NUMBER 86 FEBRUARY, 1977

AVRS

AYRS

O.S.T.A.R 1976 and Multihull Safety





"JESTER" - Michael Richey

THE AMATEUR YACHT RESEARCH SOCIETY (Founded, June 1955 to encourage Amateur and Individual Yacht Research)

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O.S.T.A.R. 1976 AND MULTIHULL SAFETY

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EDITORS NOTES

by Mike Hardcastle

O.S.T.A.R. 1976 was sailed in particularly bad weather conditions. Possibly due in part to these conditions, it is the first O.S.T.A.R. in which lives have been lost. It is also the first O.S.T.A.R. (and will be the last, because the rules have been amended for 1980) in which a ship was entered; at 236 ft. long, Club Mediterranee is more than 23 ft. longer than Cutty Sark. The rights and wrongs of the entry should not be discussed here, enough words have been written already, but the success of the race has been largely due to a shortage of rules, and a complication of restrictions and classes would seem to be far removed from Blondie Haslers original idea. Perhaps if the rules stated that entrants had to weigh anchor and set sail single-handed, the giants would be removed without a length restriction and the race might add to shorthanded cruising safety, which is certainly what "Jester" was about.

I read in my "Observer" this morning (19th December, 1976) that a French single-handed transatlantic race is planned to rival O.S.T.A.R. The first racefrom France to the West Indies-starts in November, 1978. There will be no size limits and any navigation system will be allowed.

It is very sad to have to report the deaths of Mike Flagan and Mike McMullen.

Mike Flagan's boat was found sailing without him on 30th June.

Mike McMullen's death seems even more tragic, following so shortly after the death of his wife, Lizzie.

Three Cheers was reported as simply:

Missing, presumed lost.

STRUCTURAL FAILURE is one aspect of MULTIHULL SAFETY which concerns me and I'm sure other A.Y.R.S. engineers more than any other. When a professionally designed and built craft such as Kriter III can break up and sink after relatively few sea miles, the basic concepts of structural design of multihulls are in question. I would not presume to give advice to professionals, but for amateur designers a good aid to do it yourself stressing is "Formulas for Stress and Strain" by R. J. Rourk. McGraw Hill, 1954. Price approximately £8.00 (paperback). This book is as good a stressmans bible as you will find.

MAINLY FOR NORWEGIAN MEMBERS. The Norsk Flerskrog Seilklubb, C/o Civ. Ing. Helge Ingeberg, A.S., P.O. Box 2644, St. Hanshaugen, Oslo 1,

Norway is thriving and seems to have a special interest in multihulls. They are planning a Scandinavian Multihull Gathering in July 1977 and expect at least 30 boats; tentative dates, 16th and 17th July. More details from Chairman-Helge Ingeberg.

CANOES OF OCEANIA by Haddon and Hornell was reprinted in 1975 by the Bishop Museum Press, Honolulu at S 25 (3 volumes in one), the price does not include postage.

MARY C. DUNGAN of 4 Aisha El Taymouriya, Garden City, Cairo, Egypt. is putting together a market survey to assess the demand for high quality cotton cloth in various weights for sailmaking. If anyone is interested in cotton sail cloth to the highest possible specification from Egypt, please contact her direct.

M.O.C.R.A. AZORES RACE will start in Plymouth on the 31st July, 1977 and finish at Horta, Faial. The race is open to any seaworthy yacht having an overall length over 26 feet but under 70 feet. Crews must number at least 3. Applications to be received at Drayton Lodge, Hermitage, Newbury, Berkshire, England, as soon as convenient, and not later than 2nd July, 1977. Applications to be made on the Standard Entry Form available from that address.

SANDY MUNRO of Random Thatch, Milton Clevedon, Shepton Mallet, Somerset, will be offering his new Prout built cat., "Ocean Highlander II" for charter (bare boat to those suitably qualified) in 1977.

THE SLOCUM SOCIETY was founded 21 years ago in September, 1955 by Richard Gordon McCloskey. Enquiries for the U.K. and Ireland can still be made through Mike Hardcastle, 5 Oakwood Close, Grendon, Atherstone, Warks. CV9 2BU.

FOR SALE from Eric Morton Davis, 34 Douglas Road, Kilburn, London N.W.6, two Benyon Tinker inflatable floats (14' 0" long) and 6 aluminium beams to fit the alloy brackets on the floats. The beams fit together by means of wood plugs to give three 12' 0" lengths, when assembled. Asking price, £130.00.

WANTED by Paul Dearling, The Cottage, Leigh, Sherbourne, Dorset. 21'0" length of 3" diameter (external) Aluminium tubing for a mast.

NEW CRUISING CAT from Lucander Designs, P.O. Box. 3184, Brownsville, Texas 78520, U.S.A. called "Lazy Cat." This 33' 0" long x 19' 9" beam x 2' 6" draft boat has hoods "Stoway" masts, centreboard between hulls, single midships rudder and twin 6 H.P. Saab diesels.

THE JOURNAL OF FERROCEMENT is published quarterly in association with the New Zealand Ferro Cement Marine Association, P.O. Box 26073, Auckland 3, New Zealand. Subscription charges are NZ s10 for 1 year, NZ s 19 for 2 years. Charges reduce for multiple copies sent to one address.

RAOUL HAFNER, C. Eng. F.R.Ae. S. read a paper at a meeting of the Small Craft Group of the Royal Institution of Naval Architects on 21st April, 1976, entitled, "A Novel Method to Achieve Optimum Sailing Performance." The following excerpt is a good synopsis: "By recording regularly as points on the charts the sailing performance in various states of sea and wind a graphic record of the overall performance of the vessel is obtained which is a valuable guide in subsequent operations. In offshore races, in particular, the object is then mainly to beat one's own past performance, rather than race a nearby competitor. Such a record is also valuable when obtaining new sails or making modifications, because it establishes quantitatively the gain or loss made in performance."

SAFETY WITH TOOLS. Perhaps some good can come out of other people's tragedy, Michael Ellison wrote the following:

"Briefly, Liz McMullen dropped an electric power tool into shallow water in which she was standing and was electrocuted when she picked it up. We do not know the full details, but please note that a 5 amp fuse is enough for nearly all power tools and that a portable generator can give the same shock as the mains supply. My own tools were fitted with 13 A fuses and I have observed many yachtsmen using them near water. They are only safe while the user is aware of the danger."

GULF STREAMER was picked up intact by a Russian Ship in October, 1976 and taken to Odessa. In the meantime, Phil Weld is having another Newick tri. built in Michigan. She is to be called "Rogue Wave."

DEVONPORT (AUCKLAND) YACHT CLUB are organising a race, based on the "Round Britain" for Keel Yachts with a crew of two, to sail round the North Island of New Zealand. The race starts on 12-2-77 and they hope that it will be started by the Duke of Edinburgh.

A NEW SINGLE-HANDED RACE for boats of less than 6.5 m. L.O.A. from Plymouth to Antigua has been announced by Bob Salmon, ex. A.Z.A.B. & O.S.T.A.R. competitor. The race starts on 8th October, 1977 and the course is in two legs, the first to Tenerife in the Canaries, and the second after a restart on 12th November to English Harbour Antigua. For further details, contact Bob Salmon, 112 Mewstone Ave., Wembury, Nr. Plymouth.

JOHN PLAYER/R.Y.A. WORLD SAILING SPEED RECORD WEEK. will be from 1st – 8th October, 1977.

J. ELLIOT presented a paper to the Institution of Electronic and Radio Engineers on 31st August, 1973, entitled "The Computation of the Best

Windward and Running Courses for Sailing Yachts." It is printed in full in "The Radio and Electronic Engineer." Vol. 43, No. 12, December, 1973. To quote from the summary: "This paper explains measurement methods which are free from errors due to leeway and describes an electronic computer which will enable the best sailing sector to be found and indicated on both the close hauled and running points of sailing."

A.Y.R.S. POOLE RALLY 1976 was a success and as usual, thanks must go to Ken May for its organisation and the use of his houseboat. Boats present were Mantis, Kelek and Runaround (which used to be Three Legs of Man).

M.O.C.R.A. A.G.M. Notes by Michael Ellison. At the very well attended meeting, it was agreed with only one vote against, that we will not race to the International Offshore Multihull Rule as put forward by Vic Stearn of California.

In spite of opposition by James Wharram and others of the Polynesian Catamaran Association, it was agreed that we will take the measurements as set down in the I.O.M.R., including beam and weight, and will try to find an acceptable way to rate yachts. In the meantime, British Multihull yachts will be rated and race only to the Portsmouth Yardstick.

SUMMER RALLY POOLE, 1976



Members at A.Y.R.S. Poole Rally, 1966



Ken May's 'Kelek' at his Houseboat, used as H.Q. for A.Y.R.S. Poole Rally.



"Mantis IV" on beach at A.Y.R.S. Poole Rally, 1976.

ROYAL WESTERN/OBSERVER SINGLEHANDED TRANSATLANTIC RACE, 1976 – RESULTS

Arrival Order	Name of Yacht	Sail No.	Class	M/C/T	Crew	Finish Time	Elapsed Time	Corrected Time	Place in Class	H'ca Plac Mon. M	np æ Mul.	General Remarks
1	Penduick VI	141	Р	М	E. Tabarly	0712/29	23 20 12	17 11 42	1	3		1st Pen. Class
2	Club Mediterranee	85	Р	Μ	A. Colas	1436/29	26 13 36*	26 13 36	3	60		3rd Pen. Class
3	Third Turtle	66	J	Т	M. Birch	0839/30	24 20 39	11 01 39	1		1	1st Jest. Class
4	Spaniel	111	J	M	K. Jaworski	1140/30	24 23 40	10 06 40	2	6		2nd Jest Class
5	Cap 33	33	Р	Т	T. Grossman	1915/1	26 08 15	17 11 45	2		5	2nd Pen. Class
6	Petrouchka	152	G.M.	M	J. C. Parisis	1225/2	27 00 55	13 07 25	1	16		1st G.M. Class
7	F.T.	10	J	Т	D. Palmer	1945/2	27 07 45	12 21 45	3		4	3rd Jest. Class
8	Friends	164	J	Т	W. Greene	2237/2	27 10 37	12 19 07	4		3	
9	Aruna IV	43	G.M.	M	J. Timsit	0302/3	27 15 32	16 08 02	2	7		2nd G.M. Class
10	Objectif Sud 3	115	J	M	A. Gabbay	2158/3	28 09 58	13 18 28	5	19		
11	Mooneshine	190	G.M.	Μ	F. Stokes	0016/4	28 12 46	13 06 46	3	15		3rd G.M. Class
12	Venilia	177	G.M.	M	C. Bianchi	1145/4	29 00 15	17 44 45	4	33		
13	Robertson's Golly	7	J	M	C. Francis	1352/4	28 23 22*	10 09 22	6	11		
14	Tyfoon V	72	J	M	G. Verşluys	0912/5	29 21 12	10 13 42	7	8		
15	Quest	77	G.M.	Т	J. de Trafford	1900/5	30 07 30	22 16 00	5		9	
16	Pawn of Nieuwpoort	86	J	M	Y. Anrys	0334/6	30 15 34	8 10 04	8	4		
17	Nova	183	J	Т	E. Riguedel	0334/6	30 15 34	11 23 34	9		2	
18	Ackel France	131	J	M	G. Vaton	1512/6	31 03 12	16 11 42	11	26		
19	Lorca	154	J	M	D. Pierre	0245/7	31 14 45	13 11 45	10	17		
20	Sirtec	149	G.M.	M	P. Dumas	1039/7	31 23 09	16 07 39	6	25		
21	Old Moores Almanac	52	G.M.	Т	G. Hornet	1336/7	32 02 06	19 11 06	8		7	
22	Tahiti Bill	13	G.M.	С	W. Howells	1649/7	32 05 19*	18 05 49	7		6	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
23	Wild Rival	34	J	M	G. Hales	0148/8	32 13 48	5 11 18	12	1		
24	Petit Breton	155	J	M	B. Pallard	0757/8	32 19 57	15 06 57	13	24		
25	Dadztoy II	121	J	M	F. Graf	0855/8	32 20 55	14 20 55	14	22		
26	Carina	57	G.M.	M	E. Raab	1252/8	33 01 22	19 00 52	9	39		
27	Adhara	143	J	M	R. Ryott	1454/8	33 02 54	12 06 54	16	13		
28	Pierre	116	J	M	P. Riboulet	1539/8	33 03 39	18 12 09	15	34		
29	Helene III	55	J	M	G. Bucking	2041/8	33 08 41	9 04 11	18	5		
30	Shamaal II	3	J	M	R. Clifford	0051/9	33 12 51	7 18 51	17	3		
31	Wind Quest	71	G.M.	M	E. Everett Smith	2014/9	34 08 44	19 14 14	10	42		
32	Pytheas	117	J	M	B. Vennemans	2210/9	34 10 10	19 18 40	19	43		
33	Azuloa	161	J	Т	N. Clifton	1535/10	35 03 35	19 14 05	20		8	
34	Innovator of Mana	38	J	M	J. Mansell	0025/11	35 12 25	11 13 25	21	12		
35	Fromstock Filius	29	J	M	P. Howells	0407/11	35 16 07	19 04 37	22	40		
36	Freemerle	42	J	M	D. K. Clark	1050/11	35 22 50	10 21 20	23	10		

Arrival Order	Name of Yacht	Sail No.	Class	M/C/T	Crew	Finish Time	Elapsed Time	Corrected Time	Place in Class	H'ca Plac	e General Remarks
27	V V!	01			C. Cisconiau	1250/11	26 01 60	1416.50	24	Mon. M	Aul.
31	Kor Karoli	102	J	M	G. Gleorgiev	1350/11	36 01 50	14 10 50	24	21	
30	Patriarcne	102	J	M	E. Oliveaux	1/14/11	30 05 14	18 10 44	25	31	
39	Jabulisiwe	19	1	M	I. Radford	2044/11	38 08 44	10 20 14	20	9	
40	Swedlady	9	J	M	L. walgren	2310/11	36 11 10	12 1/ 10	21	14	
41	Chica Boba	146	G.M.	M	E. Austoni	1/30/12	37 06 00	20 01 30	14	45	
42	Eva	61	1	M	I. Castiglioni	2020/12	37 10 20*	17 06 50	30	30	
43	Evaloa	48	1	M	E. Labourgade	2224/12	37 10 24	16 11 54	28	27	
44	Lilliam	163	1	M	C. Schrodt	0925/13	37 21 25	15 01 25	29	23	
45	Ron Glas	87	G.M.	M	J. McCleod	0510/14	38 17 40	18 22 40	11	38	
46	Edith	166	J	Т	R. Nugent	1630/14	39 04 30	25 09 30	31		10
47	Achilles Neuf	144	J	M	C. Butler	1802/14	39 06 02	19 08 32	32	41	
48	Crisan	159	G.M.	M	J. Guiu	1945/14	39 08 15	23 13 45	12	55	
49	Nike	17	J	M	R. Konkolsky	2249/14	39 10 49	05 13 49	33	2	
50	English Rose	44	J	M	J. Young	2329/14	39 11 29	13 19 59	34	20	
51	Galway Blazer	50	G.M.	M	P. Crowther	0027/15	39 12 57	20 05 27	13	46	
52	Catapha	128	J	M	D. White	0515/15	39 17 15	18 15 45	35	36	*Time
53	Tuloa	21	J	M	H. G. Mitchell	2359/16	41 11 59	13 14 59	36	18	Penalties
54	Castenuela	158	J	M	E. Vidal Paz	2210/17	42 10 10	23 12 40	37	54	
55	Westward	89	J	M	David Pyle	2211/17	42 10 11	19 23 41	38	44	85 – 58 hrs.
56	Miranda	23	G.M.	M	Z. Puchalski	0044/18	42 13 14	21 04 14	15	49	$7 - 2\frac{1}{2},$
57	Amitie	197	J	M	W. Wanders	0530/18	42 17 30	24 12 30	39	58	13 - 24 ,,
58	Hesperia	182	J	М	H. Jukkema	0918/18	42 21 18	22 07 48	40	53	61 - 2
59	Achille	123	J	M	M. Bourgeois	2041/18	43 08 41	22 04 41	42	52	
60	Tikka III	78	J	Μ	C. Di Majo	1237/19	44 00 37	27 03 07	43	61	
61	Lady Anne of										
	St. Donats	54	J	M	D. Sutcliffe	1547/19	44 03 47	17 13 47	41	32	
62	Caipirinha	81	J	M	A. Preden	1645/19	44 04 45	23 15 15	44	56	
63	Golden Harp	24	J	M	S. Woods	0714/20	44 19 14	25 17 44	45	59	
64	Casper	31	J	M	M. Wills	0905/20	44 21 05	17 01 05	46	29	
65	Lauric	26	J	M	R. Elliott	1429/20	45 02 29	20 11 29	47	47	
66	Janina	98	J	M	H. Pottle	1512/20	45 03 12	16 14 12	48	28	
67	Dragon	192	G.M.	M	M. Bourgeois	0015/21	45 12 45	29 13 45	16	62	
68	Airedale	88	J	M	D. S. Cowper	2317/21	46 11 17	18 14 17	49	35	
69	Galadriel of										
	Lothlorien	139	J	М	N. Lang	1510/23	48 03 10	21 13 10	50	50	
70	Songeur	140	I	M	R. Kendal	1740/24	49 05 40	21 01 40	51	48	
71	Restevaer	18	G.M.	M	G. Diikstra	1852/24	49 07 22	39 22 52	17	63 (Restarted from Ply-
	200001001	10	U.M.		ST D INOLIU	1002/24				r	mouth 1200Z, 30th
72	Bylgia	36	G.M.	М	E. Kasemier	2204/24	49 10 34	24 03 34	18	57	
73	Prodigal	68	I	M	R. Lengvel	0730/25	49 19 30	22 02 00	52	51	

ROYAL WESTERN/OBSERVER SINGLEHANDED TRANSATLANTIC

RACE, 1976

RETIREMENTS, ETC.

SUNK OR ABANDONED

- 6 GALLOPING GAEL Found sailing without crew, 30th June in position 47^o 30N 43^o 00W.
- 41 TORIA Abandoned, 12th June after fire onboard. Crew saved.
- 45 KRITER III Broke up and sank about 18/19th June. Crew saved.

51 GAULOISES

Sank following storms in position, 49° 02N 34° 14W, 15th June. Crew saved.

- OBJECTIF SUD 2

 (Disqualified under Rule 8 but started with race). Rescued by R.F.A.
 OLNA, 18th June after capsizing 3 times. Yacht subsequently recovered by M. V. MUNCHEN.
- 124 SAINT MILCENT Sank following collision with M/V 11th June. Crew took to life raft and picked up by trawler 1800/12.
- 162 NYARLATHOTEP Yacht abandoned after major structural failure, after storm, on 16th June. Abandoned 2100/16, rescued 0830/17 by Spanish trawler.
- 99 THREE CHEERS
- Missing, presumed lost.

RETIRED

- 8 BOLLEMAAT IV Unable to charge batteries.
- 11 TINIE II Retired to Azores, reason not yet known.
- 12 JADE

Electrical problems, retired in Corunna.

20 FLYING ANGEL

Self steering and electrical problems. Returned to Plymouth.

- SILKE 22 Steering gear, mast and hull damaged. Retired to Amsterdam.
- 27 JESTER Retired in favour of Irish Cruise! No damage.
- 28 UNIBRASS BRYTHON Crew injured in fall. Retired to SW Ireland and then Milford Haven.
- 32 SPIRIT OF SURPRISE Retired to Azores with structural failures.
- 39 I.T.T. OCEANIC Crew injured and sails damaged. Towed into St. Johns, Newfoundland.
- 40 AQUARIUS Self steering gear problems. Retired to Guernsey.
- 49 EK SOEKI Paraffin stove fire. Returned to Plymouth.
- 53 ACTELA II Retired after collision with Spanish fishing vessel.
- 58 NAMAR V Steering gear failure. Retired to BREST.
- 62 VALITALIA Retired to HORTA.
- 69 KARATE Retired, 8th June to Fowey with injured arm-did not continue.
- 76 SPIRIT OF AMERICA Retired to Plymouth with hull damage.
- TUMULT 93 Retired due to sickness, 14th June approx.
- 97 McARTHUR Retired, 9th June, 2 cracked weld joints on steel rudder.

101 PEN-AR-BED

Retired, 15th June, 0600 in 45°N 25W after hitting large log whilst sleeping. Impact threw yacht onto other tack and broke self steering gear. Tried to go to Azores for repair, but no wind.

104 CS & RB II

In collision 19/6 with unknown Merchant Ship. Damage to rigging and small hole. Position, 46° 40N, 35° 50W. Went to the Azores and retired there.

- 113 OBJECTIF SUD 1 Retired 10th June. Self steering gear damaged and hull leaking.
- 120 DEMON DEMO Dismasted in capsize on 14th June in 50°N 32W. Returned to Plymouth under jury rig, unaided.
- 122 ALTERGO Retired with broken rudder quadrant on 9th June in Position 48°N 14W.
- 126 SILMARIL Dismasted in 43^oN 65W and towed to U.S. port.

133 CRODA WAY

Damaged float and retired in position 46° 20N, 31° 40W (approx.) returned to Plymouth without assistance.

134 KERVILOR

Skipper slipped a disc and was rescued by French Navy after distress call and location by R.A.F. Nimrod a/c in position 49^o 59N, 07^o 47W on 9th June. French Navy put crew onboard and sailed yacht to Falmouth.

- 136 KEEP CAP D'AGDE Hit drifting buoy and damaged self steering gear. Auto pilot also failed.
- 145 PANDA 31 Cause of retirement not known.
- 148 ARCTIC SKUA Damage to self-steering gear.
- 151 GILLYGALOO

Self steering damaged by collision with whale. Rigging problems.

153 SLEUTH HOUND

Knocked down in force 11 winds in 51^o 45N, 28^oW on 15th June. Thrown overboard but saved by safety harness. Injured shoulder. Sails, instruments and batteries damaged.

157 WILD ROCKET

Storm damage to sails and rigging. Retired, 13th June in 51° 10N 35W.

- 160 LOGO Dismasted-proceeded to Azores under jury rig.
- 170 IRONIGUY Steering gear failure.
- 172 SHARAVOGE Retired to Bermuda-no wind-no damage.
- 181 PRONUPTIA

Went to Azores for sail repairs-then long period becalmed and unable to reach Newport in time limit.

186 DRAKKAR III

Retired to Falmouth, 12th June with self steering gear failure. Went to France for repairs but on sailing, couldn't get out of the Channel for lack of wind.

193 VANESSA

Sails damaged and self steering gear carried away in storm force winds (he cites force 11-12) Retired in position, 49°N 30W on 17th June.

FACTS AND FIGURES, 1976 O.S.T.A.R.

Applicants for Rules Entries, including provisional ones we Qualified entrants	ho paid a deposit
Nationalities:-(17) British. .45 French .36 Italian .14 U.S.A. .12 German .9 Dutch .6 Belgium .3 Spanish .2 Canadian .2	New Zealand.2Bulgarian.2Polish.2Eire.2Swedish.2Swiss.2Swiss.1Australian.1Czechoslovakian.1
Starters (Monohulls 108 Multihulls 1 Finishers 73 + 5 outside time limit . Retired	7)

Lost for other causes:

Other causes:

T

TORIA (tri) fire. SAINT MILCENT sank after collision with M/V. GALLOPING GAEL - crew lost overboard. THREE CHEERS (tri)-lost-reason unknown.

(No damage reported to M/V or Fishing Vessels)

Positions of collisions (approx.)

SAINT MILCENT (French girl crew) Off Ushant.
 CS & RB II 46° 40'N 35° 50'W
 ACTELA II 49° 10'N 10° 20'W

(yacht's steering damaged by fishing vessel's gear, no collision with vessels themselves).

O.S.T.A.R. STATISTICS

MULTIHULLS

Year	Started	Finished	Sunk or Abandoned	Retired
1960	0	0	0	0
1964	3	3	0	0
1968	13	5	2	6
1972	7	5	0	2
1976	17	10	3	4
TOTALS	40	23	5	12
		57.5%	12.5%	30%

		MON	OHULLS	
		Sunk or		Did not finish on time
Started	Finished	Abandoned	Retired	or Disqualified

5	5					
12	11		1			
21	12	1	7	1 (1	Disqualifi	ied)
38	25	1	9	3	•	,
108	63	4	36	5		
184	116	6	53	9		
	63%	3.2%	28.8%		4.9%	
otal Starte	ers = 224	Т	otal Finishers	= 139		% = 62%



SONGEUR



AZULOA

MULTIHULLS IN THE 1976 OBSERVER SINGLE HANDED

ATLANTIC RACE

Report on Meeting arranged by M.O.C.R.A. on 14th January, 1977.

Speakers: Mike Best, ("Croda Way"), Mike Birch ("The Third Turtle"), Jo'un De Trafford ("Quest"), Bill Howell ("Tahiti Bill") and David Palmer ("F.T.").

The discussion of the race followed the business of the Multihull Offshore Cruising and Racing Association A.G.M. and started with some short, rather disjointed films, taken by David Palmer, which mainly showed that it is very difficult to take pictures when there is a gale blowing and that speeds of 11 and 12 knots were an unusual and welcome experience which at the time caused the skipper some concern.

After his films, David Palmer spoke at some length to give a detailed account of the weather and the relative positions of the various competitors during the first two weeks. For the first 10 days the winds were mainly South Westerly and this made it difficult for those competitors who had decided to take the Southern or Azores route. He had decided to go South and it was two weeks before he was able to ease the sheets. There were two storms, on 15th and 26th June and it was the first of these when a front went through that caused the majority of retirements and the sinking of the Swiss "Gauloises" when her sail locker stove in. (57 ft. monohull). The gale on 14th–15th June was much more severe to the North and it caused almost all the yachts to heave to.

We gathered that at this time, Palmer was very depressed as he did not know the positions of the other yachts and he imagined that they had more favourable weather.

On 26th June, "F.T." was 12 hours behind "Croda Way," at 0400, it was calm, at 0700, she was sailing well. At 0800, she was down to the storm jib and at 1000, she was lying a-hull with the centre board up and no sails set. At noon the wind was gusting 50 knots. During this time the yacht behaved quite well; there were breakers, but no curlers. Sometimes the lee float would be driven under and David said that he was not happy but O.K.

Other points of interest—He used a Hasler and a 'Tillermaster' self steering and both worked very well however, he later stated in answer to a question that "F.T." can be steered 5 to 10 degrees closer to the wind by hand. The wind gear was used in the stronger winds.

Battery charging was by solar cells and windmill. The windmill gave up to 4 amps but could not be used at night because it made a loud and unpleasant noise.

"F.T." is fitted with a sheet release gear designed by Lars Oudrup, ("Airs 9" Feb., '75, page 41.) Roland Prout and Bill Howell suggested that this gear is only 99% reliable, but further discussion seemed to indicate that their tests were made on catamarans and it may be satisfactory for trimarans. (Lars Oudrup of Denmark was at the meeting). Discussion ended with Bill Howell still preferring the "Hepplewhite" gear and David Palmer apparently very pleased with his pendulum release gear.

After the second gale Palmer abandoned his attempt to get South and sailed against the Gulf Stream to arrive after 27 days. He believes that the distance saved, made up for any adverse current experienced.

"Tahiti Bill"

Bill Howell, probably the most experienced yachtsman in the crowded room at the Cruising Association in London as usual said very little.

He was asked if he favoured the Azores route and he replied that Mike Birch tried and failed to take what he calls Tom Follet's route. Bill recommends taking the route that the wind dictates and suggested "playing it by ear."

Bill made two further points—that the Gulf Stream 'meanders' and you may or may not be lucky and get cross rather than adverse currents. His second point was that in his view, there have so far been two fantastic performances since the event began. These were first Jean Lacombe in "Golif" in 1964 and the second was Mike Birch. In the 1976 event, Tabarley's yacht and "Club Med" must each have cost over a million pounds to build and prepare and Mike Birch arrived within 17 hours with a yacht costing under one hundredth of this amount.

"Croda Way"

Mike Best spoke briefly of his problems with "Croda Way," these caused him to retire and return to England after the gale on 14th June.

On the third day of the race, his mainsail split and he had to sail with two reefs. On the 14th, we gathered that the sea was rough but that he knew from radio reports that "F.T." was 50 miles behind and he was sailing hard.

Apparently the yacht met a steep wave and after the crest she fell heavily on the weather float and this sheared the rivets at a joint in the 8 inch cross tube and left the float flapping.

The beams were of 8 inch pipe and there were upper and lower tubes. These had to be cut to get the yacht out of the building shed and they were rejoined by sleeving and then bolted and rivetted together. The shock load parted the rivets.

Mike Best hove to and tried to make a fibreglass repair but the constant

movement made this impossible. He tried to make for the Azores, but pressure on the broken bottom part put so much water in that he tacked for Newfoundland. With the damaged float in the air, it flapped so badly that he decided it would be best to run down wind and he returned to England, averaging 160 miles per day.

During the gale he set 65 miles sideways from his D.R. position.

"Quest"

John de Trafford stressed the importance of preparation and said that it is vital to be well organised. He reported that after the first 5 hours of the race, his 54 foot trimaran was well placed being ahead of most of the big yachts.

His first five days were hard work but he managed to work up to 200 miles per day to windward.

After 6 days, one of the forward beams broke, he repaired this by lashing the spinnaker pole across but he then had to ease up and he sailed on to finish the race at a more gentle pace.

John de Trafford said that for him there were not just two gales, but 8 days of force 7 to 8 with wind variable down to 4 or 5 and this made a great deal of work reducing and resetting sail.

He suffered quite a lot of other damage which he put down to the greater stresses imposed on gear by larger multihulls. In his view the rigging on multihulls is not so tight and so it suffers great stress due to shock loads. Some of his sail clew rings burst and his small genoa flogged itself to pieces. His inner forestay (Cutter rig) was fitted with a 'Rotastay' which broke at the top stainless fitting. (Examination after the race showed that the strain placed upon it, far exceeded what had been expected). His mainsail broke at the batten pocket, he broke 4 halyards (both stainless and galvanised) and had to climb the mast 8 or 10 times.

During the later part of the race, he experienced calms.

"The Third Turtle"

Mike Birch felt that it was a great advantage to have sailed the yacht over from U.S.A. for the race as he felt that he knew the boat and her equipment very well.

The boat is light and simple, his practice was to take down the mainsail at night and in bad weather as he felt that he could not drive her to windward in rough weather. He slept at night but tried to listen to the B.B.C. broadcast at 0330, which gave the positions of icebergs and the weather although he often missed the broadcast.

In answers to questions, he spoke very favourably of his 'Tillermaster' electric self steering which he used for up to 7 hours per day. His solar cells (made in

Boston, U.S.A.) provided current to run this and a navigation light at night although they had water inside after the race. Mike Birch steered by hand for 8 or 9 hours each day, he ate lots of food, mainly tinned and had normal meals. He used 8 gallons of drinking water.

Question – "Would "Third Turtle" go to windward in a gale if necessary to clear a lee shore?"

Answer - "She would go to windward if she held together!"

Questions

The meeting ended with a number of questions to the panel and from the answers we gathered that four of the first 8 yachts in the race used "Tillermaster" self steering and although Thomas Grossman used 30 fuses, all were agreed that to stand a chance of winning a future race, an electronic gear is essential to cope with the long periods when the wind is 5 knots or less. At low wind speeds the boat speed alters the apparent wind and the wind operated gears do not maintain a steady course.

In answer to a Question about the importance of physical condition, David Palmer said that it is a handicap if the crew is not familiar with the boat. If he enters again, he will go sailing from January. For the first 5 days, he felt seasick, but by the end of the race he was awake.

It was reported that Tabarley and Walter Greene used a trailing generator to make electricity.

Notes by Michael Ellison, who jotted down the above observations.

- 1. "Quest" used an electric self steering gear, coupled to the servo blade which could be switched to a wind vane as required. We have previously suggested this and it seems the obvious way to reduce the current
 - requirement.
- 2. Naturally each skipper was referring to his own yacht and correctly called it a "multihull." This has the effect of blaming faults of a two hulled yacht onto three hulled craft (and the reverse) when these do not necessarily apply. Examples are the jerk load on the rigging of "Quest" this is not a fault on 'rigid' catamarans and many trimarans are designed to overcome this problem, it requires that the shrouds are led down to a main beam close to the mast and not out to the floats. This means that sails must be sheeted outside the shrouds as on a monohull and not inside.

"THREE CHEERS FOR THE HEBRIDES"

REPORT ON M.O.C.R.A. & A.Y.R.S. MEETING

held on 2nd November, 1976 by Michael Ellison

The title is the title of a 30 minute film taken by Colin Forbes during a three month cruise to the Western Islands of Scotland with Mike McMullen and his wife Liz during the Summer of 1975. It is an excellent film, a large part was shown on B.B.C. television with an altered commentary as it was shown just after Liz died in a tragic accident with an electric power tool while polishing the bottom of "Three Cheers" just before the start of the Single Handed Atlantic Race.

The meeting was very well attended and after the film, Pat Boyd the M.O.C.R.A. Chairman called a panel of experienced multihull members to discuss the recent trimaran losses and if possible, to suggest action to prevent this happening in future.

The panel consisted of Derek Kelsall, Tony Smith, the crew of "Silmaril," Michael Birch, Michael Butterfield and I.

Loss of "Silmaril"

The two crew of "Silmaril" gave a detailed account of the capsize of their 31 foot Simpson Wild design trimaran in the Atlantic two weeks before the meeting and of their rescue by a Japanese cargo ship – the yacht was abandoned.

"Silmaril" was about 250 miles from Lands End and was running under bare poles at the time of the capsize. They had been running before winds of force 9 for two days and the wind had moderated, perhaps gusting force 8. The wind had changed direction and the sea was confused. Immediately prior to the capsize, they were very happy and very confident in their yacht. During the stronger wind they had tried lying a hull and they had tried hoisting a small headsail and they had decided that she was more comfortable without sails making between 2 and 4 knots as they steered on course towards England.

The yacht was very well tried, she had completed numerous races with the U.K. multihull fleet, she had crossed to America in the Single Handed Race but retired dismasted. She was cruising home and not racing. For the race the liferaft had been secured to the transom so that it was accessible in the event of capsize but at the time of her loss, they had taken it into the cockpit as it seemed exposed on the stern in the heavy weather. In the U.S.A. they had purchased a chisel so that they could gain access to the cabin in the event of capsize and considerable thought had been given to the drill to follow should such an unlikely event happen.

Capsize

At 11.00 the crew changed watches and the man coming off took off his wristwatch but was still dressed in oilskins and was working by the charttable below. It was about five minutes after this that the yacht ran down a steep wave, the bow of one float went under and she tripped over leaving one man outside under the netting between the hull and float and one man in the cabin standing about waist deep in water on the cabin top.

The man outside cleared himself and established that both were unhurt. They next made a hole in the bottom and the escaping air raised the waterlevel inside by about 9" but the bottom was still well afloat and they could climb in and out. They could not swim to the liferaft from outside and had to swim from the cabin and had some difficulty in cutting the lashings. They could not tell which were lashings and which was the line to inflate and tether the raft and cut them all and then swam with the raft to the wing and lifted it on. This task was difficult and dangerous.

The raft did not contain proper flares or food and only a little drinking water and so a supply of these were brought from the cabin. A portable distress radio was also brought out to transmit on 2182 distress frequency. Unfortunately the man outside was not wearing a watch and the other watch was lost and so they could not transmit during the silence period. They were not familiar with the procedure to transmit 12 one second dashes to set off the automatic distress alarms on merchant ships when the radio officer is off watch. Their radio calls were not answered, but they could hear messages being passed in the distance.

Rescue

After 11 hours a ship was sighted and they set off parachute flares—the flares were seen and they were rescued and landed at Panama. On the ship they were very impressed by the watchkeeping and lookout standard but they were frightened to establish that they were very nearly not rescued. The lookout sighted the first parachute but was not sure if it was a distress signal. On the second signal, he was sure and called the captain. The captain came up as a red hand flare was burning and thought that it was a distant port light. As the captain was leaving the bridge, they fired the third parachute rocket and this established beyond doubt that thy needed help and they were duly rescued.

They feel very strongly indeed that red is not a good colour for hand flares and that it is essential to have a good supply of rockets.

As they answered questions, it was quite clear that they feel themselves rather lucky to be alive and were still in a state of some shock. There was no question of a giant or rogue wave, just a rough confused sea.

The account of "Silmaril" rather overpowered the meeting but among the other points made, the following are important.

Tony Smith reported that so far he has sold over 120 'Telstar' trimarans and not one has capsized. He thinks this may be due to the bouyancy of the float and wing and the shape of the wing forward. It was mentioned that not many of these yachts will have been out in these very rough conditions which the average family cruising man will very rarely if ever meet. (Round Britain racers excluded!).

Michael Birch reported that he had enjoyed the 'Val' trimaran and had felt safe on his two Atlantic crossings. He did not say much about the fact that one of the three trimarans did in fact capsize!

Masthead Floats

Michael Butterfiled stressed the fact that every multihull yacht can capsize and that every multihull should carry a masthead float. He gave details of the capsize of his 42 foot Apache catamaran and stressed that the masthead float probably saved their lives. Had the float been attached properly as the builders were instructed and not with a row of pop rivets, he is certain that the yacht could have been righted either when the weather moderated or when they had been able to get the masthead upwind of the hull. He reported that when on her side no water entered the cabin even in the storm conditions prevailing. He pointed out that when capsized to 90 degrees with a masthead float a trimaran with "submersible" floats should in fact by design be easy to right.

Note: Early trimarans, especially those of the Piver designs, have bouyant floats so that they can and sometimes do capsize over the lee float in the same way as a catamaran, Later trimarans have floats with a bouyancy less than the total displacement of the yacht so that when they are pressed too hard the lee float will submerge. It is this later type represented by "Triple Arrow," "Gulfstreamer" and "Silmaril" that have been in trouble in 1976.

Water Ballast?

In answer to a question about the best action for a multihull crew to take in storm conditions there was no clear answer from the panel. Towing ropes and a drogue may well have saved "Silmaril" and "Gulfstreamer" but both accidents happened when the conditions had moderated and the crews did not expect any problem. I reported that while racing in 1966 with Peter Ellison, we very nearly capsized while running down wind and our immediate action to prevent this was to flood the watertight stern lockers with water. I also reported that Bill Howell lies beam on in his "Tahiti Bill" and has survived storms of force 10 by doing this. The panel I think stressed that catamarans and trimarans are different craft and may well need different treatment. Adding weight to a multihull is generally considered bad and yet a craft which is flooded is most unlikely also to capsize while some bouyancy remains in the floats, the craft in fact becomes a raft. The action of 'free' water in a space such as a float would be most undesirable and it is most necessary to have plenty of bulkheads in any float to prevent a surge of water running forwards as the yacht runs down a wave.

It was also reported to the meeting that the small distress beacons giving a continuous signal on the aircraft frequency are not satisfactory because off the East coast of the U.S.A. so many are accidentaly used that they are no longer investigated. I have checked this out with an airline captain and he reports that this is very unlikely to be the case because it is a simple matter to find out if the beacon is moving or stationary by taking a bearing of the signal and it is in fact quite difficult to set the alarm off by mistake.

This was one of our most useful meetings and it is quite clear that our knowledge is very incomplete. We are most grateful to Pat Boyd for arranging it.

Letter from Michael Ellison to Mike Hardcastle, 11th November, 1976

Dear Mike,

I have a good idea perhaps once in six months. The latest idea comes from writing the report on the 2nd November meeting and thinking about the 'Telstar' with the flooded floats. It seems to me that a trimaran with even a relatively small amount of free water in a float would be at great risk if the water were suddenly to rush from one end to the other in such a way that it arrived forward at the moment when the bow dipped into the water. Very few trimarans in fact have bulkheads to reduce the free flow of water. After a day or two of rough weather, most trimarans will have some water in the floats!

Best wishes, Michael

Letter from David Walsh to Michael Ellison

Radwell House, Radwell, Baldock.

Dear Mike,

Silmaril had bulkheads at the float/beam joints, sealed, no limber holes. She also had at least one bulkhead forward of the fwd. beam. The back 2 ft. of the floats was solid foam. (If Andy built her as I asked, she also had another watertight bulkhead between the beams. All these were glassed in). There were no float hatches.



The fairings, also sealed, no hatches, could not let water into the float even if it were holed. Expansion of air from the float when the weather was hot went via main/aft beam to main hull.

I found (by drilling holes along float bottom) about 2 pints of water in the STB float after 3 years afloat. I am perfectly certain that as I sailed her no water would ever have got into the floats. However, when she was towed back to the U.S. after her dismasting in the O.S.T.A.R. (and also during her 500 m. qualifier), she suffered damage to the dagger board – and case) I'm not sure which one. If this damage to the DB case was inadequately repaired, it is possible water could enter float. Even then, though, it would have been unable to wash around inside as you suggest. It would also have been quite obvious from her behaviour that a float was filling. Also Slade had fitted inspection ports so that the float could be pumped out – he could therefore check if there were any water in them.

Anyway basically, I think "no" is the answer. It would be interesting, though, to know if she went "over" the repaired float.

I think water filled floats would certainly tend to cause capsize in a 'Silmaril' like boat - but due to decreased bouyancy (not due to the water washing back and forth).

Are there any trimarans around with no bulkheads anyway? If so, their owners, designers need their heads looking at! I certainly wouldn't go to sea in one.

Yours, David Walsh.

Letter from James Wharram to Michael Ellison, 9th December, 1976.

James Wharram Associates (International) Ltd., Killowen, New Ross, Co. Wexford, S. Ireland.

Dear Mike,

I have a great deal of material to answer from you, so much so that I hardly know where to begin.

To deal with your letter on the Silmaril capsize.

Several of our people were at the A.Y.R.S./M.O.C.R.A. meeting when the Silmaril capsize was discussed, and I received various comments, such as:

"Quite frankly, I have never heard such a lot of views expressed which you have solved years ago."

"... one most notable absentee who could have put everyone on the right lines with his polynesian catamaran designs."

This is quite true, when you realise that over the last 18 months, (never mind the previous years), our boats have not only made more ocean voyages, (trouble free), than any other multihull design type in the world, but have probably made more ocean voyages than any other design type, either monohull or multihull.

I did design an advanced trimaran in 1966, called the Tiki Roa, and all the features in Gulf Streamer, Silmaril, and other modern trimarans, were included in that boat. It had many faults, apart from the waste of material, labour and space.

At the World Multihull Symposium this year, I realised that the faults which made me decide that this type of multihull was not suitable for deep sea work, still exist in designs today !!

In passing, all my designs, for the last 22 years, have had water-tight bulkheads to prevent water surge.

However, it was not water surge which capsized the Gulf Streamer and the Silmaril, (perhaps other trimarans, too).

Here is a formula, which I will shortly be publishing in an article on multihull stability:

"Wave Stability: Comparison Cat./Tri. with same O.A. Beam.

The whole beam of a catamaran is effective on a given wave crest height.

Only half the beam of a trimaran is effective on a given wave crest height.

This gives the trimaran a steeper angle of inclination, putting it closer to the capsizing position.

The figures for a wave crest height of 1/5th. the O.A. Beam are:

Catamaran: 15⁰ angle

Trimaran: 34⁰ angle

This can shorten the stability righting arm of a trimaran from five-sixths to one-half. Add this to the kinetic energy of the moving wave; the low bouyancy float; the lack of a solid wing giving bouyant lift, and, as has been seen this year, the modern trimaran is a dangerous machine, even without sail up in high sea gale conditions.

Best wishes, James.

Reply from Michael Ellison, 18th December, 1976.

Dear Jim and Crew,

Many thanks for your letter of the 9th. Usually I agree with your observations, but this time I do not believe you have considered all the relevant factors:

The reports of the M.O.C.R.A./A.Y.R.S. meeting must have got mixed with someones Christmas pudding – the discussion was **Trimaran capsize** and to suggest that you have solved the problem is the same as telling a meeting to discuss poor train service that they should go by bus. Probably true but not helpful to those who are trying to improve the railway. I do not have many details of your trimaran designs or reports of their ocean crossings.

Is "Tiki Roa" the 'Round Britain tri?'

Best wishes to you all, Michael.

"JAN CAPSIZE"

by Hamilton Ferris

An account, from memory, of interesting events prior to the capsizing of "JAN", a 31 foot trimaran, en route from the Azores to Newport, R.I. The original log with daily entries, positions, etc., was lost at the time of capsizing.

6/22/76 Tues. 05:00 Departed Horta in company with "EDITH," Rory Nugent's trimaran, and kept in sight of each other all day in 6 to 10 knot SW winds.

6/23 through 6/30 Did not sight "EDITH" again. Pleasant, uneventful days with constant SW winds nudging me ever northward while a more desirable heading would have been south-westward to the 35th parallel of latitude for the long westward haul.

7/1 Thurs. 14:00 Hit a very heavy object which stopped boat dead in the water and turned it to starboard. No splintering of wood, no rending of metal or noticeable damage to bow or daggerboard, so whatever the "JAN" hit was well padded and many times heavier to have stopped her dead still when travelling at a 6 knot speed. The disarray of tools, clothing, food, a storage battery that jumped out of its retaining chalks and a chart table that tore loose and moved forward 10 inches was impressive. The only visual evidence of the object was much up-welling, off-coloured water, the disturbance increasing in size to about 8' by 12'. It could well have been a whale.

7/2 Friday. Westerly wind shift allowed me to head SW on starboard tack towards 35th parallel.

7/3 Sat. Wind back to SW again, but not before "JAN" had worked a little south of the desired 35th parallel.

7/4 Sun. Back on port tack headed west. Noticed leak, caused by bent chain plate where it emerges from the hull for starboard-aft cross-arm stay. Believe it was bent by the impact with the unknown object (whale?) on 7/1. There is a heavy ground swell rolling in from the west which suggests a storm in the Bermuda area, possibly the tail-end of a hurricane but nothing mentioned on the radio.

7/5 Mon. Wind picking up and heading due west under reefed jib and reefed main.

7/6 Tues. Down to Double-reefed main and no jib. Barometer dropping.

7/7 Wed. All sails are furled. Lying a-hull with SE wind on port beam.

7/8 Thurs. 02:00 wind still from the SE but now a gentle zepher. The stars are bright so cautiously ran up reefed jib and reefed main.

06:30 Wind has reversed and is building up from the NW. Double-reefed main and took in jib. Now on starboard tack heading SW with thunder and lightning storms all around me.

7/9 Fri. Held SW course to latitude 32° 22', then headed west for Bermuda, some 260 miles distant. Another thunder and lightning storm. Boiling along—Mach 2 or thereabouts.

7/10 Sat. 11:00 Barometer dropping again. 76 miles due east of Bermuda and wind has quit me completely. Pumped starboard pontoon-leaks a little but never more than 30 to 40 strokes on pump in a 72 hour period.

11:45 Wind is back but directly out of the west (from Bermuda). No chance of reaching Bermuda by sundown with this head wind; laid a course for Newport to avoid any more tacking which had plagued me for most of this voyage.

7/11 Sun. Wind increasing and barometer dropping. To the best of my recollection, noon position was 34° 28' N 64° 47' W. Reefed the jib and main, then as the wind continued to build up from the SW in the early evening, shortened down to double-reefed main and no jib. A comfortable amount of sail for the conditions and "JAN" self-steers beautifully, as also on so many other headings and sail arrangements.

7/12 Mon. 06:00 Wind is on the increase out of SW. Took off all sail and

noticed that "JAN" continued to press for Newport at 1 to 1½ knots, possibly getting a little lift from the seas or from the driving angle of the furled mainsail and boom which was tied to leeward. Was pelted by rain from 2 separate thunder and lightning storms-morning and afternoon. (Never experienced so many in a 4-day period). About dusk I raised the daggerboard which in retrospect may have been a mistake and noticed that the headway increased and also the leeway. Barometer still dropping, not fast but steadily, down 0.55 inches since Friday morning. Cannot get weather reports because of extremely poor radio reception. Remember thinking: "This can't go on much longer."

7/13 Tues. 05:00 (approx.) was hit by thunder and lightning storm, wind screeching, and over "JAN" went without protest or "by-your-leave" or any kind of warning. Had been lying-a-hull with sails well furled for the past 23 hours. Couldn't believe what had happened, it happened so smoothly, like rolling over on polished bearings. After a bit of confusion, I started cleaning the cabin, sorting, organizing and hurriedly jettisoning the lead-acid storage battery. Was amazed how quickly one, matter-of-factly, adjusts to an upside-down world with no thought of the ridiculous aspect of performing mundane tasks while standing on the ceiling waist-high in water. Set up radio distress beacon above the water level inside the hull and started transmitting. Put on wet-suit and swam through hatch for a look outside. Thunderstorm was gone and the seas were about the same as yesterday. Scratched circumstances of the capsizing and identification through the red bottom paint-white letters on a red background. Cut daggerboard and forward hatch cover loose as they were pounding badly, mounted 10 ft. oar in daggerboard box with international orange poncho attached to serve as a large flag. Returned to flooded cabin, enjoyed a can of kidney beans, then was surprised to hear- so soon-the drone of an aeroplane overhead. (It seemed that not more than 3 hours had elapsed since activating the distress beacon).

The rescuing ship, the 42,000 ton bulk carrier "Heering Mille" was apparently notified of my predicament at 13:00 at which time she was about 30 miles to the east. She altered course, proceeded to my 36° 36' N by 66° 19' W. position, and by 16:08 had me on deck via the Jacob's ladder route. Life aboard this Danish ship was an on-going delight. There is no way I can describe all the courtesies that were extended. The open-hearted welcome from the Captain, officers and friendly crew was monumental. This was truly a happy ship.

Conclusions

The unusual aspect of this capsizing is that the trimaran "JAN" rolled over into the on-coming seas rather than away from them. Apparently, an 180 degrees wind reversal caused by the screeching winds of the thunder and lightning storm hit the lee side of the boat, skidding her into the steep face of an oncoming wave. Although not actually observed, it appears that the wave tripped and buried the now leading pontoon, causing the sideways skidding boat to capsize. It seems to me that if this was an extremely unusual storm

situation, then it would be a mistake to question the conventional procedures for lying a-hull which were followed in this instance, However, if it is a storm situation which occurs a little more frequently, then perhaps lyingto on a sea anchor should be encouraged in preference to lying a-hull.

Whether the fact that the daggerboard in the up position contributed to the capsizing will probably never be known. It can, of course, be speculated that if it had been down, "JAN" would probably not have skidded sideways as rapidly into the oncoming wave and may not have tripped herself as she appears to have done.

KLIS III, A FOIL STABILISED TRIMARAN

by Bernard Rhodes.

"Klis" is derived from a Gaelic word meaning 'lively, nimble, clever.' The original "Kliss," 22 ft. long and built for £400, certainly lived up to her name. Between 1966 and 1969, she carried me 15,000 miles from England to New Zealand. The two longest passages each took 20 days, 2,800 miles single-handed, then 3,000 miles two-up. She was home for five years, and a magic carpet, taking me from the grey life in an office to brilliantly coloured tropical islands and gentle people that blow the mind with their beauty; on a Discovery of life.

Many a night watch passed pleasantly dreaming of improvements to make, and the A.Y.R.S. bulletins, catching up by devious routes, kept me up to date on the exciting developments in the field of multihulls and hydrofoils. From these dreams evolved Klis II, designed to do the same thing and embodying all the improvements that experience suggested. 23 ft. 4 in. long and 3 ft. wider at 17 ft., she has performed impressively in her first few races with the Auckland Multihull Sailing Association, and survived with only minor problems a hard thrash to windward returning from her maiden cruise to Coromandel.

As I sat down to draw up a set of working plans for marketing several new

features thrust themselves forward as real improvements, so here's introducing "Klis III", which I'm itching to build but too fond of the present one to sell her yet.

The principal developments in design from mark I to II, all included in III, are these:-

Change in mid-section from Vee to 'truncated vee,' giving a Keel 1 foot wide (fitted with a hardwood worm-shoe, handy for hauling up beaches) and lower waterlines of hydrofoil shape, giving a hull which, with less wetted surface than a vee, retains the ability to work to windward in 1 ft. 7 in. of water.

Increase in beam from 14 ft. to 17 ft., giving enormous extra power and eliminating wake interference between the hulls.

Nets between the hulls instead of solid wings, for less windage and no pounding from waves. The main nets are of terylene webbing, wonderful places to lie on.

Daggerboards in the floats to liberate the main hull for living in; they're made assymetric, flat side to leeward, curved side to windward, and only the leeward board is in action. Theoretically about twice as efficient as a conventional board, her performance seems to bear this out.

Wishbone boom used in conjunction with deck-sweeping mainsail and rotating mast. This A.Y.R.S. inspired idea has proved a huge success. The cabintop provides an end-plate to the sail, trapping all the wind that otherwise escapes under the foot; the luff is lengthened, and there is no need for boom vang or expensive mainsheet roller travellers.

Change in the accommodation layout based on experience have made better use of the space available. In particular, the cook has a seat (which is also the settee armrest) so that he/she is comfortably placed and does not block the passage-way fore and aft.

The open A-frame crossbeams, of oregon pine sheathed in fibreglass, are jointed by means of stainless fish-plates top and bottom, with numerous ¹/₄ inch through-bolts. This allows dismantling to a beam of 7 ft. 10 in. for trailing or to reduce storage space.

To summarise, "Klis II", she is a delightful boat to own. Finger-light on the helm and highly manoeuvrable, she is exceptionally good in light airs, and easily reaches speeds around 15 knots in a good breeze. With 5 ft. 9 in. headroom under the hatch, berths for four plus room for two to lie down on the cockpit benches and any number in the nets, she is a fine family cruiser. Also 1 ft. 7 in. draft means good 'gunkholing' too. For auxiliary power, a 4 h.p. outboard mounted on the aft crossbeam would be adequate. Personally I hate them, and we find that in a calm, two people wielding dinghy paddles, can keep up 2 knots comfortably; a pair of 8ft. oars should be more efficient, and sculling is an almost lost art that can usefully be revived.

Also, there is the nice thought that she has ocean-going capability, though not recommended for the Roaring Forties or North Atlantic in Winter. With proper planning, she will carry enough food and water for two people, 3,000 miles with 50% safety margin. The safety hatch in the topsides, and the possibility of righting her unaided in the event of a capsize (see SEA SPRAY, Nov., '76) make her a very safe boat.

Last but not least, 'Klis II' has drawn a lot of favourable comment about her looks, and as with any woman, her man is proud of this.. Multihulls don't have to look ugly, though one sees far too many that are. It seems a lot of people share with me a traditional eye for a sheerline and well-cambered deck, both of which have real use when running fast in a steep sea. Varnished spars, a nice homely wooden cabin and a slight smell of Stockholm tar do something for us 'Old Harrys' that we can't explain.

But enough of sentimental rambling, on to 'Klis III.' The principal difference, which promises to be a real breakthrough in design, is the use of angled boards to actually increase stability. Inspired by a friend who plays with these things, we lashed the daggerboards on the outboard sides of the floats and went sailing with wind gusting 35 knots. It was startling-first to notice the complete elimination of rolling, that sharp little roll that tris sometimes have as they flip from float to float. This promises well for comfortable passage making, particularly in a cross sea.

As we came onto the wind, we found the lift generated by the board was roughly equal to one heavy man standing on the weather hull; this reduced drag on the lee hull, and we bore away and rocketed across the harbour at an amazing rate, the un-faired leeboards sending up an impressive fountain of spray. Leeway was, as expected, slightly greater. So the boards in Klis III slope inwards, their area has been increased to compensate for this and they are pivoting for easier operation, adjustment of helm balance, and as a safety . factor in case of hitting anything with them at high speed.

The other obvious difference is carrying the raised deck forward to the bows, also carrying the wing forward to the bows to act as a spray deflector. This permits inclusion of a forward cockpit for easier and safer sail changes and anchor work. The forestay is led down inside, so a headsail can be left hanked on and stowed below when not in use. It also facilitates tacking the genoa right down to deck level.

What next? Goodness knows. "Klis III" embodies all I know at present, the future looks exciting. Detailed working plans are presently being drawn up, suitable for Amateur builders with some experience, and other designs are in the wind, as time and finance permit.

Looks like a lifetime's work and fun ahead.

"KLIS III"

FOIL STABILISED TRIMARAN – Designed by Bernard Rhodes.

Length Overall . 23ft. 9in. = 7.24m, Beam Dismant. . 7ft. 10in. = 2.39m. Draft Max.... 2ft. 19in. = 0.86m. Min. 1 ft. 7in. = 0.48m. Weight Empty. . . . 1200lbs./544kg.

Weight on L.W.L. 2400lbs./1087kg. Sail Areas: -Genoa 190sq.ft./17.65m2







"VAL"

31 Foot Trimaran Sloop,

Designer: Dick Newick, Builder: R. F. D. Vineyard Haven, Mass. 02568 (617) - 693 - 9603

Length	Sail Area 440 to 560 sq.ft.
Waterline length 27ft. 10in.	Weight
Waterline beam 2ft. 8in.	Maximum
Overall beam 25ft. 0in.	displacement 3,200lbs.
Draft 17in. to 72in.	"Bruce number" 1.41 to 1.69

Design Philosophy

Twenty years designing, building, and sailing multihulls have made 'VAL' a yardstick to take the measure of other boats for years to come, classic blending of today's technology and Pacific Island tradition.

- Solo transoceanic? It's nice to know that she's rugged, safe, and 1 handy whether you are out there alone or along shore with the family.
- 2 Coastwise? Two cabins with the simple essentials for a couple who appreciate the potential of an easy hundred mile week-end range.
- 6 For the Day? Rare comfort for six in the six foot cockpit plus room to spread out in the nets between the hulls.

Any number appreciate 'VAL's' beauty, low maintenance simplicity, shallow draft, and demountability for storage or transport.

A number to separate the story tellers from factual types is the "Bruce number": the square root of the sail area in square feet divided by the cube root of the displacement in pounds-actual weights and areas-. Any seagoing sailboat hoping to beat 'VAL' might best have higher numbers than those listed above, be larger, and well sailed.

Essentials

What are yours? Diesel, Dinette? Oven? Blooper? Ballast? I.O.R. Rating? Pressure water? Carpet? Full head room? If these are important, there are a great many other boats to choose from. 'VAL' however, is based upon different values.

Features

Solo racing layout, rotating mast, fully battened, double slab reefing main, slab reefing jib, "safety" daggerboard trunk in case of grounding, tiller steering, swing-up skeg-rudder unit, high "akas" to deflect spray, fabric cockpit seats for lightweight comfort, practical demountability, day charter earning potential, performance

Construction

Hand layup Fibreglass: (4) ¾ oz. mat, (3) 24 oz. woven roving with 5/8 in. thick Airex foam, carbon fibres and Kevlar woven roving added where required for low weight, high strength, stainless steel and aluminium hardware gear by Schaefer, Barient, Metalmast Marine, and O'Connor & Milgrim. The best.

Note

Contrary to common practice, lines of Newick boats are published as an aid to serious purchasers. We are proud of them, and unconcerned with copiers and "improvers."

Prices

Sailaway, includes main, jib and genoa (no motor, electronics, cabin fixtures) S 24,000

Hulls, decks, crossarms, centreboard ready to assemble S 12,000

Sold direct.

R.C.N. 1/'76



"YARRO"

by Mike Hardcastle

Yarro is a catamaran built in Australia to the design of J. Szabo.

She is described and pictured in C. A. Marchaj's "Sailing Theory and Practice," Adlard Coles Ltd., 1964.

Her principal dimensions are:

L.O.A	28ft. 6in.	Displacement	2,866lbs.
L.W.L	23ft. 5in.	Draft	1ft. 10in.
Beam	13ft. 9in.	Sail Area	589 sq.ft.

The steering system was the main point of interest and in the first version of the boat, the rudders were completely faired into the hulls.

In the second version, the steering arrangement is altered and the rudder now (to quote Mr. Szabo) "does not move at all. It is a fixed portion of the hull, and steering is accomplished partly by boundry layer control, partly by a small flap which controls the flow through the slot, a practice well known to aircraft designers, but never before used in the design of sailing boats. The arrangement shown, develops turning moments that force the reluctant catamaran to turn on a sixpence like a lively dinghy."

The slot mentioned is a vertical slot in the hull from one side to the other (the catamarans hull is very narrow at this point) and the flap controlled the amount of water passing from one side to the other.

The following letter describes how 'Yarro' was finally built with the first steering system and her ultimate fate.

Letter from Antony Johnson to Michael Ellison, November 29th, 1976.

P.O. Box 222 St. John's, Antigua, West Indies.

Dear Mr. Ellison,

Mr. Cynader has written to you regarding the steering system of YARRO as described in Mr. Marchaj's book. It may interest you to know that this craft was never built as shown in that book. The designer apparently got cold feet about his steering system and changed the design so that the whole after portion of each hull was hinged on an inclined rudder post to form a rudder which, of course, faired in totally with the hull.

Unfortunately, the rudder posts were inclined; so that when the catamaran

.35

was launched the rudders, with considerable positive bouyancy immediately took up a hard over position, to get them back to a midships position required the strength of more than one good man. As it turned out that wasn't as disastrous as might be expected because the boat trimmed down by the bow so far that considerable ballast was required at the other end to achieve a satisfactory trim-placing lead ballast in the rudders corrected, at the same time, the two problems of hull trim and rudder manageability.

Of course, that meant the boat was even heavier still than designed, without the lead she was already overweight and when the owner gave thought to that and the complication of the wishbone rig, he decided that as a conventional cutter rig having rather more than the designed sail area was preferable to the rig as designed. He did not go back to the original design for his new rig.

He was incidentally, put out somewhat as he had paid buckets of money for model tests, etc., and spent a great deal of time and money on the construction. His enthusiasm for catamarans waned from the time of launch and now approaches zero.

YARRO continued to disappoint him and the love affair terminated abruptly one cold and windy night, when he found himself forced to swim underwater out of the open hatchway and then spend a few chilly hours squatting uncomfortably on the underside of the deck of the inverted YARRO a few miles off the coast of New South Wales. She was sold and used as a houseboat thereafter and the owner went on to become a very distinguished sailor of monohulls.

Which is a sad story not meant to be a criticism of the catamaran configuration of which I am an enthusiastic protagonist but a caution on the use of unproven designs.

Yours truly, Antony Johnson.

Letter from Dave Keiper to John Morwood, 12th September, 1976.

Aboard "Williwaw," anchored in the Hanalei River.

Dear John,

I thought that I would let you know that I'm safetly back in Hawaii, 5,000 cruising miles later.

On the way back, I did two things that I have a distaste for: (1) sailed cold stormy waters, N.Z. to Rarotonga; and (2) solo sailed, from Rarotonga to Penrhyn to Hawaii.

I had a devil of a time finding crew leaving N.Z., and finally accepted a trimaran sailor who only wanted to go as far as Rarotonga. It was a bad season to leave N.Z. Several yachts had earlier left to sail for Tahiti, but ended up weeks or months later back in New Zealand, all battered up. Newspaper and T.V. played up the stories. Several times, I thought I had a crew member, but then someone would take them aside and tell them that "multihulls are unsafe offshore," and crew would drop out. The irony of it all is that, in all the time I was there, only one yacht caused a loss of life, and that was a new keel yacht that disappeared and presumably sank.

The worst case of bad-mouthing my boat was by an American residing there, who had the gall, while going out for a sail on my boat, to tell my crew behind my back that, in his opinion, my boat was unsafe. (The fellow knew next to nothing about my hydrofoils). I'm getting rather fed up with people considering "Williwaw" as primarily a trimaran. It's only a trimaran in the light winds. In moderate and heavy conditions, it is a hydrofoil, and doesn't have a trimaran's bad habits.

We left New Zealand, June 10th, with a disturbed southwest air stream that was generating 35 knot squalls, day and night. In several squalls, we got caught with full sail up, going wing-and-wing. Sometimes it was alright, but other times the seas were extremely irregular, and we would smash into walls of water. Also, at night it didn't seem very prudent to be doing 20 to 25 knots and be unable to see where we were going. I was at the helm during one unforgettable wave. It was 35 to 40 feet high, slope greater than 45°, and a flat-bottomed trough. "Williwaw" accelerated like wild down the wave, and put her nose underwater about 8 feet. The nose popped out 2 seconds later, and we started moving again. I think maybe the hydrofoils saved us from pitchpoling.

I didn't find the solo sailing at all difficult, perhaps just tedious. I got more sleep at night going solo, for it seemed futile to try to keep watch. (The only sea traffic seemed to be dolphins, and they always yield right of way). In the trade winds, I frequently made 180 miles per day with no effort on my part. This voyage was far more comfortable than the similar voyage I made in "Nimble 1" eleven years ago. In fact, there was almost no comparison.

Best Regards. Sincerely, Dave.

Reply from John Morwood

Dear Dave Keiper,

Throughout my whole A.Y.R.S. life, many people have been prejudiced in one way or another against this boat or that. In general, I have learned not to worry about them. Their effect is but temporary in the scheme of things whereas your 'Williwaw' will be remembered and written about for centuries to come.

What you have proved again is that a hydrofoil is not a trimaran or multihull. The foils stick in the water and will prevent capsizes and pitch poling. When sailing on flotation with both foils in the water, you are absolutely secure.

I saw this especially with Gerald Holtoms foils. When both were in the water, he had a boat of exceptional stability and seaworthiness. What I saw were only in models, of course, but they sailed in scale gales.

David Chinery's Mantis is again proved the principle. If the lee foil was airborne because the water left it, the weather foil would grip the water and hold that side down. Seaworthiness was again exceptional.

With best wishes, Sincerely, John Morwood.

DAVE KEIPER'S "WILLIWAW" FLYING



Letter to Michael Ellison from R. L. Cundall

c/o Folly Inn, Whippingham, Isle of Wight, 1st March, 1976.

Dear Mr. Ellison,

Re: Multihull Safety

Despite how much we evolve the design of multihulls in the future, in aspects of safety and seaworthiness, the basic fact remains that such vessels can only be truly stable in two positions, that is, right way up and upside down!

Unless our catamarans are built to ship proportions there will always be the fact that capsize is possible, however much we pray or cross our fingers. If we do not possess a constant helicopter escort then righting out cat' from a total inversion will not be far short of impossible.

Let me suggest that we accept this predicament, should it happen, and design our catamaran accordingly. The sketch will show the basic concept of the invertible catamaran.

- 1. The hull form is identical from top to bottom so that performance will be similar in both positions-right way up or upside down.
- 2. The centre blister should be clear of the water and containing all the necessary living requirements, including 360° gimballed stove, reversible cupboards, drawers, etc. All exit hatches (one each side of the net at the stern and each side of the mast for sail recovery) could be made water-tight if necessary.
- 3. Rudders and centreboards could be racked either way, controlled from the living area. Steering linkages would be made via similar routing.
- 4. Mast to be stepped on rotating beam-lateral shrouds made on to same beam.
- 5. Forestays taken through bow rollers, routed back to main blister.

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6. A removable net may be necessary between the hulls at the bow.

To regain sailing after a capsize.

- 1. Fit leverage poles into sockets situated at 90° and 180° relative to mast step. Lead forestay (after releasing from internal fixings) over poles and back to cockpit.
- 2. Release backstays, mainsheet, jib sheets and haul on forestays, removing poles when finished. Mast will stay square with support beam so fore and aft stability of mast has only to be watched.

- 3. At a convenient stage (possibly with the use of temporary support ropes) the shrouds should be slackened, the mast rorated to orientate the groove aft and the shrouds reversed one by one.
- 4. The forestay, backstay and bow net made on, mainsheet and jibsheet made fast and you are off again !

If nothing else, an invertible catamaran will enable one to scrub off and antifoul in mid ocean !!

Hoping my thoughts may be of interest.

Yours sincerely, R. L. Cundall.

Letter from Michael Ellison to R. L. Cundall.

5th March, 1976.

Dear Mr. Cundall,

Thank you very much indeed for your letter on Multihull Safety. This has been suggested already and a drawing published in a previous A.Y.R.S. number, but thought had not been given to setting the mast which, if I remember, slipped down through a hole (or rather up). You have gone into more detail than I remember showing previously and I will send your letter on for possible publication in a future number.

A strong point in favour of your system is that you have greatly reduced the windage of the hull above the water. Edmond Bruce's new book shows the importance of windage and its effect upon performance. From this point alone, it might be worth having the shape that you suggest.

Yours sincerely, Michael Ellison, Administrator.



METHOD OF RIGHTING HAVKAT

by Bjorn Enqvist



Eyebolts and lifelines under bridgedeck are standard. Orange bridgedeck is standard.

Longitudinal metacentric height is twice athwartships. M.H.



Letter from Lars Oudrup to Michael Ellison.

Resedaveg 9, 8600 Silkeborg, Denmark. 4th February, 1977.

Dear Mike,

I have just got a copy of the new I.Y.R.U. Multihull Safety Regulations, and I think there is too much monohull thinking in it.

For instance, stowage of life raft and flares on the Life raft must not be fouled by the lifelines, but may be stowed on deck, and you still have to dive for it and have a hard job pulling it **down**?



Flares stowed in a waterproof container – but where?

No mentioning of snap hooks on both ends of safety belts, No mentioning of masthead floats. I think your Azores race regulations are much better, but I have not the R.Y.A. regulations.

I have made a small safety recommendation regarding my Havkat 18, being so small is good when you want to right it. I have used your name at recommending masthead floats – I hope this is O.K.?

The Havkat 18 will right itself,* even with a strong wind on the underside of the bridgedeck (* from the masthead in water position).

Best wishes, Lars Oudrup

1977 SAILING RACE TO HORTA, FAIAL, AZORES FROM PLYMOUTH, ENGLAND.

The race will be organised by the Multihull Offshore Cruising and Racing Association and the Club Naval da Horta, Azores.

13) SAFETY EQUIPMENT

All competing yachts shall comply with the following:-

Single hull yachts shall as a minimum, carry the equipment currently required by the Offshore Rating Council for category two yachts. (Reproduced in a Royal Yachting Association Publication).

Multihulled yachts shall as a minimum carry the equipment currently specified in the "Safety and Minimum Equipment Regulations" published by the Royal Yachting Association for category 0 multihulls.

In addition, all competing yachts shall also comply with the following: -

(a) Total fresh water capacity shall be not less than 10 imperial gallons per crew member and shall be carried in containers or in not less than two separate tanks. (This in lieu of the fresh water capacity, other than in the life raft, specified in the previously mentioned regulations).

(b) Carry sufficient tools, materials and spares for emergency repairs at sea, including underwater setting cement or similar product suitable for the repair of underwater damage.

(c) One fire extinguisher of at least 3 lbs. content shall be situated in each hull of a multihull containing living accommodation. (In lieu of the requirements of the above regulations).

(d) A jackstay or stays must be securely rigged far enough inboard and run from at least the cockpit to a point forward which will permit crew members' personal safety harness when attached thereto to reach far enough for work at the forestay yet prevent the wearer from being swept overboard. (Where the lack of width of deck near the bow may make strict and literal compliance with this regulation impossible the best bona fide attempt to comply shall be accepted).

(e) An alternative method of steering in case of damage to the rudder(s). A long oar or a spare rudder blade if this can be fitted at sea is recommended. (This is already required for multihull yachts).

(f) One of the two lifebuoys must have attached to it by a line a ballasted pole and flag. The top of this danbuoy when in the sea to be at least 4 feet above the surface. This buoy shall have the drogue, whistle (referee type) and self-operating light already required by the rules but the light should preferably be fitted on top of the pole.

All lifebuoys are to be clearly marked with the name of the yacht.

(g) An adequate medical kit and instructions for its use shall be carried. As a guide, it should contain in addition to its usual contents: burn or scald ointment, an eye bath, antibiotics, crepe bandages, splints and an analgesic such as pethidine and distalgesic.

(h) Multihulled yachts must carry sufficient positive buoyancy to remain afloat in the event of capsize or flooding. (A certificate from the builder specifying the quantity of positive buoyancy incorporated will be accepted as proof of its existence).

(i) There shall be a separate bunk for every crew member. If this is not possible the yacht must be equipped with not less than one bunk less than there are crew members.

(j) An additional bilge pump or adequate spare parts for the existing

pumps shall be carried.

The following whilst not mandatory are also recommended by the organizers:

(k) Each personal safety harness be fitted with two lanyards each with a snap hook at either end and that both lanyards be attached throughout the hours of darkness and during adverse weather to the jackstay or other strong point inboard. If a harness is fitted with only one lanyard that lanyard must have three hooks (one at each end and one spliced at such point between as shall enable the user to use that hook during movement). N.B. Skippers are strongly urged by the organizers to dissuade crew members from attaching their safety harness to guardrails situated along the outboard extremities of

the deck as such a practice tends to induce in the wearer a false sense of security.

(1) A portable distress radio transmitter be carried, accessible when capsized.

(m) A heavy canvas envelope with eyelets to serve as a collision mat.

(n) A fire blanket which should be within reach of the galley.

(o) Multihull yachts are recommended to fit masthead permanent buoyancy, otherwise they should carry some other anti-180 degree capsize device. They should have a hatch affording easy access from the accommodation to the underside.. The underside of the wings or bridging should be painted a bright colour. The emergency equipment locker and life raft should be accessible when capsized. In the absence of an underwing hatch an axe must be carried accessible when capsized.

RIGHTING A CAT

by T. Moekli

SOLVING THE PROBLEM OF RIGHTING A CAT....

The righting process of Emoyeni if she would be capsized is illustrated in the drawings below.

Left: Lying on her side and prevented from tipping right over by the mast-top float.

Centre: The upper rigging is released and a block and tackle is used round the lower rigging to draw it in and reduce the angle between the boat and masts. This forces the hull back into a normal position since the float cannot be submerged.



This sketch shows the flat-topped 'A' mast structure of Emoyeni. The horizontal bar at the top is filled and covered with foam plastic to form a powerful float. The three sails are set like the foresails of an ordinary yacht from stays.

Right: The boat is back on the water with its mast lying flat but ready to be rehoisted.



Letter from Michael Ellison to T. Moekli

14th January, 1976

Dear Mr. Moekli,

Thank you very much for your paper cutting from the Argus. This is certainly very interesting.

The Prout Brothers have been using a slightly similar system for some years on their Wild Goose catamaran. This is the recent version of the Snow Goose. The shrouds of the mast pass over a sheave on each gunwale and locked to a winch. If the boat capsizes the winch can be turned to pivot the mast to leeward thus causing the hull to self right.

Many thanks for your interest.

Yours sincerely, R. M. Ellison, Administrator.

T. Moekli Esq., 30 Arixoma Road, Thornton 7460 Cape Town, South Africa.

Letter from John Herndon Thompson to John Morwood, John Shortall and Harry Moss.

10th May, 1976

With the capsize and presumed loss of Gulf Streamer, it seems to me that quite a strong statement in A.Y.R.S. pages is in order. It has been obvious since the beginning that Catamarans and Tris are basically bi-stable shapes, (as are wide, flat monohulls), and that to be safe ocean-going propositions, this fact should be squarely faced.

In A.Y.R.S. 63, and 69, dating from the late 1960's, considerable optimism is expressed that multihull capsizes at sea, of boats designed for the purpose, can be practically eliminated by a combination of factors: (1) Improved Seamanship, (2) Improvements in design of the boats and year and (3) Use of foils for stability.

Eight years later, this has not turned out to be true.

I really do not see any way that such capsizes as Gulf Streamer's can be avoided. There is a statistical probability that a wave of the right size and shape will occur, and no gadget can prevent it.

It seems to me that the A.Y.R.S., which has done so much to encourage and foster multihull development, should be ready to acknowledge this fact, and, with characteristic energy, recommend a real solution.

A real solution has got to begin with the assumption that any multihull can find itself upside down at sea. It must also be assumed that no practical way exists for an inverted multihull at sea to right itself.

If these assumptions are granted, the solution is obvious—Any ocean going multihull must be able to get under way and make any reasonable port after capsize.

In one extreme form, this requires a symmetrical hull system, a rig that can be projected either up or down with a minimum of confusion, likewise, centreboard and rudder. Accommodations must be accessible and habitable either upright or inverted. Most of the ships gear must work either upright or inverted.

In a more practical form, requiring less distortion of the design, the hull system must be functional in the inverted position, i.e., it must float, be suitable for limited speed propulsion with portable power or jury rig. Original rig must be easily detachable from the inverted position and in reasonable weather, could be salvaged. Jury rigging and leeboards must be accessible and easily managed. Accommodations must be accessible and habitable. Some invention and engineering is required to provide suitable hatches, cockpit, companionway, ventilation and similar details (!). Other problems that require attention are tankage, batteries, propulsion system, head, stove, etc., etc.

It seems to me that evading this problem with multihulls simply should not be continued by the A.Y.R.S. So long as capsizable multihulls put to sea that cannot cope for themselves after capsize, there will be unnecessary loss of life and property. Also air-sea search and rescue efforts will be needlessly expended.

If the A.Y.R.S. would set a goal of developing the technology and engineering, the needed gear to achieve reasonable inverted operation of multihulls and encourage the use of this technology, we would help achieve the worthwhile goal of assuring the long-term acceptance and success of ocean going multihull yachts.

Kindest regards, John Herndon Thompson.

BUOYANT MASTS FOR CAPSIZE REVERSAL

by Mike Hardcastle

When the Atlantic proa "Cheers" was designed, Dick Newick deliberately made the masts oversize to provide floatation and prevent the boat overturning should the rig be caught "aback."

I have been thinking for a year or two now about a design for a "Bruce Foil" Cruiser, rather similar to "Cheers" but with sufficient beam so that she would be fully balanced out with the rig on one hull and the foils on the other.

Capsize to the sail side could only be 90° because of the buoyant masts (I have been thinking in terms of a lugsail schooner). Capsize over the foil hull would result in a 180° capsize but a suitable masthead float, (possibly inflated after capsize) would result in automatic righting at least to the 90° position.









"DALIBOR" - Josef Dusek

