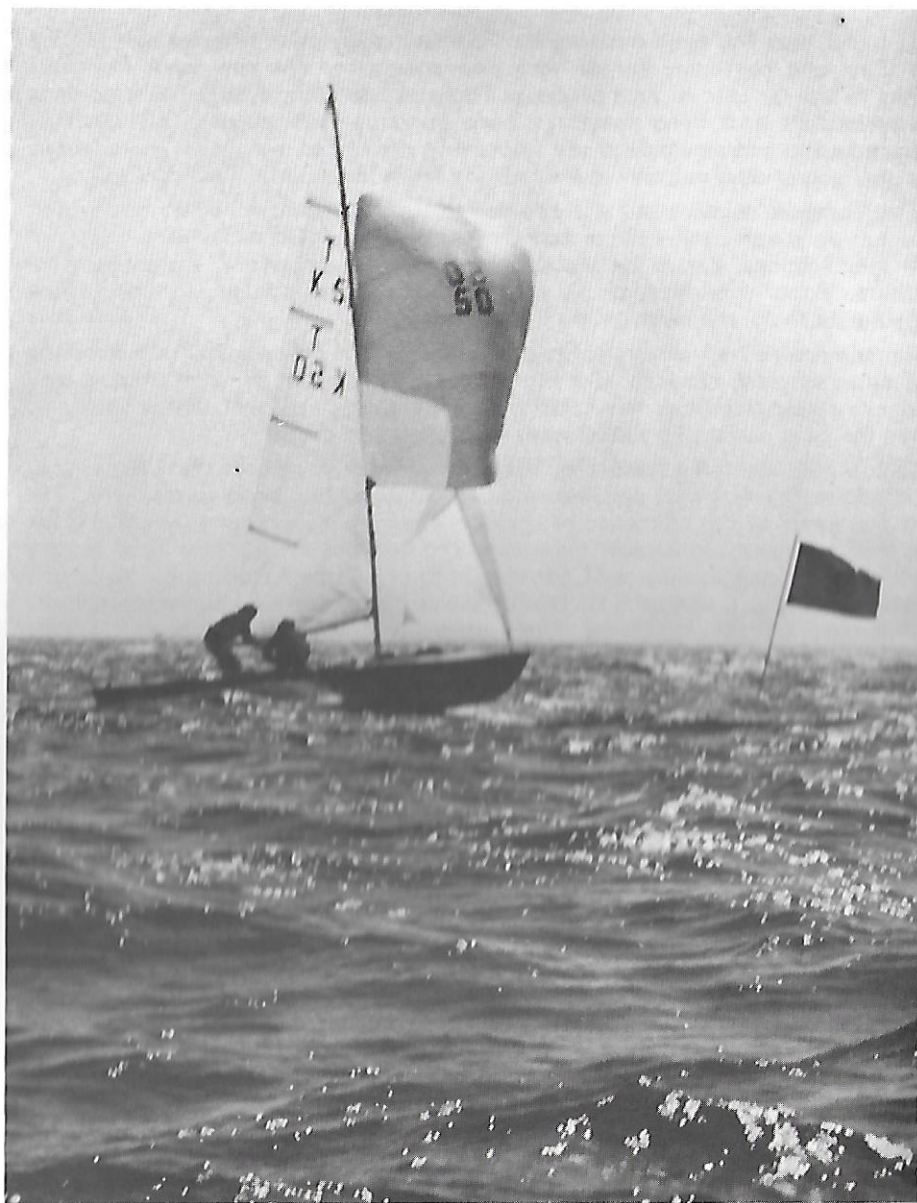
One highly satisfying feature of the continued expansion of the Class is that as it grows the National and International Associations become stronger. The first few years of the existence of any new class are always terribly difficult for the class organisation. Almost inevitably, the first owner of a boat in a country finds himself automatically the Chairman of the National Association, the second becomes Secretary, and each succeeding owner is persuaded into serving on the Committee. Usually, of course, these early owners are the most enthusiastic supporters of the class, but there is no real reason why simply by buying a boat they should also be committed to devoting the considerable time that is necessary to help organise a new class, perhaps against fairly strong opposition from other classes well established in the country concerned.

As Chairman of the International Organisation, I am deeply grateful to those early owners throughout the world who got the class going and formed the National Associations. I hope their tasks are becoming easier as increasing ownership enables their load to be shared.

The growth in ownership has another facet which is interesting and important, for it concerns the philosophy of the class. The original philosophy is that of one person—the Designer. It is taken up and developed by the founders of the Class, in Tempest's case, the I.Y.R.U. and the group of people who came together under the Chairmanship of Beecher Moore to form the founding committee. Then at some time there becomes a sufficient body of owners to themselves take over not only the organisation of the class, but also its philosophy, objectives and spirit. These are the people who, by being constantly active in the class, can sense the need for development to keep up with the ever changing times in which we live. What I am saying to all owners is that Tempest is your class. We are now firmly in the stage where together we must shape its future. The National Associations are the forum through which your collective views can be put into effect by the International Tempest Association.

The International Committee wish all members a successful season and we look forward to meeting as many of you as possible at the numerous International Regattas to be held during the year.

CLIFFORD NORBURY



The I.T.A. Chairman and Secretary — Cliff Norbury and Colin Turner — about to gybe *Tambourine* in the 1970 World Championships.

NAMES AND ADDRESSES OF BUILDERS

AUSTRIA	Hubert Raudashchtl-Segel, A-5346 St. Wolfgang a See, Ried.
AUSTRALIA	Fibreglass Yachts Pty. Ltd., Perak Street, Mona Vale, N.S.W.
BRITAIN	G. W. Parker & Son Ltd., Station Street, Boston, Lincs.
CANADA	Canada Yacht and Boat Centre Ltd., 40 Stadium Road, Toronto 2B. Smallcraft of Canada Ltd., 3839 Burnsland Road, Calgary, Alberta Abbott Boats Ltd., 1458 London Road, Sarnia, Ontario.
FRANCE	Ets Lanaverre, 52 Quai de la Souys, 33 Bordeaux/Bastide
W. GERMANY	Leonhard Mader, Bootswerft, 8221 Fisching bei Waging/See
FINLAND	Oy Veneva ab, Lohja
HOLLAND	Dubdam Ltd., 60 Oranjellaan, Alkmaar
ITALY	C.I.M.A., Via Marianna Dionigi 11, Rome Bianchi & Cecchi, Via S. Lorenzo 23-9, Genoa
SWITZERLAND	S. Meier Bootswerft, 5606 Dintikon AG
U.S.A.	The O'Day Company, 848 Airport Road, Fall River, Massachusetts 02722 Plas Trend Corporation, Box 935, Forth Worth, Texas, 76135 W. D. Schock & Co., 3502 S. Greenville Street, Santa Ana, California 02704

TEMPEST TIES

Members of the International Association are entitled to wear the Tempest tie. It is dark blue, with a single letter T in red, surrounded by a pale blue circle. Obtainable from National Association Secretaries or the I.T.A. Secretary, price £1.25, excluding postage.



INTERNATIONAL SAILING PROGRAMME 1971

MARCH

28-7 April Genoa Winter Sailing Week, Italy

APRIL

4-12 Hyeres Week, France
16-18 Caribbean Regatta, Puerto Rico
30-2 May Alassio, Present of the Republic Cup, Italy

MAY

16-23 La Rochelle Week, France
19-24 Swiss National Championships, Lugano Lake, Switzerland
25-30 Naples Sailing Week, Italy

JUNE

5-12 Poole Olympic Training Week, England
19-26 Kieler Woche, Germany

JULY

4-10 Italian National Championships, Bari, Italy
23-8 August Travemunde Woche, Germany
29-1 August Holland Week, IJsselmeer, Muiden, Holland

AUGUST

12-15 Zuiderzee Regatta, Open Dutch Championships, Medemblik, Holland
15-23 WORLD CHAMPIONSHIPS, Gotenburg, Sweden
28-3 Sept. C.O.R.K., Kingston, Ontario, Canada
28-4 Sept. Kiel Olympic Training Regatta, Germany
11-12 Centomiglia, Gargnano S., Garda, Italy

1971 ANNUAL GENERAL MEETING

The Annual General Meeting of the International Tempest Association will be held at Marstrand, Sweden, during the time of the World Championships.

Photo on opposite page taken by Iain MacDonald Smith during Poole Olympic Training Regatta, England.

CHAMPIONSHIP HISTORY

WORLD CHAMPIONSHIPS

1967 Weymouth, England

1st	<i>Tangerine</i>	K30	C. Norbury and C. Turner (G.B.)
	<i>Zonda</i>	K27	R. White and A. Garran (G.B.)
3rd	<i>Cleopatra</i>	KA1	J. Hardy and M. Whitnall (Australia)
4th	<i>Royal Tempest</i>	S2	M. Larrson and B. Ahlström (Sweden)
5th	<i>Super XP</i>	K14	M. Shaw and P. Shaw (G.B.)
6th	<i>Temptress</i>	K44	R. Burdis and A. Turner (G.B.)
7th	<i>Nina IV</i>	S5	B. Julin and H. Bergquist (Sweden)
8th	<i>Lucullus</i>	I35	P. Dalla Vecchia and G. Cosentino (Italy)
9th	<i>Pollux</i>	US97	P. Stangeland and R. Lennox-King (U.S.A.)

1968 Grosse Pointe, Michigan, U.S.A.

1st	<i>Dowry</i>	US189	W. Kelly and R. Connell (U.S.A.)
2nd	<i>Flying Saucer</i>	US28	A. Kostanecki and B. Biddle (U.S.A.)
3rd	<i>Ralph</i>	US49	C. Ulmer, Jr. and P. Clemper (U.S.A.)
4th	<i>Tangerine</i>	K30	C. Norbury and C. Turner (G.B.)
5th	<i>Swift</i>	US146	C. Wiley and G. Sutton (U.S.A.)
6th	<i>Optimum</i>	US76	B. Dyson and P. Nesbeda (U.S.A.)
7th	<i>Snoopy</i>	I46	C. Croce and R. Bianchi (Italy)
8th	<i>Zonda</i>	K27	R. White and B. Thorley (G.B.)
9th	<i>Assault II</i>	US300	R. Sellers and G. Gawura (U.S.A.)
10th	<i>Beast</i>	US191	J. Linville and J. Linville (U.S.A.)

1969 Riva del Garda, Italy

1st	<i>Tambourine</i>	K50	C. Norbury and C. Turner (G.B.)
2nd	<i>Sharacape</i>	P51	T. Holc and R. Rutkowski (Poland)
3rd	<i>Snoopy Too</i>	F11	J.-P. Marang and L. Ces (France)
4th	<i>B and C</i>	I17	C. Isenburg and R. Bianchi (Italy)
5th	<i>Weisan</i>	K27	R. White and B. Thorley (G.B.)
6th	<i>Sette Pesciolini</i>	US191	J. Linville and J. Linville (U.S.A.)
7th	<i>Do-Toho</i>	G12	R. Bähr and A. Monhaupt (W. Germany)
8th	<i>Don Carlos</i>	I50	P. Dalla Vecchia and L. Rolandi (Italy)
9th	<i>Red Devil</i>	H2	B. Staartjes and C. Kurpershoek (Holland)
10th	<i>Snoopy</i>	I46	C. Croce and S. Maggio (Italy)

1970 Quiberon, France

1st	<i>Beast</i>	US191	John and James Linville (U.S.A.)
2nd	<i>Double Dutch</i>	H2	Ben Staartjes and Cees Kurpershoek (Holland)
3rd	<i>Daedalus</i>	US26	Bruce Falconer and Bruce Dyson (U.S.A.)
4th	<i>Tambourine</i>	K50	Cliff Norbury and Colin Turner (G.B.)
5th	<i>Ahead</i>	US46	Peter Nesbeda and Jeff Duncan (U.S.A.)
6th	<i>Riffi</i>	F14	Marcel Troupel and Lucien Lanaverre (France)
7th	<i>Ramses</i>	G35	Peter Ringmaier and Mandi Meder (W. Germany)
8th	<i>Ciao</i>	US225	Glen Foster and Peter Dean (U.S.A.)
9th	<i>Williwaw</i>	US32	William Saltonstall and Peter Twining (U.S.A.)
10th		SR3	Valentin Mankin and Vladimir Vitiukov (U.S.S.R.)

CONTINENTAL CHAMPIONSHIPS

EUROPEAN

1966 Burnham-on-Crouch, England

1st	<i>Duffy</i>	K21	Keith Musto and Ian Winter (G.B.)
2nd	<i>Tempest II</i>	S2	Bengt Julin and Hans Bergquist (Sweden)
3rd	<i>Tempestuous</i>	K2	Cliff Norbury and Michael Glanister (G.B.)
4th	<i>Donna</i>	K10	Peter Bateman and Francis Carter (G.B.)
5th	<i>Harmattan</i>	K17	Roger White and Iain MacDonald Smith (G.B.)

1967 Seine-Port, France

Owing to extremely light wind, only one championship race could be sailed within the prescribed time limit. The championship was therefore declared void.

1968 Alassio, Italy

1st	<i>Libeccio</i>	I38	Carlo Massone and Fabio Risso (Italy)
2nd	<i>Zonda</i>	K27	Roger White and Brian Thorley (G.B.)
3rd	<i>Sirah III</i>	I26	A. Masciocchi and M. Civita (Italy)
4th	<i>Don Carlos</i>	I50	P. Dalla Vecchia and Baffigo (Italy)
	<i>Red Devil</i>	H2	Ben Staartjes and C. Kurpershoek (Holland)

1969 Kiel, W. Germany

1st	<i>Tambourine</i>	K50	C. Norbury and C. Turner (G.B.)
2nd	<i>Do-Toho</i>	G12	R. Bahr and A. Mohnhaupt (W. Germany)
3rd	<i>Snoopy Too</i>	F11	J.-P. Marang and L. Ces (France)
4th	<i>High Life</i>	G19	Dr. H. Laprell and G. Henckel-Donnersmard (W. Germany)
5th	<i>Kai-O</i>	G15	K. Klasen and G. Groh (W. Germany)

NORTH AMERICAN

1967 Marion, Mass.

1st	<i>Lyric</i>	US1	C. Ulmer
2nd	<i>Teapot</i>	US116	J. Hunt
3rd	<i>Artemis</i>	US37	C. Shumway
4th	<i>Williwaw</i>	US32	W. Saltonstall, Jr.
5th	<i>Flying Saucer</i>	US28	A. Kostanecki

1968 Grosse Pointe, Michigan

1st	<i>Dowry</i>	US189	W. Kelly and R. Connell
2nd	<i>Optimum</i>	US76	B. Dyson and P. Nesbeda
3rd	<i>Flying Saucer</i>	US28	A. Kostanecki and B. Biddle
4th	<i>Ralph</i>	US49	C. Ulmer and P. Clemper
5th	<i>Lynnette</i>	US95	R. Howard and J. Guard

1969 Darien, Conn.

1st	<i>Good Luck</i>	US200	A. Kostanecki
2nd	<i>Daedalus</i>	US26	B. Falconer
3rd	<i>Beast</i>	US191	J. Linville and J. Linville
4th	<i>Hornet</i>	US202	J. Hunt
5th	<i>Vixen</i>	US290	R. Matthews

1970 Marblehead, Massachusetts

1st	<i>Beast</i>	US191	Jack Linville
2nd		US20	Robbie Doyle
3rd	<i>Not Wizzard</i>	US200	A. Kostanecki
4th	<i>Galadriel</i>	US147	Bill Cox, Jr.
5th	<i>Ciao</i>	US225	Glen Foster



The Linville Brothers, Jim and Jack, winners of the World Championships 1970. Jack, on the right, is the helmsman, Jim is the Chairman of U.S.I.T.A.

INTERNATIONAL TEMPEST WORLD CHAMPIONSHIPS 1970

Forty-five boats from 17 nations competed in the fourth Tempest World Championships in Quiberon Bay, France, from 21st–26th September. It was the first World Championships since the class was selected for the Olympics and competition was extremely keen and open.

The new yacht harbour at Port Haliguen was an ideal championship base, adjacent to the wide expanse of Quiberon Bay, in which an Olympic course was laid. Starting lines were excellent, winds were mostly force 3–5, with a touch of 1 on a couple of days for light weather experts and tidal streams were not over strong. The organisation ashore was superb. In case it all sounds too good to be true, there were a few minor snags—on the first two days many boats' keels picked up clumps of floating seaweed dislodged by a previous gale and the series lacked a real hard blow to add to the interest.

Each of the first five races in the series of six was won by a representative of a different nation—U.S.A., Holland, Poland, France, U.S.S.R. Only in the last race did the American contingent, showing an undoubted flair in light weather conditions similar to those commonly experienced at home, produce a second winner for any nation. Honours were spread amongst builders, too, with seven of the first eight boats on points coming from different builders, an indication

of the benefits of truly one-design rules and the freedom from expensive 'winner-hunting' and obsolescence besetting some other Olympic classes.

American boats dominated the first race, led by Peter Nesbeda and Jeff Duncan. The wind dropped very light and the race had to be shortened.

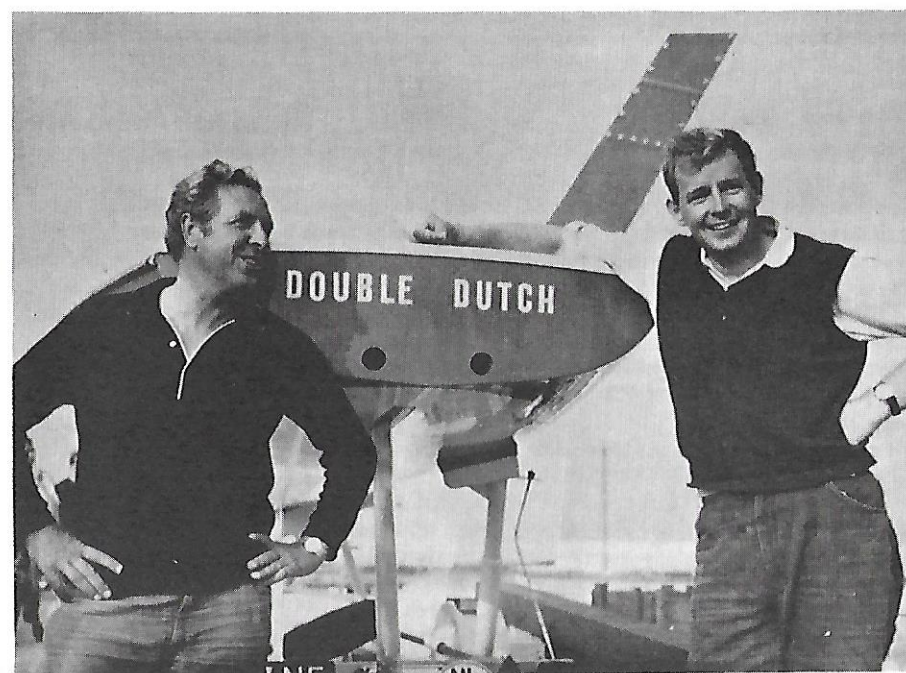
In force 3–4 the next day, Peder Lunde, the Olympic gold and silver medalist from Norway, led by 25 seconds at the end of the first triangle, but Ben Staartjes and Cees Kurpershoek from Holland went through on the next beat, with the Linville Brothers from U.S.A. second. Again American boats filled three of the first four places at the finish.

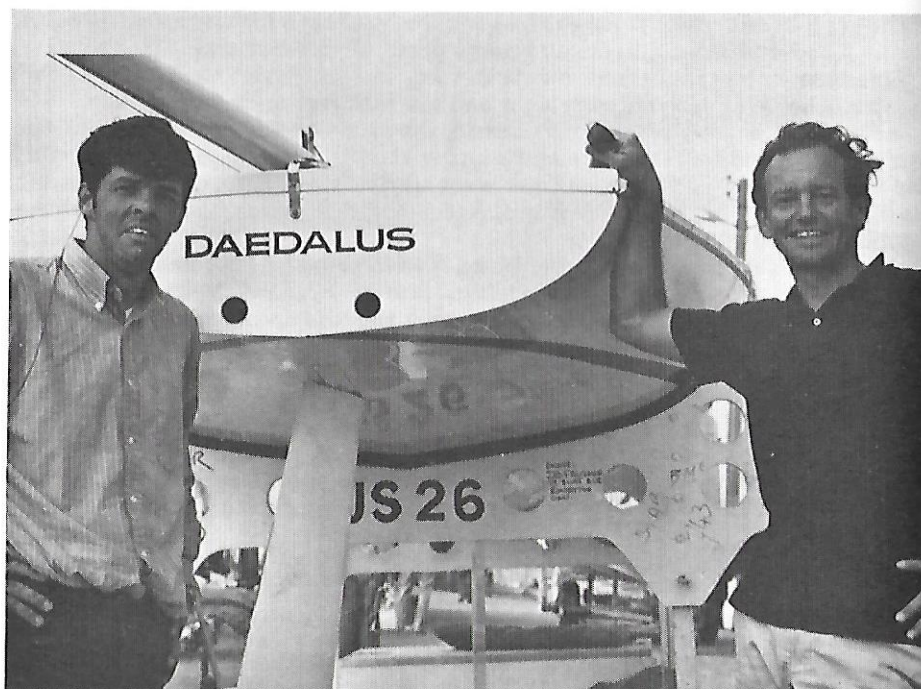
In fresh wind and lumpy sea the Poles, Tomasz Holc and Roman Rutkowski, who had been working at the fabulous French National Sailing Centre at Quiberon Bay for the previous six weeks, took the lead on the final beat to finish fifteen seconds ahead of the Germans, Ringmaier and Meder. Staartjes was again amongst the leaders with a third and Lunde, who led the fleet until the last beat, was fourth.

By then it was clear that Staartjes was making the strongest bid for the Championship title, with the Linville Brothers in hot pursuit. Cliff Norbury of Britain, the 1969 Tempest World Champion, seemed to have faded from the running with a twelfth and eleventh, the latter mainly due to a broken trapeze hook whilst well placed in the early stages.

The French hopes, Marcel Troupel and Lanaverre won the fourth race, with Cliff Norbury back in the hunt in third place, astern of the American Bruce Falconer. Staartjes was sixth and still held a good points lead.

Ben Staartjes and Cees Kurpershoek were second in the World Championship, after seeming likely winners until the last few minutes of the last race.





Bruce Falconer, on the right, sailed *Daedalus* to third place in the Worlds, crewed by sailmaker Bruce Dyson.

The fifth race was the Russians' day, with Valentin Mankin, the 1968 Olympic Gold medallist, and Vladimir Vitiukov taking the lead from Lunde about half way through and finishing $1\frac{1}{2}$ minutes ahead.

By the final race there remained only three potential winners of the series. Staartjes was most strongly placed and had only to finish seventh or higher to take the title. The Linville Brothers and Cliff Norbury could win if they finished first or second, and Staartjes failed to achieve seventh.

Things looked good for Norbury and Turner as they rounded the first windward mark in third position with the Linvilles fifth and Staartjes back in fourteenth place, but though Troupel and Lanaverre slipped from the lead, Norbury could make no impression on the American Falconer and in a lightening breeze the Linvilles moved up to second. Staartjes also moved up to fifth, but in the fickle breeze before the finish dropped again to eighth. This gave Jack and Jim Linville, aged 24 and 26, the Championship title.

Olympic classes tend to become tense, and competition sometimes cut-throat. Competition is certainly extremely keen at the top of the Tempest class but, perhaps because of its ups and downs in the past, this seemed one of the friendliest, gayest championship gatherings ever. Long may this happy spirit prevail, for sailing—including Olympic sailing—is for pleasure.

We extend our heartiest thanks to our French hosts for their hospitality and superb organisation of the Championships.

WORLD CHAMPIONSHIP 1970, QUIBERON BAY, FRANCE.

WORLD CHAMPIONSHIP 1970 FINAL RESULTS

Place	Sail No.	Country	Crew	Points
1	US191	U.S.A.	John Linville, James Linville	38.7
2	H2	Holland	Ben Staartjes, Cees Kurpershoek	39.1
3	US26	U.S.A.	D. B. Falconer, Bruce Dyson	42
4	K50	G.B.	C. J. Norbury, C. Turner	48.1
5	US46	U.S.A.	Peter Nesbada, Jeff Duncan	54.7
6	F15	France	M. Troupel, L. Lanaverre	58
7	G35	Germany	Ringmaier, Mandi Meder	62.7
8	US225	U.S.A.	Glen Foster, Peter Dean	65.7
9	US32	U.S.A.	W. G. Saltonstall, P. P. Twining	66
10	SR1	U.S.S.R.	Valentin Mankin, V. Vitiukov	66.7
11	US1	U.S.A.	Tom Ettinger, Wiggin	68.7
12	PZ1	Poland	T. Holc, R. Rutkowski	71
13	NI	Norway	Peder Lunde, Aksel Gresvig	84
14	H9	Holland	R. Mulder, N. P. Venekamp	93
15	I46	Italy	G. Fagnano, M. Sartori	97
16	K58	G.B.	Jack Knights, Simon Scrimgeour	99
17	D2	Denmark	Henning Wind, Jens Makhholm	103
18	US308	U.S.A.	David Garibotti, John Halterman	108
19	K60	G.B.	Guy Gurney, Neil Taylor	110
20	KC41	Canada	Paul Henderson, R. Pohn	129
21	I17	Italy	Dotti, Scofferi	131
22	G12	Germany	Rolf Baier, A. Schuhmacher	134
23	F11	France	J. P. Marang, Pierre Nachbauer	139
23	D3	Denmark	Jan Eppers, Ubrik Brock	139
25	K40	G.B.	J. J. Stork, S. Fraser	145
25	G45	Germany	Frank Hagermann, Michael Grunze	145
27	G47	Germany	Udo Webersinke, Max Reichert	146
28	G69	Germany	Hanz J. Fritze, Franz Wehofsitch	147
29	G57	Germany	Jorg Hustan, W. Anders	160
30	US36	U.S.A.	Mary Clark, Van Alan Clark	162
31	F14	France	Granger-Wacquez, J. J. Grandchamp	168
32	KA2	Australia	Bruce Jefferys, Brian Jefferys	176
32	VI2	Virgin Isles	John Foster, Robert Dunlap	176
34	S5	Sweden	Bengt Julin, Olie Hult	177
35	G22	Germany	H. Stagger, Sen., H. Stagger, Jun.	181
36	S2	Sweden	Ingvar J. Krook, Sven Persson	182
37	K57	G.B.	Robin Kemp, John Dawson	183
38	K15	G.B.	A. D. Crichton, R. Stables	196
39	G30	Germany	Franz Schenk, Jürgen Pratschke	197
40	Z7	Switzerland	Urs Kohler, Peter Frey	212
41	F7	France	J. F. Le Texier, Bernard Ducros	213
41	K25	G.B.	Ron Cohen, Brian Strong	213
43	F2	France	Jean Chaussade, Jean Cavallade	223
44	Z8	Switzerland	Dr. J. Mijnsen, Suzanne Mijnsen	224
45	LI	Finland	N. E. Bjurstrom, Peter Bjurstrom	226

CHAMPIONSHIP OBSERVATIONS

by JIM LINVILLE

(Winner of 1970 World Championships)

When the 1970 Worlds, held in Quiberon, France, were over, it was evident that except for the consistently high finishes of the American boats, no particular crew or manufacturer had demonstrated a clear competitive edge. In fact, before the final race, it was quite possible that any of three boats could have won, and it was only the result of a little good luck (or a little bad luck on the part of Ben Staartjes and Cliff Norbury) that Jack and I managed to win.

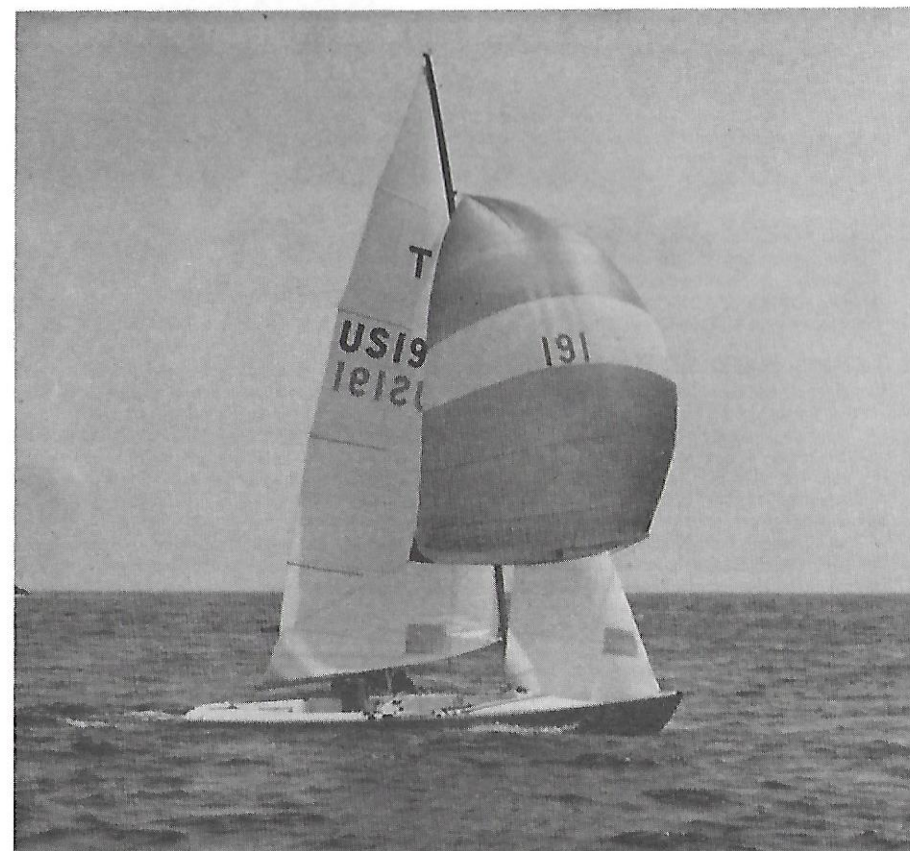
The series was sailed in primarily light airs, calm sea conditions which undoubtedly favoured the American boats, since it seems as though much of our racing is held in light conditions. Generally our experience with these conditions has led us to masts stepped practically as far forward as the boat's layout will allow, with a rather marked rake aft. The standing rigging on our boats did not deviate significantly from the stock (Proctor) rig which includes 180° diamond struts with no spreaders, although this is undoubtedly not as significant in light air as it is in heavy air. Sail trim in light air does not seem to require a backstay, in fact Jack and I sailed all last summer without one.

Perhaps the most significant difference in the 'American' trim involved the use of cantilevered jib tracks which were installed on every U.S. boat but one. These tracks make it possible to trim the jib to any desired angle, including angles of less than 12.5 degrees or so, which bring the jib fairlead inboard of the tank. There doesn't seem to be any hard and fast consensus about exactly where the jib should be trimmed, since this varies with the cut of the jib as well as wind and sea conditions. It was demonstrated, however, that flat jibs can be trimmed further inboard and tighter, but you must be very careful about this; if you are in choppy seas, or if your jib leach hooks in, or if your mainsail is too full forward, this won't work.

Generally, one of the keys to Tempest tuning lies in the proper choice of jib, jib lead angle, and jib trim. And don't be satisfied with one setting—jibs should be trimmed with as much attention as the spinnaker gets, especially in light weather.

One of the interesting aspects of Quiberon was the seaweed. Tempests don't shed seaweed, and when you run over a piece, leaving it just to lee, it is almost sure to end up on your keel or your rudder. When this happens, the effect on your boat speed is absolutely unbelievable. It just never seemed possible that even the most tiny piece of weed could slow you down, but it does, and you must clear your keel or rudder immediately. By the second day of the regatta, people were clearing their keels (and rudders) from the trapeze, but still the most trying problem was being aware immediately of when you were fouled, especially when no boats were near. I can't help but believe that some better method must exist for recognising and clearing a fouled keel or rudder.

Most of what I have said above is based on light weather, when it seemed as though the Americans had a slight edge. But in heavier weather this edge seemed to disappear, and boats from all countries were represented equally in the top of the fleet. The most interesting development which was in evidence on some of the faster heavy-weather boats was the limited swing (or rigid) spreader rig, with no diamonds at all. This rig has some obvious and very compelling theoretical



Beast, from Noroton Yacht Club, U.S.A., was sailed to victory in the 1970 World Championships by the Linville Brothers — photo Edwin Hills.

advantages (less windage, and less compressive mast loading) and I expect that a lot of people will be experimenting with it next year, including Jack and I.

One particularly troublesome problem experienced by the American boats in heavy weather was equipment failures. The most notable gear failures I saw were a broken boom, a broken rudder, and a broken diamond shroud. All of these items break more often than they should, mostly because they are very heavily loaded and subject to fatigue. Of the three items I mentioned, diamonds and booms seem to be most prone to breakage and should be inspected very carefully before every regatta. If you have the 'old' Proctor boom or 1/16th" diameter wire for your diamonds you should be extra careful, as it is my feeling that these are minimum strength items that can only be relied upon if they are in absolutely top condition.

The 1970 Tempest Worlds were a great success, and to the people who worked so hard to make it possible, we thank you!

INTERNATIONAL TEMPEST ASSOCIATION RULES

1. TITLE

The full title of the Association shall be the "International Tempest Association".

2. OBJECTS

The objects of the Association are to promote and further the interests of the International Tempest class throughout the world:

- (a) To maintain the one-design character of the International Tempest yacht.
- (b) To co-ordinate and manage the affairs and rules of the class.
- (c) To make recommendations on the control of such matters to the International Yacht Racing Union.
- (d) To encourage and co-ordinate national and international competition in the class.

3. TERMS AND DEFINITIONS

Throughout these rules the following defined terms will be used:—

- (a) "The Association" shall mean the International Tempest Association.
- (b) A "National Association" shall mean the International Tempest Class National Association organised in individual countries and officially recognised by the Association.
- (c) "The National Authority" shall mean the officially recognised authority or organisation controlling and organising the sport of yachting and sailing on a national basis in any country.
- (d) "The Committee" shall mean the Committee of the Association, consisting of duly elected committee members and members appointed as National Association's members. For not more than two years from the formation of the class a Launching Committee shall assume temporarily the duties of the Committee (see Appendix).
- (e) "The Association Rules" shall mean the rules governing the conduct of the Association.
- (f) "The Association Register" shall mean the Register of members of the Association to be kept as hereinafter provided.
- (g) "The Class" shall mean the class of sailing yachts designed by Ian Proctor and made in accordance with his drawings and specifications, and known under the name "International Tempest".
- (h) "The Measurement Rules" shall mean the rules relating to measurement, construction and racing conditions forming an appendix to the Association Rules and governing the official building of each International Tempest and its rating as a recognised boat within the class for class racing purposes.
- (i) "The Class Register" shall mean the Register of International Tempests and their owners to be kept as hereinafter provided.
- (j) "The Register of Moulds" shall mean the register of officially measured, approved and numbered moulds and keel bulb patterns, from which the production of plastic constructed International Tempests is approved by the I.Y.R.U.
- (k) "The Register of Builders" shall mean the register of builders who have applied to the Association or I.Y.R.U. for approval as constructors of International Tempest hull, deck and component mouldings in plastic, and have been granted such approval by the official authority and are equipped with officially measured, approved and numbered moulds for the construction of plastic International Tempests and keel bulbs for International Tempests.
- (l) "The Registered Number" shall mean the sail number allocated to the boat.
- (k) "The Class Secretary" shall mean the duly elected Honorary Secretary or the duly appointed Secretary, as the case may be, of the Association.
- (n) "Certificate" shall mean a certificate to be issued, ratified and endorsed as hereinafter provided and recording:
 - (i) The registered number and initial ownership of an International Tempest and any changes in ownership.
 - (ii) the fact that such International Tempest originally complied with the class rules on completion of construction, together with such particulars as may be required by the class rules.
- (o) "Valid Certificate" shall mean a certificate in which:
 - (i) the particulars of ownership are up to date and entered on the class register.
 - (ii) any endorsement required by the class rules has been duly entered.

- (p) "Fleet" shall mean three or more registered International Tempests, not under the organisation of an already existing International Tempest class fleet, normally located sufficiently near to each other to permit regular racing between them.
- (q) "Owner" and "Joint Owner" shall mean any person or persons, corporation or association entered on a certificate as owner or joint owner of an International Tempest.
- (r) "Copyright Holder" shall mean the person, persons or corporation for the time being in possession of the copyright in the drawings and specifications of the International Tempest yacht.
- (s) "Licensee" shall mean the person, persons or corporation for the time being holding a licence under the copyright of the International Tempest yacht for the construction thereof.

4. MEMBERSHIP AND VOTING RIGHTS

- (a) The following classes of membership shall be recognised:
 - (i) Full membership.
 - (ii) Associate membership.
 - (iii) Honorary membership.
- (b) *Full Membership* shall, upon payment of the prescribed annual subscription of a National Association, be open to any Full Member of a National Association who is the owner of an International Tempest or, in the case of joint owners, to any one of them, or in the case of an International Tempest owned by a Corporation or Association to a nominated representative of that organisation.
- (c) *Associate Membership* shall, upon payment of the prescribed annual subscription of a National Association, be open to any Associate Member of a National Association who is joint owner of an International Tempest, or a member for the time being of a Corporation or Association owning an International Tempest and not being a Full Member of a National Association, or to all individuals or clubs interested in the International Tempest Class.
- (d) *Honorary Membership* shall be open to any person having an interest in the Association or in the class who is proposed by a full member and seconded by at least one member of the Committee and is elected by members of the Association at any General Meeting of the Association.
- (e) Members shall be bound by the Association rules.
- (f) Members acting as helmsmen or entering International Tempests in races which consist of or include the class shall be bound by the measurement rules.
- (g) Each full member shall be entitled to one vote at a General Meeting of the Association, or in a postal ballot. Associate and honorary members shall be entitled to attend and speak at any General Meeting, but not to vote.

5. ANNUAL CONTRIBUTIONS FROM NATIONAL ASSOCIATIONS AND FEES

- (a) The Association shall be financed by a general levy from National Associations by means of a percentage of each National Association's annual income from subscriptions. The percentage shall be determined bi-annually by the Committee of the International Association and shall apply equally to all National Associations.
- (b) The annual contribution from National Associations shall become due on 1st June.
- (c) Any National Association which has not paid its annual contribution within two months of the due date may cease to be officially recognised by the Association and lose the privileges and benefits of membership of the Association under these rules, but may be restored to the list of officially recognised National Associations at the discretion of the Committee and payment of any subscriptions due.
- (d) For 1966-67 the general levy shall be 25 per cent of annual subscription income.
- (e) The Association shall receive a fee of £50, payable by each registered builder, on each set of moulds purchased. This fee is to be stated as a separate item on any quotation, estimate, invoice or statement relating to the cost of moulds.
- (f) The Association shall receive a proportion of the Building Fee on each Tempest built, amounting to 0.5 per cent of the average price of the boat in standard form, without sails, in Britain. The amount of the fee shall always be assessed on this basis and will be reviewed, and if necessary revised, by the Association every two years as from 1st October, 1965. Until November 1967, the fee due to the Association on each Tempest built shall be £4.

6. MANAGEMENT

- (a) The affairs of the Association shall be managed by the Committee, which shall be the only body with power to make recommendations to the International Yacht Racing Union for changes in the measurement rules.
- (b) The Committee shall consist of not less than six and not more than ten full members of the Association elected annually at a General Meeting of members, or by postal vote, as elected committee members. In addition, each nation with four or more fleets shall be entitled to appoint one full member of the Committee as national committee member. Each nation with ten or more fleets shall be entitled to appoint two full members to the Committee as national committee members. The Committee shall have powers to co-opt any person to assist it whether a full member of the Association or not, but such person shall have no vote in committee.
- (c) No member shall serve on the Committee as an elected or national committee member for more than three years, at the end of which period he shall retire, but shall be eligible for re-election after an interval of one year and may be co-opted. Members of the Launching Committee may after the formation of the Class Association serve a full term of three years as duly elected or national committee members.
- (d) The Committee need not fill a vacancy arising in the Committee unless the total number of committee members has dropped below the minimum of six. Committee members appointed to fill vacancies shall remain in office until the expiry of the term of office of the person whose position they have filled.
- (e) At its first meeting, to be held immediately after the Annual General Meeting of the Association, the Committee shall:
 - (i) Elect one of its members to act as Chairman of the Association for the following year.
 - (ii) Elect an Honorary Secretary or appoint a Secretary who shall keep correct minutes and records of all Committee and General Meetings, together with the Association register and the class register and shall be responsible for communicating the decisions of the Committee to members of the Association and, where directed by the Committee, to owners and joint owners not being members of the Association, in such terms as the Committee may prescribe.
 - (iii) Elect an Honorary Treasurer who shall have charge of the funds of the Association; make such disbursements as the Committee shall direct; keep an accurate record of the financial affairs of the Association; and present an annual financial statement at each Annual General Meeting. The Secretary or Honorary Secretary may fulfil the function of Treasurer.
 - (iv) Appoint an Auditor who shall certify the annual financial statement.
 - (v) Elect a rules and technical sub-committee which shall be responsible for advising the Committee and Association members upon the interpretation of the Association rules, for considering requirements for amendments or additions to such rules or to the class rules and for making recommendations to the committee.
 - (vi) Decide the time and place for the next meeting of the Committee and cause the Honorary Secretary to ensure that notice of this meeting be sent to all members of the Committee.
- (f) At meetings of the Committee five of the elected members present shall form a quorum.
- (g) The Committee shall have the power to make recommendations to the members in General Meeting, or by post, for alterations in or additions to the Association rules.
- (h) The Committee shall be responsible for the appointment of official class measurers and for the compilation and distribution of measurement forms, provided that no responsibility shall rest with the Committee in respect of errors made by measurers.
- (i) The Committee shall arrange an annual world championship of the class and co-ordinate such national or regional championships as may be required and all matters pertaining to international championships shall be settled by the Committee in consultation with the sponsoring club or clubs and/or the relevant national authority.
- (j) Owing to the difficulties of attendance at meetings of an international committee, at least six weeks' notice of the date, place and agenda for any such meeting must be given in writing by the Secretary to each committee member. Business will mainly be conducted by correspondence which shall always be circulated through the secretariat. Any committee member not answering a motion communicated to him in writing within six weeks of the date of sending shall be deemed to have agreed to such motion. All communications to countries outside that of the Secretariat shall be sent by airmail.
- (k) Acceptance of a certificate by an owner or joint owner shall ipso facto render him or them subject to the jurisdiction of the Association or the Committee in any matter pertaining to class rules.

7. POWERS OF THE COMMITTEE

Subject to the provisions of these rules and in particular to the object of the Association as expressed in rule (ii), the General Committee shall be empowered to perform all functions of management and administration. The making of payments and receipt of monies shall be validly evidenced only by the signature of the Treasurer or his deputy as appointed by the Committee and payments or receipts of monies exceeding the sum of £100 sterling shall require the signature of the Chairman and Secretary or Treasurer.

8. CONDUCT OF MEETINGS OF THE ASSOCIATION

- (a) The Annual General Meeting of the Association shall be held each year either in London or at international championship or other regatta of the class, or any other place judged by the Committee to be most convenient to the majority of members of the Association, the precise date, time and place being at the Committee's discretion.
- (b) A Special General Meeting shall be called by the Chairman or class secretary upon receipt by the class secretary of a request in writing signed by not fewer than fifteen full members of the Association.
- (c) At least ten weeks' notice in writing shall be given to members of any General Meeting.
- (d) At any General Meeting or Committee Meeting decisions, other than those concerned with the measurement rules, shall be carried by a majority vote. Voting shall be by a show of hands unless a poll is demanded by not fewer than three of the full members present. At any meeting the Chairman shall have a casting vote. The secretariat shall be responsible for circulating all members, or in the case of Committee Meetings, all committee members, with the result. In the event of a postal ballot, all returns shall be made to the secretariat within four weeks of the date of posting the ballot paper.
- (e) At any General Meeting of the Association, twenty-one shall form a quorum.
- (f) At any General Meeting of the Association, a decision to recommend to the I.Y.R.U. a change in or addition to the measurement rules shall require a majority of two-thirds.

9. ACCOUNTS

- (a) The Committee shall cause true accounts to be kept giving full particulars of:
 - (i) All monies, assets and liabilities of the Association.
 - (ii) All monies received and expended by the Association and of the matters in respect of which such receipts and expenditure arise.
 - (iii) All sales and purchases of goods by the Association.
- (b) The Committee shall cause to be prepared and laid before the members at every Annual General Meeting of the Association an annual financial statement.
- (c) A copy of the annual financial statement, duly audited, which is to be laid before the members in General Meeting, shall not less than twenty-one days previous to such General Meeting be sent to every full member of whose address the Committee is aware.

10. PROTECTION OF 'ONE-DESIGN' AND ISSUE OF CERTIFICATES

- (a) The 'one-design' character of the International Tempest class yacht throughout the world and the quality of the yachts shall be controlled by limiting building rights to selected builders in each country from which application is made to the Class Association. The number of builders may vary in each country, but where a territory is adequately served by one builder, another will not normally be granted rights to build or obtain moulds for plastic construction. Licences to build shall be reviewed annually and may be withdrawn.

All applications for licences to build shall be sent direct to the Association, which will refer these to the National Yachting Authority of the country concerned, asking such Authority to advise on the most suitable of these builders, whose premises and production facilities shall then be inspected by Lloyds or an equivalent Classification Society (at the builder's own expense). If this inspection is satisfactory, and approval is given by the Association, I.Y.R.U. Holdings Ltd. shall be requested by the Association to issue a licence to the builder, under the terms agreed between the I.Y.R.U. and the Copyright Holder, to produce International Tempests conforming with the official plans, specifications and measurement rules.
- (b) No yacht shall be entered on the class register as an International Tempest, or be eligible for a certificate as an International Tempest unless the hull shell, and the other component mouldings, are produced by a builder approved by the I.Y.R.U. and entered on the Association register of builders.

- (c) No yacht built of reinforced plastic shall be entered on the class register as an International Tempest or be eligible for a certificate as an International Tempest unless built to the official plans and specifications from component mouldings produced on officially measured, approved and numbered moulds, issued on the authority of the I.Y.R.U. and entered on the register of moulds.
- (d) The Association shall collaborate with the I.Y.R.U. and National Authorities in the allotment and issue of serial class numbers for International Tempests as they are built, and in the keeping of the class register, register of builders and register of moulds.
- (e) Certificates shall be obtainable from the National Yachting Authority, which may delegate its authority to the Association or a National Association, upon production of a measurement form properly completed by a national measurer or an official class or club measurer, showing the boat to be within the requirements of the International Tempest measurement rules.
- (f) Certificates shall remain valid only so long as:
 - (i) the boat continues to comply with the measurement rules.
 - (ii) measurements of new or replacement sails are officially entered on the certificate.
- (g) The responsibility for ensuring the validity of certificates issued in respect of newly built boats shall rest with the builder.
- (h) The responsibility for ensuring the continuing validity of certificates shall rest with the owner. When ownership changes it shall be the responsibility of the new owner to have the necessary endorsement completed upon his certificate.



1969 World Championship, Riva del Garda, Italy.

CLASS RULES

Please note that the Class Rules (corrected to March 1971) are reprinted here for the convenience of owners only and this is not the officially recognised source. The official printing of the International Tempest Class Rules is obtainable from the International Yacht Racing Union, 5 Buckingham Gate, London, S.W.1.

GENERAL

Where, within a nation, the National Authority has delegated the administration of the Class, the issue of certificates, sail numbers, etc., to the National Tempest Association, the words 'National Tempest Association' replace the words 'National Authority' wherever they occur.

1. OBJECT OF THE CLASS RULES

This is a one-design class. The rules and the official plans and approved specifications are intended to ensure that the boats of this class are as nearly as possible the same as regards shape and weight of hull and decking, shape and weight of keel, shape of rudder, area and shape of sail plan and in some other items which affect performance. All boats shall be built in accordance with the plans with the exception of spars, standing and running rigging, mast partners, struts for mast partners, toe holds or chocks, rudder frame, rudder stock, rudder bearings, cleats and fairleads, lifting eyes, tiller and tiller extension. These items and the fittings associated with them shall be excluded from compliance with the official drawings but may, in some cases, be controlled in other ways by the following rules.

2. PROTECTION OF ONE DESIGN

- (a) **Hull Moulding**
All boats shall be constructed from mouldings produced by builders licenced by the I.Y.R.U. Moulds and patterns for the construction of components shall be obtained only from the central source approved by the I.Y.R.U. Moulds and patterns shall be numbered and issued only to builders licenced by the I.Y.R.U.
- (b) **Hull Assembly**
The component mouldings of the boats, with the exception of the spinnaker bin, mast partners, hatch covers and bridge deck shall be fully assembled and solid foam buoyancy installed by the builder producing the mouldings.
- (c) **Keels**
Keels shall be produced only by builders licensed by the I.Y.R.U. Lead ballast bulbs for keels shall be cast only from patterns or moulds obtained from the central source approved by the I.Y.R.U. Keel patterns shall be numbered and issued only to builders licensed by the I.Y.R.U.
- (d) **Alterations to Moulds**
No alteration shall be made to any of the official moulds or templates which affect the configuration or shape of the hull, deck or component mouldings, with the exception of:
 - (i) A non-slip surface may be incorporated in any place on the deck or cockpit mould.
 - (ii) The position of the depression to take the shroud plates may be altered to suit shroud positions within the limits of the measurement plan.
 - (iii) The edges of the aft hatch may be altered to suit different gasket arrangements.
 - (iv) The surface of the hull may be recessed around the keel slot for a maximum distance of 35 mm. from the keel slot and a maximum depth of 3 mm. to permit a keel fairing plate and keel guide rollers to be fitted.
- (e) **Measurement**
Tolerances are given to allow for minor building errors and distortion through age, but intentional variations within these tolerances shall be prohibited. All measurements concerning the shape of the hull and keel shall be taken by a measurer appointed by the appropriate National Authority before the hull or keel leave the premises of the Licensed Builder. If a measurer considers that there has been any attempt to depart from the design or these rules in any particular, he shall enter the details on the Measurement Form, which shall be forwarded to the National Authority. The National Authority shall withhold the Certificate of Measurement pending an examination of the case, and may grant a certificate if approval is subsequently obtained from the I.Y.R.U.

(f) **Issue of Building Licences**

All applications for licences shall be sent to the International Tempest Association (see address in rule 29) which shall then request the National Authority of the country concerned to indicate the suitability of the applicant. If the builder intends to mould the boat, the premises in which the moulding is to take place and the production facilities shall then be inspected by Lloyd's or an equivalent Classification Society, at the builder's own expense, and a copy of the report shall be forwarded to the International Tempest Association. The International Tempest Association shall then forward the application of suitable builders to I.Y.R.U. Holdings Ltd, for the issue of a licence under the terms agreed between the I.Y.R.U. and the Copyright Holder, to produce International Tempests conforming with the official plans, approved specifications and measurements rules. This licence shall be subject to review and withdrawal by the I.Y.R.U. at any time. The National Authority shall ensure that a legal contract is signed by the builder, which shall include a clause guaranteeing the payment of building fees.

(g) **Issue of Moulds**

Application for the issue of moulds and patterns for hull and keel, and measurement templates shall be made to the International Tempest Association, which shall then request the I.Y.R.U. to authorise delivery from the approved source.

3. CONSTRUCTION

Construction shall be of glass reinforced plastics and the relevant general arrangement and construction drawings shall be adhered to and the approved specifications and scantlings followed.

4. HULL

(a) **Length**

The length of hull overall excluding stemhead fitting, and excluding overlap of aft deck shall be 6680 mm. maximum measured between perpendiculars.

(b) **Hull Shape**

- (i) The hull shall be constructed only from official moulds. These moulds shall be checked by measurers appointed by the National Authority who shall use a special set of ten mould templates. These checks shall take place prior to commencement of production and thereafter annually.
- (ii) The hull shall be measured according to the measurement plan which is part of these rules. Metal templates shall be applied to the stem and transversely at horizontal distances from an extension of the vertical centreline of the transom of 330 mm. The keel rocker shall be measured from a base line formed as shown on the measurement plan.
- (iii) Where the skin of the boat joins the transom the radius shall not exceed 6 mm.
- (iv) The transom shall be at $90^\circ \pm 1.5^\circ$ to the waterline axis of the boat as shown on the plan and shall be at the extreme aft end of the hull.

5. BULKHEADS

Transverse watertight bulkheads shall be built in at each end of the cockpit. The aft bulkhead shall be at 1525 mm. ± 10 mm. from the vertical centreline of the transom. The forward bulkhead shall be at 4520 mm. ± 10 mm. from the vertical centreline of the transom. Longitudinal bulkheads shall be built in between the side decks and the cockpit floor and extending between the forward and aft cockpit bulkheads. A watertight transverse bulkhead near the bow shall form a compartment to accommodate the forestay and jib tack fittings.

6. COCKPIT

The cockpit floor shall make a watertight joint between the forward and aft transverse bulkheads and the longitudinal bulkheads. At the forward bulkhead the depth of the cockpit measured from the gunwale to the centreline of the cockpit floor, as shown on the measurement plan, shall be 375 mm. ± 10 mm. At the aft bulkhead the depth of the cockpit, measured from the gunwale to the centreline of the cockpit floor, as shown on the measurement plan, shall be 295 mm. ± 10 mm. Width of the cockpit floor 270 mm. aft of the main forward bulkhead shall be 973 mm. ± 5 mm. The width of the cockpit floor at the aft bulkhead shall be 1065 mm. ± 5 mm.

7. DECKING

(a) **The Foredeck**

The foredeck shall extend unbroken from the stem to the forward end of the cockpit, but shall have an aperture as shown on the plans for a spinnaker stowage well. From a point on the upper edge of the forward cockpit bulkhead 365 mm. ± 5 mm. from the centreline, the foredeck shall extend in a straight line outwards and aft to a point as shown on the plans. The curvature of the foredeck, measured at the forward cockpit bulkhead as shown on the measurement plan, shall be 145 mm. ± 10 mm.

(b) **Side Decks**

Width measured at any place at right angles to the tangent to the outboard edge of the deck to the extension of inner face of longitudinal bulkhead shall be 327 mm. ± 5 mm. Side decks shall slope downwards towards the gunwale, so that the inboard edge of the deck is 26 mm. ± 10 mm. above the outboard edge as shown on the measurement plan.

(c) **Aft Deck**

The aft deck shall extend from the aft cockpit bulkhead to the transom but shall be pierced by a hatch opening. The curvature of the aft deck measured at the aft cockpit bulkhead, as shown on the measurement plan, shall be 45 mm. ± 10 mm.

8. PIERCING OF HULL, DECK, BULKHEADS OR COCKPIT

The deck, hull or cockpit shall not be pierced except by the following openings, some of which shall be optional as indicated:

(a) **In the Hull**

- (i) Not more than two holes, each of 7 mm. maximum diameter to permit drainage forward of the bow bulkhead. (Optional).
- (ii) Keel slot as in Rule 11 (j).
- (iii) Rudder slot.
- (iv) Two openings, each of 110 mm. \times 180 mm. maximum dimensions, for cockpit self bailers.
- (v) Not more than two holes, each of 55 mm. maximum diameter through the transom, connected with the cockpit by watertight tubes of 55 mm. maximum internal diameter. (Optional).

(b) **In the Bow Bulkhead**

- (i) One hole of 55 mm. maximum diameter connected by a watertight tube of 55 mm. maximum internal diameter to the forward cockpit bulkhead. (Optional).

(c) **In the Forward Cockpit Bulkhead**

- (i) One hole of 55 mm. maximum diameter connected by a watertight tube of 55 mm. maximum internal diameter to the bow bulkhead. (Optional).
- (ii) One hole of 20 mm. maximum diameter, 12 mm. minimum diameter, connected to the spinnaker well by a watertight tube of 20 mm. maximum internal diameter.
- (iii) Not more than two inspection ports, each of 155 mm. maximum diameter, closed in a substantially watertight manner whilst racing. (Optional).

(d) **In the Aft Cockpit Bulkhead**

- (i) Not more than two holes, each of 55 mm. maximum diameter, permitting draining of the cockpit through watertight tubes of 55 mm. maximum internal diameter connected with the transom. (Optional).
- (ii) Not more than two drain holes to the midships buoyancy compartment, each of 20 mm. maximum diameter and closed in a watertight manner whilst racing. (Optional).

(e) **In the Cockpit Floor**

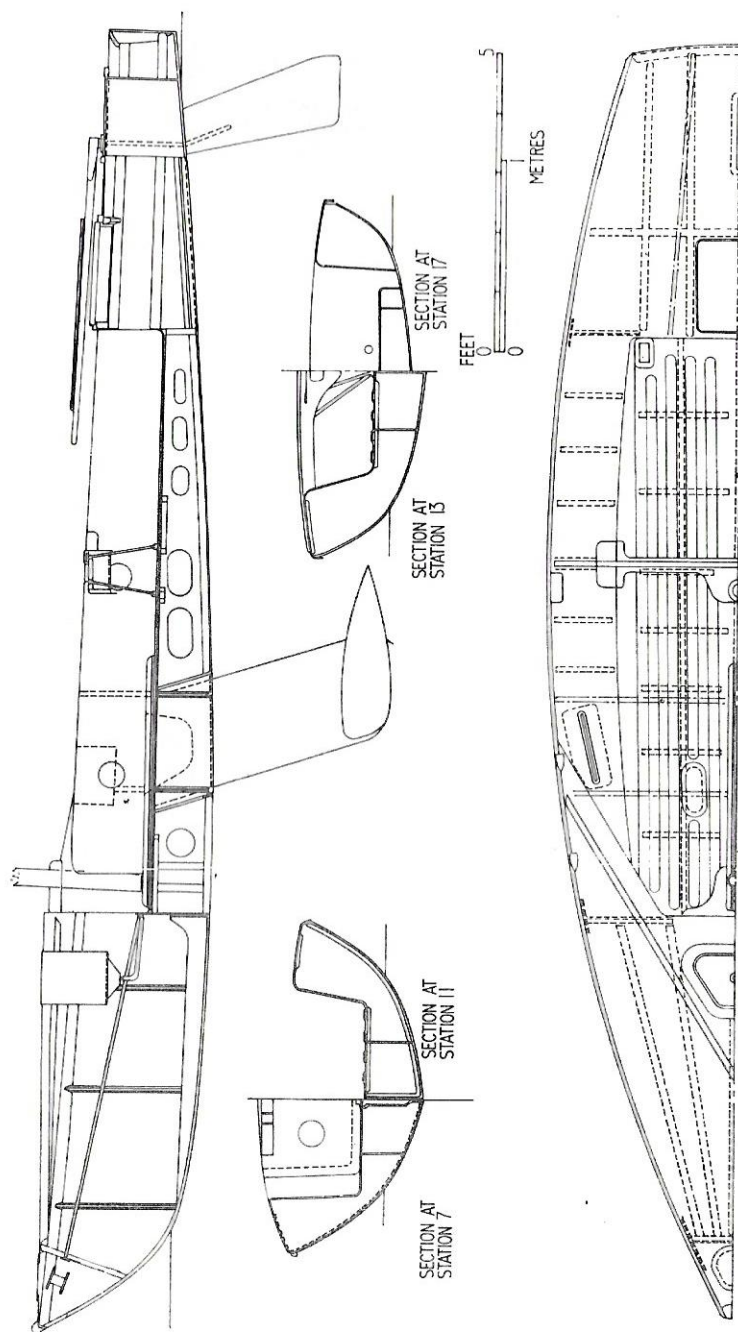
- (i) Two inspection ports as shown on the plans. A hole of 70 mm. maximum diameter shall be permitted in each inspection port and shall be fitted with a watertight cover.
- (ii) Not more than two watertight traps of maximum dimensions 110 mm. \times 180 mm. at the aft outboard corners of the cockpit.

(f) **In each Cockpit side (longitudinal Bulkhead)**

- (i) Not more than two inspection ports, each of 155 mm. maximum diameter closed in a substantially watertight manner whilst racing. (Optional).

(g) **In the Foredeck**

- (i) One aperture of maximum dimensions 205 mm. \times 160 mm. forward of bow bulkhead, closed substantially when racing, but not necessarily watertight.



- (ii) One aperture, as shown in the plans, for a spinnaker stowage well. The well shall form a watertight joint with the deck.
- (iii) One hole in the spinnaker stowage well of 20 mm. maximum diameter 12 mm. minimum diameter, connected by a watertight tube of 20 mm. maximum internal diameter to drain into the cockpit.
- (iv) One slot on each side for the shroud plate, with a sealed cover plate to make watertight.
- (h) **In each Side Deck**
 - (i) One hole of 120 mm. maximum diameter for the sole purpose of mounting a compass, which shall make a watertight joint with the side deck and shall not decrease the efficiency of the buoyancy compartments. (Optional).
- (i) **In the Aft Deck**
 - (i) One hatch opening 470 mm. \times 450 mm. \pm 5 mm. which shall be securely closed by a hatch cover when racing.
 - (ii) Rudder housing slot 380 mm. \pm 15 mm. long by 50 mm. \pm 7 mm. wide.
- (j) Holes for fastenings used to attach fittings. These holes shall be 10 mm. maximum diameter and shall be sealed to maintain watertightness of the buoyancy compartments. No lines or controls shall pass through any surface of the hull, deck or cockpit except through the tubes connecting the cockpit to:
 - (i) the compartment forward of the bow bulkhead
 - (ii) the spinnaker bin.

9. MAIN SHROUDS

The effective length of a shroud may be altered by not more than 80 mm. whilst racing. A shroud and its associated fittings, including any means of adjusting its length whilst racing, shall be attached by its upper end to the mast at a point not more than 2750 mm. from the band specified in Rule 18 (i) (ii) and at its lower end directly to the shroud plate, which shall be positioned not more than 3930 mm. from the vertical centreline of the transom and in accordance with the Measurement plans.

10. MAST PARTNERS

The mast partners or bracket shall not extend horizontally more than 400 mm. aft from the forward cockpit bulkhead, or more than 340 mm. from the centreline of the deck.

11. COAMINGS

Coomings not more than 30 mm. in perpendicular height may extend from a point on the centreline 1320 mm. \pm 15 mm. from the stemhead for a distance of not more than 2060 mm. from that point.

12. GUNWALE RUBBING BEAD

Gunwale rubbing bead of timber, plastic, or resilient material 16 mm. \pm 3 mm. thickness shall extend unbroken from a point not more than 130 mm. from the bow (excluding the stemhead fitting) to a point not more than 25 mm. from the transom (excluding overlap of aft deck).

13. KEEL

- (a) The keel shall consist of a mild steel fin to the shape shown on the drawing which shall be checked by a template. The keel shall have a lead bulb cast from an officially registered pattern or mould issued by the I.Y.R.U.
- (b) The minimum thickness of the mild steel finished fin shall be 9.5 mm. and the maximum thickness shall be 11 mm.
- (c) The maximum depth of exposed portion of the keel, measured vertically from the point where the aft edge of the fin meets the underside of the hull, to the lowest point of the fin or bulb, shall be 900 mm.; minimum depth of keel, at the same measurement point, shall be 865 mm. The fore and aft edges of the fin shall be parallel and the width of the exposed portion, measured as on the measurement plan, shall be 508 mm. \pm 5 mm.
- (d) The maximum chamfer at the leading edge of the fin shall be 80 mm. and the maximum chamfer at the aft edge of the fin shall be 105 mm.

- (e) The fin shall be arranged so as to be removable from the hull. Spacers and/or filling compound may be used to prevent the fin moving horizontally within the slot, but the fin shall be free to move vertically immediately after removal of the securing bolts. Filling compound shall not be used outside the hull to form a radius or fillet between the fin and the hull.
- (f) The shape of the bulb shall be checked with five metal templates placed as shown on the measurement plan. These templates have alternative tolerances for sheathed and un-sheathed bulbs (see Rule 13 (i)). The maximum difference shall not exceed 2 mm.
- (g) The lead bulbs shall be weighed before fixing to the fin and their weight entered on the measurement certificate. The maximum weight shall be 189 kg.
- (h) The weight of fin and bulb together shall be not more than 232 kg. nor less than 200 kg.
- (i) The fin may be galvanised, zinc sprayed, zinc coated, plastic coated or painted. Other forms of plating shall be prohibited. The lead bulb and the fin keel adjacent may be sheathed with a suitable reinforced plastic material for protection against damage, but such reinforced plastic shall not extend more than 25 mm. above the lead bulb and the radius in the angle between the fin and any part of the upper edge of the bulb shall not be greater than 3 mm. Keels sheathed in this way shall comply with the weight Rule 13 (f) and Rule 13 (h) controlling shape.
- (j) The aft end of the keel slot shall not be less than 3290 mm. from the transom measured along the centreline of the hull. The forward end of the keel slot shall not be more than 3865 mm. from the transom measured along the centreline of the hull.
- (k) The fore and aft position of the keel may be adjusted within the limits of the keel slot, but the position of the keel shall not be altered whilst racing. The forward edge of the fin, where it meets the underside of the hull, shall not be more than 3865 mm. nor less than 3805 mm. from the transom, measured along the hull on the centreline.

14. RUDDER

- (a) The rudder shall be of glass reinforced plastics or wood.
- (b) The rudder shall be removable upwards while the boat is afloat.
- (c) The profile of the rudder blade shall conform to the official template; the edge of the blade shall not be more than 7 mm. from the edge of the template.
- (d) The sectional shape of the rudder blade shall be optional, but the thickness of the blade shall not exceed 50 mm. and, for a distance of 400 mm. from its upper edge, no horizontal section through the blade shall measure less than 40 mm. at its point of greatest thickness.
- (e) The design of the tiller, tiller extension and rudder frame shall be optional.
- (f) The weight of the steering assembly, including rudder blade, rudder stock, rudder frame, rudder head, tiller and tiller extension shall not be less than 10 kg.
- (g) With the rudder in the fore and aft plane of the hull the distance from the forward upper corner of the blade to the extension of the vertical centreline of the transom shall be 630 mm. \pm 20 mm.

15. LIFTING EYES

Lifting eyes shall be located as shown on the drawings, and each eye and its fixing to the boat shall be capable of taking a load of 500 kg.

16. WEIGHT

- (a) The hull, in dry condition to the measurer's satisfaction, including essential fixed fittings and buoyancy apparatus enclosed within the bulkheads, shall be not less than 217 kg. For the purposes of this rule the essential fixed fittings include the stemhead fitting, stemband (if fitted), forestay plate, jib tack plate, jib furling gear, drain tubes, lifting eyes, mast step, shroud plates, jib fairleads and tracks, trapeze gear fairleads, jib sheet snubbing winch (if fitted), cleats, mainsheet traveller and track, mainsheet lead and cleat, bridge deck struts, keel supporting angles, self-bailers, spinnaker sheet fairleads, hatch clips, hatches, compasses, rudder frame clips and toestraps with securing plates. No other fittings or gear shall be weighed with the hull.
- (b) If the weight of the hull is less than 217 kg. metal weight correctors of total maximum weight not exceeding 15 kg. shall be fastened approximately to the centre of the cockpit floor. The weight, number and position of these correctors shall be noted on the measurement form. A certificate shall not be issued if the weight of the hull is less than 217 kg.
- (c) The combined weight of the hull as defined in 16 (a) and the keel shall be not less than 444 kg. The combined weight shall be checked at first measurement and entered on the boat's

certificate. Thereafter, the boat may be re-weighed by an official measurer at intervals of not less than six months and adjusted to the minimum combined hull and keel weight of 444 kg. by the removal of correctors, if any, or removal of weight from the keel bulbs within the limit imposed by Rule 13 (h). The new weight of the correctors, the keel and the combined weight of hull and keel shall be entered on the certificate and endorsed by the measurer.

17. MAST POSITION

The aft edge of the mast, if extended downwards, shall not be further aft than the forward edge of a black line of 10 mm. minimum width, marked on the cockpit floor at a minimum distance of 4190 mm. from the outside of the transom (excluding overlap of deck) measured parallel to the base line.

The mast shall be stepped above the cockpit floor, aft of the forward main bulkhead as shown on the drawings.

18. MAST AND RIGGING

- (a) Material, method of construction and design of mast shall be optional. It shall be rigged with a standing forestay on the centreline of the hull ahead of the luff of the jib and capable of supporting the mast with the sails lowered. The extension of the line of the luff of the jib shall meet the centreline of the foredeck, or its extension, at a point 6390 mm. \pm 45 mm. from the centreline of the transom measured parallel to the deck.
Any taper on the mast shall not extend below a point 1560 mm. from the extreme upper end. The taper shall be convex or straight, and local hollows of more than 3 mm. on the longitudinal surface of the tapered portion shall be prohibited. At no place below the band specified in Rule 18 (i) (iii) shall the mast section measure less than 56 mm. athwartships and 49 mm. fore and aft.
- (b) The weight of the mast shall be not less than 15 kg. complete with normal fixed fittings, but excluding running and standing rigging. The dimensions of the mast section between the bands specified in Rule 18 (i) (i) and 18 (i) (ii) shall be not less than 72 mm. athwartships and 92 mm. fore and aft.
- (c) A mast complying with the rules operative on 28th February, 1969, and already measured and in use shall continue to be permitted until 31st December, 1973, for use in the boat to which it is fitted on 28th February, 1969, but shall not be fitted to any other boat. Such a mast shall not be permitted for use in World Championships after 31st December, 1969, and shall not be permitted for use in National or Continental Championships or any event connected with Olympic competition after 31st December, 1971.
- (d) The minimum height of the centre of gravity of the mast, in the same condition as in (b) with fittings shall be 4220 mm. from the extreme lower end.
- (e) Permanently bent masts and rotating masts shall be prohibited.
- (f) The flexibility of the mast is limited thus: The mast shall be supported at the bands specified in Rule 18 (i) (i) and 18 (i) (ii). With the mast turned so that the normal fore and aft axis of its cross section is approximately horizontal, a weight of 40 kg. shall be suspended from the mast, midway between the two supporting points, and the deflection measured at the point of suspension of the weight shall be not more than 90 mm. With the mast turned so that the normal fore and aft axis of its cross section is approximately vertical with the sail track uppermost, a weight of 100 kg. shall be suspended from the mast midway between the two supporting points and the deflection measured at the point of suspension of the weight shall be not more than 135 mm. During these deflection tests all rigging shall be fully slackened.
- (g) The makers of all masts completed after December 1965 shall declare the bare mast weight by legibly impressed figures stamped within 310 mm. of the lower band, and in an adjacent position, and shall also declare, by legibly impressed figures, the distance of the centre of gravity from the extreme lower end of the mast.
- (h) The extreme lower end of the mast shall be located not more than 20 mm. above the level of the cockpit floor in way of mast.
- (i) Three bands of a contrasting colour, 10 mm. minimum width, shall be painted on the mast thus:
 - (i) with its upper edge 1155 mm. \pm 5 mm. from the extreme lower end. The top of the boom at the gooseneck shall not extend below this mark.

- ## 19. MAIN BOOM

20. SPINNAKER BOOM

21. SAILS

- Reinforcement having the effect of stiffening the sail shall be permitted in the mainsail for a maximum distance of 380 mm. from each corner, and in the jib for a maximum distance of 340 mm. from each corner. Glued seams shall not be considered stiffening and other necessary reinforcement shall be allowed, provided it is not stiffened by the addition of bonding agents, close stitching or otherwise. The body of the sail, other than windows as permitted, shall be constructed so that it can be folded flat in any direction, other than in the area of the corner stiffening as defined above.

- The maximum measurements of the mainsail are shown on the sail measurement plan. The mainsail shall not extend beyond the upper edge of the band specified in Rule 18 (i) (i) or beyond the lower edge of the band specified in Rule 18 (i) (iii). The mainsail foot shall not extend beyond the inner edge of band on the main boom specified in Rule 19. The length of the leech (the distance between the extreme lowest point of the sail directly under the centre of the clew cringle and the upper forward corner of the headboard) shall not exceed 8300 mm. The clew cringle shall be circular with its centre not more than 40 mm. from the nearest points on the foot and the leech, including any roping or tabling. The headboard shall not exceed 130 mm, measured at right angles to the luff. The maximum number of battens is four, maximum length 1000 mm., maximum width 50 mm., dividing the leech into approximately equal parts.

The curve of the leech is not controlled, but the total width of the mainsail shall be measured in three places, representing quarter, half and three-quarter heights on the sail. When these measurements are taken, the sail shall be smoothed out, in dry condition. All measurements shall be taken over the full width, including roping and any hollows in the leech shall be bridged by straight lines. In finding the half luff, quarter luff and three-quarter luff points, the top forward corner of the headboard shall be placed over the centre of the tack cringle, with the two halves of the luff coinciding, the fold so formed indicating the half luff point. This fold is then placed over the top forward corner of the headboard and tack cringle together and the two folds thus produced indicate the quarter and three-quarter luff points. A similar procedure is used to determine the half leech, quarter leech and three-quarter leech points; the top forward corner of the headboard is first placed



MAIN TO BLACK BANDS	12-87	SQ. M.
MAIN LEECH ROACH	2-37	SQ. M.
MAINSAIL TOTAL	164-0	SQ. M.
JIB TOTAL	82-78	SQ. M.
MAIN & JIB	246-78	SQ. M.
SPINNAKER	225-0	SQ. M.

ALL MEASUREMENTS ARE
IN METRES OR SQ. METRES

over the centre of the clew cringle, with the sail smoothed out, the fold so formed indicating the half leech point. This fold is then placed over the top forward corner of the headboard and centre of clew cringle together, and the two folds thus produced at the leech indicate the quarter and three-quarter leech points. The maximum distance from three-quarter luff point to three-quarter leech point shall be 1430 mm. The maximum distance from half-luff to half leech point shall be 2360 mm. The maximum distance from quarter luff to quarter leech point shall be 3050 mm. The class insignia, a letter 'T', shall be sewn on each side of the mainsail and shall be at least 380 mm. in height. The class number of the boat shall be placed below the insignia, together with the national letter, also 380 mm. in height.

(c) **Jibs**

- (i) The jib shall be measured in a dry state and laid on a flat surface with sufficient tension on the luff to hold it substantially straight. All wrinkles in the vicinity of the foot and leech measurement lines shall be smoothed out, tension being applied along the line of measurement if necessary.
- (ii) *The Tack* (measurement point L1). If the tack cringle is located outside the edges of the sail, the tack shall be considered to be the lowest part of the sail on the luff rope. If the cringle is contained wholly or partly within the edges of the sail, the tack shall be considered to be the point at which a line drawn at right angles to the luff (or its extension) and meeting the lower outer edge of the cringle itself at a tangent, cuts the luff or its extension.
- (iii) *The Head* (measurement point L2). If the head cringle is located outside the edges of the sail, the head shall be considered to be the highest part of the sail on the luff rope. If the cringle is contained wholly or partly within the edges of the sail, the head shall be considered to be the point at which a line drawn at right angles to the luff (or its extension) and meeting the upper outer edge of the cringle itself at a tangent cuts the luff or its extension.
- (iv) *The Clew* (measurement points C1 and C2). The clew cringle shall be circular and contained within the edges of the sail. A straight line from the tack (L1) through the centre of the clew cringle shall meet the leech at a point (measurement point C1) not more than 25 mm. from the centre of the clew cringle. A straight line from the head (L2) through the centre of the clew shall meet the foot at a point (measurement point C2) not more than 25 mm. from the centre of the clew cringle.
- (v) The foot measurement shall be the distance between L1 and C1 and shall be not more than 2490 mm.
- (vi) The luff measurement shall be the distance between L1 and L2 and shall be not more than 6350 mm.
- (vii) The straight line leech measurement shall be the distance between L2 and C2 and shall be not more than 5980 mm.
- (viii) From a point on the luff 6200 mm. above measurement point L1, the width of the sail measured perpendicular to the luff shall not exceed 65 mm., including the bolt rope or wire.
- (ix) A round or convex curve shall be permitted in the foot of the jib, but not in the leech. Any round in the foot shall be a continuous convex curve. Measurements taken from the straight line joining measurement points L1 and C1 (at tack and clew) at 300 mm. from L1 and 300 mm. from C1 to the nearest points on the foot of the sail shall not exceed 80 mm. No measurement taken from the straight line joining L1 and C1 to the nearest point on the foot of the sail shall exceed 140 mm.
- (x) No battens or other forms of artificial stiffening other than the usual cringles and fabric hems or patches shall be permitted on the jib.

(d) **Spinnakers**

Not more than two spinnakers shall be carried in the boat whilst racing. Spinnakers shall be three-cornered and symmetrical about a line joining the head to the centre of the foot. No artificial stiffening shall be permitted at the corners or along the edges, other than the usual fabric hems or patches required for reinforcement. The fitting of luff wires or other means of adjusting luff or leech tensions shall be prohibited. The surface of the sail shall be of continuous fabric, with no vents or artificial apertures. The measurements shall be according to the measurement diagram (sail plan). Each luff (A E G J C) shall be measured individually and shall not exceed 6000 mm. when pulled out straight under a tension of not less than 5 kg.

The midpoint of the foot (B) shall be determined by folding the foot of the sail in half. The length of the centrefold (A D F H B) shall be measured when pulling the sail at points A and B with just sufficient tension to remove wrinkles across the line of measurement. The measurement AB shall be taken with the sail pulled just taut enough along the line of measurement to eliminate all creases across the line of measurement, and shall not exceed 6500 mm.

The width control measurements shall be taken in accordance with the following procedure. The sail shall be folded in half about its vertical centre line, by folding the foot at its midpoint and applying sufficient tension to remove creases from the folded foot, the luffs and the centre fold from the mid-point of the foot to the centre of the head cringle, with the sail on an approximately flat surface. Then, measuring round the perimeter of the folded sail, with just sufficient tension applied to remove creases across the edge measurement, the points E G J shall be marked upon the luffs and D F H upon the centre fold, in accordance with the dimensions on the diagram.

Having clearly defined the points D F H E G J, the cross measurements D E F G H J shall be taken with just sufficient tension to eliminate creases across the line of measurement. All dimensions are maxima and shall not be exceeded at any time. The measurement F G shall not be less than 1900 mm.

Points shall be marked on the luffs at 150 mm. from the centre of the head cringle measured in a straight line. The width of the sail, between these points, shall not exceed 280 mm. If the sail will not lie flat when these measurements are taken, the measurements shall be made on the convex side of any curved surface.

Sail numbers of minimum height 380 mm. shall be placed on both sides of the sail below measurement station D E and above measurement station H J.

(e) **Identification**

Each sail shall have permanently fixed near to its tack, or in the case of a spinnaker near one lower corner, an officially numbered Tempest Sail Label. The number of the sail label shall be entered on the certificate with the sailmaker's number (where given) for that sail. When a sail is first measured, the Measurer shall indelibly sign and date the sail label, the signature continuing on to the sail on each side of the label. No sail shall be accepted for its first measurement without an unsigned official Sail Label. Labels shall not be transferred from one sail to another.

22. BUOYANCY

Owners shall be responsible for maintaining the watertightness of the buoyancy compartments and ensuring that all drain sockets and other openings through the buoyancy compartments are watertight whilst racing. The hatch into the aft buoyancy compartment need not be entirely watertight. Buoyancy units, not being air bags, certified by the builder to have at least 150 kg. minimum positive buoyancy, shall be secured in the forward buoyancy compartment. Buoyancy units, not being air bags, certified by the builder to have at least 150 kg. minimum positive buoyancy, shall be secured in the centre and/or aft buoyancy compartment with no part more than 1370 mm. from the aft bulkhead.

23. PROHIBITIONS

The following shall be prohibited: inside ballast or ballast carried by the crew; winches, jacks or other devices for altering the position of the keel whilst racing; mastjacks; any contrivance for altering the position of the extension of the line of the luff of the jib where it meets the deck by more than 25 mm. when racing; any contrivance or apparatus extending outboard from the hull, spars, or rigging, or attached to the crew, the purpose of which is or may be to support or assist in supporting the crew outboard other than as specified in Rule 24, and not more than two toe straps on each side, which shall be flexible, with the fixing points of each toe strap not more than 160 mm. apart and which shall not permit the crew's foot or normal shoe to be supported out of contact with the hull or gunwale rubbing bead, or permitted non-slip material; trim tabs or similar devices on keel or rudder; projections beyond the skin other than gunwales; stern rubbing bead of similar section to gunwale rubbing bead, toe chocks, toe straps and their attachment points, spinnaker sheet cleats, stemhead fitting, keel, rudder, spinnaker sheet fairleads, backstay tangs projecting not more than 6 mm. beyond the skin, two self-bailers, stem-band, keel band, keel slot fairing plates and rollers which shall not project beyond the general surface of the hull, drain plugs, name plates, non-slip material, jib sheet lead plates, normal paint or enamel finishes and mooring fairleads, none of which shall project beyond the gunwale rubbing bead except for non-slip material which shall not project more than 2mm. horizontally beyond the gunwale rubbing bead.

Devices transmitting or correlating data relative to wind direction or speed, or boat speed and location, by means such as, but not limited to, electronic, mechanical, hydraulic or pneumatic, shall be prohibited.

24. TRAPEZE

The trapeze shall not be used by more than one person at a time. The trapeze harness or belt shall float when wet and shall not weigh more than 3.5 kg. In local regattas where three persons may be allowed on board under Rule 26, the trapeze shall not be used.

25. EQUIPMENT

The following equipment shall always be carried on board whilst racing: one paddle, at least 1000 mm. in length of 0.4 kg. minimum weight; one hand bailer or bucket; one anchor minimum weight 2 kg. with at least 15 metres of line or cable of 5 mm. minimum diameter; a life jacket or buoyancy vest for every person on board.

26. CREW

There shall be two persons on board when racing (except for local races where three persons may be allowed by the sailing instructions, provided this is advertised in the notice of the race).

27. REGISTERED NUMBER

The registered number shall be obtained from the National Authority and each country shall start its numbering from 'one'. The number shall be shown in figures of 5 mm. minimum height on the official plate fixed approximately on the centreline of the forward face of the aft bulkhead. The builder's serial number and the number of the mould from which the shell came shall be permanently shown on the plate.

28. MEASUREMENT CERTIFICATE

No boat shall be entitled to race or sail as an International Tempest unless the owner holds a valid certificate in his own name as prescribed by the I.Y.R.U. This certificate shall be obtained in the following way:

- (a) Measurement forms and lists of approved measurers may be obtained from the National Authority.
- (b) In the case of a new boat, or one so substantially reconstructed or repaired as to require re-measurement, by sending a measurement form properly completed and signed by an official measurer to the National Authority. A receipt for building fee shall accompany such application.
- (c) On change of ownership by sending the old certificate to the National Authority.
- (d) Replacement or substantially altered sails shall be measured and the details entered on the certificate and signed by a measurer appointed by the National Authority.
- (e) Replacement keels shall be measured as specified on the measurement form, and the details entered on the measurement form, which shall then be sent, together with the certificate, to the National Authority.
- (f) Replacement or rebuilt masts, main booms, spinnaker booms and rudders shall be submitted for measurement before being used. A measurement form need not be used for such items.

29. BUILDING FEE

The building fee shall be on the basis of 3 per cent of the average retail price of the boat in standard form, without sails, in Britain. This fee shall incorporate the designer's fee of 1.5 per cent, the International Tempest Association administration fee of 1 per cent and the International Yacht Racing Union fee of 0.5 per cent.

The amount of the building fee shall always be assessed on the above basis and shall be reviewed and if necessary revised on the recommendation of the International Tempest Association every two years. Up to and including 28th February, 1972, the building fee shall be £28.50. Payment is due to the Honorary Secretary, International Tempest Association, 9 Dormy Close, Sarisbury Green, Southampton, Hampshire, England.

30. TRANSLATION OF THE RULES

In case of differences in the interpretation of these rules when translated into other languages, the English text shall prevail.

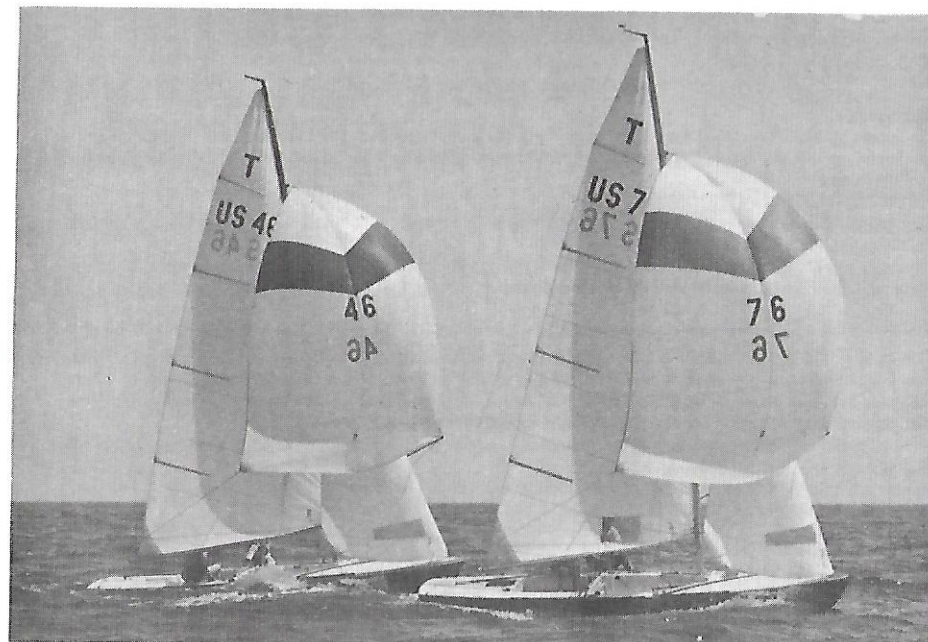
31. RE-MEASUREMENT

All certified boats shall be liable to re-measurement at any time at the discretion of the National Authority or race committee. If a builder is found to have signed a measurement form for a boat that does not measure correctly he shall be liable to rectify the error, and may have his licence as a builder withdrawn.

IMPORTANT NOTE

The sail labels mentioned in Rule 21 (e) can be obtained for 50p each from the Honorary Secretary, International Tempest Association, 9 Dormy Close, Sarisbury Green, Southampton, England.

Peter Nesbeda and Bruce Dyson, fighting it out in the 1970 U.S.A. Nationals
— photo Edwin Hills.



EXTRACTS FROM THE SPECIFICATIONS

EXPLANATORY NOTE

The International Tempest Class Rules 1, 2 and 3 refer to the 'Approved Specifications' to which the boats must be built. The specifications are, of course, issued to all builders, but owners do not normally see them, nor the drawings to which the boat must also conform. The full specifications are very detailed and so, for the convenience of owners, extracts have been taken from them concerning items that could affect the legality of the boats.

It must be emphasised that these extracts are only a small part of the specifications and, though they cover the important items from the owner's point of view, they are not intended to take the place of the full specifications. The paragraph numbering has been unaltered from the original. The full specifications are obtainable from the I.Y.R.U. price 50p. A simplified version of the construction drawings is shown on page 26.

1. GENERAL DETAILS

- (a) The boat is to be built only by Builders currently licensed by the International Yacht Racing Union.
- (c) **Moulds.** The hull and deck mouldings are to be produced from licensed moulds obtained from the official source nominated by the International Yacht Racing Union. The bulkheads and girders may be produced from licensed moulds or from official templates, depending on the construction method employed.

2. MOULDING TECHNIQUES

- (a) **Method.** The boat shall be laminated by the hand lay-up technique. Spray moulding is not acceptable, in view of the difficulty of weight and thickness control of the laminate.

4. MATERIALS

- (ii) **RESIN SYSTEM**
- (a) **Lay-up Polyester Resin.** The material should be an established polyester, suitable for marine use.
- (b) **Gelcoat resin.** The gelcoat resin may be a fully formulated polyester resin by the manufacturer, or the basic lay-up resin, suitably modified by the addition of flexible resin by the moulder.
- (iii) **REINFORCEMENTS**
- (a) **Chopped Strand Mat.** The glassfibre chopped strand mat shall comply with a suitable specification such as BS3496/1962.
- (b) **Woven roving.** The glassfibre woven roving shall comply with a suitable specification such as RP 17 in BS3749/1964 or the equivalent.

5. HULL

The hull shall be produced in an official registered mould. The basic laminate of the hull, less transom, shall be as detailed in Table I, which indicates the approximate resin to glass ratio to be used in each layer. The overall resin to glass ratio of the laminate, not including the gelcoat and internal sealing coat, shall be approximately 2 to 1.

The transom laminate, formed integrally with hull laminate, shall be as detailed in Table II.

The keel and rudder trunking laminates shall be as detailed in Tables III and IV. The keel and rudder trunkings are to be formed integral with the hull laminate.

6. HULL STIFFENING

All hull stiffening shall be carried out with the hull moulding properly supported in its mould or a jig which maintains the correct shape of the hull.

Structural members, formed on the official registered moulds, or using the official templates, will be incorporated for the central spine girders, cockpit floor wing girders, forward central spine, forepeak bulkhead, part bulkhead at fore end of cockpit, and part

bulkhead at aft end of cockpit. In the case of part bulkheads, the flanges may be omitted if preferred, and templates can then be used in place of moulds, but whichever system is adopted, official moulds or templates must be used.

The laminates for these components shall be as detailed in Tables V, VI, VII, VIII, IX and X. Lightening holes may be cut in the central girder, as shown on the construction plan and indicated by the template. None of the apertures shall be closer than 2½ in. (64 mm.) from the lower edge of the girder, or closer than 2 in. (51 mm.) from the upper edge.

Lightening holes may be cut in the cockpit floor wing girders as shown on the drawings and indicated by the template. The shape and position of these holes is important and none of the internal apertures shall be closer than 2 in. from the edges of the girder. The apertures on the lower edges must not exceed 4 in. (102 mm.) width and 2 in. (51 mm.) depth and those on the upper edges must not exceed 4 in. (102 mm.) width and 2 in. (51 mm.) depth.

Flanges are to be preformed on these girders and bulkheads where provided for. In addition to the pre-moulded stiffening members, other stiffening ribs are to be incorporated in the positions shown on the drawings. These may be based on shaped formers of polyurethane or polyvinylchloride foam, density between 3 and 5 lbs. per cubic foot (48 to 80 kg per m³), or any other suitable former to the shape in Detail 'A' in the construction drawings.

Each former will first be covered and laminated into position with a 4 in. (102 mm.) wide strip of 1 oz. (300 gm. per m²) chopped strand mat and resin. Where stiffeners join one another, the formers will be shaped to make a close joint. The top of each former will be shaped to make a close joint. The top of each former will then be covered with ½ in. (13 mm.) wide strip of uni-directional tape, which shall be continuous over all joints. A final 4 in. (102 mm.) wide strip of 1 oz. (300 gm. per m²) chopped strand mat shall be laid over this, particular attention being paid to continuity at joints between stiffeners.

7. DECK MOULDING

The deck and cockpit moulding is to be produced as a single unit in an official registered mould. The laminate will be as specified in Table V.

8. DECK STIFFENING

The deck moulding will be stiffened by members incorporated in the positions shown on the drawings. The foredeck and aft deck members shall be to the sectional shape shown in Detail 'B' on the drawings. The side deck members shall be to the sectional shape shown in Detail 'A' on the drawings. All members may be based on shaped formers of polyurethane or polyvinylchloride foam, density between 3 and 5 lbs. per cubic foot (48 to 80 kg. per m³), or any other suitable former of identical shape. Alternatively, stiffening formers may be premoulded from glass reinforced plastic, as shown on the drawings. All formers shall be tapered for 1 in. at the ends.

9. DECK PADS FOR ATTACHMENT OF FITTINGS

Where heavily stressed deck fittings are sited, the deck laminate shall be reinforced by marine plywood pads of suitable size and thickness. The timber used in the core veneers of these pads should be such as to provide a satisfactory hold to wood screws. The edges of all such pads shall be suitably chamfered or tapered to facilitate matting in.

10. SHROUD PLATE ASSEMBLY

The shroud plate assembly is to be according to the detail drawing No. 4. The hull laminate, along its upper edge is to be reinforced in way of the shroud plates by a layer of 1½ oz. (450 gm. per m²) chopped strand mat 12 in. (305 mm.) wide and extending 8 in. (204 mm.) downwards from the upper edge of the hull, centred approximately on the vertical centre-line of the shroud plate.

13. RIGID FOAM BUOYANCY

Rigid foam buoyancy to the requirements of the Class Rules (see Measurement Rule 20) will preferably be of polyurethane or polyvinylchloride foam, but expanded polystyrene may be used if protected from water absorption. If of polyvinylchloride or polyurethane, this material may be used in slab or pre-moulded form and bonded to the hull or deck and cockpit mouldings, but may not be used in place of the normal structural stiffening previously specified, except that if properly bonded in a suitable position it may replace the aft two side deck stiffeners on both sides, the aft two cockpit floor stiffeners on both

Specifications (continued)

sides, or the outer longitudinal stiffeners of the aft deck. All buoyancy units are to be securely fastened to the hull structure. Buoyancy units or material may not be moulded in situ in assembled hulls.

16. MAST PARTNERS

The mast partners (or brackets for supporting the mast) are to be stiffened by forming a web of two layers of $1\frac{1}{2}$ oz. (450 gm. per m²) chopped strand mat between the longitudinal vertical flanges of the moulding and the transverse vertical flange (as shown on the construction drawing).

17. BRIDGE DECK FOR MAINSHEET TRAVELLER

The track for the mainsheet traveller is to extend beyond the bridge deck moulding and on to the side decks themselves.

The bridge deck is to be braced as shown on the drawings with tubular struts to brackets secured with screws through the cockpit floor into the timber inserts on the centrespine.

18. KEEL SUPPORTING ANGLES

Keel supporting angles are to be of anodised alloy, 'L' shaped, of minimum dimensions as shown on the drawings.

Particular attention should be paid to the positioning of the hole to take the forward lifting strop, sufficient depth of material above the hole being allowed for adequate strength.

19. INSPECTION AND ACCESS PORTS

The hatch covers in the cockpit floor are to be securely fastened with machine screws tapped into a metal ring surrounding the aperture in the floor, and bonded to the underside of the cockpit floor with one or more layers of $1\frac{1}{2}$ oz. (450 gm. per m²) chopped strand mat and resin. The thickness of the ring should be sufficient to take adequate depth of thread of the securing screws. A gasket of suitable material is to be used between the hatch covers and the cockpit floor, to ensure water-tightness (if cellular material is used, it must be of the closed cell type).

Inspection ports are to be provided in the cockpit sides and forward bulkhead to provide access to the fastenings for the bridge deck and mainsheet traveller and associated fittings, to provide access to the shroud plate fastenings and jib sheet fairlead fastenings and other associated fittings, and to provide access to the forward buoyancy chamber and the joints between the drain tubes and their sockets in the underside of the spinnaker well, and in the forward cockpit bulkhead.

All these inspection ports are to be of a type designed to be watertight and must be secured to the deck moulding in a watertight manner.

20. SPINNAKER WELL ASSEMBLY

The spinnaker well is to be secured to the foredeck, using suitable self-tapping screws. The assembly is to be made watertight by the use of a suitable mastic in the joint. Permanent bonding of the well to the foredeck is not recommended, as access to the forward buoyancy chamber by means of removal of the well is desirable in case of repairs to the hull at any time.

22. RUDDER FRAME AND RUDDER

If of timber, the rudder frame is to be as shown on the detailed drawing.

The rudder stock is to be $\frac{1}{2}$ in. (22 mm.) diameter solid stainless steel rod, bent at a suitable angle at its lower end and carrying smaller rods plugged into it, or plates welded to it to secure it within the rudder blade.

The rudder blade may be of plastic or timber.

23. MAIN HATCH

The main hatch is to be stiffened by members running from the corners, as shown on the construction drawing and as specified in Table XVI. The hatch is to be provided with a means of clamping it securely in place on a compressible gasket of suitable type to render the joint watertight.

24. KEEL

The keel bulbs are to be cast in moulds prepared using official bulb patterns. Alternatively, metal moulds officially checked for shape and prepared from the official patterns may be used.

LAMINATE SPECIFICATIONS

TABLE I

Hull only, less transom (approximate area 140 sq. ft.)

(a) Gel coat	2 oz. per sq. ft.	(600 gm. per m ²)
(b) Chopped strand mat	1 oz. per sq. ft.	(300 gm. per m ²)
(c) Woven roving	16.3 oz. per sq. yd.	
(d) Chopped strand mat	$1\frac{1}{2}$ oz. per sq. ft.	(450 gm. per m ²)
(e) Woven roving	16.3 oz. per sq. yd.	
(f) Finishing coat resin (optional)	$1\frac{1}{2}$ oz. per sq. ft.	(450 gm. per m ²)

TABLE II

Transom (approximate area 5 sq. ft.)

(a) Gel coat	2 oz. per sq. ft.	(600 gm. per m ²)
(b) Chopped strand mat	$1\frac{1}{2}$ oz. per sq. ft.	(450 gm. per m ²)
(c) Chopped strand mat	$1\frac{1}{2}$ oz. per sq. ft.	(450 gm. per m ²)
(d) Finishing coat resin (optional)	$1\frac{1}{2}$ oz. per sq. ft.	(450 gm. per m ²)

TABLE III

Keel Box

(a) Gel coat	2 oz. per sq. ft.	(600 gm. per m ²)
(b) Chopped strand mat	$1\frac{1}{2}$ oz. per sq. ft.	(450 gm. per m ²)
(c) Chopped strand mat	$1\frac{1}{2}$ oz. per sq. ft.	(450 gm. per m ²)
(d) Chopped strand mat	$1\frac{1}{2}$ oz. per sq. ft.	(450 gm. per m ²)
(e) Finishing coat resin (optional)	1 oz. per sq. ft.	(300 gm. per m ²)

TABLE IV

Rudder Box

(a) Gel coat	2 oz. per sq. ft.	(600 gm. per m ²)
(b) Chopped strand mat	$1\frac{1}{2}$ oz. per sq. ft.	(450 gm. per m ²)
(c) Chopped strand mat	$1\frac{1}{2}$ oz. per sq. ft.	(450 gm. per m ²)
(d) Finishing coat resin (optional)	1 oz. per sq. ft.	(300 gm. per m ²)

TABLE V

Deck and Cockpit

This forms a single moulding but the laminate is not the same throughout. The early layers of the laminate are used throughout the moulding, but in the cockpit floor, and fore and aft cockpit bulkheads, the subsequent layers of laminate vary from those used in the general surface of deck and cockpit sides.

(i) Early layers of laminate common to all parts of moulding.		
(a) Gel coat	2 oz. per sq. ft.	(600 gm. per m ²)
(b) Chopped strand mat	1 oz. per sq. ft.	(300 gm. per m ²)
(c) Chopped strand mat	1 oz. per sq. ft.	(300 gm. per m ²)
(ii) Subsequent layers in cockpit floor		
(d) Chopped strand mat	$1\frac{1}{2}$ oz. per sq. ft.	(450 gm. per m ²)
(e) Chopped strand mat	1 oz. per sq. ft.	(300 gm. per m ²)
(iii) Subsequent layers in cockpit fore and aft bulkheads		
(d) Chopped strand mat	1 oz. per sq. ft.	(300 gm. per m ²)
(iv) Subsequent layers in remainder of deck and cockpit sides		
(d) Chopped strand mat	1 oz. per sq. ft.	(300 gm. per m ²)
(e) Woven roving	16.3 oz. per sq. yd.	

TABLE VI

Forepeak bulkhead

(a) Chopped strand mat	1 oz. per sq. ft.	(300 gm. per m ²)
(b) Chopped strand mat	1 oz. per sq. ft.	(300 gm. per m ²)

TABLE VII

Forward Part-Bulkhead

(a) Chopped strand mat	$1\frac{1}{2}$ oz. per sq. ft.	(450 gm. per m ²)
(b) Chopped strand mat	1 oz. per sq. ft.	(300 gm. per m ²)
(c) Below level of cut-out portion only: Chopped strand mat	1 oz. per sq. ft.	(300 gm. per m ²)

LAMINATE SPECIFICATIONS (continued)

TABLE VIII

Aft Part-Bulkhead

(a) Chopped strand mat	1 oz. per sq. ft.	(300 gm. per m ²)
(b) Chopped strand mat	1 oz. per sq. ft.	(300 gm. per m ²)
(c) Below level of cut-out portion only: Chopped strand mat	1½ oz. per sq. ft.	(450 gm. per m ²)

TABLE IX

Centre spine (2 parts)

(a) Chopped strand mat	1½ oz. per sq. ft.	(450 gm. per m ²)
(b) Chopped strand mat	1½ oz. per sq. ft.	(450 gm. per m ²)
(c) Chopped strand mat	1½ oz. per sq. ft.	(450 gm. per m ²)

TABLE X

Forward Spine

(a) Chopped strand mat	1½ oz. per sq. ft.	(450 gm. per m ²)
(b) Chopped strand mat	1½ oz. per sq. ft.	(450 gm. per m ²)

TABLE XI

Wing Girder (2 off)

(a) Chopped strand mat	1½ oz. per sq. ft.	(450 gm. per m ²)
(b) Chopped strand mat	1½ oz. per sq. ft.	(450 gm. per m ²)

TABLE XII

Spinnaker bin

(a) Gel coat	2 oz. per sq. ft.	(600 gm. per m ²)
(b) Chopped strand mat	1 oz. per sq. ft.	(300 gm. per m ²)
(c) Chopped strand mat	1 oz. per sq. ft.	(300 gm. per m ²)

TABLE XIII

Floor hatch covers (2 off)

(a) Gel coat	2 oz. per sq. ft.	(600 gm. per m ²)
(b) Chopped strand mat	1½ oz. per sq. ft.	(450 gm. per m ²)
(c) Chopped strand mat	1½ oz. per sq. ft.	(450 gm. per m ²)

TABLE XIV

Mainsheet track bridge

(a) Gel coat	2 oz. per sq. ft.	(600 gm. per m ²)
(b) Chopped strand mat	1½ oz. per sq. ft.	(450 gm. per m ²)
(c) Chopped strand mat	1½ oz. per sq. ft.	(450 gm. per m ²)
(d) Chopped strand mat	1½ oz. per sq. ft.	(450 gm. per m ²)

TABLE XV

Mast partners (or mast bracket)

(a) Gel coat	2 oz. per sq. ft.	(600 gm. per m ²)
(b) Chopped strand mat	1½ oz. per sq. ft.	(450 gm. per m ²)
(c) Chopped strand mat	1½ oz. per sq. ft.	(450 gm. per m ²)
(d) Chopped strand mat	1½ oz. per sq. ft.	(450 gm. per m ²)

TABLE XVI

Main hatch

(a) Gel coat	2 oz. per sq. ft.	(600 gm. per m ²)
(b) Chopped strand mat	1 oz. per sq. ft.	(300 gm. per m ²)
(c) Chopped strand mat	1½ oz. per sq. ft.	(450 gm. per m ²)
(d) Stiffeners bonded to wet laminate		
(e) Unidirectional tape on apex of stiffeners		
(f) Chopped strand mat overall	1½ oz. per sq. ft.	(450 gm. per m ²)

NOTE

Close variations to the above laminate specifications may be permitted in cases where the specified materials are difficult or unduly expensive to obtain. In such cases, the builders must specify their preferred specification for approval by the I.T.A. and I.Y.R.U. On no account may an unapproved laminate specification be used. Variations which are widely different from the official specifications, producing different weight or stiffness characteristics, will not be approved.

REGISTRATION AND OBTAINING A CERTIFICATE

The I.Y.R.U. Rules and the Rules of the International Tempest Class insist that no boat shall race as a Tempest unless a valid certificate of registration is held.

The rules also insist that every Tempest hull and keel shall be manufactured by one of the officially Licensed Builders and that all assembled hulls and keels shall be measured before leaving the Licensed Builder's premises and be sold with a measurement form completed in respect of these parts. Other measurements concerning the finishing and fitting out of the hull, the spars and the sails may be taken after the boat leaves the premises of a Licensed Builder.

This measurement procedure is designed to operate in conjunction with the arrangements for Tempest building, which allow for three categories of builder, as described in the notes on Tempest Building on page 47 of this handbook. The official Measurement Form (revised March 1971) divides the measurements into five groups, which fit in conveniently with the different stages of construction in which the boat may be sold. The Measurement Form clearly describes the procedure for measurement and obtaining a Certificate.

The requirements, which may not be familiar in some countries, are as follows:

1. The boat must carry its national letters and a sail number for its own country (sail numbers commence at 1 and should be issued consecutively, leaving no gaps).
2. The following documents are required to accompany the application for a certificate:
 - (a) Measurement forms for hull, keel, spars and sails.
 - (b) Foundry's certificate for weight of keel bulbs.
 - (c) A receipt showing that the building fee has been paid (in accordance with Rule 29).

An owner should not accept a boat from a Licensed Builder unless it is accompanied by a completed measurement form for assembled hull and keel and the receipt for the building fee. The receipt for the building fee is issued by the International Tempest Association Secretary and no other form of receipt is valid. Owners and Measurers should check that the details on the receipt are the same as those shown on the official plate on the aft bulkhead of the boat, and those on the Measurement Form.

In most cases the documents will be sent to the National Authority or the Tempest Association in the country concerned and a certificate will be issued in exchange. If no National Authority or no Tempest National Association exists, the documents should be sent to the International Tempest Association Secretary (9 Dormy Close, Sarisbury Green, Southampton, England) and a certificate will be issued by him.

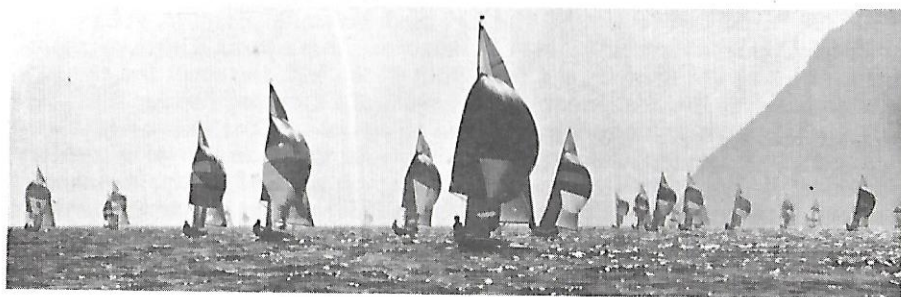
Sometimes builders may ask for the return of the receipt for the building fee, and in this case it must be cancelled by the National Authority, or other authority issuing the certificate and the sail number entered on it.

The certificate must show details of all measured sails. These can be entered and endorsed either by a National Authority on sight of the measurement form, or by the measurer. If sails are altered they should be remeasured and the entry on the certificate counter-signed by the measurer, with the date.

If any alterations affecting the measurements, except to the sails, are made, a

part-completed measurement form should be sent to the National Authority or Class Association together with the boat's certificate.

Blank certificates, measurement forms and keel bulb certificates may be obtained from the International Yacht Racing Union (5 Buckingham Gate, London, S.W.1), by the National Authorities and others authorised by the I.T.A. or I.Y.R.U. to issue them.



NOTES FOR THE GUIDANCE OF MEASURERS

GENERAL

The measurement of International Tempests falls into seven general categories.

1. Application of templates to moulds received from mould manufacturer and prior to use by boat builder.
2. Application of templates to assembled hull and measurements to hull from base line.
3. Application of templates to keel bulbs.
4. Measurements on hull principally concerning deck and fittings.
5. Weighing hull and keel.
6. Measurement of spars.
7. Measurement of sails.

Measurements in categories 1 and 2 above have to be carried out before the hull leaves the premises of the officially Licensed Builder who moulds and assembles the hull. Measurements in category 3 have to be carried out before the hull and keel leave the premises of an officially Licensed Builder, who need not necessarily be the moulder and assembler of the hulls. Measurements in categories 4, 5 and 6 do not have to be taken on the premises of a Licensed Builder.

METHOD

As all assembled hulls in this class have to be measured before leaving builders' premises, and building rights are limited to relatively few builders, it is assumed that a fairly large number of hulls will be measured on each builders' premises,

probably by the same Measurer. It is strongly recommended, therefore, that a measurement jig is set up, into which the boat can be placed for the quick and accurate application of hull templates and measurement of keel rocker.

It will be seen that the hull measurement plan recommends that the hull centreline is properly supported during measurement to prevent possible flexion or distortion.

The measurement jig should support the hull in the attitude shown on the measurement drawing, and vertical flat surfaces at right angles to the hull centreline should be provided at the measurement points for H1, H2, H3, H4 and H5. The templates can then lie flat on these surfaces when being applied to the hull.

The stem template H6 can also be supported from the measurement jig and also the measurement post at the stern.

MEASUREMENT FORM

1. The Measurer is required to take all the measurements on the measurement form relating to the hull assembly and keel (nominated as 'Assembled Hull' and 'Keel' Measurements on the measurement form) before these leave the builders' premises. He is not required to measure the 'Finished Hull' items or the spars or sails at this time, although if they are available it will be more convenient to do so. *No Licensed Builder is allowed to sell Tempests without a completed measurement form for the hull and keel.*

2. The mast maker is required to stamp the weight and centre of gravity on the mast before it leaves his works. The Measurer may, at his discretion, accept the recorded weight and c.g. without re-measuring, having first measured a random sample from that maker. It is recommended that the Measurer carries out random checks periodically.

3. The measurements itemised on the measurement form do not cover every measurement for the class, and the Measurer is not expected to take every measurement mentioned in the rules on each boat. He should check these points occasionally in order to be reasonably satisfied that the boat conforms with all the Rules.

4. If the spars and sails are not available for measurement at the time when the hull is measured, the measurements relating to these may be shown on a separate measurement form.

MEASUREMENT PLAN

This is intended to indicate the points from which measurements are taken.

Some measurements are shown on this plan which are not mentioned on the measurement form and which do not have to be taken by the Measurer on each boat, although they form part of the measurement rules and should be checked on random boats periodically.

SAIL MEASUREMENTS

Measurers are to refer to the Class Rule 21 and to the official sail plan for methods of measuring sails.

BUILDER'S SERIAL NUMBER

The Measurer's attention is drawn to measurement rule 27 stating that the builder's serial number and number of the mould from which the shell is produced is to be prominently shown on the Official Plate on the outer face of the aft bulkhead. The Measurer should check that the details on the receipt and measurement form are the same as those on the official plate.

CHAMPIONSHIP RULES

These Rules are presented as a draft, for consideration during 1970 and approval at the 1970 Annual General Meeting.

1. GENERAL

The International Tempest Association has the overall responsibility for organising World Championships, Continental Championships, Tempest Weeks and National Championships, in co-operation with National Tempest Associations and the National Yachting Authorities of different countries.

These sailing events will be held under the following general rules:

2. CONDITIONS

All championship races will be sailed under the current I.Y.R.U. rules (excluding prescriptions of National Authorities) and rules of the International Tempest Class and International Tempest Association (except where specifically amended in the Sailing Instructions).

3. FREQUENCY OF CHAMPIONSHIPS

- (a) The World Championships will take place each year.
- (b) Continental Championships will take place each year.
- (c) National Championships will take place each year.

4. SIZE OF CHAMPIONSHIP FLEETS

- (a) (i) At World Championships two boats per country, and the preceding world champion, may compete.
- (ii) Where a country has a proportionately large number of Tempests, the I.T.A. Committee may, at its own discretion, increase the basic allocation of competitors from that country. (The basic allocation of competitors from U.S.A. is six).
- (iii) The allocation of boats from the country acting as championship host may be doubled.
- (b) At Continental Championships, the number of boats admitted to the championship will be unlimited unless a limitation is specifically imposed by the I.T.A. committee.
- (c) At National Championships the number of boats admitted to the championship will be unlimited, unless a limitation is specifically imposed by the national authority.

5. QUALIFICATIONS FOR REPRESENTATION

- (a) A representative of a country competing in the World Championships must be a citizen of that country or a *bona fide* member of a yacht club of that country.
- (b) Helmsmen in World, Continental and National Championships shall be full members of the I.T.A.

6. ELIGIBILITY OF BOATS

All boats entered for World, Continental or National championships must be in accordance with the rules and regulations of the International Tempest Class and must have a valid certificate. The Measurement Committee have the right to have all boats or sails, etc., wholly or partially remeasured. If deviations from the rules are found, the boat will not have the right to participate in Tempest races until after a further official remeasurement, is completed to the satisfaction of the Measurement Committee.

7. NUMBER OF RACES IN CHAMPIONSHIPS

- (a) At World Championships the number of races to be sailed in the series will be 6.
- (b) At Continental Championships the number of races to be sailed will be 5.
- (c) At National Championships it is recommended that the minimum number of races shall be 5, but the national authority may reduce this number at its discretion.

8. SCORING SYSTEMS

- (a) At World Championships the Olympic low points scoring system shall be used. Each entrant shall exclude one race from his final score, except that when only three races are completed, all three shall count. If less than three races are completed, the championship shall be null and void.

- (b) At Continental Championships the Olympic low points scoring system shall be used. Each entrant shall exclude one race from his final score, except that when only three races are completed, all three shall count. If less than three races are completed, the championship shall be null and void.
- (c) At National Championships the scoring system is at the discretion of the national Tempest Association or national yachting authority concerned. It is recommended that the Olympic low points scoring system is used.

9. COURSES

- (a) At World Championships the current Olympic type course shall be used, based on an Olympic circle of two miles in diameter. The course shall be approximately 15.6 miles (25 kilometres) in length. At the discretion of the I.T.A. Committee, in conjunction with the authority organising the Championship, the length of the course may be reduced. No part of the course should be nearer than $\frac{1}{4}$ -mile (0.4 kilometres) from the shore.
- (b) At Continental Championships the course shall be at the discretion of the organising authority, but shall be approximately 15.6 miles (25 kilometres) in length.
- (c) At National Championships the course shall be at the discretion of the organising authority. It is recommended that the length of the first leg of the course shall not be less than 0.5 miles (0.8 kilometres).

10. SHORTENING COURSE

- (a) At World Championships, the course may be shortened at the discretion of the race officer under I.Y.R.U. Rule 5 if he considers the full course cannot be completed in about 6 hours. Any race in which less than 4 legs of the course are completed shall be null and void.
- (b) At Continental Championships the course may be shortened at the discretion of the race officer under I.Y.R.U. Rule 5 if he considers the full course cannot be completed in about 6 hours. Any race in which less than 4 miles of the course are completed shall be null and void.
- (c) At National Championships the course may be shortened at the discretion of the race officer under I.Y.R.U. Rule 5 if he considers the full course cannot be completed in about 4 hours. The conditions under which races may be declared null and void shall be at the discretion of the organising authority, but shall be clearly stated in the sailing instructions.

11. STARTING LINES

- (a) At World Championships the starting line must be laid out at approximately right-angles to the first leg of the course. At the time of the first preparatory signal the first leg of the course shall be as near as possible to windward.
- (b) At Continental Championships the starting line must be laid out at approximately right-angles to the first leg of the course. At the time of the first preparatory signal the first leg of the course shall be as near as possible to windward.
- (c) At National Championships the starting line shall be laid out as nearly as possible at right-angles to the first leg of the course.

12. LENGTH OF STARTING LINE

- (a) At World Championships the starting line shall not be less than the total length of all boats entered, plus 25%.
- (b) At Continental Championships the starting line shall not be less than the total length of all boats entered, plus 25%.
- (c) At National Championships the length of the starting line shall, whenever possible, conform to the standards for the World Championships, but shall be at the discretion of the organising authority.

13. MANAGEMENT

- (a) The management of both World and Continental Championships shall be divided as under:
 - (i) The Host National Association will select, sufficiently in advance, a suitable Yacht Club to hold the event, with the agreement of the I.T.A. Committee

- (b) The Organising Committee shall be appointed by the Yacht Club or Yachting Association entrusted by the Host Association with the event. It must include at least one officer of the Host Association.

The Organising Committee is responsible for the general management of the Championships, including the safety measures, and under the jurisdiction of these rules.

The Organising Committee shall submit Preliminary Notices for the approval of the I.T.A. Committee at least 6 months before the Championships. The contents of these Notices shall be in accordance with the recommendations of the I.Y.R.U. 'Memorandum of Guidance on the Organisation of Principal Events'.

The Organising Committee shall submit the Sailing Instructions and Final Notice for approval of the I.T.A. Committee at least three months before the Championships. The contents of these notices shall be in accordance with the recommendations of the I.Y.R.U. 'Memorandum of Guidance on the Organisation of Principal Events'.

The official language for the Sailing Instructions shall be English. It is desirable that translations into the language of the competing helmsmen shall be provided, but if this is not done, Sailing Instructions should be provided to all competing helmsmen at least four weeks prior to the event so that they may make their own translations.

It is the intention that all decisions concerning measurements, protests and these rules shall be final. The Organising Committee shall, therefore, obtain specific approval from its National Authority for the decisions of the Measurements, Protest and Class Committees to be final.

After the Championships it shall submit a report to the I.T.A. Committee on the operating of the Championship Rules and any recommendations for their improvement.

- (c) The Race Committee has the authority and duties as laid down in Part II of the I.Y.R.U. Rules. The Race Committee shall be appointed by the Organising Committee.

The Race Committee should discourage all attempts towards team racing.

- (d) The Class Committee shall represent the I.T.A. at the Championship.

Each competing country which is eligible for representation on the I.T.A. Committee shall appoint a Class Committee Member, who shall be a Full Member of the I.T.A. and preferably a member of the I.T.A. Committee.

The Chairman of the Class Committee shall be an International Tempest Class Officer appointed by the I.T.A. Committee and preferably shall be the Chairman of the I.T.A.

The names of the Class Committee officers will be given to the Organising Committee by the I.T.A. Committee.

The Chairman of the Class Committee shall co-operate with the Host Association and the Organising Committee to ensure that an Official Class Measurer is available during the whole of the event, with adequate measuring equipment.

Class Committee members shall decide on all matters concerning the interpretation of the Championship and Class Rules, the English edition of which will prevail in case of ambiguity.

The Class Committee shall, in conjunction with the Organising Committee, be responsible for establishing the order of the competitors at the end of the Championships, and its decision shall be final. It shall ensure that these results are announced officially.

- (e) The Measurement Committee shall be appointed by the Class Committee. It shall include an Official Class Measurer with adequate measuring equipment.

The Measurement Committee shall submit to the I.T.A. Committee a report of its official activities, and any deviations from the Class Rules which it found.

- (f) The Protest Committee (Jury). The Chairman of the Protest Committee(s) and Protest Committee(s) Members shall be chosen by the Organising Committee with the approval of the Class Committee. The Protest Committee Officers shall be persons fully conversant with I.Y.R.U. Racing Rules and their attitudes and judgements shall not be that of interested parties.

It is suggested that the Protest Committee includes a representative of the National Yachting Authority of the host country and follows the general procedures as outlined in the I.Y.R.U. 'Terms of Reference of an International Jury'.

14. PRIZES

In all Championship races, prizes shall be awarded to helmsmen and crew of the first 10% of competing boats, with a minimum of prizes for three boats. Prizes for final points shall be awarded to helmsmen and crew of the first 15% of competing boats, with a minimum of prizes for five boats. It is suggested to Host Associations that souvenirs shall be presented to all participants in World Championships.

TEMPEST BUILDING AND PROCEDURE FOR OBTAINING A BUILDING LICENCE

GENERAL There are three categories of builder for the Tempest. The Measurement Form is arranged to make it convenient for boats completed by each category to be properly measured at each stage of construction.

CATEGORIES OF BUILDER

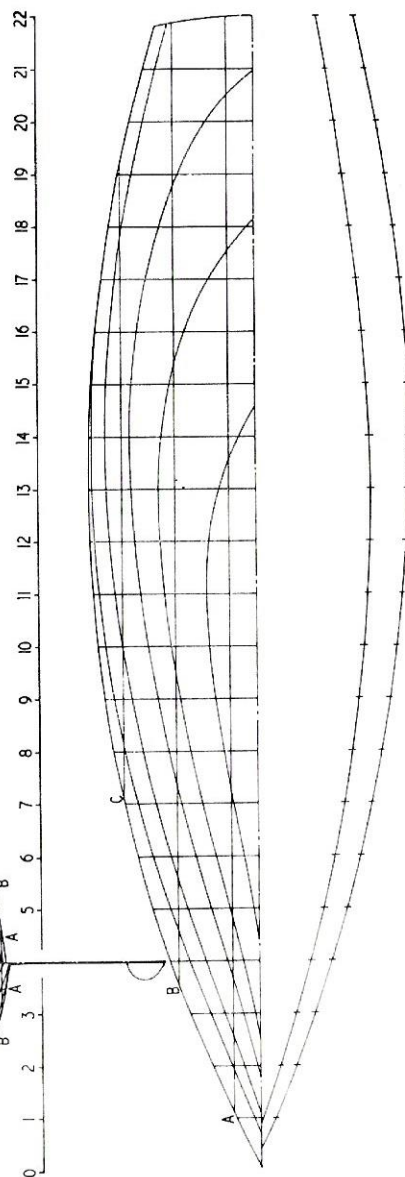
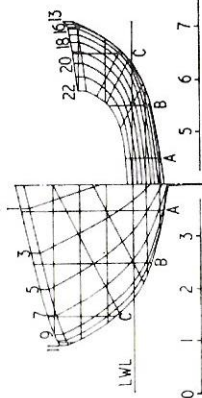
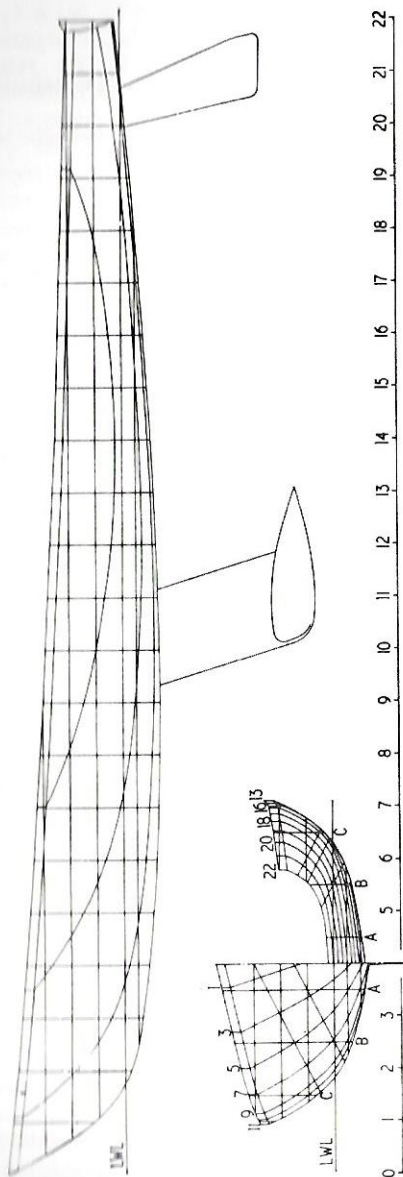
1. Professional builders who mould Tempest hulls, decks, etc., and assemble them. They must hold an official licence to build Tempests from the I.Y.R.U. All hull and deck mouldings must be assembled and be officially measured before leaving their premises, but may then be sold for completion by other builders licensed by the I.Y.R.U., or to amateur builders to complete for their own use. This category of builder may also produce and market completed Tempests.
2. Professional builders who have an official Tempest building licence from the I.Y.R.U. but who purchase assembled mouldings from Builders in category (1) and complete them or sell them to amateurs to complete for their own use.
3. Amateur builders who purchase partially built boats and keels from the licensed builders in category (1) or (2) and complete them for their own use. They do not require a licence to build Tempests.

PROCEDURE FOR APPLYING FOR A LICENCE

- (a) The builder applies to the International Tempest Association, 9 Dormy Close, Sarisbury Green, Southampton, England.
- (b) The International Tempest Association acknowledges receipt of the application to build Tempests and informs the builder of the cost of the moulds and templates, the delivery time, and sends a copy of the building specifications, abridged buildings plans and rules.
- (c) The International Tempest Association writes to the National Yachting Authority in the country concerned, asking if the builder is considered to be:
 - (i) suitably placed to be reasonably near to the main sailing centres likely to be interested in Tempests, but not so near to any other builder of Tempests as to be in direct competition.
 - (ii) to be a reliable source of boats, able to provide a continuing delivery of boats and the necessary service.
 - (iii) to the best of the Authority's knowledge, a builder with a good reputation for reinforced plastic construction of boats of similar type to the Tempest.

If the National Yachting Authority consider the builder suitable:

- (d) The builder is asked to have his building facilities and production methods inspected by a Lloyds' surveyor or representative of a similar classification society (if not already on Lloyds Approved List).
- (e) At the same time as (c) the builder is sent a copy of the standard form of Agreement between the International Yacht Racing Union and any builder of the Tempest.
- (f) If the results of (c) are satisfactory and the Agreement for a Building Licence is acceptable, the builder informs the International Tempest Association, which then asks the International Yacht Racing Union to issue a licence. One



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there's a
lot of
craft in **TBA**
glass fibre


Ian Proctor designed 'Tempest'—and
the TBA Glass Fibre Division Technical
Services team helped to solve
the tricky strength/weight problem.

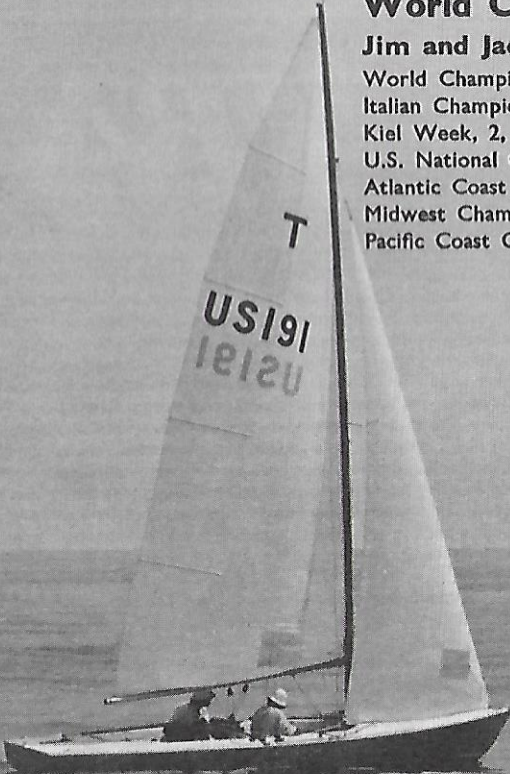
The wider range of glass fibre that enabled TBA to make
an important contribution to the development of the
Tempest is the big advantage TBA have to offer all
glass fibre users.

Additionally every report submitted by TBA on moulding
problems is accompanied by samples—so that you can
test for yourself before you commit yourself.

TBA

Glass Fibre Division
Turner Brothers Asbestos Co. Ltd.
Rochdale, England


 **TURNER
& NEWALL
LIMITED**



World Champions 1970
Jim and Jack Linville
 World Championship, 1, 2, 4.
 Italian Championship, 1, 2, 3, 5, 6.
 Kiel Week, 2, 3, 4.
 U.S. National Championship, 1st.
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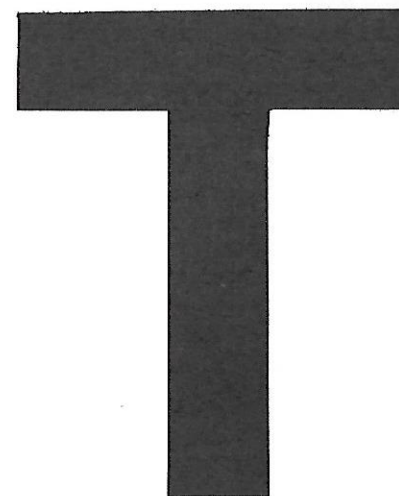
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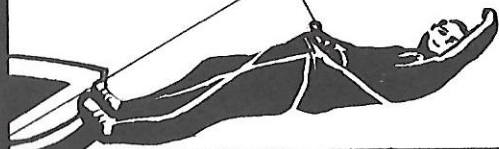
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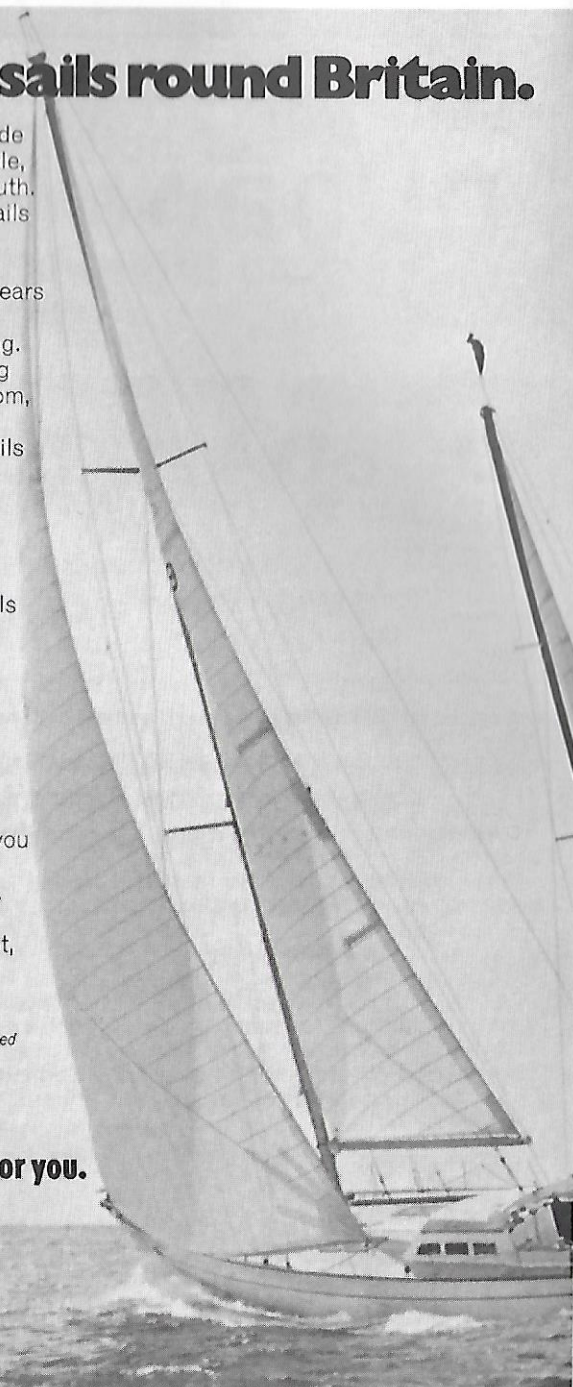
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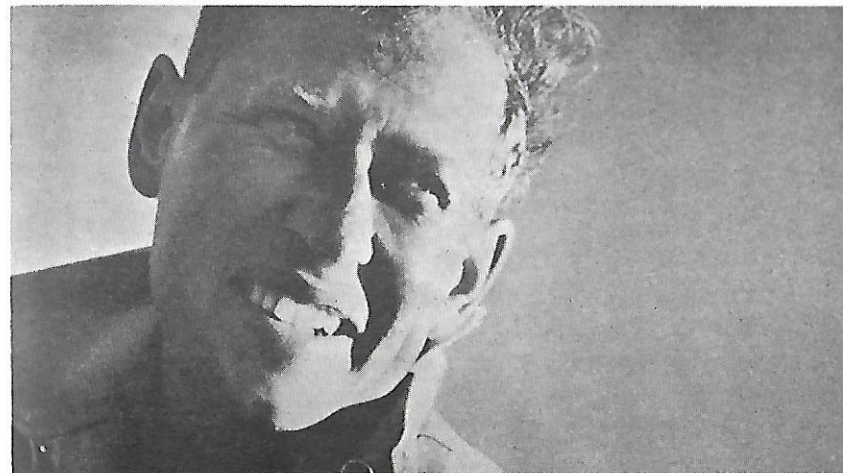
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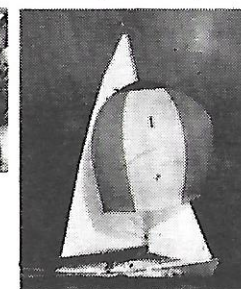
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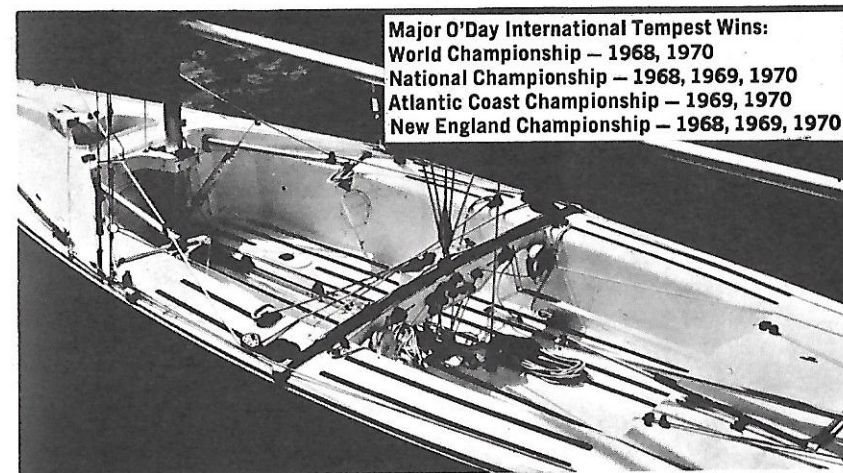
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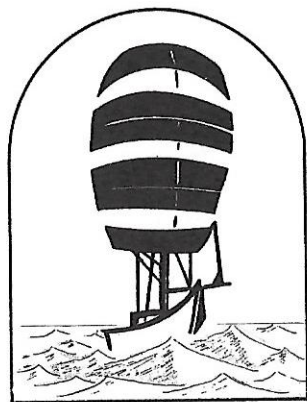
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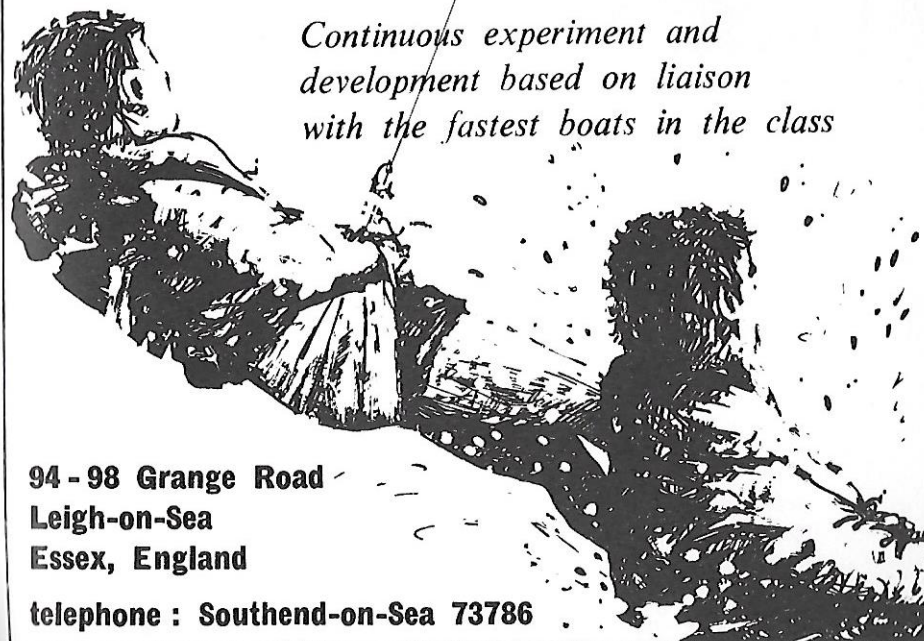
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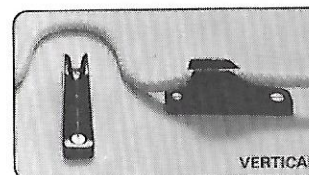
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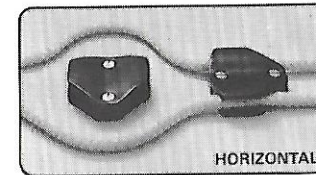
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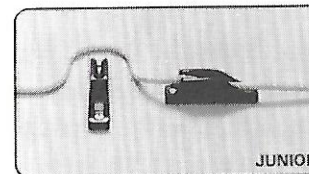
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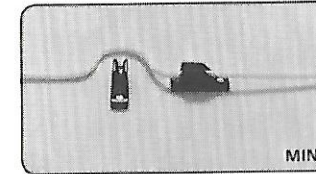
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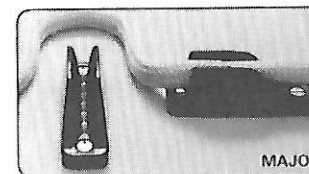
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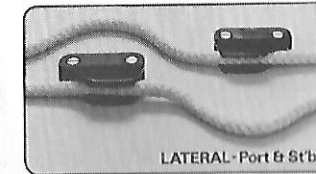
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(Even if you don't sail a Tempest, you ought to know.)

None of our sailmakers at any North loft actively races a Tempest. How, then, have we developed so much secret information about this hot new boat to have allowed us to build unquestionably the fastest* Tempest sails in the world?

The fact is we *don't* have any secret inside information about the Tempest. The real reason that North sails are faster in so many classes is simply that there are more people of greater ability spending more time and effort to make them faster. We do a better job of finding out what the proper shape should be by a combination of scientific research, theoretical analysis, and, finally, boat for boat testing. We do a better job of making sure that the shape we have developed for a class is in every sail we build by cutting the sails from precise plastic templates and by careful and precise control of the cloth we use. No other sail-

maker begins to have our background of cloth testing or the volume to justify purchases of large amounts of cloth, guaranteeing that all of the sails in a certain class will be built of identical cloth. In short, making faster sails is like doing anything else better. There is no magic answer . . . just lots of hard work by people who really care.

Let's face it. We have a record no other sailmaker can match. This year in the six Olympic classes, North sails won three World's Championships and were second in two others. In the Star World's, 8 out of the first 10 finishers used our sails; in the Soling World's, 4 out of the first 10; and in the Tempest World's, 6 out of the first 10. Ask your sailmaker how his record compares.

Or better yet, let North become your sailmaker. All it takes is a collect call to our nearest loft.



*This is how Tempests using North sails did in 1970.

World's Championship	1st, 2nd, 4th
U.S. National Championship	1st
Italian National Championship	1st, 2nd, 3rd, 5th, 6th
Atlantic Coast District Championship	1st
Pacific Coast District Championship	1st
Midwest District Championship	1st
Kiel Week	2nd, 3rd, 4th

NORTH SAILS

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