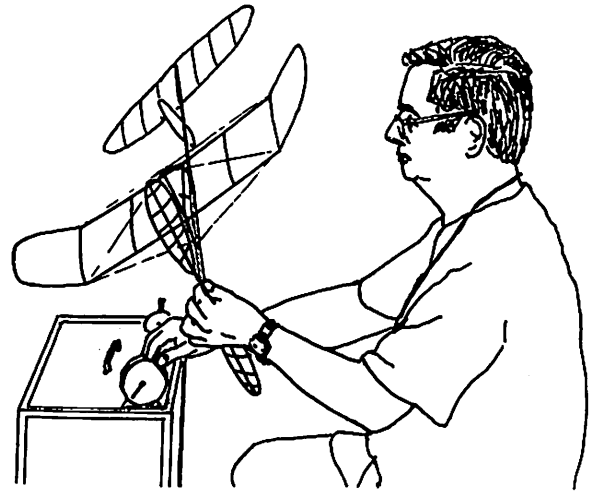
Indoor News



Issue 48 November 1998

DIARY

20 Dec Enschede Netherlands	**Open Dutch Championships F1M and Sainte Formule + Junior contests** Info: Ebele Schouwstra, Vijverlaan 6, 7553CA Hengelo(O), The Netherlands, tel/fax 074-2420393. Details see IN47 or http://home.student.utwente.nl/g.h.brendel/kpc1.html.
24 Jan. 99 Florence Italy	**Open International Indoor Contest** Classes: rubber F1M, TH, Ministick; glider F1N, catapult. Contact: Carlo Pesciolini c/o Gruppo Aeromodellisti Fiorentini, P.O.Box 18250, ITA-50100 Firenze, tel. +39 055221625. Details see elsewhere in this issue.
Feb 5,6 Florida USA	**Tropicana Field Stadium** (231ft/70m ceiling!). Info: Steve Noriega, 2401 Morrison Ave apt. #221, Tampa Florida 33629, phone 813-254-9760.

POSTAL/PROXY EVENTS

Nov 1998 to March 1999	**A-6, EZB, and F1M (F1D Beginner) Postal.** Info: Don Slusarczyk, 12721 Walnut Hill Dr., Apt. 312, N. Royalton OH 44133, U.S.A. or: http://members.stratos.net/dslusarc
Winter 98/99	**AeroNutz Indoor Schneider Cup,** see info in IN 45
till March 99	**MIAMA Inter-Gnats Pistachio Postal,** Doc Martin, 2180 Tiger Tail Ave., Miami FL 33133, USA.
Nov 1 till March 31	**Mini-Stick Postal,** Brainbusters Model Club, 112 Tillerson Drive, Newport News, VA 23602, USA. See details elsewhere in this issue

SLANIC 1998 (1)

Report by Andras Ree (HUN)

The attendance of the W/Ch was characterised by having no complete teams from some traditionally competing countries like Poland, Switzerland, Canada and Japan. Germany was missing, but UK was present again! From the 13 countries entered 11 were involved in the senior event, Ukraine and Yugoslavia had competitors only in the junior event and EuroIndoor Cup.

The housing was again in Slanic in the previously used local hotel that is now operating under private direction. This way it was not necessary to travel about two hours daily as in 1994. We had reakfast and dinner in the hotel and the hot lunch in the mine. The site arrangement and the flying conditions were similar to 1994, the preparation area was separated from the launching area (see the sketch enclosed). The temperature was 10,8-11 °C and the humidity 75-80 % with rather low drift. Two rounds per day were scheduled with a lunch break.

We have got some news from the training sessions of the Romanian team during which Cornel Mangalea and Vasile Nicoara reached 42-43 minutes with fixed props and four of Aurel Popa's models were flown over 42 with VP. During the practice day we had the same funny experience as Steve Brown had. We could reach only about up to 18 minutes' flights using half rubbers, except one 20 minute flight of Ferenc Bakos, but the height of that flight was too much. (Before several previous contests I was all the time practising only with half rubber.)

COLOPHON

Indoor News is published at least four times a year and covers all types of indoor models, from peanuts to microfilm. Texts can be sent in Dutch, English, German and French. Please type your texts on 12,5 cm width. Texts can be sent on floppy disk (3½ or 5¼) in any text format. I can make drawings, if you are no draftsman.

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19th F1D INDOOR WORLD CHAMPIONSHIP

Slanic-Prahova, Romania, 13-15 Oct. 1998

	Seniors	Cntry	R 1	R 2	R 3	R 4	R 5	R 6	Total
1	BROWN Steve	WCH	40:45	43:52	45:11	44:04	12:18	43:08	- 89:15
2	REE Andras	HUN	40:37	43:40	45:13	42:37	43:08	12:43	- 88:53
3	RICHMOND Jim	USA	13:24	41:37	43:07	12:22	39:33	44:21	- 87:28
4	TIPPER John	GBR	35:06	24:35	37:35	40:25	43:11	39:00	- 83:36
5	BAILEY Robin	GBR	37:44	36:22	26:10	34:28	40:20	42:28	- 82:48
6	NICOARA Vasile	ROM	40:24	40:05	41:46	13:02	26:50	12:19	- 82:10
7	COSLICK Larry	USA	14:37	30:29	41:01	40:00	34:04	37:48	- 81:01
8	NORE Pentti	FIN	37:33	11:50	39:29	39:20	-	1:57	- 78:49
9	ENOMOTO Hideyo	JPN	38:38	33:39	32:46	34:24	39:57	37:30	- 78:35
10	ORSOVAI Dezso	HUN	13:06	37:31	37:58	14:25	39:50	38:30	- 78:20
11	BAKOS Ferenc	HUN	7:31	37:11	38:13	39:32	32:04	38:09	- 77:45
12	KELLER Peter	SUI	32:28	1:33	37:39	38:08	38:12	33:36	- 76:20
13	RANDOLPH Bob	USA	32:35	37:17	37:11	17:03	0:18	28:33	- 74:28
14	CHAMPION Robert	ROM	36:03	35:12	30:56	32:23	31:56	6:09	- 71:15
15	DIHM Jan	POL	16:32	36:00	37:02	34:15	36:59	32:18	- 74:01
16	RICHARDS Derek	GBR	31:57	31:07	36:55	37:06	34:58	33:38	- 74:01
17	CIAPALA Edward	POL	37:41	35:31	35:53	36:13	35:22	24:40	- 73:54
18	POPA Aurel	ROM	36:03	35:12	30:56	32:23	31:56	6:09	- 71:15
19	LIEM Edmund	CAN	17:30	-	34:52	35:03	29:52	32:39	- 69:55
20	MANGALEA Cornel	ROM	24:19	34:05	33:11	25:35	32:37	1:10	- 67:16
21	FRUGOLI Francis	FRA	29:15	28:45	30:56	20:45	33:25	30:01	- 64:21
22	STEPONENAS Rimas	LIT	22:59	25:48	22:28	28:55	29:41	-	- 58:36
23	ENGLUND Leif	FIN	11:09	31:13	0:24	1:53	20:21	26:13	- 57:26
24	COGNET Guy	FRA	21:32	24:42	23:41	20:09	31:58	25:27	- 57:25
25	SALOGUBOVAS Vitalijus	LIT	19:50	19:25	23:31	24:21	21:00	24:07	- 48:28
26	MOSIN Vladimir	LIT	13:41	16:02	17:50	20:27	20:17	22:52	- 43:19
27	EROFEJEFF Harro	FIN	21:01	11:46	19:42	18:38	18:04	19:46	- 40:47

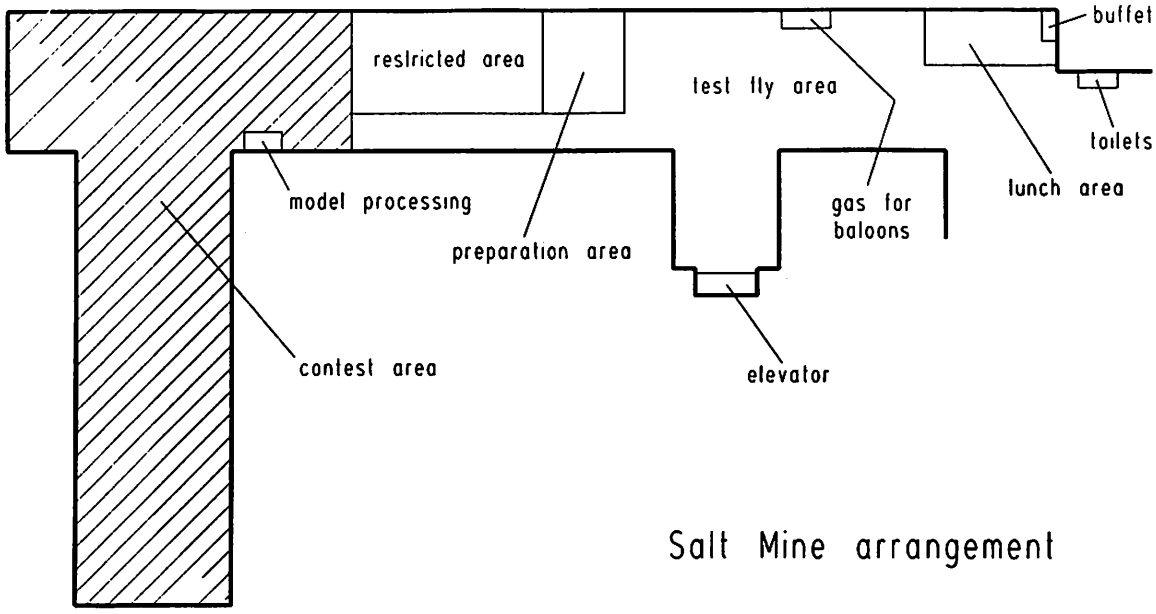
Senior teams

1	Hungary	244:58
2	USA	242:57
3	Great-Britain	240:25
4	Romania	220:41
5	France	196:05
6	Finland	177:02
7	Lithuania	150:23
8	Poland	147:55
9	Japan	78:35
10	Switzerland	76:20
11	Canada	69:55

	Juniors	Cntry	R 1	R 2	R 3	R 4	R 5	R 6	Total
1	MOSKALIEVA Tatiana	UKR	16:07	22:58	31:03	30:20	35:59	38:09	- 74:08
2	FILEK Jakub	POL	34:35	25:50	34:42	34:36	35:32	9:51	- 70:14
3	ROMONTI Cristian	ROM	16:26	25:42	28:07	30:48	24:08	17:07	- 58:55
4	LEONARD Nick Jr.	USA	25:20	27:35	29:20	29:32	0:19	21:07	- 58:52
5	SOMESAN Horatiu	ROM	25:28	26:45	26:46	20:04	27:49	29:53	- 57:42
6	VAIDA Aurelian	ROM	25:48	25:24	29:02	28:05	28:19	25:06	- 57:21
7	VALIKONIS Ignas	LIT	13:25	12:01	14:20	18:00	17:31	20:18	- 38:18
8	MULEVICUS Audrius	LIT	13:00	12:07	17:09	15:13	18:43	18:16	- 36:59
9	TYLA Gytis	LIT	0:19	12:26	1:35	15:16	14:28	16:39	- 31:55
DSQ	KOLIC Ivan	YUG	19:28	24:10	24:05	10:20	8:30	29:58	- 54:08

Junior teams

1	Romania	173:58
2	Lithuania	107:12
3	Ukraine	74:08
4	Poland	70:14
5	USA	58:52
DSQ	Yugoslavia	54:08



Salt Mine arrangement

Probably the lower part of the mine was disturbed by the lot of people, because the site arrangement was not yet forced by the organisers on that day. After these not encouraging experiences we adjusted our models as close as possible to the ones we used last year at the European Champs and prepared ourselves for safety first flights.

In **round 1** Brown, Ree and Nicoara have opened with safe forty plus flights with just a few seconds' differences (40:45, 40:37 and 40:24). In **round 2** Brown and Ree strengthened their position by about 3 minute's improvement (43:53 and 43:40), Nicoara repeated about his first flight and placed third and Richmond recorded also over forty (41:37). The top teams after the first contest day were the followings: Romania, UK, Hungary.

Round 3. This round proved to be the best one. Brown broke the hall record (45:11), that was improved by Ree with 2 seconds (45:13) so there was only 10 second's difference from two flights in favour of Brown. Richmond recorded another good flight (43:07) and moved to be third while Nicoara also improved (41:46) and Coslick recorded his first forty plus flight (41:01). All together there were 5 flights over 40 and 20 flights over 30 minutes within this round and Hungary took the lead in the team competition.

Round 4. Brown again improved a bit (44:04) while Ree not (42:37). Richmond and Nicoara broke their models on the catwalk, Coslick recorded his second forty (40:00) and Tipper the first British one (40:25). Nore reached his second almost forty (39:29, 39:20) and Bakos the first one (39:32) while the other home competitors, Popa and Mangalea were well under their potential. After the second day the top teams were Hungary, USA and UK, followed by Romania, France and Finland.

Round 5. There was no change in the leading positions. Brown was tracking another model while his own came down damaged because of unknown reason. Ree recorded his fifth forty (43:08) but not improved because a knot was formed on the prop hook and frictioned to the motor stick between about 38 to 42 minutes. Richmond missed to get enough altitude (39:33) while Tipper improved a lot (43:11) and jumped to fourth place and Bailey also broke the forty minute's border (40:20). Enomoto and Orsovai just slightly missed the forty (39:57 and 39:50).

Round 6. Within the usually worthier conditions for the last day Richmond improved two minutes by recording his best (44:21) while Bailey improved by 5 minutes (42:28) and this way the British team came close to the US team. Brown recorded again a good flight, his fifth forty (43:08) but not improved. Ree was waiting to the last ten minutes assuming to have better air. After a critical launch (very close to the wall) the model placed well in the middle, but at about 12 minutes was drifted fast to the tapering wall at about 55 m altitude (the ceiling is 62.25) and the wing was damaged. That was the end of the game and Brown has got his third consecutive title with 22 second's advantage, probably the smallest ever. There was no change in the team standings so Hungary has got the team title the first time.

It was very good to see the British team again in the mine after a long break competing in a very good mood. The contrary nearly nothing worked for Popa (the only senior using VP) and Mangalea

after a lot of effort, this way the team placed fourth.

In the junior championship Filek Jakub, an accurate and tough polish boy (speaking English rather well) was leading from round 1 to 5 with stable flights (while reached the ceiling). In round 6 the only female competitor, the daughter of the Ukrainian Moskalev reached 38:09 with VP and got the title, while Romania got the team title again. The jury has disqualified Ivan Kolic, the only Yugoslavian junior because of breaking the builder of the model rule by using an on spot bought model. The participation and also the performance of the juniors was definitely higher than in 1994 having 8 flights over 30 minutes.

I have made some statistics for the rounds that can be seen in Table 1 concerning the 40+ and 30+ flights. The table shows the increasing general performance up to the third round (this included also the two best flights within the contest) and the decreasing tendency afterwards.

Table 1

	Rounds						Total
	1	2	3	4	5	6	
40+ flights	3	4	5	4	3	3	22
30+ flights	13	16	20	14	16	13	92

Comparing these data to the W/Ch in 1994 where the round-by-round number of 40+ flights was 2-4-2-2-1-0 and for the 30+ flights 11-9-10-10-12-11, the improvement in the average performance is significant. This time the percentage of the total number of 40+ flights reached 13.6 % (5 % in 1994) and the same ratio for the 30+ flights was 56.8 % (28 % in 1994).

Concerning the technical details I could collect some data during the good banquet from seven competitors. See Table 2 and watch the wide variety of data, all resulting good models. Tipper was using very high wingposts, while Bailey used a tandem-like model. My model was about the same I used last year at the European Champs with slight trimming differences and now close to the 1 gram. The details can be seen on the drawing.

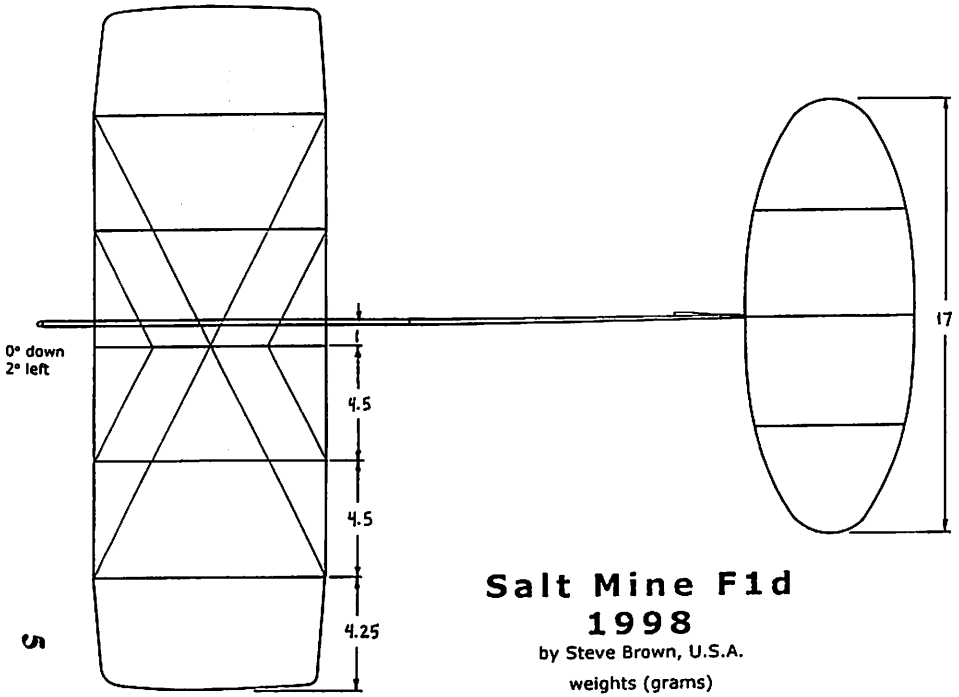
The **EuroIndoor Cup** after the W/Ch was flown with rather low participation in similar conditions with the safe winning of Larry Coslick.

Parallel to the Cup contest I have flown demonstrating flights with a present F1D model of mine using 0.5 gram rubber with 0.3 wire spacers. I have recorded 25 and 26 minutes' flights with a 500/800 fixed prop climbing up to about 30-32 m altitude. The model performed extremely slow, beautiful and unforgettable flights (expressed by others) while was not yet trimmed for these conditions perfectly. That could be some addition to the data of Mike Colling's questionare circulated during the W/Ch.

The organisers again have made their best and let me say on behalf of all participants, also repeating the words of the jury president: Thank you all who worked hard for our indoor community by making important steps to keep this beautiful category living! The competition was tough up to the very last moment, the good spirit was disturbed only by father Kolic, running besides and between the mo

Table 2

	Brown	Reé	Richmond	Tipper	Coslick	Bailey	Orsovai
Prop diameter	533	510	558	508	533	508	515
pitch	914	850	762	762	1066	762	970
Rubber batch	7/97	?/93	7/97	8/93	7/97	10/97	7/97
length	419	400	432	413	406	419	415
weight	1.7	1,58	1,47	1,46	1,49	1,35	1,64
section in g/m	4.06	3,95	3,4	3,53	3,67	3,22	3,95
max turn	2080	2270	2400	2200	2140	2180	2260
launch turn	2010	2130	2360	2160	2080	2130	2150
rest turn	0	0	few	0	300	70	0
Flight time	45:11	45:13	44:21	43:11	44:02	42:28	40:35

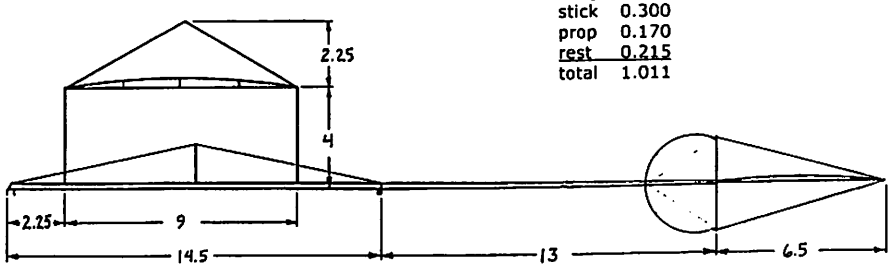


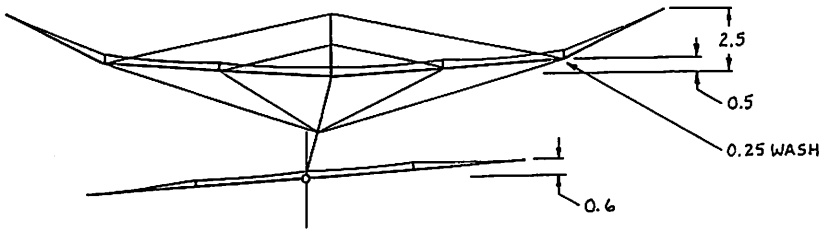
Salt Mine F1d
1998

by Steve Brown, U.S.A.

weights (grams)

wing	0.326
stick	0.300
prop	0.170
rest	0.215
total	1.011





pars		.034 X .044 6.0 lb.
ips		.030 X .038 5.1 lb.
niddle ribs (3)		.027 X .044 5.3 lb.
ompression ribs (2)		
	top:	.027 X .030 5.3 lb.
	bottom:	.035 X .024 5.0 lb.
	uprights:	.004 boron
vingposts		.035 X .055 → .030 X .040 6.0 lb.
		(3) .003 boron
:abane		.030 X .045 → .030 X .035 5.2 lb.
bracing		.0003 tungsten
airfoil		3.5% ellipse

pilizer

spars	.028 X .048 → .022 X .032 5.5 lb.
center rib	.027 X .042 5.3 lb.
outer ribs	.024 X .032 5.2 lb.
bracing	.0003 tungsten to center rib
airfoil	2% arc

post	.028 X .050 → .028 X .040 5.5 lb.
outline	.004 boron

orstick

tube	.013 4.0 lb. (4) .004 boron
webs	.018 4.5 lb.
cap	.013 4.0 lb.
bracing post	.045 X .045 → .035 X .035 X 1.75 7.0 lb.
hook	.013 music wire
bearing	Harlan F1d
bracing	(1) .001 tungsten

m

tube	.008 4.0 lb. .230 i.d. → .160 i.d.

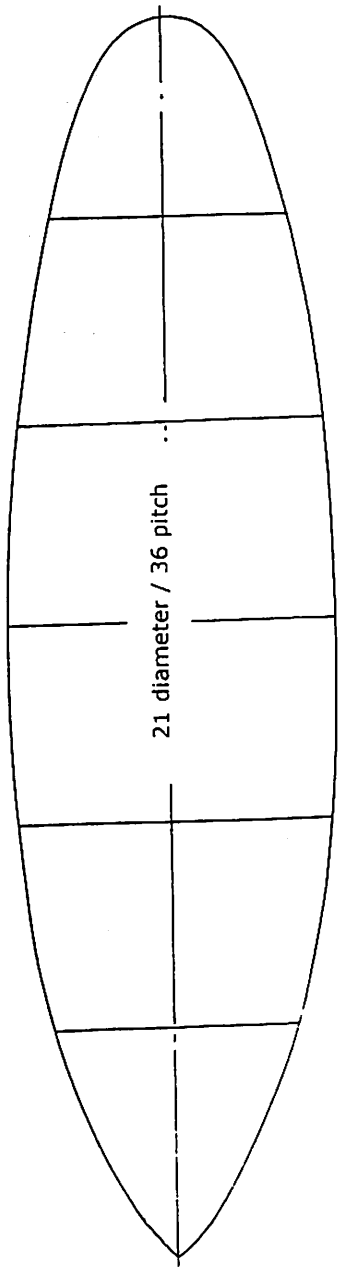
peller

spars	.068 X .072 → .028 X .028 5.5 lb.
outline	.025 X .025 4.5 lb.
ribs	.022 X .025 4.5 lb.

tor

.043 X .078 X 16.5 = 1.70gm, July 1997 Tan II
2010 launch turns - 0 remaining = 2010 used
44.5 RPM average





dels contrary to many warnings. There was no protest, the disqualification was the only trouble for the jury involving Sandy Pimenoff, Pierre Chaussebourg and Mihail Zanciu.

After arriving to Slanic we have got the sad information from the Polish team that our friend, the former indoor world champion, Sylwester Kujawa died in January 1998. Be the peace with him.

SLANIC 1998 (2)

Report by Steve Brown (USA)

The prospect of another World Championships in the gloom and cold of the Salt Mine was daunting, but our team was well prepared. We did encounter some rough box handling by the airline and two of my six models were damaged. Other team members had more serious damage.

The practice day was one of my most frustrating experiences with F1D. After nine hours of adjusting and test flying on ¼ and ½ motors my best flights were 7'40"and 16'10" respectively. Absolutely nothing worked to produce more time, although all six airplanes had proven to be capable of repeatable 13+ minute ¼ motor flights in Santa Ana.

I decided to treat Round 1 as a test flight and launched at a conservative torque setting. The model climbed to about 175 feet (53 m) and produced a time of 40'45". After that I was able to see that the models were indeed properly adjusted and my 13-minute ¼ motor tests were not a delusion. I was able to optimize the launch torque and motor length in the second, third and fourth rounds to obtain flights of 43'52", 45'11" and 44'04". The really unusual aspect of these flights was that they reached an altitude of at least 195 feet (59 m) and never drifted to the sides. For those of you who have flown in the mine that may seem incredible. Side-to-side drift was minimal for the whole contest and only the first round flight required steering.

In round 5 I lost sight of the model in the darkness immediately after the launch. While tracking the wrong airplane my model struck some unknown obstacle and came down in pieces. My guess is that it ran into someone's balloon string, maybe my own. Round 6 found me with another airplane and my guess as to the appropriate launch torque was slightly low. The model reached only about 170 feet (52 m) but flew a respectable 43'08" in slightly turbulent conditions.

The final order was not determined until the last round. Andras Ree (HUN) was only a few seconds behind me and actually had the longest flight of the contest, 45'13"to my 45'11". Unfortunately for Andras, he was unable to better his times in Rounds 5 and 6 when the air quality deteriorated a little.

The temperature in the mine was steady at 51°F (11°C), but the humidity was higher than in 1994, hovering around 70%. Drops of salt water fell from the ceiling during all four days. Most were small enough to cause no damage, simply leaving salt deposits on the microfilm. I flew a model similar to the one flown in 1994. Since climbing to the ceiling had not been a problem four years ago, I used a 21 inch diameter, 36 inch prop with a little more blade area, hoping that the larger prop would lower the average prop RPM.

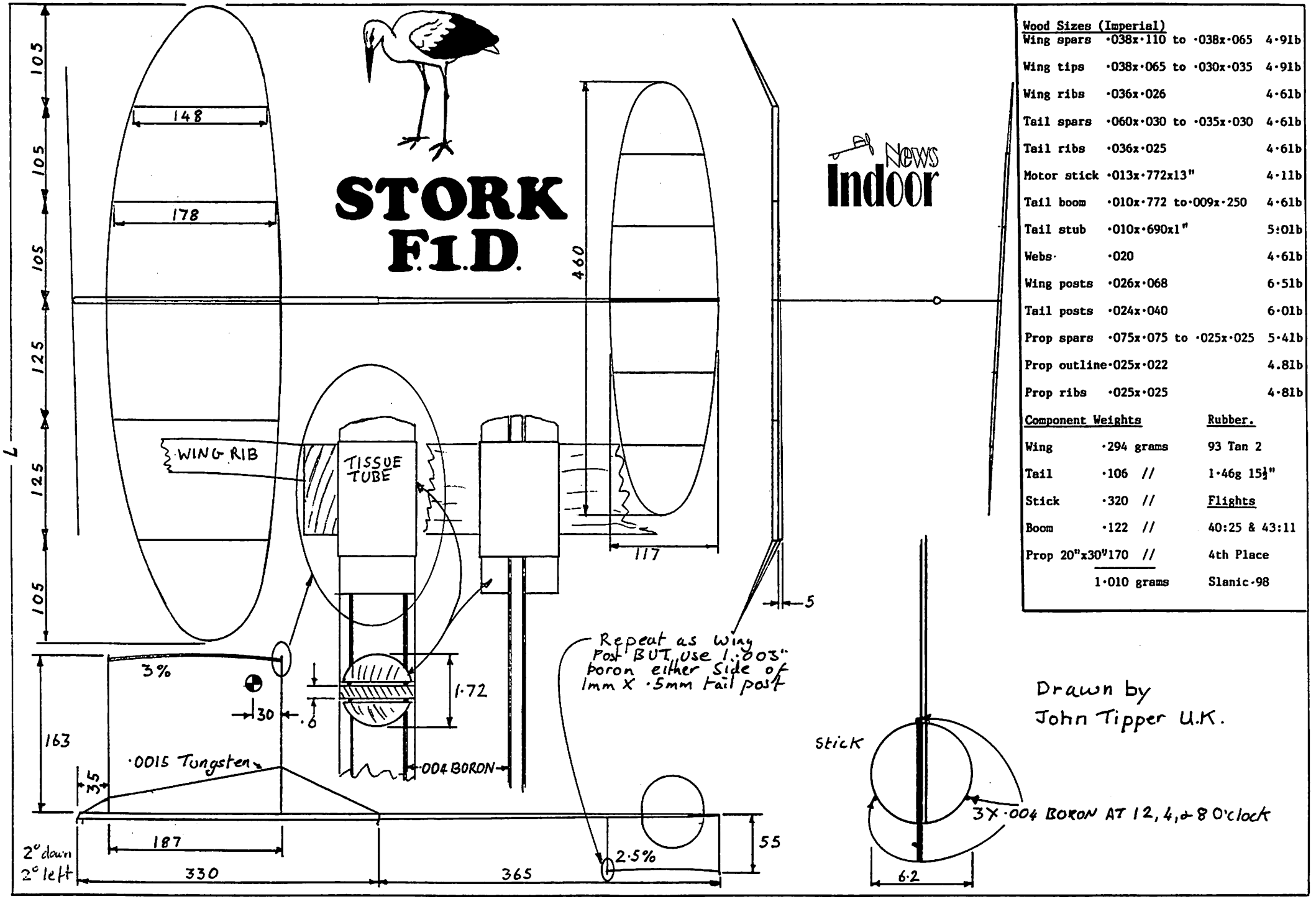
The contest organization was very good, with contest director Marius Conu enforcing a low pedestrian traffic policy in the flying area. That produced fewer heat columns and probably accounted for the low drift. I want to thank the Rumanian Modeling Federation for the work they did to make this contest a success. The accommodations and food service were greatly improved. I'm looking forward to seeing everyone again in two years.

SLANIC 1998 (3)

by John Tipper (GBR)

I had been put off from going to Slanic in the past by all the horror stories, e.g. dark, cold, difficult to get models to fly, etc., etc.. It was very cold and dark, but if you were prepared for this it was not so bad. My models flew better than I ever imagined possible, it was nowhere as damp as I was expecting. Everyone who has ever been to Slanic should go at least once just for the experience and I would certainly go again.

The Rumanians put on a very good and well run World Champs and done their best in making everyone welcome. I only have one criticism and that is that there should have been a sign post for the Hotel so that new visitors don't spend the night driving around the town of Slanic. We prefer to do this in day light on our sight seeing day.



Wood Sizes (Imperial)		
Wing spars	·038x·110 to ·038x·065	4·91b
Wing tips	·038x·065 to ·030x·035	4·91b
Wing ribs	·036x·026	4·61b
Tail spars	·060x·030 to ·035x·030	4·61b
Tail ribs	·036x·025	4·61b
Motor stick	·013x·772x13"	4·11b
Tail boom	·010x·772 to·009x·250	4·61b
Tail stub	·010x·690x1"	5:01b
Webs·	·020	4·61b
Wing posts	·026x·068	6·51b
Tail posts	·024x·040	6·01b
Prop spars	·075x·075 to ·025x·025	5·41b
Prop outline	·025x·022	4.81b
Prop ribs	·025x·025	4·81b

Component Weights		Rubber.
Wing	·294 grams	93 Tan 2
Tail	·106 //	1·46g 15½"
Stick	·320 //	Flights
Boom	·122 //	40:25 & 43:11
Prop 20"x30"170	//	4th Place
	1·010 grams	Slanic·98

EURO INDOOR OPEN CUP F1D

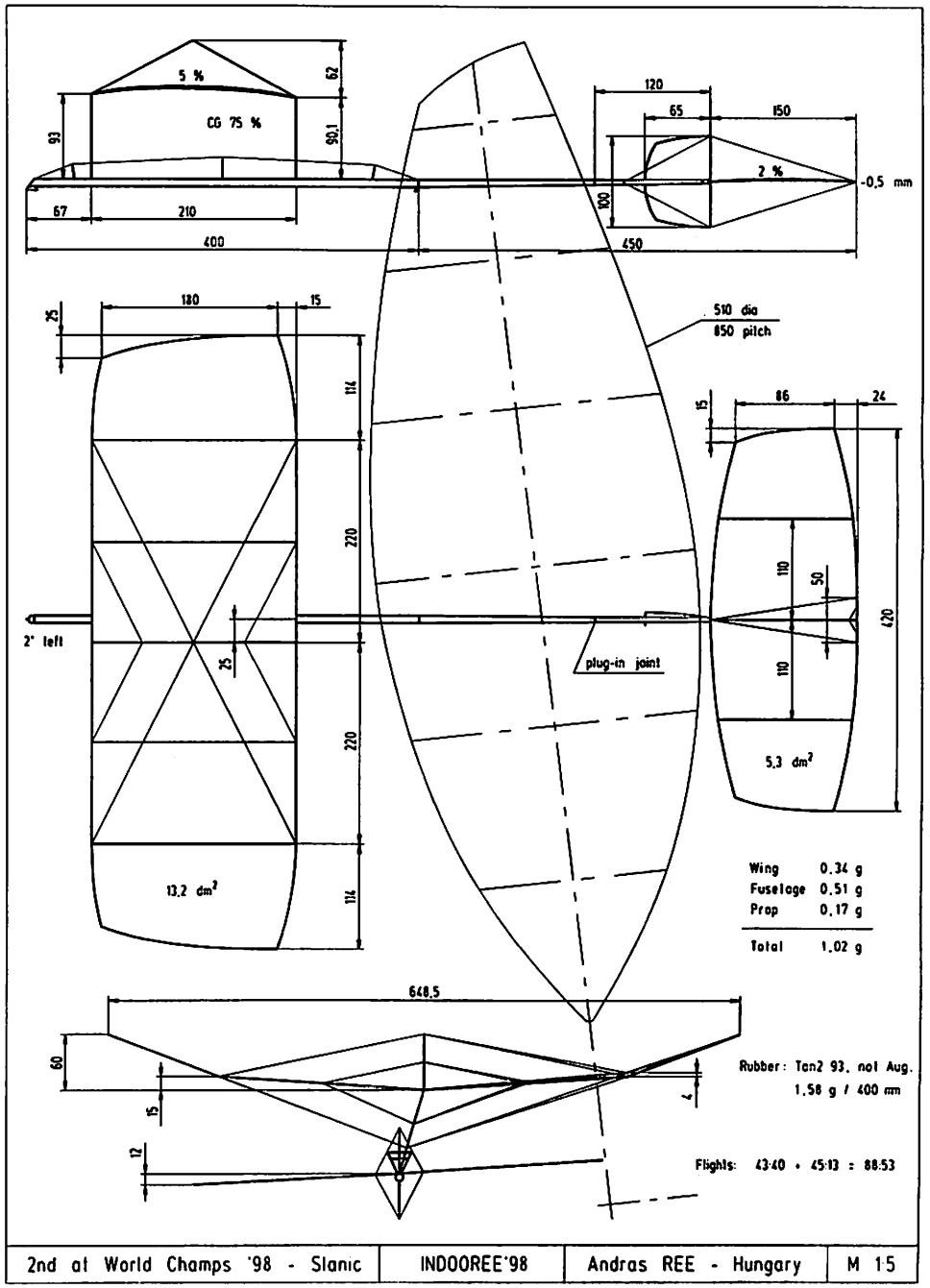
Slanic-Prahova, Romania, 16 Oct. 1998

	Seniors	Cntry	R 1	R 2	R 3	R 4		Total
1	COSLICK Larry	USA	42:05	38:35	44:02	-	-	86:07
2	POPA Aurel	ROM	-	21:07	36:33	38:05	-	74:38
3	AMORARITEI Dan	ROM	36:40	36:21	36:53	3:25	-	73:33
4	MORAR Aurel	ROM	15:47	39:06	33:41	32:35	-	72:47
5	LIEM Edmund	CAN	33:42	31:33	36:46	17:11	-	70:28
6	NICOARA Vasile	ROM	32:50	35:07	8:35	33:28	-	68:35
7	LEONARD Nick Sr.	USA	0:33	30:04	29:14	33:38	-	63:42
8	BOTOS Istvan	HUN	30:10	31:09	15:08	1:55	-	61:19
9	ORSOVAI Dezso	HUN	15:28	20:34	9:01	40:35	-	61:09
10	KORNIYCHUK Oleg	UKR	19:41	30:36	27:38	29:06	-	59:42
11	MOSOLOV Sergey	UKR	30:12	24:17	28:35	1:22	-	58:47
12	LEONARD Nick Jr.	USA	28:40	29:43	26:41	22:36	-	58:23
13	MANGALEA Cornel	ROM	-	4:54	28:39	28:26	-	57:05
14	SOMESAN Horatiu	ROM	31:20	19:09	25:43	19:10	-	57:03
15	ROMONTI Cristian	ROM	30:00	25:31	23:00	-	-	55:31
16	VAIDA Aurelian	ROM	18:20	9:10	27:15	27:25	-	54:40
17	MIHAILOU Andrey	UKR	-	26:15	26:11	17:47	-	52:26
18	SUKOSD Zoltan	HUN	18:40	32:36	19:03	2:54	-	51:39

Teams

1	USA	208:12
2	Romania I.	200:18
3	Hungary	174:07
4	Ukraine	170:00
5	Romania II.	146:20
6	Canada	70:28

	Juniors	Cntry	R 1	R 2	R 3	R 4		Total
1	LEONARD Nick Jr.	USA	28:40	29:43	26:41	22:36	-	58:23
2	SOMESAN Horatiu	ROM	31:20	19:09	25:43	19:10	-	57:03
3	ROMONTI Cristian	ROM	30:00	25:31	23:00	-	-	55:31
4	VAIDA Aurelian	ROM	18:20	9:10	27:15	27:25	-	54:40



Enclosed is a plan of the Stork model which I flew. Bernard Hunt designed the Stork for two members of the British team with the aim of having a strong easy to trim model. It also travels well in a box 27"x9"x7 ½". The box travels as hand luggage and so the models are always safe (4 models in box). The tailplane size is designed to slide-fit under the wing for travel. It is stored upside down to prevent the film coming into contact with the film of the wing. As a secondary precaution the underside of the tailplane is dusted with talcum powder.

The models were just finished the day before I left for Rumania, and were quite easy to set up. I had quite a lot of trouble getting the rubber sizes right, the model was always running out of turns. On my 43 minute flight the model was wound and ready to launch at the start of round 3. I wanted to get away before the air got too turbulent. The previous evening I increased the pitch from 29" to 30" in an attempt to increase my times. The model climbed away nice and steady and reached the cat walk at about 18/19 minutes. It started to circle above the catwalk disappearing out of sight for about 4/5 seconds at a go. It continued to do so for at least 6 circles before drifting across to the other catwalk where it hit the upright post of the hand rail, slid down the post and flew under the catwalk. This was at about 23 minutes and must have been the luckiest flight of my life. The rest of the flight was quite uneventfull until the motor came off the front hook at over 50 feet high. The motor had a bunch on the rear hook and stayed put. For a further 1 ½ minutes the model gently descended rocking back and forth to land at 43'11". I increased the pitch by a further 1" to try and improve the time but backed off too much and the model only climbed to about ¾ height and landed at 39'00" with lots of turns left.

I would like to express our thanks to everyone involved in running the World Champs on behalf of the British Team and their supporters for a job well done!

20th Flemalle International

St. Severin, 27-30 August 1998

Report by Mike Green (GBR)

This year the 20th Flemalle International event took place in the sports hall of the Tennis Club du Condroz in the village of St.Severin. St.Severin is situated some 12 kms out of Liège and is relatively easily accessable. We motored down from Zeebrugge to Liège and Bernard Delhalle's instructions for the route were very good, but we still managed to miss the last motorway exit. The air was blue! To cap this the road plan to the Hotel du Blanc Gravier had been altered. However we were in good company since seemingly everybody else "got lost in Liège".

The sports hall itself has a good floor area about the size of that at Maastricht, i.e. 47x36 metres. The maximum height is 10 metres and lights at 7 metres high effectively divide the hall into three parts. The 'cross-section' is an arc and the cladding is of straw filled blocks not unlike the hall in Orleans. This made for a particularly dangeroous environment for the duration models. Having said that, many of the times were up on 1996, some indeed being truely impressive. In F1M (formerly F1D Beginner) the event was dominated by the German contingent with Werner Nimptsch the winner at 28'40. Second came Rainer Lotz and in third place Alfred Klink. Unfortunately Alfred had to return home prematurely because his wife suffered a serious leg injury whilst sightseeing. All were using VP props as was Edmond Roch. I was yet to get the measure of the hall and came 5th. Young Philip Lotz took the junior title with Laurens Camfferman (NED) second.

Micro 35 was again won by Rainer Lotz with best flights of 17'40 and 18'43, with Werner Nimptsch a close second. Edward Ciapala came third. The steering was a Herculean task. I failed in this regard and smashed the wing. Werner Strattner was not so lucky, his model sticking to the wall and becoming a write-off. There were no juniors in this class.

In F1D Edward Ciapala quietly came through to assure victory for Poland with magnificent flights of 33'15 and 34'08. In fact all top three placers exceeded the half hour - much steering and not without mishap.

Reg Boor and I flew in EZB. Until Saturday I was just about in the lead by a whisker to Edmond Roch who had a potent model. At this point I should say that my EZB was on its first outing, so it had yet to be blooded. However in round four Edmond and I slogged it out, just avoiding collisions and I made 13'36 to Edmonds 12'59. I made another good one and then got hooked up on flight 6. I baulked my reflight for 'technical problems' but I had carried it off. Rainer Lotz was third, and Reg Boor should have come between Rainer and Edward Ciapala, who won last year. Thus I came the delighted re-

Flémalle International Contest

F1L (ezb) Senior

Pl.	Nom	Vol 1	Vol 2	Vol 3	Vol 4	Vol 5	Vol 6	Points
1	GREEN Michael (GB)	611	707	535	816	772	-	1588
2	ROCH Edmond (F)	522	567	743	779	690	702	1522
3	LOTZ Rainer (D)	605	559	604	649	650	-	1299
4	CIAPALA Edward (POL)	525	340	474	451	511	563	1088
5	VAN VYNCHT Michel (B)	515	523	500	530	549	475	1079
6	BOOR Reginald (GB)	512	529	170	541	173	529	1070
7	D'HONDT Emile (B)	485	414	378	448	446	405	933
8	GRANGE Yannick (F)	347	427	413	298	496	40	923
9	DECHAMPS roger (B)	338	21	375	-	-	-	713

Sainte Formule Senior

Pl.	Nom	Vol 1	Vol 2	Vol 3	Vol 4	Vol 5	Vol 6	Points
1	LOTZ Rainer (D)	205	0	243	8	280	266	546
2	GREEN Michael (GB)	131	209	222	218	103	130	440
3	DELHALLE Bernard (B)	189	204	198	218	163	-	422
4	BROUWER Gé (NL)	188	207	194	-	-	-	401
5	FROSTICK Peter (GB)	182	162	168	-	-	-	350
6	DE BRUIN Hans (NL)	149	156	144	-	-	-	305
7	D'HONDT Emile (B)	31	100	0	108	138	163	301
8	NIMPTSCH Werner (D)	152	134	80	-	-	-	286
9	DECHAMPS Roger (B)	129	143	99	69	-	-	272
10	TER HORST Marian (NL)	45	110	128	111	140	-	268
11	BRENDEL Gert (NL)	98	123	123	-	-	-	246
12	NOBEL Martin (NL)	99	112	111	107	58	-	223
13	SCHOUWSTRA Ebele (NL)	95	50	83	80	85	113	208
NC	BRENDEL Niels (NL)	-	-	-	-	-	-	-

Bostonian

Pl.	Nom	Vol 1	Vol 2	Vol 3	Vol 4	Vol 5	Vol 6	Points
1	OUDE AARNINKHOF Léon (NL)	41	60	55	44	49	31	115
2	CAMFFERMAN Laurens (NL)	47	54	44	44	3	-	101
3	VAN HULST Matthijs (NL)	33	28	44	-	-	-	77
	VISSERS Nick (NL)	20	24	24	34	40	37	77
NC	DE BRUYN Hugo (NL)	-	-	-	-	-	-	-

Flémalle International Contest

F1D Microfilm Senior

Pl.	Nom	Vol 1	Vol 2	Vol 3	Vol 4	Vol 5	Vol 6	Points
1	CIAPALA Edward (POL)	1964	1995	2047	936	-	-	4042
2	NIMPTSCH Werner (D)	1837	1882	1911	11	2048	1470	3959
3	LOTZ Rainer (D)	1874	413	1828	-	-	-	3702
4	GREEN Michael (GB)	447	534	256	-	-	-	981

F1D Beginner (F1M) Senior

Pl.	Nom	Vol 1	Vol 2	Vol 3	Vol 4	Vol 5	Vol 6	Points
1	NIMPTSCH Werner (D)	839	881	715	-	-	-	1720
2	LOTZ Rainer (D)	178	786	742	828	830	-	1658
3	KLINCK Alfred (D)	259	677	709	-	-	-	1386
4	ROCH Edmond (F)	303	408	367	545	-	-	953
5	GREEN Michael (GB)	425	147	419	510	262	239	935
6	PATAT Francis (F)	257	419	-	-	-	-	676
7	SCHOUWSTRA Ebele (NL)	271	253	345	122	-	-	616

F1D Beginner (F1M) Junior

Pl.	Nom	Vol 1	Vol 2	Vol 3	Vol 4	Vol 5	Vol 6	Points
1	LOTZ Philip (D)	426	519	491	497	-	-	1016
2	CAMFFERMAN Laurens (NL)	201	158	298	314	329	315	644
3	DE BRUYN Hugo (NL)	237	243	282	238	280	347	629
	VISSERS Nick (NL)	239	299	247	93	290	330	629
5	VAN HULST Matthijs (NL)	200	225	316	312	291	291	628
6	OUDE AARNINKHOF Léon (NL)	172	179	198	272	173	232	504

Micro 35 Senior

Pl.	Nom	Vol 1	Vol 2	Vol 3	Vol 4	Vol 5	Vol 6	Points
1	LOTZ Rainer (D)	1001	1060	1123	907	-	-	2183
2	NIMPTSCH Werner (D)	987	988	1040	1120	-	-	2160
3	CIAPALA Edward (POL)	810	883	422	-	-	-	1693
4	STRATTNER Werner (D)	101	62	666	711	-	-	1377
5	GRANGE Yannick (F)	332	422	476	402	412	-	898
NC	KLINCK Alfred (D)	769	-	-	-	-	-	769
NC	GREEN Michael (GB)	161	-	-	-	-	-	161
NC	ROCH Edmond (F)	-	-	-	-	-	-	-
NC	FROSTICK Peter (GB)	-	-	-	-	-	-	-

27, 28, 29, 30 August 1998

F4F Cacahuète Senior

Pl.	Nom	Appareil	Stat.	Pl. Stat.	Vol	Pl. Vol	Total
1	CARTIGNY Jacques (F)	Lohner AA	104	7	104	10	17
2	CROSSLEY Richard (GB)	Vought Chesapeake	108	5	87	16	21
3	PRIOR David (GB)	Mig 3	93,5	12	104	10	22
4	DAVID Christophe (F)	Blériot 25 Canard	93	13	108	9	22
5	DAVID Christophe (F)	Sopwith Tabloïd	94	11	101	12	23
6	SMART Peter (GB)	Messerschmitt Bf.109	113	4	72	20	24
7	MASSET Paul (F)	Waterman Gosling	77,5	23	140	2	25
8	PATAT Francis (F)	Farman 450 Moustique	94,5	10	86	18	28
9	PATAT Francis (F)	Poullin JP-30	75,5	25	115	4	29
10	MASTERS Divs (GB)	Sopwith Triplane	146	1	41	29	30
	PATAT Francis (F)	Caudron Luciole	117,5	3	56	27	30
	FROSTICK Peter (GB)	Farman 450 Moustique	97	8	70	22	30
	CARTIGNY Jacques (F)	DH Turbo Beaver	71	27	126	3	30
14	BRENDEL Niels (NL)	Piper PA.18 Super Cub	88	16	90	15	31
	TAYLOR STuart (GB)	Nieuport 11	91	15	87	16	31
	BOURDEAUD'HUI Jean-Claude (F)	Renard 16	80,5	18	95	13	31
17	CRAMOISAN Christophe (F)	Renard R.26-100	105	6	57	26	32
	D'HONDT Emile (B)	Lignel	74	26	111	6	32
19	BOOR Reginald (GB)	Republic P-47 Thunderbolt	127,5	2	17	31	33
	BOURDEAUD'HUI Jean-Claude (F)	LS.60	80	19	92	14	33
	LOTZ Rainer (D)	Windham Tandem	39	33	355	1	34
22	BOOR Reginald (GB)	Renard R-35	97	8	44	28	36
23	BOURDEAUD'HUI Jean-Claude (F)	Waco SRE	93	13	66	24	37
	STICHBURY Bryan (GB)	Piper J.3 Cub	81,5	17	72	20	37
	BOURDEAUD'HUI Jean-Claude (F)	Pottier 100TS	65	29	108	8	37
	VERBRUG Fred	BD III	52	32	114	5	37
27	TAYLOR STuart (GB)	Huntington H.12	53	31	110	7	38
28	BRENDEL Gert (NL)	Renard RSV 16-100	78,5	22	69	23	45
29	CARTIGNY Jacques (F)	Kolhoven FK.55	69	28	80	19	47
30	SNEED George (GB)	Mig DIS-200 (IT)	77,5	23	37	30	53
31	MASSET Paul (F)	ACAZ T.1	63	30	60	25	55
NC	MASTERS Vibes (GB)	Lacey M.10	80	19	-	-	-
NC	PATAT Francis (F)	Latécoère 26	80	19	-	-	-

Pistachio Senior

Pl.	Nom	Appareil	Stat.	Pl. Stat.	Vol	Pl. Vol	Total
1	CROSSLEY Richard (GB)	Folkerts SK.3	55,5	8	119	2	10
2	MASTERS Divs (GB)	R.A.F. SE.5a	70,5	1	73	10	11
3	SMART Peter (GB)	Rollason Beta	58	5	91	6	11
4	BRENDEL Gert (NL)	Volksplane VP-1	48,5	10	138	1	11
5	DAVID Christophe (F)	Blériot 25 Canard	51	9	107	5	14
6	FROSTICK Peter (GB)	N.A. P-51 Mustang	46,5	11	112	3	14
7	CARTIGNY Jacques (F)	Focke-Wulf Fw.190D	56	7	82	8	15
8	CRAMOISAN Christophe (F)	Fokker D.VIII	66	2	39	15	17
9	CARTIGNY Jacques (F)	Lippisch Stork	38	14	110	4	18
10	MASTERS Divs (GB)	Fokker D.VII	65	3	21	17	20
11	CRAMOISAN Christophe (F)	Lockheed P-38 Lightning	60	4	22	16	20
12	DAVID Christophe (F)	Sorrell Hyperbipe	57,5	6	43	14	20
13	STICHBURY Bryan (GB)	Lacey M.10	37,5	15	86	7	22
14	CARTIGNY Jacques (F)	Republic F-84H	46	12	61	12	24
15	SNEED George (GB)	Piaggio-Pegna PC7	41	13	69	11	24
16	BOOR Reginald (GB)	Messerschmitt M.20	34	17	76	9	26
17	AIME Roger (F)	Sonerai	25	18	48	13	31
NC	BOURDEAUD'HUI Jean-Claude (F)	Pottier 100TS	36	16	-	-	-

Pistachio Junior

Pl.	Nom	Appareil	Statique	Pl. Stat.	Vol	Pl. Vol	Total
1	LOTZ Philip (D)	Windham Tandem	32,5	1	280	1	2
-	LOTZ Philip (D)	Cloudbuster	22,5	2	214	2	4

Flémalle International Contest

F4E CO2/Electrique Senior

Pl.	Nom	Appareil	Statique	Vol	Total
1	SMART Peter (GB)	Bristol Bombay	1625	431	2056
2	D'HONDT Emile (B)	Renard 17	1003,5	270	1273,5
NC	MASTERS Divs (GB)	R.A.F. SE.5a	1591,5	0	1591,5
NC	GREEN Michael (GB)	Anec 1a	1027,5	0	1027,5

F4D Caoutchouc Senior

Pl.	Nom	Appareil	Statique	Vol	Total
1	SMART Peter (GB)	Tupolev Bear	1870	579	2449
2	MASTERS Divs (GB)	Sopwith Triplane	1537,5	574	2111,5
3	CROSSLEY Richard (GB)	Junkers Ju.88	1528	529,5	2057,5
4	PRIOR David (GB)	Sopwith Baby	1491	492	1983
5	SMART Peter (GB)	Avro Lancaster	1478	358,5	1836,5
6	BRENDEL Niels (NL)	Dart Kitten	1219,5	524,5	1744
7	BRENDEL Niels (NL)	Volksplane VP-1	1231,5	505	1736,5
8	BOOR Reginald (GB)	Hawker Fury	1149	503	1652
9	TER HORST Marian (NL)	Jodel D.9 Bébé	1075,5	520	1595,5
10	GREEN Michael (GB)	DH Puss Moth	1095	490	1585
NC	MASTERS Vibes (GB)	Lacey M.10	0	0	0

FUN FLY

Pl.	Nom
1	SMART Peter
2	DAVID Christophe
3	D'HONDT Emile
4	CRAMOISAN Christophe
5	OUDE AARNINKHOF Leon
6	DE BRUYN Hugo
7	VISSERS Nick
8	FROSTICK Peter
9	CROSSLEY Richard
10	BOOR Reg
11	DECHAMPS Roger
12	RUYSINK Rick
13	SNEED George
14	PHILLIPS George

20éme Concours International pour Modèles Réduits d'Avions de Vol Libre d'Intérieur

P.A.T.

vol d'intérieur

FLEMALLE

Une organisation de l'Association Sans But Lucratif
"PETITE AVIATION DES TRIXHES"
Avec l'aide du Service des Sports de la Province de Liège.

27, 28, 29, 30 August 1998

cipient of the splendid Nery Bernard Trophy, awarded for the first time this year.
The Sainte Formule contest was flown to the three gram rule. In my opinion this makes for a more practical model - more robust and more suitable for a small hall. Even so, Rainer Lotz topped 4 minutes on his best two to win. I placed second with a Chris Hutchinson design and Bernard Delhalle, the Belgian Champion in this class, in third place. The lights had posed a greater hazard because these models presented a smaller target for steering and I suspect the gaps in the score sheet reflect this fact.

Ebele Schouwstra's youngsters competed in the Bostonian event, with Leon Oude Aarninkhof the winner with 1'55 and Laurens Camfferman 2nd with 1'41.

In the scale events Peter Smart was the man of the day. He dominated the F4E contest with his superb Bristol Bombay (twin electrics), with Emile d'Hondt (BEL) second with his Renard 17. Divs Masters got a good static score, but presumably the motor did not deliver the goods. Mine suffered from gas leakage - the less said the better. Peter again won the F4D (Rubber) with his Tupolev Bear gaining the best static and flying scores. Divs Masters placed 2nd with his Sopwith Triplane and Richard Crossley 3rd with his Ju88 - a field day for the Brits. To be fair, the Dutch entries had reasonable flying points, but did not accumulate sufficient in static.

In Peanut Jacques Cartigny won for France, followed by Richard Crossley and David Prior. Mention must be made of the Patat brothers with their collection of museum standard models and storage box doubling up as a workbench. Storage of their models is a triumph of ingenuity in three dimensions. This event had the most entries, France was the most strongly represented followed by the Brits. Divs Masters again got first in static with Reg Boor 2nd, but Reg's model had an off-day.

Pistachio, again GB in 1st, 2nd and 3rd place - Richard Crossley with his Folkerts SK3, Divs Masters with his stick and tissue SE5a and Peter Smart (Rollason Beta). To judge from the scores it was not necessarily a trade-off between static and flight scores. To place you had to do well in both. Young Philip Lotz as the sole entrant in junior got 1st with his Wingham Tandem and 2nd with his Cloudbuster.

And finally the Fun Fly, which was won by Peter Smart, inspired to build the aeroplane in a Magritte painting. David Christophe 2nd and Emile d'Hondt in 3rd. Sorry I did not watch this as I was at the bar.
And so ended a most enjoyable contest, as always at this event. We must thank Fernand van Hauwaert, Bernard Delhalle for his prodigious efforts on the computer, the untiring timekeepers (La Societé Generale de Chronometreurs!), all the other people behind the scenes who made it happen and not forgetting the staff at the bar/restaurant where we dined so well. Merci Beaucoup!

Swedish Indoor Championships 1998

Report by Sven-Olov Lindén

During one of the most lovely days in spring the Swedish Indoor flyers choose to stay inside. In Örebro some 35 modellers met to fly in the Athletic Hall. MAC Nimbus which this year is 50 years old was the organiser. One member of today, Olle Blomberg was one of the founders in 1948. He got a glass statue for his long and very active membership. "Olle Blomberg - for and with Nimbus in 50 years" was engraved in the statue. SMFF - Swedish Modellers Association is now a member of the Swedish Athletic Organisation and now the official medals for Swedish Championships are awarded in the FAI-classes.



Birgit Törnkvist with her "Wittman Racer" - winner of the No-Cal Championship. She made her birth-day a winners day!

"Mini-flyg" = "AMA-Cub" and similar were the airplanes to compete. Daniel Bronn's 80 sec is probably a junior record in the hall. Though a seni-

or as he really is Olle Blomberg could not resist flying his "AMA-Cub" better than his fellow contestants and he won the class. Jonas Romblad from Stockholm and his comrades from Haninge MAC dominated the F1L-class. Jonas had flights of 11 and 12 minutes. Kalle Westerblad laughed loud and happy when he received his silver medal in the "50-öres" (= Penny Plane) class.

A new class for the championships was "Manhattan Cabin". Some had chosen to build lightly with condensor paper. Ingvar Person had a semi-scale "Korda". "No-Cal"is now the "Big" class, 17 models were entered. Some were easily recognizable copies of the original airplane, but some others had only slight resemblance to the airplane they portrayed! This was the Ladies class! Birgit Törnkvist - wife of Georg - won the senior class on her 37th - or was it the other way? - birthday. Little My Schaffer was "coached" (a new Swedish word!) by Anders Sjöberg and she put all the young boys behind. Last year Lennart Lilienberg won the "Peanut"class ahead of Daniel Hartstein. This year they changed places. Daniel's "Drzewiecki Canard" had better flights than Lennart's "Miss Los Angeles", which had better scale points.

The time in the hall was running out so the microfilm flyers got only two hours to fly. Test flights had to be contest flights. Sven Pontan had some misfortunes in hanging up in the boxing-armature in the centre of the ceiling and a flight into the side of the hall. Lars Lindén made couple of controlled flights with his rather old model. Tomas Leijon and Jonas Romblad tried to fly their F1L-models in the same class.

F1D (5 flew)

1.	Lars Linden	MFK Nimbus	13'49	10'15	**24'04**
2.	Sven-Olov Linden	MFK Nimbus	11'20	11'29	**22'49**
3.	Sven Pontan	Haninge MFK	11'18	9'02	**20'20**

50-öres (7 flew)

1.	Jonas Romblad	Haninge MFK	628	668	**1296**
2.	Kalle Wsterblad	Linhamm MFK	403	486	**889**
3.	Ove Carlsson	Acro Flyers	444	418	**862**

EZB (8 flew)

1.	Jonas Romblad	Haninge MFK	745	700	**1445**
2.	Tomas Hultgren	Haninge MFK	693	655	**1348**
3.	Sven Pontan	Haninge MFK	602	657	**1259**

Manhattan (4 flew)

1.	Anders Sjöberg	Haninge MFK	224
2.	Lennart Lilienberg	Haninge MFK	104
3.	Ingvar Persson	AKM	93

Peanut (10 flew)

			Model	2 best flights	Scale
1.	Daniel Hartstein	Red Baron	Drzewiecki Canard	136	45,5
2.	Lennart Lilienberg	Haninge MFK	Miss Los Angeles	89	54,5
3.	Lennart Lilienberg	Haninge MFK	Voisin Hydroplane	123	43,5
4.	Olle Blomberg	MFK Nimbus	Bücker Jungmann	55	45

No-Cal Senior (17 flew)

			Model	2 best flights
1.	Birgit Törnkvist	Haninge MFK	Wittman	403
2.	Kalle Westerblad	Limhamn	Maule M5	322
3.	Asa Kivling	MFK Nimbus	Spitfire PRXIX	317
4.	Lars Tolkstam	MFK Nimbus	Bf108B Taifun	286
5.	Tomas Leijon	Haninge MFK	Heinkel He 178	251

No-Cal Junior (6 flew)

			Model	2 best flights
1.	My Schaffer	Haninge MFK	Spitfire Mk 1	190
2.	Daniel Brann	MFK Nimbus	Westland Wyvern	173
3.	Daniel Brann	MFK Nimbus	Focke Wulf 190D	170
4.	Jonas Johansson	MFK Nimbus	Focke Wulf 190D	110

Mini-flyg Senior (3 flew)

			2 best flights
1.	Olle Blomberg	MFK Nimbus	133
2.	Erik Huss	Riddarhyttan	112
3.	Lars tolkstam	MFK Nimbus	105

Mini-flyg Senior (10 flew)

			2 best flights
1.	Daniel Brann	MFK Nimbus	134
2.	Erik Petterson	MFK Nimbus	113
3.	Filip Tangstrom	MFK Nimbus	91
4.	David Petterson	MFK Nimbus	85
5.	Michael Ring	MFK Nimbus	77

Italian Indoor Championships

1,2 august 1998

Olympic Sport Hall, Rome (the same of the 1968 World Championships). Ceiling height: 35 meters

F1D (5 flew)

1.	Ronconi Emiro	A.C. Roma	21'25	20'45	**42'10**
2.	De Angelini Giacomo	A.C. Roma	19'40	20'03	**39'43**
3.	Russo Antonio	A.C. Gorizia	14'10	13'57	**28'07**

F1M (with free rubber) (6 flew)

1.	Ronconi Emiro	A.C. Roma	12'19	12'10	**24'29**
2.	Vittori Paolo	A.C. Roma	11'40	12'01	**23'41**
3.	De Angelini Giacomo	A.C. Roma	10'44	11'54	**22'38**

Old Timer (pre-1935) (4 flew)

1.	De Angelini Giacomo	Lazio	8'57	9'25	**18'22**
2.	Pianigiani Franco	Toscana	9'09	8'05	**17'14**
3.	Vittori Paolo	Lazio	4'37	4'41	**9'18**

HUNGARIAN INDOOR RESULTS in 1998

F1D RESULTS

(TUB: Technical University of Budapest)

Budapest Championship (6 participants)
9-10.05.98 TUB (14,9 m)

1	ORSOVAI, Dezsõ	40:09	37:29	**77:38**
2	BAKOS, Ferenc	37:16	36:55	**74:11**
3	SUKOSD, Zoltán	27:46	28:03	**55:49**

Várszegi Memorial (6 participants)
20-21.06.98 TUB (14,9 m)

1	ORSOVAI, Dezsõ	42:29	43:01	**85:30**
2	BAKOS, Ferenc	37:17	36:17	**73:34**
3	SUKOSD, Zoltán	33:50	30:07	**63:57**

Hungarian Championship
98.08.21-23 Debrecen (29,3 m)

1	ORSOVAI, Dezsõ	44:00	44:00	**88:00**
2	REÉ, András dr.	38:42	40:39	**79:21**
3	BOTOS, István dr.	38:09	39:13	**77:22**
4	BAKOS, Ferenc	39:17	37:58	**77:15**
5	SUKOSD, Zoltán	35:47	35:49	**71:36**
6	HELLENBORT, Csaba	15:25	16:03	**31:28**

Cat.III Hungarian record: Orsovai, 44:00

F1L RESULTS

Budapest Championship
2-3.05.98 TUB (14,9 m)

Seniors (6 participants)

1	BAKOS, Ferenc	15:53	15:36	**31:29**
2	HELLENBORT, Csaba	15:35	15:52	**31:27**
3	ORSOVAI, Dezsõ	13:54	14:15	**28:09**

Juniors

1	SUKOSD, Tamás	08:40	09:07	**17:47**
2	MOLNAR, Domokos	03:20	03:23	**06:43**

Hungarian Championship
19-20.09.98 TUB (14,9 m)

1	BAKOS, Ferenc	16:43	16:31	**33:14**
2	REÉ, András dr.	14:57	16:45	**31:42**
3	ORSOVAI, Dezsõ	15:15	15:09	**30:24**
4	HELLENBORT, Csaba	14:34	14:12	**28:46**
5	SUKOSD, Tamás	12:47	13:46	**26:33**
6	KREISZ, Rudolf	11:51	12:42	**24:33**
7	LANNERT, András	06:52	07:23	**14:15**

Indoor Postal Meets

by Don Slusarczyk

The world championships may have ended but the competition is just beginning. The postal meets are on and we encourage all to participate. There are currently three postal meets running from November 1st, 1998 to March 31st, 1999. The three postals are A-6, EZB, and F1M (F1D Beginner). All postals are being hosted on Don Slusarczyk's indoor web site http://members.stratos.net/dslusarc along with a current standings listing as well as an on-line entry form. For complete rules and information please visit Don's web site or follow the following links.

For A-6:
http://members.stratos.net/dslusarc/a6post.htm

For EZB:
http://members.stratos.net/dslusarc/postal.htm

For F1M:
http://members.stratos.net/dslusarc/f1mpostal.htm

Indoor Free Flight Mailing List

Indoor modelers now have a new way of communicating on the internet. The Indoor Free Flight Mailing List is the place for the latest discussions on indoor modeling. This is a mailing list which is dedicated to indoor free flight only. Anyone can subscribe, and everyone is encouraged to join, no matter what skill level you are. To join the Indoor mailing list you can either visit Don Slusarczyk's indoor site http://members.stratos.net/dslusarc or go directly to
http://www.onelist.com/subscribe.cgi/indoor and sign up.

Mini-stick postal

The Mini-stick postal is again being run by the Brainbusters Model Club, and entries should be sent to: Brainbusters, 112 Tillerson Drive, Newport News, VA 23602, USA. Contest flights for the Mini-stick postal are to be made between 1 Nov. 1998 and 31 March, 1999. Any number of flights can be made at any number of sites. Ensure that the ceiling height is marked on the entry so that a ceiling correction factor can be applied. All contest flights are to be timed by someone other than the flyer. Entry is free to all contestants. Those who wish a copy of the results should include a postal reply coupon or US dollar for postage.

F1D DESIGN

by Bernard Hunt (GBR)

For many years, I have used a computer program as an aid to the design of new models. The program uses standard aerodynamic theory and simple maths to compute the performance of a model from its dimensions, weights and other parameters. To help visualise the output of the program, I express the results as "Time under 150 foot ceiling" using Steve Brown's World Champs F1D model of known performance as a calibration.

Its predictive power is pretty good for fairly conventional models (see table 1). It is not so reliable for extreme models such as tandems or very short moment models (LPP) because of the difficulty in estimating the effect of the effect of wing downwash on the tail.

Table 1 - Existing Designs Model	Prediction (min)	Actual (min)	Actual Site
S Brown 1996 9" chord braced F1D VP 1.06 g	50.6	50-53	Kibbie /Santa Ana
S Brown 1996 Open F1D VP 1.19g	64.6	63.9	Santa Ana
B Hunt Intermediate Stick VP 1.09g	39.5	38.0	Johnson City
Larry Coslick US EZB 0.52g	30.6	29.9	Kibbie
B Hunt 777 Mini Stick 0.43 g	11.8	12.0	Kibbie
B Hunt Limited Pennyplane 3.1g	18.2	15.9	Cardington
B Hunt Tandem 2 F1L (international EZB) 1.2g	21.9	25.0	Cardington
B Hunt True Tandem F1D VP 1.06g	43.3	45.7	Kibbie

The real power of this sort of computer method is for looking at theoretical designs without all the work of building them. The following table gives some variations for the design of F1Ds:

Table 2 -Theoretical Designs Model	Prediction (min)	Gain v original (min)
S Brown 1996 9" chord F1D VP 1.06g	50.6	-
As original but fixed pitch prop	45.6	-5.0
As original but increase weight by 10%	49.0	-1.6
As original but increase chord by 10%	51.2	+0.6
As original but reduce chord by 10%	49.7	-0.9
As original but reduce chord by 20%	48.5	-2.1
As original but remove wing bracing and cabane (= unbraced)	52.3	+1.8
As original but 20% tail area, lengthen boom? and move cg forward	51.5	+0.5
B Hunt Stork 6" chord unbraced wing 4" posts 19.5" VP 1.0g	48.9	-
As original but 8" posts and move CG back 1", wt=1.05g	49.7	+0.8
As original but 7" chord and 1.05 g (min achievable)	50.1	+1.2
As original but 8" chord and 1.1 g (min achievable)	50.4	+1.5
As original but 20% tail, longer boom and move cg forward, 1.0g	51.5	+2.6

Of course, there is much more to the performance of F1Ds than these bald numbers suggest. The stiffer and stronger the model, the easier it is to extract its theoretical performance. This is why braced models are easier to fly than unbraced models. Also if you fly the same design for a long time, you can get the trim very finely tuned and also get the right propeller / rubber combination. Optimisation of the settings of a VP prop is vital to achieve the full potential.

My computer program in the form of a Microsoft Excel spreadsheet can be obtained from me at 4 Ashfield Ave, Skelmanthorpe, Huddersfield, HD8 9BW, UK or better still via E mail at bernie@indoor.freeserve.co.uk

MIAMA Meet at Tropicana Stadium (231 ft/70m high!)

The MIAMA Indoor flyers have arranged for an indoor meet in the Tropicana Field Stadium, the 231 ft/70m high home of the Tampa Bay Devil rays baseball team. Tentative date is Feb. 5,6 , subject to cancellation if a "paying customer" wants to hire the building. For details and confirmation contact Steve Noriega, 2401 Morrison Ave apt. #221, Tampa Florida 33629, phone 813-254-9760.

Open International Indoor Contest in Florence (ITA)

At 24th January '99 the GAF club organizes the 8th edition of the Florence's indoor contest. The site is a sporting hall with 8,70 meters ceiling. Five classes are scheduled: rubber F1M (with free rubber), rubber 35 cm (German TH formula), rubber Ministick; hand launch glider F1N, catapult glider. No FAI license is required. Foreign competitors are very welcomed, with logistic facilities in their lodging. More information: Gruppo Aeromodellisti Fiorentini, P.O.Box 18250, ITA-50100 Firenze, tel. (german, english, french) +39 055221625

Indoor Model Supply

Lew Gitlow's Indoor Model Supply has moved to: Box 2020, Florence OR 97439, U.S.A.

South Leicester Aero Nutz

The SLAN organize the following events at the Parklands Leisure Ctr, Wigston Rd, Oadby, South Leicester, England:

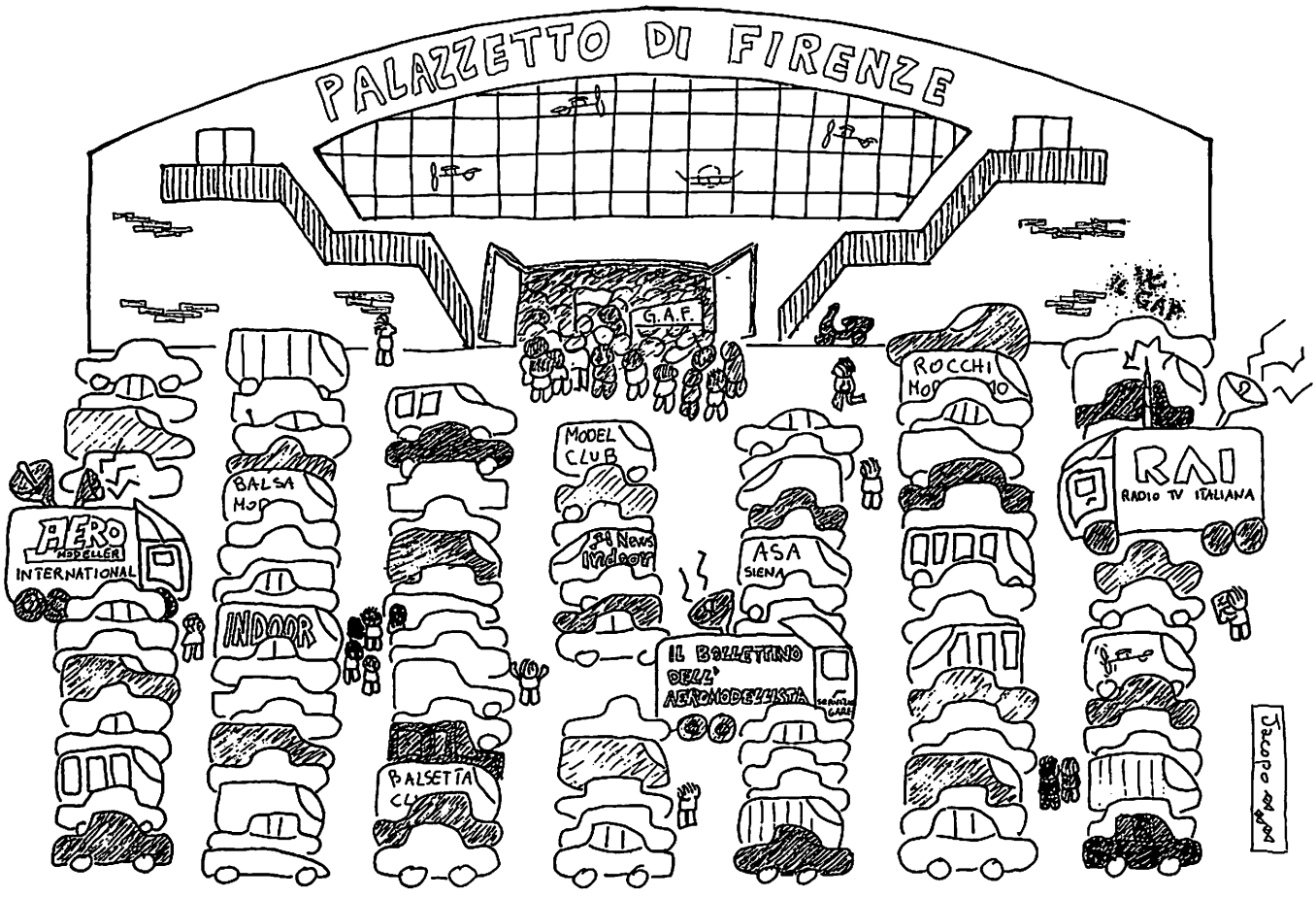
23rd Jan., 27 Feb., 24 April, 22 May, all from 5 pm - 11 pm; 28 March from 9 am - 6 pm.

Info: Mark Denham, 199A Knighton Church Rd, South Knighton, Leicester LE2 3JP, England.

F1M (F1D-Beginner) plans

I am pleased to see that there is increasing interest in the F1M(F1D-Beginner)-class. I have prepared a plan packet with 25 3-views from previous issues of "Indoor News" and "Les Cahiers du Cierva". The package is available for $5.00 (or NLG10.00 or equivalent in DM or GB pounds), incl.postage. Please send cash money only (NO CHEQUES). Send to: Thedo Andre, Meijhorst 35-43, 6537JD Nijmegen, The Netherlands.

Note: "Les Cahiers du Cierva" is a French newsletter published by Edmond Roch, 40 rue Vergniaud, 75013 Paris, France. It is in its 3rd year of publication, 20 pgs per issue, 4 per yr. Cost: France, Germany, Switzerland 70 FF, elsewhere 100 FF per year.



THE DREAM OF THE ORGANIZER'S YOUNG SON....