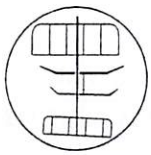
#58

Indoor Flight International

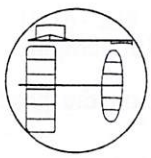
FEB 04

THE LATEST NEWS AND INFORMATION ON INDOOR MODEL AVIATION.

INSIDE



Swedish F1D 8
F1D model designed by Jonas Romblad



Ally Angel 14
F1D model designed by Fabio Manieri

OTHER STUFF

Contest Calendar 1
Colophon 2
Tru Torque Rubber 2
Italian Contest Results 3
Tips & Tricks 4
F1D Model by Lutz Schramm 5
European Champs F1D
- Results 6
- Report 7
2004 Int. Indoor Postal Contest 9
Interscale 2004 10
British Duration Nats Results 12
Scale at the Dome 15
Rubber Stretch tests 16
Results from various German Contests 17
Canadian Indoor Nats. Results 17
Spanish Contest Results 18

From the Editor

A bit late, but still my very best wishes for the New Year, and happy indoor flying in 2004! Here's the new issue with a lot of info, F1D drawings and results from all over the world.
For the next issue (which is due soon), I would like to give attention to indoor scale models, with in hindsight the upcoming Interscale 2004 contest in Nottingham in the UK. So if you would happen to have something scale-model-related to contribute (whether about Peanut, Pistachio or any of the other scale classes, building tricks etc.) please send it to me.
The stiffness test article is postponed one more time to the following issue, but it will definitely be in that issue! Furthermore, I'll translate a very interesting German technical article about 55cm F1D motorsticks.

Gert Brendel

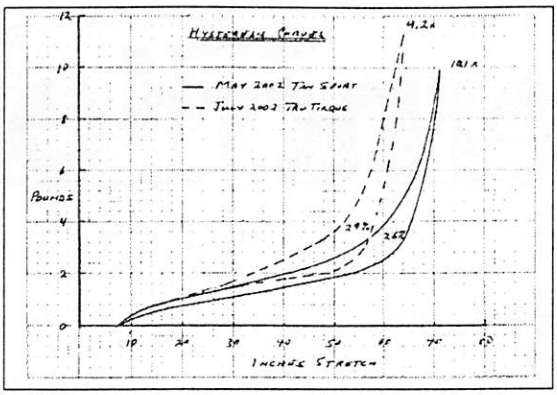
Contest Calendar 2004

What & When	Where	Info
Worldwide Postal 01.12.2003 - 31.03.2004	Worldwide	Classes: F1M, Science Olympiad B and C, Standard CLG, Unlimited CLG, Phantom Flash - Look at *http://www.indoorfreeflight.com/* for more details.
2004 International Indoor Postal Contest 01.01.2004 - 30.04.2004	Worldwide	Classes: Ministick and A-6 - All scores are to be mailed to Andrew Tagliafico, 10039 SW Quail Post Road, Portland, OR 97219, USA. All scores must be received no later than May 15, 2004.
Training 07.03.2004	Dillingen, Germany	F1M Training Indoor Free Flight and Slow-Fly, Sporthalle West, Dillingen
Kottenpark Indoor 2004 14.03.2004	Enschede, Netherlands	Classes: F1M, (F)Looper, Bostonian, Sport-scale, Indoor-chuck, Pylon-race. Contact: Gert Brendel at *indoorflight@yahoo.com*. More info elsewhere in this issue!
Millennium Dome 23-24.03.2004	London, UK	Classes: LLP, Mini Stick & F1L – details inside this issue
Indoor Fly In 03.04.2004	Nijmegen, Netherlands	Classes: F1M, (F)Looper. Site: Jan Massinkhal (smooth ceiling, about 10 m. high) in Nijmegen, 12-17 pm. Contact: Thedo Andre at *Thedo.Andre@net.HCC.nl*
Midwestern States Indr Championships 03-04.4-2004	Illinois, Champaign, USA	Contact: Robert Warmann, 245 N. Oaklawn Ave, Elmhurst, IL 60126, USA Phone: 630-834-9075 Classes: HLG, Std. & Unl. CLG, A6, FAC No-Cal, SO, Pennypl., Ltd. Pennypl., Bostonian, LRS, Intermediate Stick, F1D, EZB, F1L EZB
Millennium Dome 06-07.04.2004	London, UK	Classes: F1M, Mini-Stick, F1L – details inside this issue
Millennium Dome 20-21.04.2004	London, UK	Classes: F1D, F1M, F1L – details inside this issue
Millennium Dome 04-05.05.2004	London, UK	1st F1D Eurotrials – details inside this issue
2nd Postiguet Cup 15-16.05.2004	Spain	Classes: F1D, F1M, F1L, F4D and F4F. Send email to *clubsaf15@hotmail.com* for more info.
Millennium Dome 18-19.05.2004	London, UK	Classes: 35 cm, F1D, F1M, F1L – details inside this issue
Concours International de Bordeaux 29-30.05.2004	Bordeaux, France	Classes: F1D, F1L, F1M Contact: Jean-Pierre Darrouzes, 32, av. du Maréchal de Lattre de Tassigny, 33610 Cestas, France Telephone: +33 5 56 07 65 66 Fax: +33 5 56 36 95 44
Brit. Duration Nationals 08-10.06.2004	Mill. Dome, London, UK	Classes: F1D, F1M, F1L, LPP, Mini-Stick, 35 cm, No Cal – details inside this issue (Provisional date for 2nd trials, incorporated into the Nats F1D)
Concours Int. d'Orléans 12-13.06.2004	Orléans, France	Classes: F1D, F1L, F1M Entry Fee: Eur 15.- (+eur 8.-) Contact: Jacques Delcroix, 41 allée du Coudray, 45160 Olivet, France Telephone: +33 2 38 63 49 57 Fax: +33 2 38 63 49 57
Span. Championships 04-05.09.2004	Alicante, Spain	Classes: F1D, F1M, F1L, F4D and F4F. Foreign competitors are welcome. Send an email to *clubsaf15@hotmail.com* for more info.
Interscale 2004 10-12.09.2004	Nottingham, UK	Classes: F4D, F4E, F4F, Pistachio, Air Race and Mass Launch Rubber Scale. Contact: Charlie Newman, 37. Crown Road, Wheatley, Oxon, OX33 1UJ, United Kingdom, 01865 873020, email: *charlie@newman737.freeserve.co.uk*
World Championships F1D 04-09.10.2004	Slanic Prahova, Romania	Entry Fee: EUR 300.- Contact: Zanciu Mihail, OP 6 - CP 56, Bucuresti, Romania Email: frm@radiotel.ro Telephone: +40 21 33 04 040 ext. 224 Fax: +40 21 33 04 040 ext. 224
Butterfly Meeting 30.10.2004	Nijmegen, Netherlands	Contest in the Jan Massinkhal (smooth ceiling, 10 m. high) in Nijmegen from 12-5 pm. Classes: F1M, (F)Looper. Contact: Thedo Andre, *Thedo.Andre@net.HCC.nl*
Coupe du Vin Rouge 31.10.2004	Dillingen, Germany	F1M Open Indoor Contest, Sporthalle West, Dillingen, Germany Contact: Alfred Klinck, Kurt-Schumacher-Allee 235, 66740 Saarlouis
Indoor Contest 21.11.2004	Schorndorf, Germany	F1M, F1M-L, Mini-Stick. Contact Bernhard Schwendemann at *BeSchwende@aol.com* or look at *http://www.modellflug-schorndorf.de/* for info.

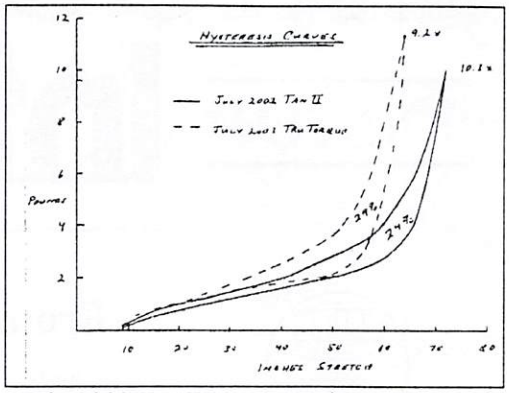
Tru Torque Rubber

A new model airplane rubber strip is coming to the market

Gummy band fliers now have a new choice in rubber for the motors. Tru Torque Rubber is in production and will be available for purchase starting in early September. This rubber strip is specially formulated for the unique needs of sport rubber fliers. It is extra tough with an incredible tensile strength and very high cruise torque.



July 2003 Tru Torque vs May 2002 Tan Sport



July 2003 Tru Torque vs July 2002 Tan II

Tru Torque Rubber is designed for all classes when you don't need to push to the absolute limit. Tru Torque Rubber offers energy return that is equal with the best that Pirelli had to offer along with an incredible toughness and all around great handling qualities at a very economical cost. Now you can save your remaining supply of super competition rubber for when you need the extra performance the most and use economical Tru Torque Rubber when the extra performance is not needed.

Tru Torque Rubber is available in 3 mm (approx. 1/8") and 6 mm (approx. ¼") widths and is packaged in 500 gm (1.1 lbs.) bags.
Cost is $17.00 per 1.1 lbs. bag with USA Shipping $5.00 for 1 bag, $8.00 for 2 bags.

Quantity special is 9 bags (9.9 lbs.) for $150.00 including shipping to the 48 continental USA states.

Contact us at:
Sales@TruTorqueRubber.com
for shipping costs to other locations or in other quantities.

Orders can be placed by sending check, money order or your MasterCard/Visa information to:
Tru Torque Rubber
7257 W 116th Place
Broomfield CO 80020

Please include your telephone number with all orders in case we need to reach you.

Additional information, performance data, hysteresis curves, and soon online ordering are available at www.TruTorqueRubber.com

Carl Bakay's test on the production rubber:
My sample was slightly over 3 mm, and very close to 1/8, and 40 mils thick. Very tough, higher breaking force than July 2002 Tan II with 11.5+ pound breaking strengths. Creamy, smooth, rectangular cut, no delaminating, if they laminate. One splice, but did not break at the splice, so the Chinese are very good.

Width	0.124"
Thickness	0.040"
Tensile	2275 psi
Permanent set	5.7%
Elongation	9.5X
Energy @78 deg F	3862 ft-lbs/lb
Energy @70 deg F	3847 "

VIOLET DREAM MICROFILM

I am using the same, standard components every time.

The well poured microfilm has uniform colours, easy to pour, spreading well, easy to lift, it is not sticky, doesn't tighten and shrink, it is properly tough and durable.

I make pouring tests from every mixture, so I sell only solutions of excellent quality.

Bottle Size	Prices	mailing costs Europe	Other
100 ml bottle	6 €	3 €	5 €
330 ml bottle	20 €	5 €	8 €
600 ml bottle	36 €	10 €	15 €

Address: Orsovai Dezsö
H-1224 Budapest IX. utca 12.
Hungary
Email: orsi48@interware.hu
Fax: (36-1) 249-9827

Colophon

Indoor Flight International is published 4 to 6 times a year and covers all types of indoor models from peanut to microfilm. Texts can be sent in English, French or German and word processed documents can be sent on floppy disks in any text format. Computer drawings should be in Autocad .dwg (saved as Autocad v14 compatible) or .dxf formats and if you are no draftsman, I can do the drawings.

Payment of subscriptions should be in the form of an international money order in Euros or in cash (American $ or Euros). It is also possible to pay per creditcard online - see the website *http://www.indoorflight.com* for more details!

Editor:
Gert Brendel
A. Meyeringstraat 54
7521 TM Enschede
The Netherlands
Phone +31 53 4356921
Email: *indoorflight@yahoo.com*
Postbank account nr: 1104432
IBAN code: NL83PSTB0001104432
Postbank BIC (SWIFT) code: PSTBNL 21

Subscription Cost
(per 8 issues)
Holland EUR 14,-
Europe EUR 15,-
Rest EUR 22,-
(or US$ 20,-)

Results 12th Florence Indoor Open International Contest 2003

F1M Modified

	Name	Fl. 1	Fl. 2	Total
1	Fabio Manieri	13'33	13'31	27'04
2	Vittorio Negri	10'28	12'33	23'01
3	Giacomo de Angelini	10'32	10'47	21'19
4	Giuliano Pizzi	10'41	9'36	21'19
5	Silvia Vaccaro	9'12	10'32	19'44
6	Adriano Toschi	7'59	10'55	18'54
7	Loris Romagnoli	7'22	7'26	14'48
8	Franco Pianigiani	4'11	3'27	7'38

Catapult

	Name	Fl. 1	Fl. 2	Fl 3	Total
1	Urs Schaller	33	33	33	99
2	Benito Bertolani	32	32	34	98

Ministick

	Name	Fl. 1	Fl. 2	Total
1	Fabio Manieri	8'41	9'12	17'53
2	Giacomo De Angelini	6'23	7'37	14'00
3	Franco Pianigiani	5'09	4'46	9'55
4	Benito Bertolani	3'44	3'30	7'14
5	Mariella Bertolani	3'30	3'17	6'47

TH

	Name	Fl. 1	Fl. 2	Total
1	Fabio Manieri	9'52	9'23	19'15
2	Giacomo De Angelini	7'45	7'52	15'37
3	Loris Romagnoli	5'15	5'50	11'05
4	Benito Bertolani	5'39	4'44	10'23
5	Franco Pianigiani	4'45	5'30	10'15

Results 2nd Trofeo "Ai Canipai" Volo Libro Indoor 2003

F1M modified

	Name	Fl. 1	Fl. 2	Total
1	Fabio Manieri	12'38	13'01	25'39
2	Adriano Toschi	9'37	11'05	20'42
3	Silvia Vaccaro	8'32	8'57	17'29
4	Vittorio Negri	8'03	5'52	13'55

TH

	Name	Fl. 1	Fl. 2	Total
1	Fabio Manieri	8'17	8'32	16'49
2	Benito Bertolani	6'17	6'20	12'37
3	Vit.o Facchini	4'58	4'20	9'18

Ministick

	Name	Fl. 1	Fl. 2	Total
1	Vittorio Negri	5'17	3'18	8'35
2	Mariella Bertolani	3'18	3'34	6'52
3	Franca Facchini	2'06	3'00	5'06

Catapult

	Name	Fl. 1	Fl. 2	Fl. 3	Total
1	Benito Bertolani	35	38	41	114

Italian Championships 2003

F1D formula FAI

(min. weight 1.2 gram, 0.6 gram rubber)

	Name	Fl. 1	Fl. 2	Total
1	Fabio Manieri	23'17	22'06	45'23
2	Giacomo De Angelini	16'32	16'21	32'53
3	Franco Pianigiani	13'16	12'00	25'16
4	Giancarlo Fortini	9'47	10'57	20'44
5	Mario Gialanella	10'21	6'18	16'39

F1M formula FAI

(min. weight 3.0 gram, 1.5 gram rubber)

	Name	Fl. 1	Fl. 2	Total
1	Fabio Manieri	13'58	14'22	28'20
2	Giacomo De Angelini	12'18	12'02	24'20
3	Mario Gialanella	8'50	10'06	18'56
4	Paolo Vittori	8'44	9'28	18'12
5	Franco Pianigiani	9'22	8'00	17'22

Results 2003 USA F1D Team Selection Finals

Senior Team Selection Finals

	Contestant	Best	2nd	Total	Finals pts	Rgnl pts	Score
1	John Kagan	37:59	36:47	74:46	1000.00	100.00	1100.00
2	Larry Cailliau	36:46	35:18	72:04	963.89	95.33	1059.22
3	Steve Brown	36:40	35:01	71:41	958.76	94.30	1053.06
4	Tom Sova	35:24	35:12	70:36	944.27	100.00	1044.27
5	Brian Johnson	35:10	26:08	61:18	819.88	100.00	919.88
6	Jeff Dalton	27:33	25:54	53:27	714.89	84.57	799.46
7	Cezar Banks	28:19	21:00	49:19	659.61	75.00	734.61
8	Mark Bennett	29:07	09:57	39:04	522.51	100.00	622.51
9	Allen Cohen	01:25	00:00	01:25	18.95	86.48	105.43
10	Bill Leppard	00:00	00:00	00:00	0.00	89.37	89.37

Junior Team Selection Finals

	Contestant	Best	2nd	Total	Finals pts	Rgnl pts	Score
1	Doug Schaefer	35:30	34:11	69:41	1000.00	100.00	1100.00
2	Brett Sanborn	26:27	25:06	51:33	739.78	100.00	839.78
3	David Rigotti	26:08	24:31	50:39	726.86	100.00	826.86
4	Patric Wilcox	24:43	21:57	46:40	669.70	0.00	669.70

Hints, tips and announcements

Infrared Non-Contact Thermometer IR-300

By Gert Brendel, The Netherlands

I first saw this at the European Championships F1D in London, used by the Romanian team, to measure temperature at both ground and higher altitude level. It's an Infrared Non-Contact Thermometer IR-300 which can be bought from Conrad Electronics (*http://www.conrad.com*), product nr. 121010 and it's priced at Eur 49,95 (I just bought one). It might be available in other countries around the world as well, but in which stores I wouldn't know.

Y2K2 film is no more

By Don Slusarczyk (USA) on the indoor yahoogroups list, Jan 24

In my phone conversation with Larry Coslick today, he informed me that Y2K2 film is no more and that there are about 100 rolls of Y2K film still left. That is all that is available. So I guess it is time we all learn to pour microfilm!

Easy rubber rings for indoor models

By Peter Hess, Canton, CT, USA - hesspl@comcast.net

The ink tubes from the simple, cheap, old Bic ball points, having been cleaned of ink, can be sliced to make terrific O-rings for Ministicks and EZBs. But unless the O-rings are "finished", the rough edges might cut into the rubber under winds. However, if you finish the cut O-rings by passing them through the flame of a match or a candle at just the right speed, the plastic softens and contracts just enough to round off the sharp edges. Getting the right time/temperature combination can be tricky. Too little heat will not round off the edges; too much heat and the little critters will distort and sag and become useless. I slip the O-rings over a length of wire to hold them - one at a time - while I heat finish them.

Cheap Digital 0,01 gram scale at Billigheadshop

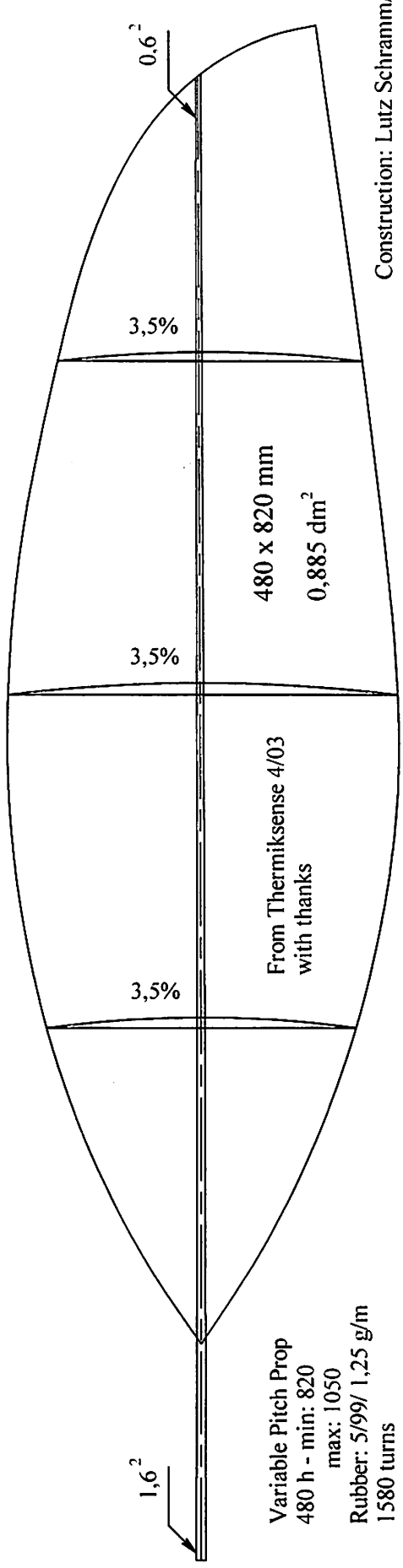
http://www.billigheadshop.de/

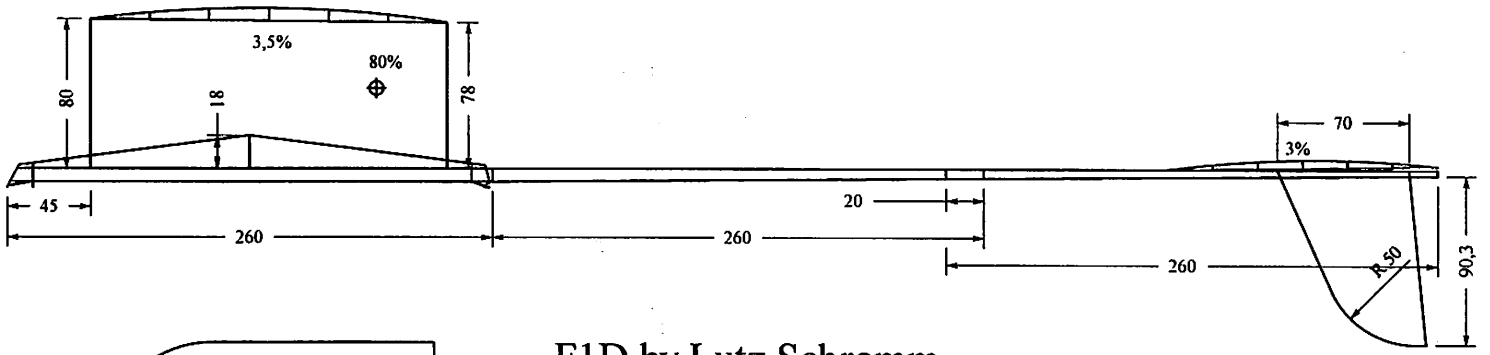
Bruno Wächter wrote to me, telling that Billigheadshop at http://www.billigheadshop.de supplies a cheap digital scale: the PS-001 Feinwaage (50g /0,01g) at Euro 84,70. It weighs up to 50 grams with a resolution of 0,01 gram, turns of automatically, comes with a 24 months warrant, and operates on 3 AAA batteries. Dimensions: LxBxH 12,5x8,2x2,1 cm. Look on their website for more info.

O-ring tubing

By Bill Gowen(USA) on the indoor yahoogroups list, Jun 18

Steven Richman found this and sent me the info about the Nylon Pressure Tubing. I ordered some and it seems to work well. I got the 1/8" o.d. and the 3/16" o.d. Type T tubing. I cut some o-rings and wound them up to 1.0 in-oz with no apparent problems. I paid a little over $20 for 100 feet of each (probably a lifetime supply). No more scrounging the tubes out of spray bottles! Here's the (rather long) internet url:
http://www.usplastic.com/catalog/product.asp?catalog%5Fname=USPlastic&category%5Fname=Nylon+Tubing&product%5Fid=Semi%2DFlexible+Nylon+Pressure+Tubing+6%2F6

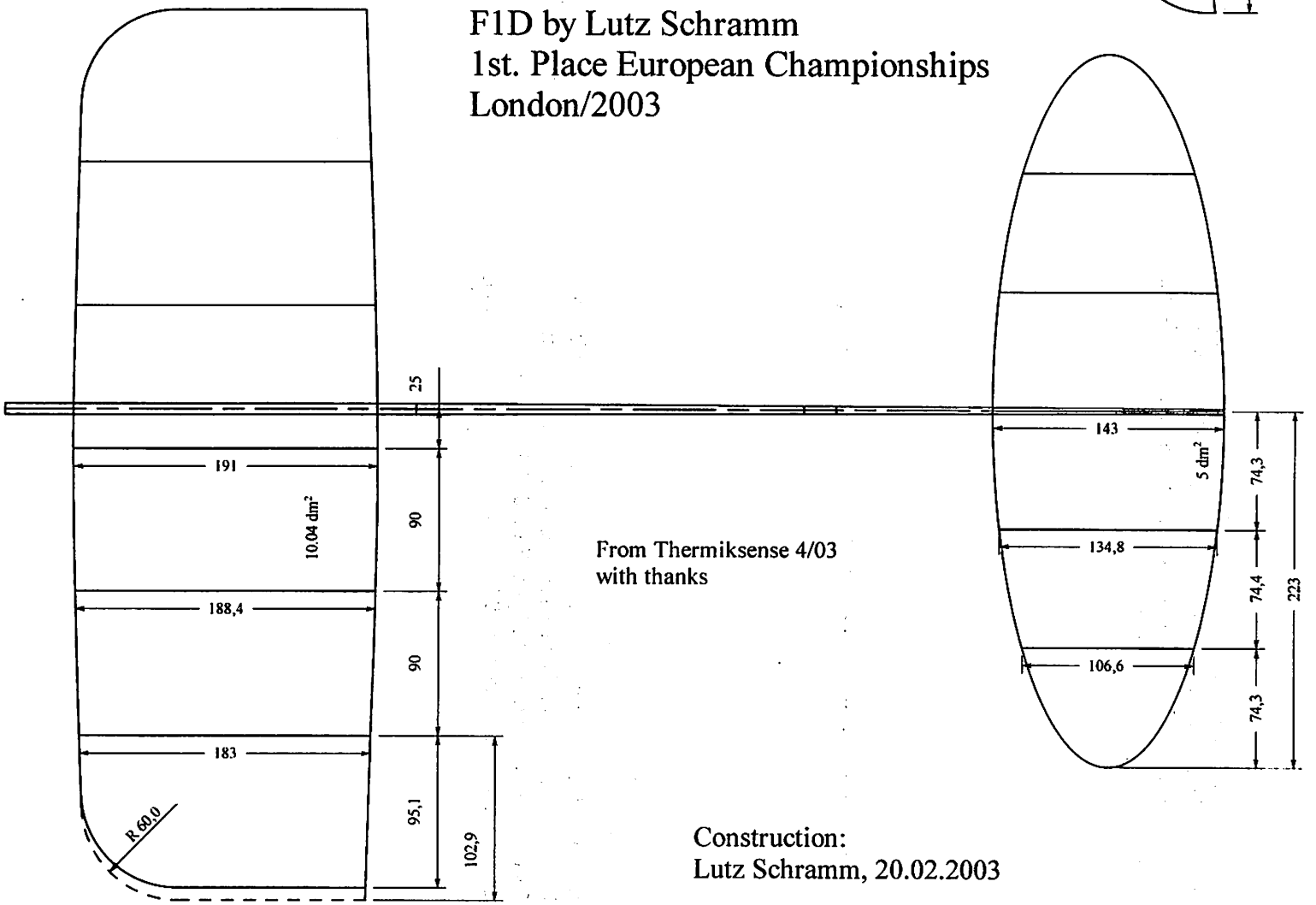




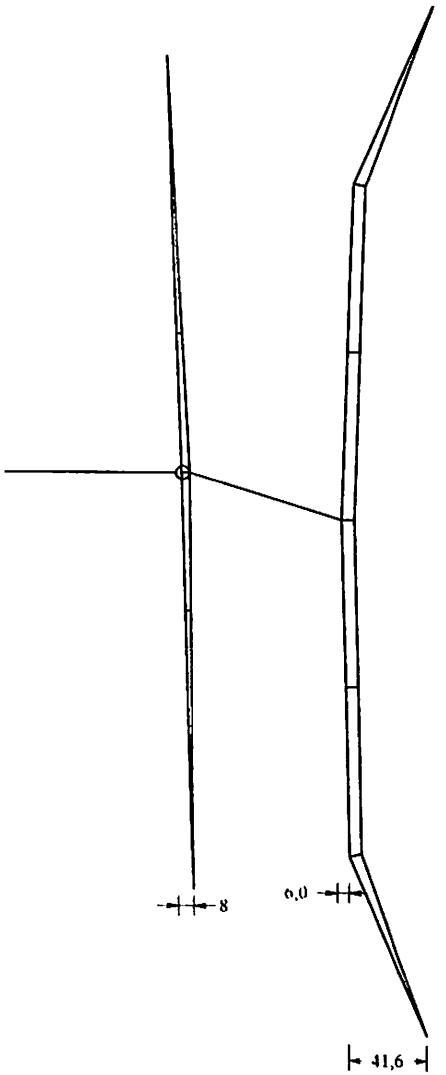
Component weight:

Fuselage:	360 mg
Wing:	360 mg
Taiplane:	265 mg
Propeller:	260 mg
Total:	1245 mg

F1D by Lutz Schramm
1st. Place European Championships
London/2003



From Thermiksense 4/03
with thanks



Construction:
Lutz Schramm, 20.02.2003

Results European Championships F1D 2003

Held at London, England from October 2 to 6

Flight times are given for each of the 6 rounds in "min.sec" form. Note that * indicates the best time recorded, + marks the second best time, together these add to give the contest time given in the right hand column.

Individual Results Seniors

	Name	Country	1	2	3	4	5	6	Total
1	Lutz Schramm	GER	32.14	33.54*	29.37	0.00	30.22	33.13+	67.07
2	Jonas Romblad	SWE	30.04+	11.57	28.57	29.37	31.35*	18.16	61.39
3	Fabio Manieri	ITA	24.40	30.02+	31.35*	14.04	10.23	27.05	61.37
4	Aurel Popa	ROM	7.36	29.08+	32.03*	26.04	25.20	15.56	61.11
5	Oleh Korniychuk	UKR	30.08	30.44*	0.00	30.26+	27.19	16.30	61.10
6	Geoffrey Lefever	GBR	29.54+	31.10*	16.59	15.12	28.32	26.36	61.04
7	Peter Keller	SUI	26.38+	34.07*	0.00	21.12	0.15	10.37	60.45
8	Corneliu Mangalea	ROM	10.21	30.20*	25.30	0.15	29.49+	28.06	60.09
9	Oleksandr Kovalyov	UKR	29.12	30.55*	29.13+	23.08	26.11	28.20	60.08
10	Andras Ree	HUN	28.01	31.08*	0.00	0.17	28.28+	19.36	59.36
11	Derek Richards	GBR	28.35	29.37*	26.05	25.01	23.29	28.41+	58.18
12	Nick Aikman	GBR	27.43+	30.21*	5.43	0.00	0.00	26.26	58.04
13	Sergiy Mosolov	UKR	24.21+	33.27*	0.00	17.59	23.47	0.00	57.48
14	Gert Brendel	NED	0.00	0.00	30.47*	0.32	26.48+	24.19	57.35
15	Edward Ciapala	POL	18.17	24.19	26.24	28.24+	28.39*	26.30	57.03
16	Dezso Orsovai	HUN	17.30	0.09	27.37+	5.45	25.41	29.00*	56.37
17	Sven Pontan	SWE	19.37	26.03+	18.55	29.49*	0.00	18.27	55.52
18	Jean-Francois Frugoli	FRA	25.18	28.48*	5.35	22.43	26.30+	24.02	55.18
19	Rainer Lotz	GER	0.06	0.00	28.37*	9.17	25.59+	19.05	54.36
20	Slobodan Midic	SCG	14.48	28.13*	25.54	22.32	26.21+	23.52	54.34
21	Dan Amoraritei	ROM	1.07	23.46	26.08+	22.51	27.59*	22.10	54.07
22	Jan Dihm	POL	23.36	25.14	17.30	27.01*	26.47+	0.00	53.48
23	Werner Nimptsch	GER	19.31	26.14+	20.29	26.46*	19.02	0.13	53.00
24	Dieter Siebenmann	SUI	22.41	29.18*	0.00	6.17	1.21	23.24+	52.42
25	Didier Barberis	FRA	23.45	24.38+	20.13	18.34	6.54	27.17*	51.55
26	Daniel Medina-Mangas	ESP	21.11	27.40*	24.15+	12.59	0.00	5.51	51.55
27	Jerzy Markiewicz	POL	21.39	25.31*	19.45	18.04	24.55+	22.43	50.26
28	Mikita Kaplan	CZE	25.08*	25.01+	4.30	22.04	0.00	13.33	50.09
29	Zoltan Sukosd	HUN	6.50	21.24+	19.06	0.15	20.24	26.48*	48.12
30	Robert Champion	FRA	23.17+	22.19	21.13	24.16*	14.21	20.15	47.33
31	Klara Kaplanova	CZE	23.05*	19.53	10.12	22.32+	0.17	20.56	45.37
32	Pentti Nore	FIN	17.45	19.10+	24.48*	15.39	0.00	0.00	43.58
33	Franco Pianigiani	ITA	10.39	17.22	12.57	11.01	18.56+	23.03*	41.59
34	Giacomo De Angelini	ITA	15.10	17.12	13.42	10.05	18.58+	21.50*	40.48
35	Leif Englund	FIN	20.02*	5.47	16.59	18.30	18.59	19.39+	39.41
36	Zdenek Cinert	CZE	16.09	15.05	16.40+	13.51	12.40	19.07*	35.47
37	Harro Erofejeff	FIN	0.00	7.04	2.50	1.16	13.11*	13.04+	26.15
	No. of best flts in round		3	15	5	4	4	6	
	No. 2nd best flts in round		6	8	5	3	10	5	
	Total scoring flts in round		9	23	10	7	14	11	
	No. of flights over 20 min		21	26	18	16	20	21	122
	No. of flights over 25 min		11	21	13	8	16	11	80
	No. of flights over 30 min		3	10	3	1	2	1	20

Individual Results Juniors

	Name	Country	1	2	3	4	5	6	Total
1	Philip Lotz	GER	8.39	26.47*	19.30	24.20	22.20	24.53+	51.40
2	Mariusz Rogowski	POL	22.57	24.54+	23.40	26.12*	0.00	24.27	51.06
3	Krystian Jarczyk	POL	19.48	20.33+	19.59	23.00*	19.06	19.54	43.33
4	Michal Pukowiec	POL	18.56	19.33+	3.00	11.55	21.26*	18.33	40.59
5	Gabriela Kaplanova	CZE	14.47+	0.02	12.45	5.40	11.46	20.53*	35.40
	No. of best flts in round		0	1	0	2	1	1	
	No. 2nd best flts in round		1	3	0	0	0	1	
	Total scoring flts in round		1	4	0	2	1	2	
	No. of flights over 15 min		3	4	3	3	3	5	21
	No. of flights over 20 min		1	3	1	3	2	3	13
	No. of flights over 25 min		0	1	0	1	0	0	2

European Championships F1D 2003

London, England from October 2 to 6

This year's European Championships were flown in the Millennium Dome in Greenwich, London, UK. This truly is a magnificent flying site that not many of us have been to before (except for the British, who had their Duration Nationals in the Dome in July). Nor did any of us think they would be flying the Euro Champs at this site; in August we all thought we would be flying in the CargoLifter Hangar in Berlin, Germany. But bankruptancy of the CargoLifter AG and the subsequent unavailability of the site made a change of site necessary. Thanks to a tremendous effort by Laurie Barr and his team, the change of sites went really smooth.

The Millennium Dome is an excellent flying site; the overall diameter of the building is 358 meters but the maximum span is approximately 225 meters (which is the diameter of the ring described by the 24 masts supporting the roof). The canopy is made of PTFE (a weather-resistant plastic) and it is 50m high in the middle. The inside is almost free from obstructions, except for a ring out of steel cable at about 45m high and in the centre a couple of loudspeakers hanging down from a rope to about 35m – and it definitely attracted models! And with the canopy being nothing more than a piece of plastic, conditions inside depended heavily on the weather outside.

Lodging was excellent with the Express by Holiday Inn Hotel at a walking distance from the Dome, as well as a shopping centre with some restaurants and takeaways. To top it all, an excellent Chinese restaurant was located on the ground floor of the hotel.

The Championships were organised in 6 rounds, divided over 3 days with one round in the morning and one round in the afternoon.

The first round was flown in the morning of Friday October 3rd, after a pilot's briefing and the official opening of the European Championships 2003. The weather outside was calm and it was reasonably warm with not much direct sunshine – excellent flying conditions. During the day, 13 flyers (3 in the first and 10 in the second round) flew more than 30 minutes, with Lutz Schramm taking the lead after round 1 with a very well done 32:14. Oleh Korniychuk and Jonas flew a couple of seconds over the 30 minute mark as well.

During the 2nd round in the afternoon, it was clear that conditions were ideal for good flights. The air inside the Millennium Dome had been warmed up by the sun, and as a result 10 flyers achieved flight times higher than 30 minutes, with Lutz even surpassing his 1st round time with a great 33:54 flight. Peter Keller (SUI) flew a 34:07, which turned out to be the best flight of the contest. Sadly, as it turned out, Peter wasn't able to achieve a 2nd 30+ minute flight and thus he was unable to compete for top positions.

On Saturday during round 3 and 4, it proved to be difficult to achieve long flight times due to the rain outside and the cold air inside. Only 4 competitors flew more than 30 minutes - your scribe being one of them with his 1st F1D (contest) flight ever, after 2 unsuccessful attempts in the previous 2 rounds.

The 5th round on Sunday morning started with nice weather outside: sunny and no clouds, but cold. The sun wasn't strong enough to warm up the whole Dome – it only managed to warm up the side that was directly in the sun. As a consequence, most models drifted from south to north through the Dome. It was difficult to achieve long flight times, and there were only 2 flights over 30 minutes, and Lutz Schramm recorded one of them. During the afternoon in round 6, he flew the only 30+ minute flight and somehow even managed to improve his 2nd best flight time with 59 seconds to a time of 33:13 - and he deservedly won these excellently organised European Championships with this performance.

Only incident was a protest by the German team, who protested after round 3 about a disqualification of a 32:09 flight made by Rainer Lotz in round 2. Rainer Lotz' best model had been 0.02 gram underweight, and properly ballasted the model was used in round 3 – only to become stuck on the speaker boxes. The German team then filed a protest since the o-rings hadn't been weighed, nor with the model nor with the rubber motor. The FAI jury rejected the protest: it was too late, and the German team couldn't provide evidence at all (the model was high up and out of reach). If it had been a legal flight, the Germans would have taken 1st place in the Team results as well – but the Team Gold medal now went to the flyers from the Ukraine, who travelled all the way to London by car!

The amount of new techniques or gadgets used during the Championships was low. The only new gadgets were some minuscule mechanisms made by the Ukrainian team members, using small screws to adjust stab washin or washout, as well as some excellently crafted vp mechanisms.

Congratulations to Lutz Schramm, Jonas Romblad and Fabio Manieri for achieving first, second and third places at the European Championships. And my thanks to them for the drawings of their models, which are available in this issue!

Pictures of the European Championships in the next issue!

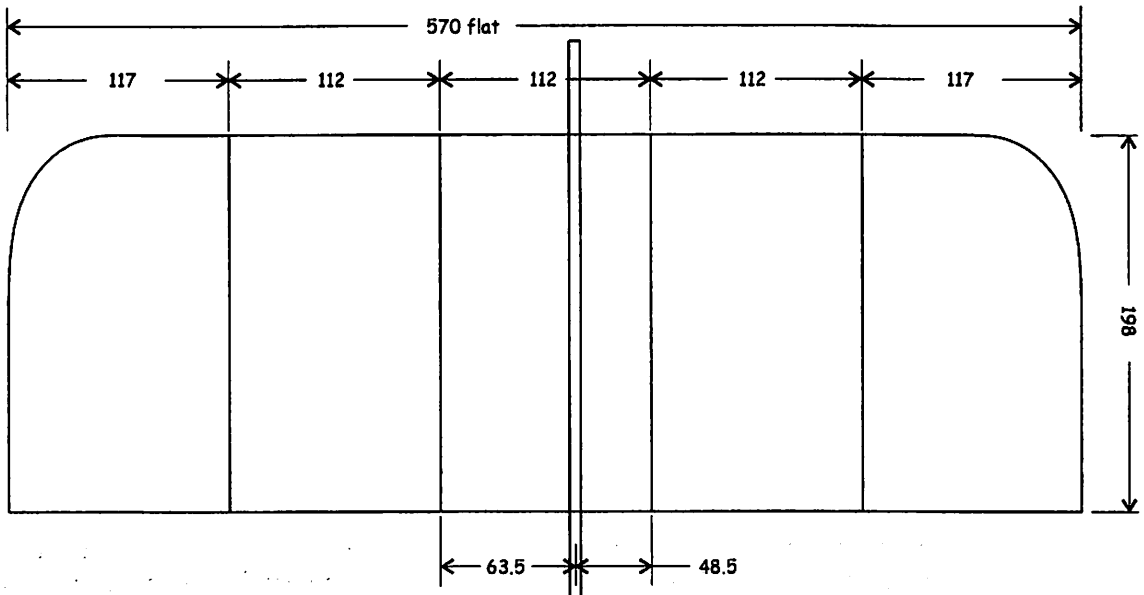
Team Results Seniors

	Country		Total
1	Ukraine	UKR	179.06
2	Great Britain	GBR	177.26
3	Romania	ROM	175.27
4	Germany	GER	174.43
5	Hungary	HUN	164.25
6	Poland	POL	161.17
7	France	FRA	154.46
8	Italy	ITA	144.24
9	Czech Republic	CZE	131.33
10	Sweden	SWE	117.31
11	Switzerland	SUI	113.27
12	Finland	FIN	109.54
13	Netherlands	NED	57.35
14	Serbia and Montenegro	SCG	54.34
15	Spain	ESP	51.55

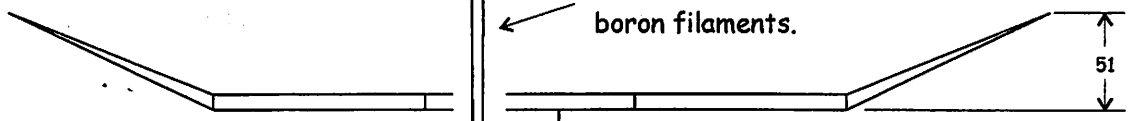
Team Results Juniors

	Country		Total
1	Poland	POL	135.38
2	Germany	GER	51.40
3	Czech Republic	CZE	35.40

Scaled down version of Steve Brown prop blade is used.
2 degrees left side thrust.

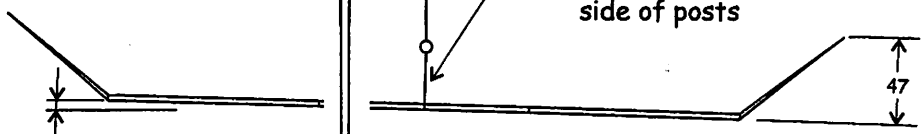


Motorstick has 4 x 0.004" dia. boron filaments.



View from rear

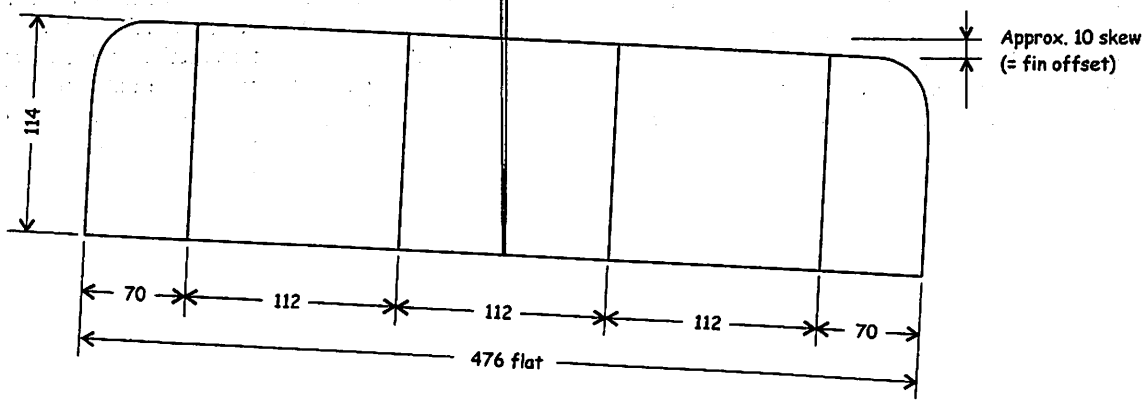
IFI
FEB 2004



0.004" boron on either side of posts

Boom has 3 x 0.003" dia. boron filaments.

Wing and tail drawn flat



Motorstick	0.390	gram
Tailboom	0.121	gram
Wing	0.306	gram
Stabiliser	0.147	gram
VP-Prop	0.216	gram
Ballast	0.046	gram
Total	1.23	gram

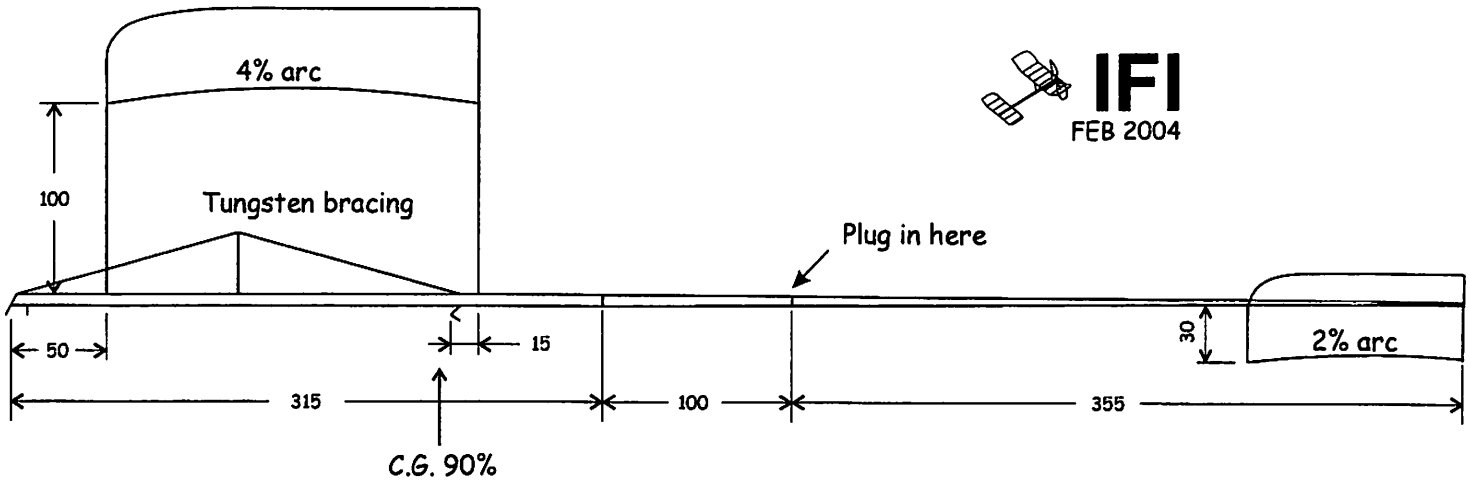
SWEDISH F1D

An F1D model designed and flown by Jonas Romblad (SWE)

Scale 1:4, details 1:1

All measurements in mm

2nd place at European Championships F1D 2003 with a best time of 31:35



IFI
FEB 2004

Notes on model flown at the European Championships 2003, built in 2001

This model is based on Bernie Hunt's Big Square design (which appeared in IFI issue #53), and all credits for this model go to him. Some of these accompanying notes are from building and some from measurements taken after lots of flying - please excuse any inconsistencies.

Fuselage

Motor stick	C-grain 0.33 mm 67 kg/m^3, Sheet 350x26	0,198 gram
	Formed and glued, 346 mm long	0,164 gram
	With front web, cap and 4 x .004" boron	0,208 gram
	Complete with hooks and wing posts	0,332 gram
Tail boom, rear part	C-grain 0.246 mm, Sheet 456x27.8	0,220 gram
	Formed and glued with 3 x 0.003" boron, 348 mm long	0,098 gram
	Complete with stab posts	0,121 gram
Tail boom, front part	C-grain 0.24 mm - Formed and glued with 3 x 0.003" boron, 135 mm long	0,043 gram
Wing posts	109 mm long 1.75x1.33, 2 pieces	0,065 gram
	With 2x0.004" boron	0,075 gram
Stab posts	Same wood as for wing spars - 2 posts with boron on the sides	0,017 gram

Wing

Ribs	0.65 mm sheet 72 kg/m^3 - 4 ribs 206 mm long, height 1.2 -> 1.7 -> 1.2	0,059 gram
Centre - outline	1.5 mm sheet 89 kg/m^3 - 0.80x1.50 -> 0.85x2.40 -> 0.80x1.50	0,056 gram
Tip-trailing edge - outline	1.5 mm sheet 89 kg/m^3 - 0.70x1.45 -> 0.65x0.80	0,011 gram
Tip-leading edge and tip - outline	3 mm sheet 90 kg/m^3 - 0.95x1.60 -> 0.85x0.90	0,023 gram

Tail

Ribs	0.59 mm sheet 82 kg/m^3 - 4 ribs 0.75 mm high, 4 pieces	0,015 gram
Centre - outline	1.5 mm sheet 89 kg/m^3 - 0.60x1.05 -> 0.65x1.50 -> 0.60x1.05	0,035 gram
Tip-trailing edge - outline	1.5 mm sheet 89 kg/m^3 - 0.65x.0.90 -> 0.65x.0.75	0,005 gram
Tip-leading edge and tip - outline	3 mm sheet 90 kg/m^3 - 0.80x1.10 -> 0.80x0.80	0,010 gram

Prop

490 mm diameter VP prop (see text below) with scaled down Steve Brown prop blades; blades have 3% camber and are made on a block with around 700 mm helical pitch.

Spars	3 mm sheet 94 kg/m^3 - 1.54x1.55 -> 0.49x0.56, 250 mm long	0,038 gram
Spars and blade, uncovered	Spar 250 mm long	0,060 gram
Spars and blade, covered	Spar 250 mm long	0,063 gram
VP mechanism	3 screws. Spring 0.008" guitar string wound 10 turns on a 0.6 mm mandrel	0,101 gram

Notes regarding the VP mechanism

This is the first VP-prop I have made and it turned out to have some drawbacks; the mechanism is too flexible and will deflect a lot at very high torque (I launched around 30 gcm). Towards the end of the championships the top and bottom screws were clamping the torque arm from both sides, in theory giving no variable pitch at all. In reality the prop went from a pretty high to a rather low setting during flight. The 31:35 flight did not hit the ceiling a lot, but still dead-sticked from 5-10 meters altitude... I need to build stiffer mechanisms!

SWEDISH F1D

An F1D model designed and flown by Jonas Romblad (SWE)

Scale 1:4, details 1:1

All measurements in mm

2nd place at European Championships F1D 2003 with a best time of 31:35

2003 British Indoor Duration Championships at the Millennium Dome

Back in late winter, I got a call from Mark Benns, to say he had a good contact at the Dome, and would I like to come with him to test fly our "flimsys". It was a cold "Grey Day", but the EZB I flew, found that it was smooth air, and that the fresh wind outside, did not effect the air on the inside. Afterwards, we sat round a table with Brian Roberts, who is Head of Site Operations, for English Partnerships, who currently look after the property.

We suggested some dates during various Bank Holidays, to hold our National Champs, but the kind of costs this would attract, made it impossible. I got to think that many of our indoor fliers are retired anyway, so rather than pass up this unique site and opportunity, we accepted July 1st, 2nd and 3rd.

I contacted the indoor scale committee to see if they wanted to join in, but they were already committed to another site for their Nationals, but several scale flyers did come, as well as the Hand Launched Glider flyers, and some interested spectators as well.

Collating all our members BMFA numbers and car registrations for the Dome security requirements, proved to be quite a task, as well as organising all the entries for the comps, but Betty & I burnt the midnight oil, to get the job done in advance. As there were 80 on the list, we did not want to have to do it all on the contest days!

Previous experience proved that the air does not stabilise until the sun has warmed up the shed (just like Cardington), and you could clearly hear all the cables that support the roof creaking, telling us it was time to fly!

On the first couple of days of contests, there was a lot of rain in the morning, so much so, that the sound of torrential rain stopped the filming, by a crew, who were covering indoor duration, as part of a film about all aspects of Aeromodelling. It will be shown on Television, sometime in November, on a Cable & Satellite Channel. Luckily the afternoons were much better, and some good flying took place.

Everyone who was there greatly enjoyed it, and we have been promised some date(s) in August & September, again I suspect mid week. I will keep you all informed!

Without the great encouragement and enthusiasm of Brian Roberts from the Dome Executive, none of this would be possible, and we gave him our most grateful thanks. I would also like to take this opportunity, to say a big thank you, to my Wife Betty, who as usual, ran the contests books, and without whom, much of my indoor/outdoor flying would not be possible.

Apart from the individual comps, the Dave Yates Trophy took place, to find the overall champion, based on the first 6 places. The scoring is- 6 points for 1st, 5 points for 2nd etc, until 6th place gets 1 point. Also, we made use of this super site, to run a 2-day trial, to select the team for the F1D world champs, to be held in 2004 (Possibly in the CargoLifter hangar near Berlin).

Tuesday 1st of July

No Cal profile scale

	Name	1	2	Total	D. Y. Points
1	Clive King	3,43	3,30	7,13	6
2	Laurie Barr	3,24	3,46	7,10	5
3	Ken Bates	1,29	1,28	2,57	4

Limited Penny Plane

	Name	1	2	Total	D. Y. Points
1	John Tipper	14,30	13,56	28,26	6
2	Tom Chambers	14,44	13,36	28,20	5
3	Laurie Barr	14,11	13,06	27,17	4
4	Roy Wilson	12,44	13,23	26,07	3
5	Peter Watt	11,34	11,32	23,06	2
6	Steve Harvey	9,20	9,51	19,15	1

Wednesday 2nd of July

EZB/F1L (Houlberg Silver Trophy)

	Name	1	2	Total	D. Y. Points
1	Laurie Barr	24,11	23,59	48,10	6
2	John Tipper	23,33	22,42	46,15	5
3	Bob Bailey	22,24	23,38	46,12	4
4	Geof Lefever	22,23	22,01	44,24	3
5	John Billam	20,38	19,37	40,15	2
6	Dave Greaves	19,04	19,52	38,56	1

F1M

	Name	1	2	Total	D. Y. Points
1	Laurie Barr	18,22	17,20	35,42	6
2	Daniel Billam (Jn'r)	15,45	16,58	32,23	5
3	John Billam (Grampa)	15,02	16,30	31,32	4
4	Geof Kent	15,01	14,33	29,34	3
5	Graham Walker	12,57	12,54	25,51	2
6	Tom Chambers	10,53	10,45	21,57	1

Thursday 3rd of July

Mini Stick/Living room Stick

	Name	1	2	Total	D. Y. Points
1	John Tipper	12,27	11,48	24,15	6
2	Laurie Barr	11,39	12,02	23,41	5
3	Clive King	9,06	10,05	19,11	4
4	Roy Wilson	6,49	9,53	16,42	3
5	Nigel Bathe	7,30	8,54	16,24	2
6	Urlan Wannop	7,05	5,01	12,06	1

F.1.D Houlberg Silver Medal Trophy

	Name	1	2	Total	D. Y. Points
1	John Tipper	30,10	29,43	59,53	6
2	Laurie Barr	27,46	28,35	56,21	5
3	Geof Lefever	22,15	29,01	51,16	4
4	Nick Aikman	27,12	0	27,12	3

Aeromodeller Trophy (Team Trials), flown over Tuesday/Wednesday

	Name	1	2	Total	D. Y. Points
1	Bob Bailey	32,23	34,05	66,27	6
2	Ron Green	31,08	32,15	63,23	5
3	John Tipper	28,08	30,22	60,32	4
4	Derek Richards	29,30	30,22	59,52	3
5	Geof Lefever	30,16	29,01	59,17	2
6	Laurie Barr	27,46	28,35	56,21	1

National Champion, Dave Yates Trophy

	Name	Points
1	Laurie Barr	32
2	John Tipper	25
3	Bob Bailey	10

Indoor CLG (best 2 from 6) 12"span

	Name	1	2	Total
1	Mark Benns	84,5	85,4	169,9
2	Mick Page	77,5	80,2	157,7
3	Chas Campen	68	65	133
4	Nigel Bathe	64,5	67,8	132,3
5	Mark Barford	58,7	58,8	117,5
6	Ken Bates	46	49,5	95,5
7	Gary Whitcome	46,4	48,7	95,1
8	Laurie Barr	31,9	34,6	66,5

Indoor HLG F1N (best 3 from 9)

	Name	1	2	3	Total
1	Mark Benns	62,6	63,3	61,1	187
2	Mike Chapman	63,9	58,1	58,7	180,7
3	Chas Campen	50	55,5	52,8	158,3
4	Jonathan Walker	55,88	50,91	50,66	157,45
5	Mark Barford	45,4	44,5	41,7	131,6
6	Mike Hadland	43,5	45,2	42	130,7
7	Nigel Bathe	25,16	35,1	15,4	75,66
8	Gary Whitcome	22	22	23	67
9	Peter Robinson	21,5	21,7	21,9	65,1

Indoor HLG (best 2 from 6) 12"span

	Name	1	2	3	4	5	6	Total
1	Mark Benns	43,9	39	47,9	33,2	35,8	16,8	91,8
2	Chas Campen	7,7	15,9	5	13,5	25,6	27,1	52,7
3	Mike Chapman	9,1	4	NF	NF	NF	NF	13,1

Change of Jury rules

By Laurie Bar, October 2003

Gentlemen,

I wish to aquaint you with my views, that Indoor F1D as we know it, is facing a crisis.

Like all specialist parts of our sport, you must have a supply of unusable venues.

In the past we had the twin sheds at Cardington. The No1 hanger is in a dangerous state of dis-repair, and is unusable. Hanger No 2 is full of tall building, being set fire to for safety tests, is un-flyable, and we are un-wanted!

This leaves us with the choice of either the Slanic Salt mine, which has been our saviour, but has become unpopular, as it is a hostile environment for the human flier's,/or any of the really good sites in the USA.

The AMA have lost a lot of money in the past, created by their own officials checking into hotels; an expense that is completely avoidable, if local modellers are allowed freedom, and the cost of the Jury.

The other problem is that Indoor cannot ever have a large enough base for entries, to sustain the cost of the needless, and seldom called upon FAI requirement, to have 3 Jurors, and have to pay all expenses. This can and does sink our ships!

I have run and organised 4 world champs at Cardington, and the recent European Indoor F1D Championship, in the Millennium Dome, in London.

It is an exhausting business, and I cannot continue to do this for ever! (I am 76)

The FAI need to get the Americans on board and I would be more than willing, to set out the cheapest way to run a World Champs, but you will need to get the USA representative on board, to prosper our case..

I have discussed this with Gerhard Woebbeking, and also the possibility of allowing the Romanians to stand aside, and have the next world Champs, due in 2004 at the best indoor site in the world-The CargoLifter, if and when it becomes available. As an alternative, the Millennium Dome will probably be available, but I need my head examined to do this again!

To sum up, the FAI should allow just 1 independent Juror, plus 1 from the home country, and get the Americans enthusiastic again.

If we do not help indoor in this way, it will not survive as we know it.

Laurie Barr. FSMAE.

Butterfly Meeting 2003

Contest was flown on 18th October 2003 in the Jan Massinkhal, Nijmegen, The Netherlands

F1M Senior

Pl.	Name	Best	2nd. Best	Total
1	Gert Brendel	10:26	10:35	21:01
2	Gert Jan van Wezel	04:23	04:09	08:32
3	Erik Crins	06:00	00:42	06:42

F1M Junior

Pl.	Name	Best	2nd. Best	Total
1	Bernard Bruins	05:49	06:37	12:26
2	Kevin Lamers	06:36	05:30	12:06
3	Niels Oude Wolbers	04:12	04:31	08:43
4	Job Verschuur	03:51	04:13	08:04
5	Frank van Ewijk	03:13	02:56	06:09
6	Daan Kurvers	02:55	02:51	05:46

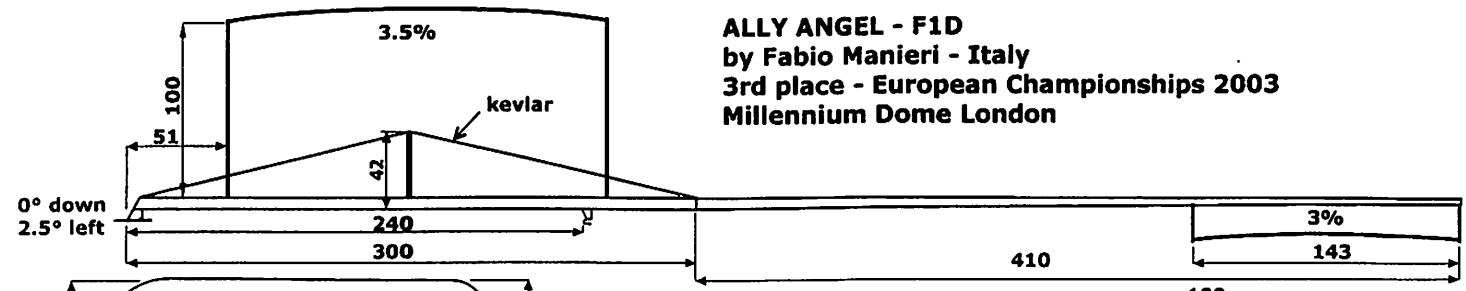
(F)looper

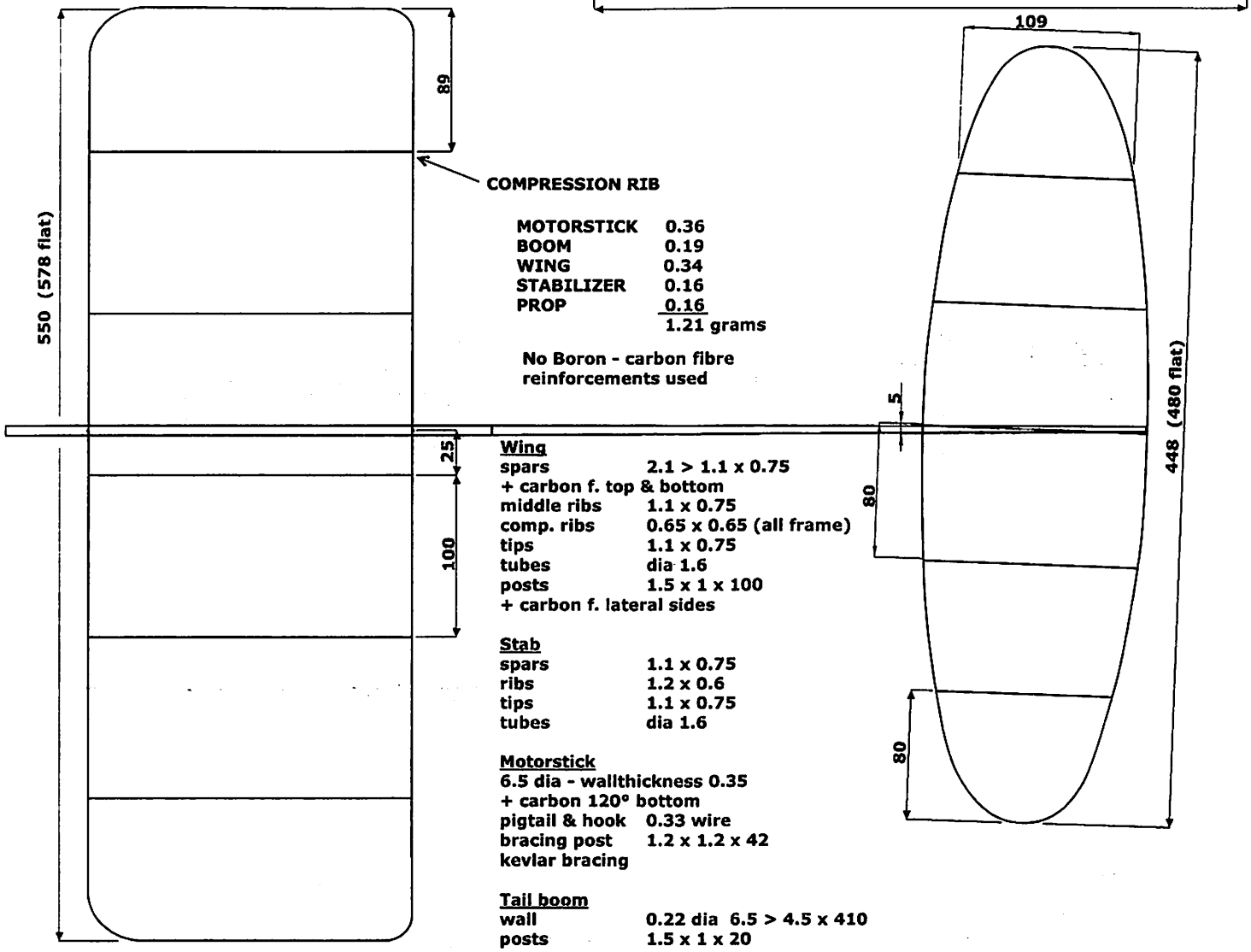
Pl.	Name	Best	2nd. Best	Total
1	Mark Rossen	02:06	01:18	03:24
2	Ywan de Jong	01:18	01:21	02:39
3	Michiel Degen	01:17	01:16	02:33
4	Niels Oude Wolbers	01:09	01:12	02:21
5	Tom Lamers	00:24	00:00	00:24

Bostonian

Pl.	Name	Best	2nd. Best	Char.	Total
1	Erik Crins	02:19	02:29	1,15	05:31
2	Thedo Andre	00:56	01:05	1,2	02:25
3	Martijn Gielen	01:03	00:00	1,1	01:09

ALLY ANGEL - F1D
by Fabio Manieri - Italy
3rd place - European Championships 2003
Millennium Dome London





COMPRESSION RIB

MOTORSTICK	0.36
BOOM	0.19
WING	0.34
STABILIZER	0.16
PROP	0.16
	1.21 grams

No Boron - carbon fibre reinforcements used

Wing

spars	2.1 > 1.1 x 0.75
+ carbon f. top & bottom	
middle ribs	1.1 x 0.75
comp. ribs	0.65 x 0.65 (all frame)
tips	1.1 x 0.75
tubes	dia 1.6
posts	1.5 x 1 x 100
+ carbon f. lateral sides	

Stab

spars	1.1 x 0.75
ribs	1.2 x 0.6
tips	1.1 x 0.75
tubes	dia 1.6

Motorstick
6.5 dia - wallthickness 0.35
+ carbon 120° bottom

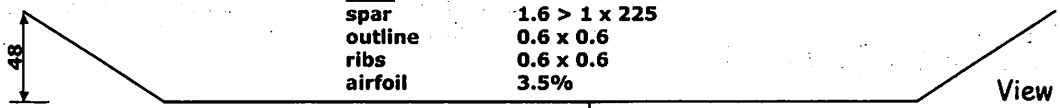
pigtail & hook	0.33 wire
bracing post	1.2 x 1.2 x 42
kevlar bracing	

Tail boom

wall	0.22 dia 6.5 > 4.5 x 410
posts	1.5 x 1 x 20

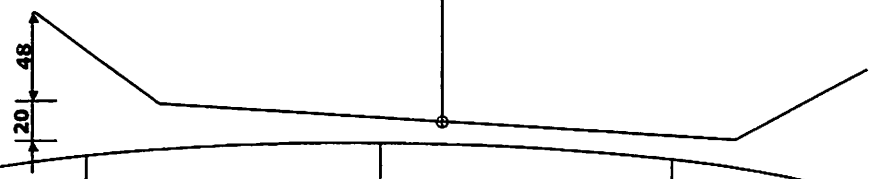
Prop

spar	1.6 > 1 x 225
outline	0.6 x 0.6
ribs	0.6 x 0.6
airfoil	3.5%



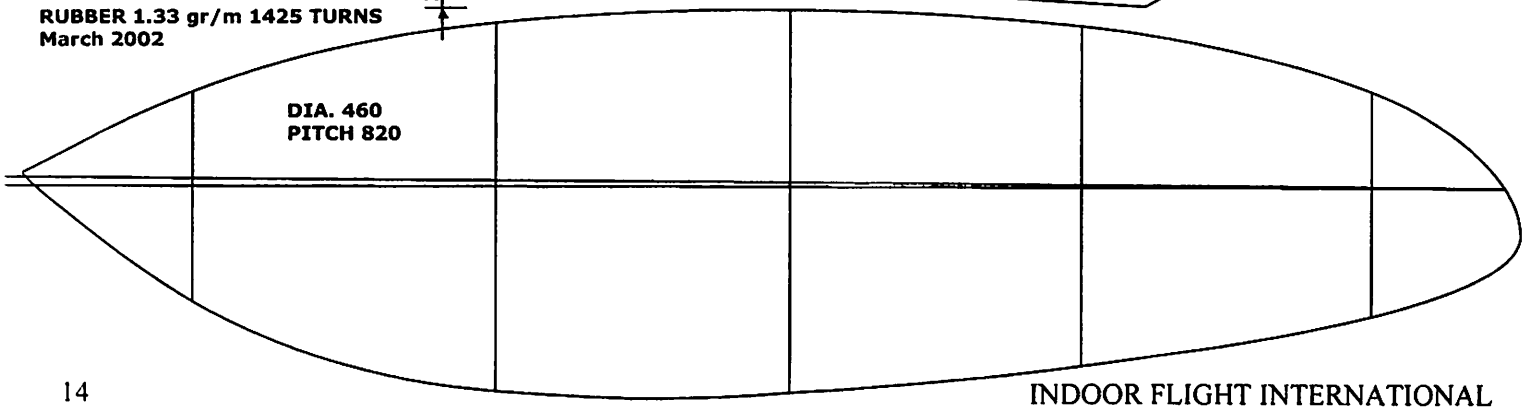
View from rear

IFI
FEB 2004



RUBBER 1.33 gr/m 1425 TURNS
March 2002

DIA. 460
PITCH 820



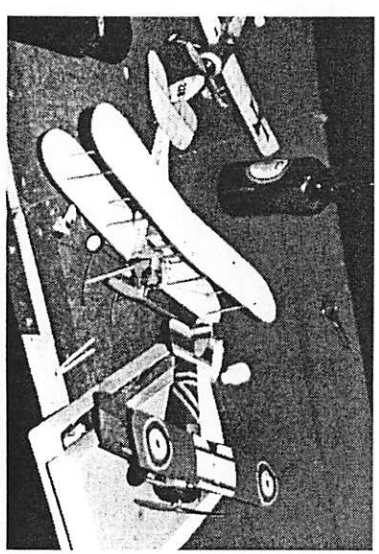
Results Scale contest at the Dome

OPEN RUBBER

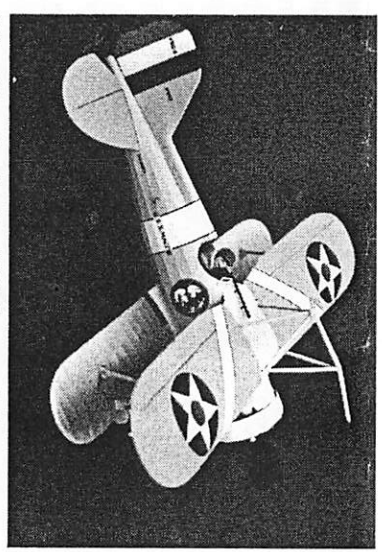
	Name	Model Type	Best Flight	Static	Total
1	Richard Crossley	Lockheed L-188 Electra	1225.8	993	2218.8
2	Divs Masters	Sopwith Triplane	1015	1065.5	2080.5
3	Mike Hadland	Waco SRE	1073.5	1003	2076.5
4	Mike Stuart	Curtiss F9C Sparrowhawk	1004	1028	2032
5	Charlie Newman	Comper Swift	972	1034	2006
6	Andre Petit	Republic P-47	989	813	1802
7	Gordon Hannah	Comper Swift	1088	688	1776
8	Chris Strachan	Facetmobile	912	701	1613
9	Lindsey Smith	Cosmic Wind	1054	484	1538
10	Vibes Masters	Lacey M.10	1006.5	448	1454.5
11	Peter Smart	Piper Cheyenne	825	625	1450
12	Jaques Cartigny	Breguet 695	816.7	526	1342.7

OPEN ELECTRIC/$C0_2$

	Name	Model Type	Best Flight	Static	Total
1	Peter Iliffe	Albatros D.V	1037	1022	2059
2	Stephen Glass	Douglas Skyray	1221.5	795	2016.5
3	Divs Masters	SE5a	1035	925	1960
4	Peter Smart	Kalinin	1135	680	1815
5	David Vaughan	Supermarine Walrus	1031.5	654	1685.5
6	Charlie Newman	RWD 13	515	1131.5	1646.5
7	Lindsey Smith	Mauboussin	642	475	1117
8	Derek Knight	Bristol M1B	0	882	882



Some models by Peter Smart.



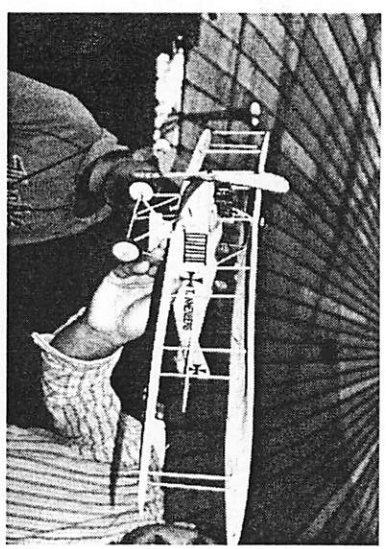
Mike Stuart's Curtiss F9C Sparrowhak.

PEANUT SCALE

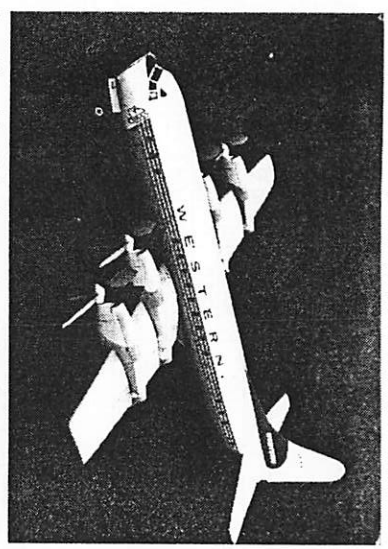
	Name	Model Type	Best 2 flights	Pl.	Static	Pl.	Total
1	Mike Hadland	Bucker Jungmann	120	3	115	3	6
2	Andre Petit	Republic P47	130	2	114	4	6
3	Chris Strachan	Hurlbert Hurricane	149	1	67	8	9
4	Richard Crossley	Aichi Val	91	8	116	2	10
5	Divs Masters	SE5A	83	10	131	1	11
6	Mike Stuart	Bucker Jungmeister	95	7	103	5	12
7	Jaques Cartigny	Heinkel He 64	100	6	94	6	12
8	Vibes Masters	Lacey M.10	105	5	75	7	12
9	Gert Brendel	Renard RSV 18-100	108	4	60	9	13
10	Gordon Hannah	Wittmann Bonzo	88	9	60	9	18

PISTACHIO SCALE

	Name	Model Type	Best 2 flights	Pl.	Static	Pl.	Total
1	Gert Brendel	Evans Volksplane	37	1	46	2	3
2	Divs Masters	SE5a	-	-	82	1	-
3	Gordon Hannah	Caudron monoplane	-	-	36	3	-



DFW B1 CO_2 model by Peter Iliffe.



Lockheed L-188 Electra by Richard Crossley.

Millennium Dome Indoor International
London, 3/4/5th October 2003.

Contest Director: Ian Kaynes

F1M

	Name	Country	Best	2nd Best	Total
1	Daniel Billam (Jnr.)	GBR	18.10	17.59	36.09
2	Geof Kent	GBR	17.50	18.05	35.55
3	Laurie Barr	GBR	17.32	17.42	35.14
4	Mike Green	GBR	15.36	15.29	31.05
5	John Billam	GBR	14.19	12.44	27.03

F1D

	Name	Country	Best
1	Bob Bailey	GBR	31.28
2	Ron Green	GBR	24.43
3	Clive King	GBR	10.02

(Clive flew a 1.2 gram EZB with .6 grams of rubber!)

F1L

	Name	Country	Best	2nd Best	Total
1	Daniel Billam (Jnr.)	GBR	20.48	22.06	42.54
2	Roy Wilson	GBR	18.23	20.33	38.56
3	Mike Green	GBR	18.50	18.02	36.52
4	Peter Watt	GBR (N. IRL)	18.39	17.52	36.31
5	Rodney O'Neill	GBR (N. IRL)	18.00	17.34	35.34

Millennium Dome 2004 Contests

For the dates, see the Contest Calendar on the front page. Any further Dome dates, beyond end of June, will be notified (all dates are subject to change, if another user needs the Dome).

All persons coming must be BMFA members. If your name and number has not been notified to me before, send details on a postcard, and include your car registration number, for the security at the gate!

All these Dome dates are mid-week for cost reasons.

Scale & Fun Fly members are welcome at any of these events, subject to any interference to the flimsies.

Definitely NO RADIO CONTROL!

There may well be other date for Cardington, subject to my inspection of the hanger, for storm damage. Look out for these details in 2 months? time.

Laurie Barr. Herries Cottage, Winter Hill Road, Pinkneys Green, Maidenhead, Berks. SL6 6PJ. Tel 01628 487544
E-Mail lgbarr@tiscali.co.uk Do not use attachments

Rubber properties - Stretch tests

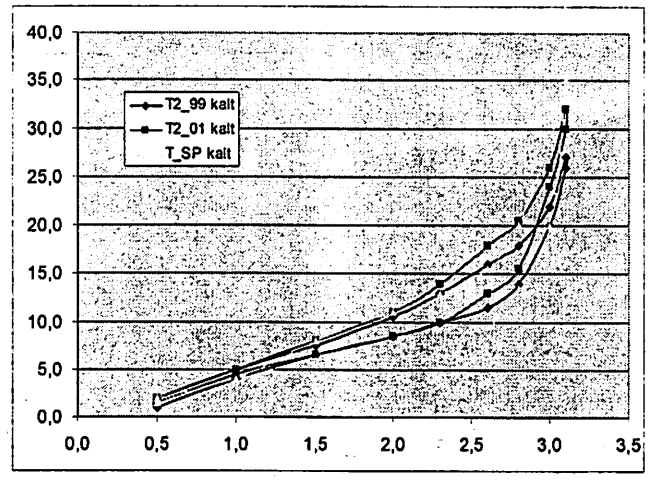
By Klaus Salzer, AT

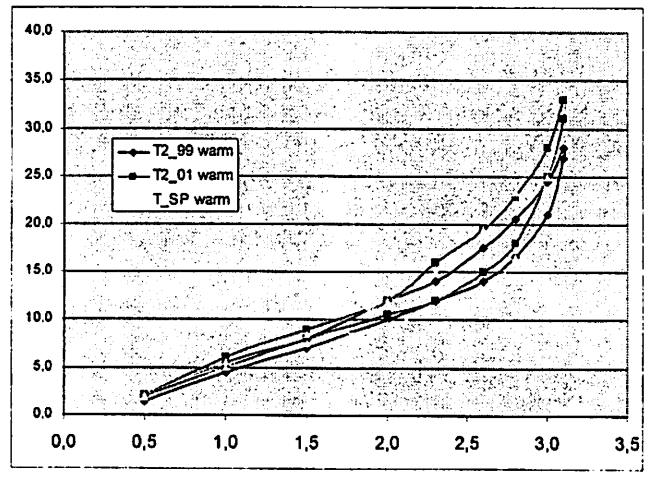
Preparing rubber for the new flying season I did some comparative tests with Tan II of Oct.1999, Tan II of Aug.2001 and Tan Super Sport of March 2003.

Not very scientific, just stretch testing of ready-made 30g strands of about 325mm length. The '99 was 1/16th coming to 54 strands, the others 1/8th - '01 with 26, '03 with 28 strands. Tests were done in my workshop at about 22°C and outside at -5°C.

The results are interesting. Stretching all 3 were pretty even. Releasing the tension showed marked differences: SP dropped far below the other two, even though I did not hold max tension for long, only for about a minute to note the numbers.

The difference between SP and T2 between putting tension in and releasing was even more marked with the low temperature tests. The results confirm my feeling: winding SP is quite similar to T2, the flight is not up to the performance. And this gets worse with low temperatures. So maybe the manufacturer should also check for the hysteresis properties.





Results Coupe du Vin Rouge 2003

Contest flown on 9.11.2003, Dillingen, Germany

F1M

	Name	Fl. 1	Fl.2	Total
1	Peter Keller, Switzerland	13.57	13.57	27.54
2	Alfred Klinck, Germany	12.01	12.37	24.38

P1

	Name	Fl. 1	Fl.2	Total
1	Edmond Roch, France	11.11	11.34	22.45

F1L

	Name	Fl. 1	Fl.2	Total
1	Edmond Roch, France	9.49	9.14	19.03

F1M-limited

	Name	Fl. 1	Fl.2	Total
1	J. Luxenburger, Germany	7.45	8.10	15.55
2	W. Seiwert (J.), Germany	7.03	6.58	14.01
3	J. Karrenbauer, Germany	7.36	4.28	12.04

While there was an indoor contest in Schorndorf on the same day, turnout wasn't as big as usual (this time, there were only 7 participants - but from 3 countries).
Peter Keller was awarded the Volkmar Tröbs Challenge cup for his achievements, and his loyalty to our contest.

Results Indoor Championships of Baden-Württemberg 2003

25th Indoor Contest in Schorndorf - 9.11.2003 Brühlhalle(5,8 metres) in Schornbach, Germany

Baden-Württembergische Meisterschaft F1M (Combined F1M and F1M-L)

	Name	Best	2nd. Best	Total
1	Rainer Lotz	13:51	13:51	27:42
2	Uwe Bundesen	13:16	14:20	27:36
3	Philipp Lotz (jun.)	8:30	9:00	17:30
4	Bernhard Schwendemann	4:11	6:35	10:46
5	Christian Fux (jun.)	1:21	1:35	2:56

F1M-L (= Beginner-limited)

	Name	Best	2nd. Best	Total
1	Bruno Wächtler	8:57	8:34	17:31
2	Philipp Lotz (jun.)	8:30	9:00	17:30
3	Dietrich Lell	5:51	7:03	12:54
4	Marian Krause	5:47	6:07	11:54
5	Bernhard Schwendemann	4:11	6:35	10:46
6	Christian Fux (jun.)	1:21	1:35	2:56

F1M (=Beginner)

	Name	Best	2nd. Best	Total
1	Rainer Lotz	13:51	13:51	27:42
2	Uwe Bundesen	13:16	14:20	27:36
3	Marian Krause	4:45	5:21	10:06

F1D-Mini-Stick

	Name	Best	2nd. Best	Total
1	Rainer Lotz	8:00	8:26	16:26
2	Marian Krause	5:24	6:59	12:23
3	Roland Braun	5:53	6:06	11:59
4	Lotz Christian (jun.)	5:30	5:05	10:35
5	Merkt Thomas	4:31	4:23	8:54
6	Herbert Hauptmann	3:23	3:18	6:41
7	Wolfram Hägele	2:25	2:33	4:58
8	Bernhard Schwendemann	2:25	2:24	4:49
9	Werner Ratgeb	0:57	1:16	2:13

Results 2003 Canadian Indoor Nationals

Standard Class Catapult Glider	
1 John Marett	63.6
2 Mitch Fookwe	54.3
3 Bill Henderson	44

Unlimited Catapult Glider	
1 John Marett	63.1
2 Mitch Fookwe	58.4

Manhattan Cabin	
1 Vladimir Linardic	6:00

Limited Penny Plane	
1 Vladimir Linardic	11:09
2 Jack McGillivray	10:59
3 Mike Thomas	9:23

Penny Plane		
1 Peter Olshevsky	9:36	9:24
2 Fred Tellier	9:36	9:05
2 Bill Leppard		

Mini Stick	
1 Mike Thomas	7:18
2 Bill Leppard	6:45
3 Fred Tellier	5:36

F1M	
1 Vladimir Linardic	21:10
2 Bill Henderson	15:01
3 Fred Tellier	13:10

F1L	
1 Vladimir Linardic	25:07
2 Ken Mark	22:49
3 Bill Leppard	20:38

F1D	
1 Fred Tellier	45:05:00
2 Vladimir Linardic	37:14:00
3 Peter Olshevsky	24:40:00

Bostonian	
1 Bill Henderson	263
2 Jim Lee	199

No-Cal	
1 Mike Thomas	730
2 Vladimir Linardic	702
3 Bill Penny	307

ROG Stick	
1 Vladimir Linardic	10:10

Peanut Scale	
1 Mike Thomas	153
2 Bill Henderson	136
3 Jim Lee	108

FAC Scale	
1 Mike Thomas	100
2 Jack McGillavray	99
3 Bill Henderson	92

Dime Scale	
1 Mike Thomas	95.5
2 Bill Henderson	82.5
3 Jack McGillivray	71

Golden Age Scale	
1 Mike Thomas	356
2 Jim Lee	254
3 Jack McGillivray	44

ROG Stick	
1 Vladimir Linardic	10:10

EZ B	
1 Jack McGillivray	16:52
2 Fred Tellier	13:35
3 Bill Leppard	13:01

Grand Champion	Determined from placing in contestants best 5 events with 3 or more flyers making official flights					
Name	1	2	3	4	5	Total
1 Mike Thomas	100	100	100	100	100	500 points
2 Vladimir Linardic	100	100	100	100	96	496 points
3 Fred Tellier	100	99	94	81	75	449 points
4 Bill Henderson	100	92	89	86	71	438 points
5 Jack McGillivray	100	99	96	74	12	381 points

Results Copa Tabarca 2003

Alicante, Spain, 6th and 7th September 2003

F1D

	Name	Best	2nd Best	Total
1	Daniel Medina Mangas	0:18:56	0:17:40	0:36:36
2	Jaume Gispert Clurana	0:05:15	0:05:08	0:10:23
3	Luis Font Bellot	0:06:21	0:00:46	0:07:07

F1L

	Name	Best	2nd Best	Total
1	Daniel Medina Mangas	0:10:35	0:09:27	0:20:02
2	Luis Font Bellot	0:07:19	0:06:43	0:14:02
3	Fernando Haro Martinez	0:08:07	0:03:42	0:11:49

F1M

	Name	Best	2nd Best	Total
1	Daniel Medina Mangas	0:09:43	0:08:58	0:18:41
2	Luis Font Bellot	0:06:07	0:05:58	0:12:05
3	Jaume Gispert Clurana	0:04:57	0:04:43	0:09:40

F4D

	Name	Model	Static	Flight	Total
1	Daniel Medina Mangas	Se5a	257	543.0	800.0
2	Daniel Medina Mangas	Ju-87 Stuka	279	464.0	743.0
3	Luis Font Bellot	Bristol Brownie	247	390.0	637.0
4	Daniel Medina Mangas	Buck. Jungman	292	339.0	631.0
5	Fernando Haro Martinez	Mustang P-51	255	359.0	614.0

F4F

	Name	Model	Static	Place	Flights		Total	Place	Total
					Best	2nd Best			
1	Daniel Medina Mangas	Savoia	52.5	2	55	52	107.0	2	4
2	Daniel Medina Mangas	SE 5a	46.0	4	75	68	143.0	1	5
3	Daniel Medina Mangas	Bucker Jungman	56.0	1	18	0	18.0	5	6
4	Fernando Haro Martinez	Ky-84 Hayate	48.0	3	31	26	57.0	4	7
5	Luis Font Bellot	Bloch 120	36.5	5	33	29	62.0	3	8
7	Fernando Haro Martinez	Nieuport	0.0	6	0	0	0.0	6	12
7	Fernando Haro Martinez	P-40	0.0	6	0	0	0.0	6	12

Kottenpark Indoor 2004

Dutch National Championships F1M

On Sunday March 14th 2004, *Kottenpark Modelbouwclub* will organise its annual Kottenpark Indoor Contest, which incorporates the Dutch National Championships in F1M.

We would like to invite foreign indoor flyers to compete in our contest, and for those interested in F1D: we are able to organise a contest in this class as well, but we need to know if there's enough interest. So let us know in advance if you would like to fly F1D by contacting Gert Brendel, Albert Meyeringstraat 54, 7521 TM Enschede, the Netherlands. E-mail: *indoorflight@yahoo.com*

Further information about the contest (in Dutch, German and English) can be found under the heading "Activities" by using the link "KPC Indoor 2004" on our website at *http://www.kottenparkmodelbouwclub.com*

Results 1st Copa Postiguet 2003

Alicante, Spain, 9th and 10th May 2003

F1D

	Name	Best	2nd Best	Total
1	Daniel Medina Mangas	21:42	21:27	43:09
2	Luis Font Bellot	09:55	09:32	19:27

F1M

	Name	Best	2nd Best	Total
1	Daniel Medina Mangas	12:39	09:26	22:05
2	Luis Font Bellot	5:29	05:17	10:46
3	Jaume Gispert Clurana	05:02	04:58	10:00

F1L

	Name	Best	2nd Best	Total
1	Daniel Medina Mangas	14:59	13:14	28:13
2	Fernando Haro Martinez	08:17	07:51	16:08
3	Luis Font Bellot	05:30	05:03	10:33
4	David Ramos Martin	03:30	01:20	04:50

F4D

	Name	Model	Static	Flight	Total
1	Fernando Haro Martinez	Ki-84 Hayate	370	356.0	726.0
2	Daniel Medina Mangas	Stuka	349	369.0	718.0
3	Luis Font Bellot	Bristol Brownie	302	256.0	558.0
4	Luis Font Bellot	FRED	250	286.0	536.0
5	Daniel Medina Mangas	Mustang	340	0.0	0.0
5	Luis Font Bellot	Eastb. Monoplane	145	0.0	0.0

F4F

	Name	Model	Static	Place	Flight		Total	Place	Total
					Best	2nd Best			
1	Daniel Medina Mangas	Wyvern	46.5	4	45	40	85.0	2	6
2	Fernando Haro Martinez	Mustang	47.0	3	23	21	44.0	3	6
3	Daniel Medina Mangas	P-39	41.0	6	54	52	106.0	1	7
4	Fernando Haro Martinez	Nieuport	43.0	5	16	16	32.0	5	10
5	Fernando Haro Martinez	Ki-84 Hayate	36.0	7	19	16	35.0	4	11
6	Daniel Medina Mangas	Me-109	50.5	1	N/C	N/C	0.0	-	-
6	David Ramos Martin	F2Be	49.0	2	N/C	N/C	0.0	-	-

This contest (organised by Club "SAF-15" - see their website at *http://www.geocities.com/clubsaf15/*) was held in the classes F1L, F1M, F1D and the scale classes F4D and F4F. Ranking in the scale classes is based on static and flight results.

In F4F (or Peanut), realism in flight is not judged, just the time it stays up (ten second bonus if you Rise Off Ground). The best two flights are added together to give you a flight score (in seconds). The models are ranked in order of flight performance, and also in order of static judging. The final positions are obtained by adding the flight position to the static position - lowest score wins.

F4D has a final score based on flight score plus static score, split 50/50 (best flight score is added to the static score). To qualify in flight, you have to make a flight of only 15 seconds – the flights are judged on realism in the various stages of the flight.

In F4F Daniel Medina won, though he was tied for first place with Fernando Haro's Mustang – but Medina's higher flight times were decisive. In F4D Fernando Haro won with his Ki-84 Hayate, surprisingly in front of Daniel's Stuka.

Traditionally, the fragile duration classes were flown on Sunday morning (when there's less chance of turbulence) in order to achieve the longest possible flight times. Daniel Medina showed his superiority in all duration classes by winning all of them.

Jaume Gispert's and David Ramos' participation must be emphasized in that they brought some very nice models with them. If Jaume continues his progression in flying, he might be able to beat Daniel in future contests. David comes from Madrid, and his F1L model will fly very well once he solves some structural/stiffness problems.

2004 INTERNATIONAL INDOOR POSTAL CONTEST

For Ministick and A-6 Events

Andrew Tagliafico and Bob Stalick are pleased to announce that we are sponsoring the 2004 International Indoor Postal Contest. We have made a couple of changes in the events and dates for 2004. This year we are only sponsoring two events: Ministick and A-6. The competition will begin on January 1, 2004 and conclude no later than April 30, 2004. As in the past, contestants may fly as many times as they wish in as many sites as they wish during this 4 month period. Only the highest score will be counted in each event. All scores are to be mailed to Andrew Tagliafico at the address below, and all scores must be received no later than May 15, 2004.

Scores will be published twice during the competition and sent to all who have registered scores. The first publication is expected to be around February 15, 2004. The second will be around April 1, 2004. A final publication of scores will accompany the giving of prices after all flights have been registered, sometime after May 15, 2004. All participants will receive a final report. Trophies will be awarded to third place in each event.

All scores must be posted on the official score sheet, which is attached. Please make additional copies as needed. Please use only this score sheet and send only to Andrew Tagliafico.

Ministick

The contest is open to indoor models that comply with the AMA Ministick rules. All contest flights are to be timed by someone other than the flier. The best single flight time wins, after the flight time has been corrected for different ceiling heights. Ceiling height to be measured as per FAI rules, but with a five meter diameter circle. The corrections factor is 627 divided by (167+46x the square root of the ceiling height in feet). The time in seconds will be multiplied by this number to give the corrected time.

Mini-Stick Model Rules

1. The Ministick model shall be a monoplane covered with any commercially available material sold in sheet form. Microfilm is not allowed..
2. The maximum projected wingspan shall be seven (7") inches.
3. The maximum wing chord shall be two and one-half (2 1/2") inches.
4. The maximum length from front of nose bearing to front of rear motor hook shall be five (5") inches.
5. The maximum length from front of nose bearing to rearmost part of model shall be ten (10") inches.
6. The projected area of the stabilizer shall not exceed 50 percent of the projected area of the wing.
7. The maximum diameter of the propeller shall be seven (7") inches. The propeller shall be constructed of wood. Wire shafts are permitted. Hubs that allow blade replacement and/or manual pitch adjustment are allowed. Mechanisms that cause variable pitch and/or variable diameter of propellers while in flight shall not be allowed (natural flexing and flaring of wooden blades is allowed).
8. The minimum overall weight of the model (without motor) shall be 0.015 ounce.
9. Construction is to be primarily wood, with adhesives used only for joining. Tissue and/or thread is permitted for wrapping bearings, hooks and for making sockets, if desired. Boron, carbon fiber, Kevlar and fine wire bracing are not permitted.
10. Mechanisms that restrict the torque available to the propeller are not allowed.

Send results to:
Andrew Tagliafico
10039 SW Quail Post Road
Portland, OR 97219
USA

A-6

The contest is open to indoor models that comply with the A-6 rules. All contest flights to be timed by someone else than the flier.

Best single flight time wins after the flight time has been corrected for the 70 foot factor. Ceiling height will be determined by the AMA/FAI measurement method. Flight times will be normalized against times form the highest site entered according to the following formula:

- The normalized flight time = 2/3 (highest ceiling height - local ceiling height) + local time.
- Highest ceiling height will be established at 70 feet until an entry from a higher site is received.
- The official normalized times will not be available until the competition is completed.

A-6 Model rules

1. 30 sq. in. max wing area.
2. 1/32" max prop shaft diameter.
3. 6" max. prop diameter. The blades are to be flat, no camber. Blades may be made of 1/32" thick (1mm) balsa or unlightened plastic, but not foam.
4. 6" max. motor stick length as measured from the prop thrust bearing to the rear hook. Tail boom length is unlimited.
5. All strip wood construction is to be a minimum of 1/16" x 1/16" (1.5 mm x 1.5 mm where only metric sizes are available). Strip wood may not be modified to any shape other than a square.
6. All sheet wood construction, prop blades, wing and stab ribs are to be a minimum of 1/32" (1 mm) thick. Prop blade edges may not be rounded.
7. All wing and stab ribs will be 1/32" x 1/16" (1.5 mm x 1 mm) minimum cross section.
8. Cover materials are limited to: Japanese tissue, Gampi paper or condenser paper.
9. Only wood, wire, adhesives and allowed covering materials can be used for construction with the exception of the prop shaft support and bearing which may be wire, aluminium or plastic. No special indoor material may be used.
10. Rubber power only.
11. The use of metric size wood is restricted to those that normally cannot get other size wood.
12. The model must weigh a minimum of 1.2 grams.

37. Crown Road,
Wheatley,
Oxon,
OX33 1UJ
Great Britain
Tel: 44 (0)1865 873020
Email: charlie@newman737.freeserve.co.uk

7th. December, 2003

INTERSCALE - BULLETIN No 1

Interscale 2004 will take place at Nottingham University Sports Centre from the 10th to the 12th September, 2004.

Classes to be flown are:
F4D Open Rubber Scale – maximum weight 150 grams, maximum wing-loading 15 grams/dm^2.
F4E Open CO2/Electric Scale – maximum weight 150 grams, maximum wing-loading 15 grams/dm^2.
F4F Peanut – maximum span 13 inches/331mm, or maximum length including propeller 9 inches/229 mm.
Pistachio – maximum span 8 inches/203mm, or maximum length including propeller 6 inches/152 mm.

Entries:
Only one model per class may be entered. No proxy entries except Pistachio.

Flying will take place as follows:
Saturday, 11th September – Hall 1, F4D Open Rubber Scale; Hall 2, F4F Peanut
Sunday, 12th September – Hall 1, F4E Open CO2/Electric Scale; Hall 2, Pistachio
Both halls will be available for practice from 1800 hours on the 10th September and all evening on the 11th September. There will be an Air Race and a Mass Launch Rubber Scale event each day. Both of these are informal with no entry fee.

Rules:
F4D, F4E and F4F will be flown to FAI rules. Pistachio will be flown to UK BMFA rules (similar to Peanut). There are no significant changes from previous Interscale events. The rules will be circulated in Bulletin No 2.

Accommodation:
Accommodation is available on the University campus, very close to the Sports Centre – no more than 4 minutes' walk. All rooms are single study bedrooms with shared bathrooms. There are enough available to accommodate non-competing spectators. However, all accommodation bookings must be made using the entry and payment forms. Competitors who are local or who are making their own accommodation arrangements can book evening meals at the University, again using the entry forms.

Regalia:
Interscale 2004 sweatshirts and T-shirts will be available. These may be ordered via the entry form for collection on arrival at Nottingham.

Payments:
All payments must be made in pounds sterling. However payments are made (UK cheques, credit cards or direct bank transfer), **please send both the entry and payment forms to the address above.**

Closing Dates:
Closing date for entries is the 30th April, 2004. Proxy models entered for the Pistachio competition should be sent to arrive in the UK by the 3rd. September, 2004.

Web Site:
We have set up a small Interscale 2004 web site, which will contain Bulletin updates and down-loadable entry and payment forms. After the event, we will post the full results listing. The address is:

http://hometown.aol.co.uk/interscale2004/myhomepage/newsletter.html

Charlie Newman
Event Director, Interscale 2004

Indoor Postal Contest Results Form

Club Name _____

Send results to:
Andrew Tagliafico
10039 SW Quail Post Road
Portland, OR 97219
USA

Date of Contest ____/____/____ **Site Name** _____

Ceiling Height _____ **Feet** Circle one Ministick A-6

Contestant Name	Address	Time in Seconds	Timer Initials