Diary

10th July Cardington	SMAE Indoor. EZB Novice/expert pairs. Contact L Barr, tel 0628 25595.
10th July Beaulieu	Crookham. O/R, O/P, O/G, all-in FAI (no rounds). Contact D Cox, tel Ashford (Middx) 51696.
10th July Heath Common, Wakefield	Morley Silent event. P30, Wigan 70, CdH, A1, silent vintage. Contact J Godden, tel 0532 521002
22-24th July	Kolbri Pokal International, Austria F1A, F1E.
23-24th July	F1D International, Brno, CSSR
24th July Cardington	SMAE Indoor. F1D first team trials (Houlberg Gold Medal, 3 flights). Contact L Barr, tel 0628 25595 NB July 24 - disregard previously published date.
24th July Church Fenton	SMAE Northern Area Fly-anything day. SMAE members only, restricted parking. Contact J Godden
6th August (SAT) Sutton Park	SMAE Junior Kit Contest (Under 16s). Field entry. D Hipperson at 35 Anthony Road, Boreham Wood, Herts (tel 01 207 0179).
7th August Cardington	SMAE Indoor. Open film contest. Contact L Barr, tel 0628 25595.
14th August Everleigh	SMAE Club Championships.
14th August Church Fenton	SMAE Northern Area Scale/Vintage Day. SMAE members and restricted parking. Contact J Godden.
20th August	Soko Cup. F1A, F1B, F1C. Mostar, Yugoslavia
20-21st August Noize, France	Vol libre Poitou. F1A (Saturday), F1B,F1C (Sunday)
20-21st August Flemalle, Belgium	Indoor International.
27th August Livno, Yugoslavia	Izet Kurtalic International. F1A, F1B, F1C.
28-30th August	SMAE Indoor Nationals

Note: Indoor trials now moved back to **August 7th.**
Meeting scheduled for **August 7th** will be on **24th July** instead.

JULY 1983 83/07

FFn

FREE FLIGHT NEWS

Contents

CIAM Bureau meeting	50	50
Anemometers for thermal detection, R J North		50
Tynemouth Rally		51
South Coast Gala		52
Croydon Dawn Patrol		52
FRØJFAXE, F1A by Steffen Jensen		53
EZB 1983, Danish rules EZB by J Korsgaard		54
Table of torque and turns on rubber motors		55
Danish Indoor Nationals		56
Free Flight News		56
Noticeboard - Balsa Cabin		56

8 Blenheim Court, Farnborough, Hants, England GU14 7DS

Compiled and published by Ian Kaynes, Paul Masterman, Malcolm Wood.

CIAM BUREAU MEETING Paris, April 11th

For the first time since I was first elected to the post of chairman of the CIAM Free Flight Subcommittee, work committments prevented me attending the Bureau meeting. Thus I can report salient points only from verbal accounts and from the minutes.

The Bureau approved a schedule leading to publication of a new FAI Sporting Code Section 4 in time for it to be available and effective on January 1st 1984. Moreover, the Bureau noted that the overall FAI ruling of a FOUR YEAR RULE FREEZE would be applicable. This means that no more rule changes can be considered and passed for inclusion in the new book, other than safety and clarification matters. Also to be reprinted is the book of provisonal rules, that is the book covering classes like Coupe d'Hiver and A1 which are not World Champs classes and for which rules can still be changed any year.

A report by letter on the planning for the 1983 World Championships in Australia was to be added to the next information bulletin from the organisers to participating teams. This has not yet been received, but apparently it includes statements that motorised retreiving will not be permitted and 27 Mhz will be available for radio communications. Still no news of the participating countries. The Bureau noted that in future they will insist that the Bureau meeting is attended by a responsible official from the organising country - wherever that country is. This obviously follows from the lack of representation in successive years (Spain in 1981 and Romania in 1982).

The offer from Japan to run the 1984 Indoor Championships was confirmed and nothing has yet been heard of offers for the 1985 outdoor free flight Champs.

It has been clarified that FAI medals and diploma will be awarded at World Championships only, not at Continental Championships.

The minutes of the 1982 Plenary meeting had shown that the change to allow four modles (para 2.6.1) was in the form originally proposed by France, that is three models for the first seven rounds and an extra allowed just in the fly-offs. However, at the meeting the proposal from France had been modified to allow four models to be used over any flights and I understood that this modified proposal was the one accepted. Not being at the Bureau meeting in person, I could only object in writing and this did not get considered at the meeting. I continue correspondence to try to sort out this confusion, made more urgent by the impending rule freeze.

IWK

ANEMOMETERS FOR THERMAL DETECTION by R J North

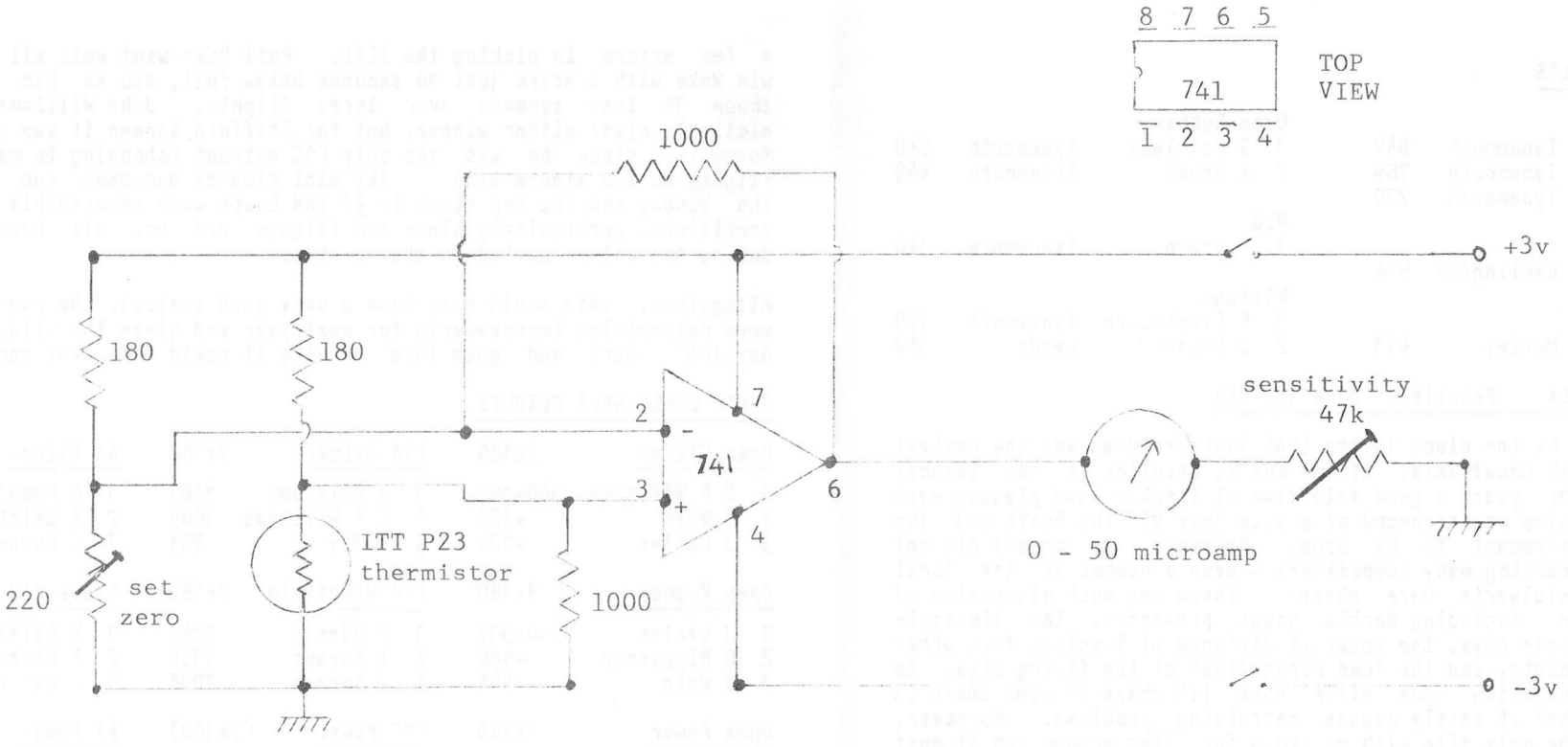
Combined temperature and wind recorders have been used for thermal detection in Germany for some years, certainly by Hoffsass and Doring and perhaps by others. Anyway, Bryan Spooner several times proposed to me that I should add an anemometer channel to the temperature recorders I used over a number of years before working in Amsterdam made it increasingly difficult to maintain that activity. After I had made thermistor temperature indicators (using moving coil meters as displays) for a few people, because these were the next best thing to recorders, Bryan returned to his theme.

Since I had used thermistor technology for temperature indication the obvious thought was to use a thermistor anemometer, there being plenty of literature on such instruments. The principle used is to run the thermistor at an elevated temperature in a Wheatstone bridge. When the thermistor bead is cooled by the wind its resistance increases and unbalances the bridge. It is noteworthy that this is just the reverse of the use of a thermistor to measure temperature in which the current through the bead is minimised to reduce the so-called self-heating to an unimportant level. Moreover, the rather difficult problem of shielding the thermometer bead from wind and direct and reflected solar radiation without adversely affecting its speed of response does not apply to the anemometer bead. It should be freely exposed to the wind and solar radiation does not matter because the bead temperature is already too high. A shield is only needed to protect the delicate bead from damage and raindrops.

The thermistor should be the type with an uncoated bead and a resistance of about 2000 ohms at room temperature is suitable : it runs at about 100 ohms. Since this form is not easy to find at your friendly neighbourhood electronic store, I have in the past bought types with the bead mounted in evacuated glass envelopes and have carefully cracked off the envelopes.

The circuit is based on a 741-type integrated circuit amplifier and a 0 to 50 microamp meter with a series resistance to adjust the sensitivity. Other less sensitive meters can be used if available but the 741 output current is limited to a few milliamps. A discrete transistor output booster stage can be fitted if more current output is needed to drive the meter. If a single battery power supply is desired this can be arranged by using a suitable type of integrated circuit (e.g. LM 358).

The output is not linear with velocity, which does not matter for the purpose. It can be calibrated, if you wish, by mounting the



head on a pole projecting upwards out of a car window on a calm day. The meter can be set to zero with the head shielded from the wind.

If you think this device is not simple enough you can use a cup-anemometer made from half-table-tennis balls driving a small dc motor and measuring the output with a milliammeter. This is rather more easily broken than the thermistor system and finding an inexpensive motor with low friction is not easy : I found one designed to run from a silicon solar cell. The miniature Graupner 105 without gearbox would probably be suitable, but they cost around £10. Of course, even quite a large motor can be driven if a large enough propeller is used. It just depends on the compromise you are willing to accept.

Acknowledgements are due to Bryan Spooner who has used this device in competition and to whom questions on operational experience should be addressed. I should be pleased to advise on circuit or thermistor problems or modifications (Ed : Jack's home address is 11 Ship Lane, Farnborough, Hants).

TYNEMOUTH RALLY Ouston, May 15

Tony Brown reports that this rally was well attended but had few entries. Given the scarcity of flying places and bad weather in the winter, people attended the contest to trim models before entering.

The wind was taking models the full width of the 'drome in three minutes. In mid-afternoon those retrieving were caught out in a torrential cloudburst, with hail intense enough to completely perforate a ½A tailplane left out in the storm.

Only one full house was achieved - in open rubber - with the remainder of the scores reflecting the out of contest form of man and machine. Since no fly-offs were required the prizegiving was advanced to allow the champagne fly-offs to take place. There were no entries ! As I returned home reflecting on the general state of running competitions, the dark clouds slowly parted with the realisation that I now had to find a way to dispose of three bottles of champagne. The 1983 Rally is now only a hazy memory.

TYNEMOUTH RESULTS

F1A

1	R Pollard	Tynemouth	849
2	P Moat	Tynemouth	789
3	A Jack	Tynemouth	729

Open Power

1	C Plant	Darlington	514

Combined Mini

1	S Fielding	Morley	411

Open Rubber

1	S Fairless	Tynemouth	540
2	A Brown	Tynemouth	469

HLG

1	A Brown	Tynemouth	140

Vintage

1	G Stephenson	Tynemouth	459
2	J Godden	Leeds	368

SOUTH COAST GALA Beaulieu, June 18-19th

A new venture by the clubs in the SMAE Southern area was the revival of the old South Coast Gala. It was run at Beaulieu on the longest weekend of the year, a good selection of trophies and plaques were available, camping was arranged at a site just off the Heath and the weather was forecast to be good. However, the contest did not succeed in attracting many competitors - even a number of the local London area stalwarts were absent. There was much discussion of possible reasons, including doubts about pre-entry, the timetable spread over both days, the apparent distance of Beaulieu from other parts of the country and the "bad reputation" of the flying site. In fact, while Beaulieu does often have its share of wind there is enough space that it rarely causes retreiving problems. Moreover, it must be the only site with no crops for miles around and it must make sense to use flying fields like that in the midsummer, with the farm crops at a very sensitive stage around our other airfields.

The actual conditions greeting the select gathering did not keep up with the expectations of the meteorologists, but at least it was pleasantly warm and sunny even if the wind was somestimes a little strong. The open events were flown on Saturday and some enormous thermals held on to some rubber and power ships for well over ten minutes, but almost all were recovered eventually. The open classes finished at 16.00 to allow for two rounds of FAI during the evening. The original schedule had called for open fly-offs from 16.15 but this was changed, to universal approval, to a sensible late evening time. There resulted some very good fly-offs in light wind and with only light lift.

The Saturday evening FAI flights were generally easy, but by the following morning (starting from 6.30) the wind had veered and was to increase steadily during the day. The unusual direction of the wind coming over the trees on the "inland" side caused more turbulence than is customary at Beaulieu; this kept scores down by causing quite a few errors in picking the lift. Phil Uden went well all day to win Wake with a score just 18 seconds below full, and he had spread those 18 lost seconds over three flights. John Williams was a similarly clear glider winner, but for Stafford Screen it was only a formality since he was the only F1C entrant (choosing to make his flights on two minute DTs). The mini classes had been run during the Sunday and the top times in ½A and Coupe were commendable in the conditions, particularly since the flights had not all been made during the calmer period in the morning.

Altogether, this could have been a very good contest. The organisers were determining improvements for next year and given the site, long daylight hours and good local camping it could be a real occasion.

SOUTH COAST GALA RESULTS

Open Glider 3x180

1	C P Williams	540+192
2	D Wain	+126
3	J Carter	+124

F1A Glider 7x180

1	J Williams	1185
2	C P Williams	1065
3	D May	985

A1 Glider 5x120

1	G Madelin	485
2	K Smith	462
3	C Pudney	424

Open Rubber 3x180

1	J Carter	540+517
2	D Hipperson	+460
3	D Wain	+444

F1B Wakefield 7x180

1	P Uden	1245
2	I Kaynes	1156
3	J Barnes	1038

Coupe d'H 5x120

1	W Cliff	565
2	P Michel	551
3	P Carter	499

Open Power 3x180

1	R Peers	540+374
2	P Harris	+366
3	S Screen	+329

F1C Power (7x180)

1	S Screen	680

½A Power 5x120

1	L Rogers	538
2	P Harris	519
3	D Wain	477

CROYDON DAWN PATROL Beaulieu June 19th

This Croydon Club single-unlimited-flight contest was run by Newham Beaumont as an event independent from the South Coast Gala, but immediately preceeding the start of the Sunday morning FAI flights in that contest. The advertised cocoa was not seen but the conditions were as good as anticipated, except for the drift. Light lift was found at least by the glider flyers and the longest flights crossed the airfield part of Beaulieu and ended in an area of gorse; persistence was rewarded and all the models eventually came back from their interseting flights. Obviously, there was the same disappointing lack of numbers as for the South Coast Gala, but even so it made for a fascinating consideration of performances.

F1A Glider 7 flew

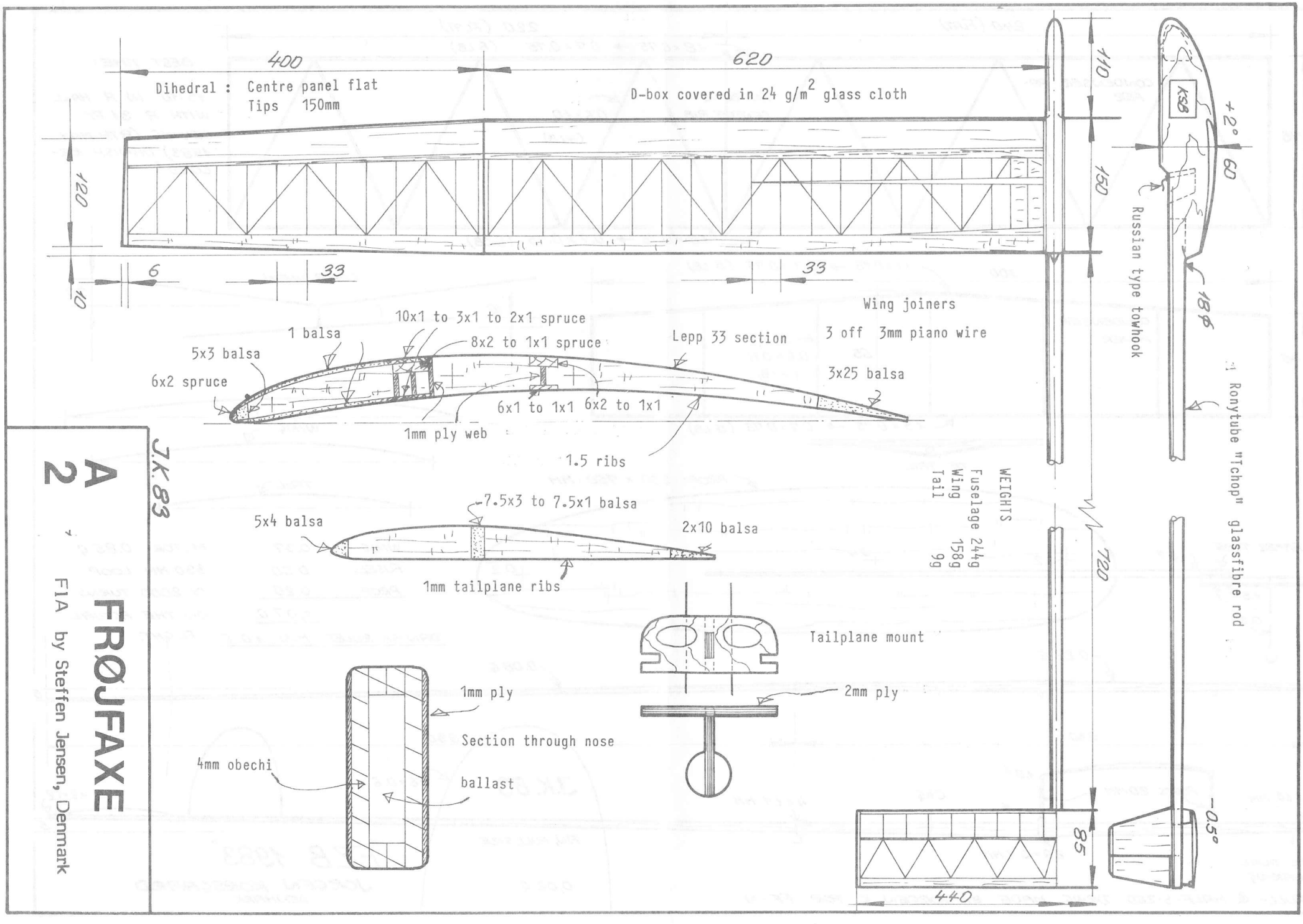
1	D Wain	244
2	A Cordes	220
3	C P Williams	184

F1B Wakefield 4 flew

1	I Kaynes	249
2	D Hipperson	219
3	P Uden	175

Coupe d'Hiver 8 flew

1	S Screen	161
2	D Hipperson	160
3	P Harris	140



400
620
Dihedral : Centre panel flat
Tips 150mm
D-box covered in 24 g/m2 glass cloth
120
10
6
33
33
110
150
720
85
440
+2°
60
18ϕ
-0.5°
KSB
Russian type towhook
Ronytube "Tchop" glassfibre rod
Wing joiners
3 off 3mm piano wire
10x1 to 3x1 to 2x1 spruce
1 balsa
8x2 to 1x1 spruce
Lepp 33 section
5x3 balsa
6x2 spruce
3x25 balsa
6x1 to 1x1
6x2 to 1x1
1mm ply web
1.5 ribs
WEIGHTS
Fuselage 244g
Wing 158g
Tail 9g
7.5x3 to 7.5x1 balsa
5x4 balsa
2x10 balsa
1mm tailplane ribs
Tailplane mount
2mm ply
1mm ply
Section through nose
4mm obechi
ballast
J.K.83
A
2
FRØJFAXE
FIA by Steffen Jensen, Denmark

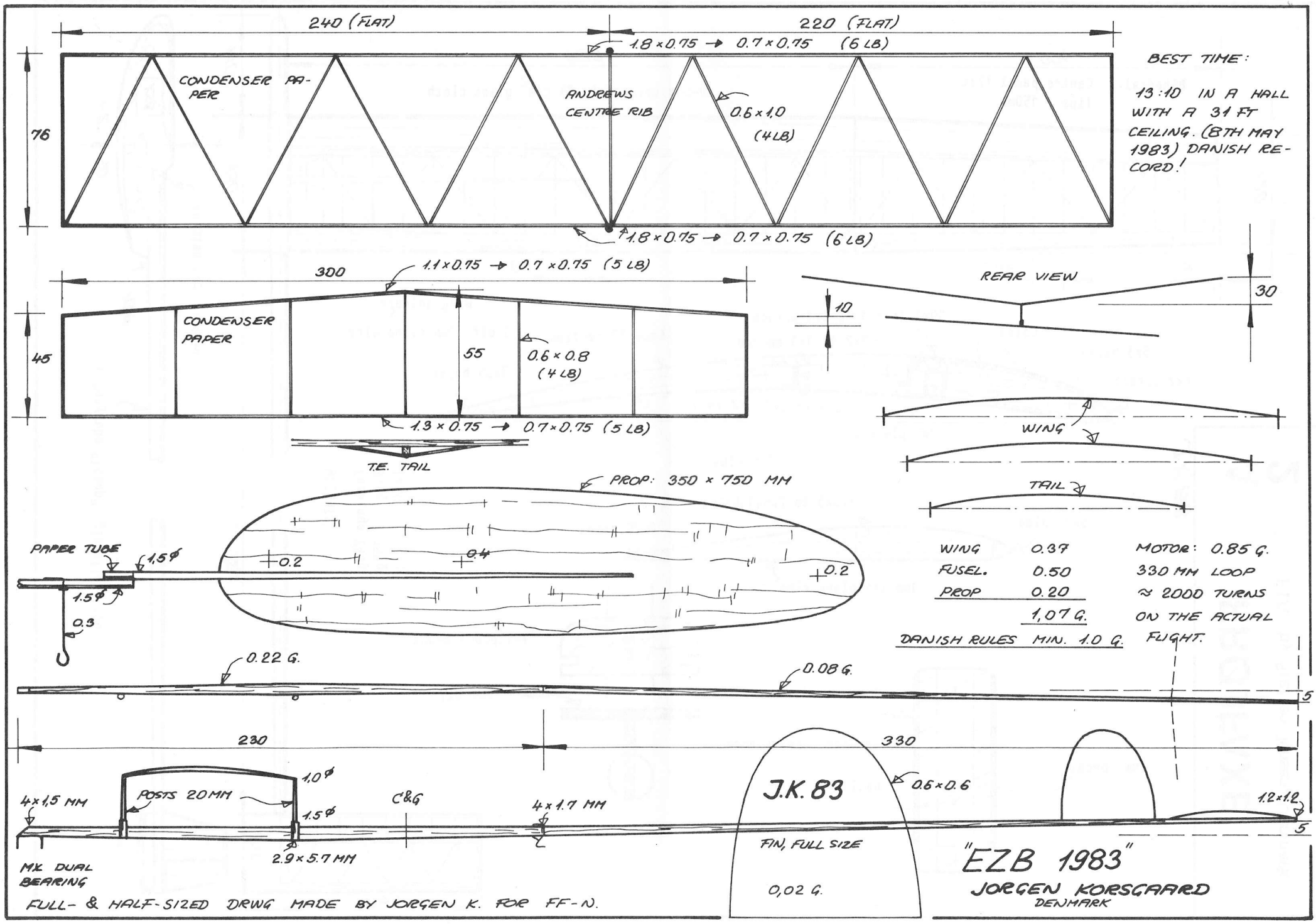

240 (FLAT)
220 (FLAT)
1.8 x 0.75 → 0.7 x 0.75 (6 LB)
76
CONDENSER PAPER
ANDREWS CENTRE RIB
0.6 x 1.0 (4 LB)
1.8 x 0.75 → 0.7 x 0.75 (6 LB)
BEST TIME:
13:10 IN A HALL WITH A 31 FT CEILING. (8TH MAY 1983) DANISH RECORD!
300
1.1 x 0.75 → 0.7 x 0.75 (5 LB)
45
CONDENSER PAPER
55
0.6 x 0.8 (4 LB)
1.3 x 0.75 → 0.7 x 0.75 (5 LB)
T.E. TAIL
REAR VIEW
10
30
WING
TAIL
PROP: 350 x 750 MM
PAPER TUBE
1.5Ø
0.2
0.4
0.2
1.5Ø
0.3
WING 0.37
FUSEL. 0.50
PROP 0.20
1,07 G.
DANISH RULES MIN. 1.0 G.
MOTOR: 0.85 G.
330 MM LOOP
≈ 2000 TURNS
ON THE ACTUAL FLIGHT.
0.22 G.
0.08 G.
5
230
330
4x1,5 MM
POSTS 20 MM
1.0Ø
1.5Ø
2.9 x 5.7 MM
C&G
4x1.7 MM
J.K. 83
0.6 x 0.6
1.2 x 1.2
5
MK DUAL BEARING
FIN, FULL SIZE
0,02 G.
"EZB 1983"
JORGEN KORSGAARD
DENMARK
FULL- & HALF-SIZED DRWG MADE BY JORGEN K. FOR FF-N.

TABLE OF TORQUE AND TURNS FOR DIFFERENT NUMBERS OF STRANDS IN RUBBER MOTORS by Ian Kaynes

With the desire to improve model performance and consistency and partly under the influence of the methodical indoor fliers I have watched at World Championships, I have slowly progressed towards keeping improved records of my rubber motor characteristics, particularly the torque curves and number of turns. The main outcome of this is readily tailoring the number of strands to suit the model and conditions; also, and perhaps most rewardingly, simple rubber formulae allow accurate prediction of the resulting behaviour when cutting a known Wake motor into four Coupe motors.

The table given below shows the relative values of torque and of the number of turns on a rubber motor when you change the number of strands. In fact, it is just an evaluation of the basic formula that when the number of strands is changed from N1 to N2 then the torque changes in proportion to (N1 / N2) raised to the power of 1.5, while the number of turns varies with (N1 / N2) to the power of -1.5. These formulae do not lend themselves to simple mental arithmetic, you can't run your computer on the flying field or you get your calculator covered in rubber lube, so we are publishing these reference tables for you to copy if required. To use the table for torque calculations, find the old number of strands in the column on the left ("MOTOR B") and the new number of strands in the top row ("MOTOR A"), then read the ratio of the new torque to the old torque from the corresponding table entry. Alternatively, to find the ratio between the new and old number of turns, find the old number of strands in the top row ("MOTOR A") and the new number of strands in the left column ("MOTOR B") and look at that entry in the table. The latter is just the inverse of the ratio found for torque. For example, if we have a 16 strand motor and are going to change it to 14 strands, the torque is found to decrease to 0.818 times the old value and we expect to get this at 1.222 times the number of turns previously used.

MOTOR A (NEW motor for torque, OLD motor for turns)

MOTOR B	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
2	1.000	2.828	5.196	8.000	11.180	14.697	18.520	22.627	27.000	31.623	36.483	41.569	46.872	52.383	58.095	64.000	70.093	76.368	82.819	89.443
4	0.354	1.000	1.837	2.828	3.953	5.196	6.548	8.000	9.546	11.180	12.899	14.697	16.572	18.520	20.540	22.627	24.782	27.000	29.281	31.623
6	0.192	0.544	1.000	1.540	2.152	2.828	3.564	4.355	5.196	6.086	7.021	8.000	9.021	10.081	11.180	12.317	13.489	14.697	15.939	17.213
8	0.125	0.354	0.650	1.000	1.398	1.837	2.315	2.828	3.375	3.953	4.560	5.196	5.859	6.548	7.262	8.000	8.762	9.546	10.352	11.180
10	0.089	0.253	0.465	0.716	1.000	1.315	1.657	2.024	2.415	2.828	3.263	3.718	4.192	4.685	5.196	5.724	6.269	6.831	7.408	8.000
12	0.068	0.192	0.354	0.544	0.761	1.000	1.260	1.540	1.837	2.152	2.482	2.828	3.189	3.564	3.953	4.355	4.769	5.196	5.635	6.086
14	0.054	0.153	0.281	0.432	0.604	0.794	1.000	1.222	1.458	1.707	1.970	2.245	2.531	2.828	3.137	3.456	3.785	4.123	4.472	4.829
16	0.044	0.125	0.230	0.354	0.494	0.650	0.818	1.000	1.193	1.398	1.612	1.837	2.071	2.315	2.567	2.828	3.098	3.375	3.660	3.953
18	0.037	0.105	0.192	0.296	0.414	0.544	0.686	0.838	1.000	1.171	1.351	1.540	1.736	1.940	2.152	2.370	2.596	2.828	3.067	3.313
20	0.032	0.089	0.164	0.253	0.354	0.465	0.586	0.716	0.854	1.000	1.154	1.315	1.482	1.657	1.837	2.024	2.217	2.415	2.619	2.828
22	0.027	0.078	0.142	0.219	0.306	0.403	0.508	0.620	0.740	0.867	1.000	1.139	1.285	1.436	1.592	1.754	1.921	2.093	2.270	2.452
24	0.024	0.068	0.125	0.192	0.269	0.354	0.446	0.544	0.650	0.761	0.878	1.000	1.128	1.260	1.398	1.540	1.686	1.837	1.992	2.152
26	0.021	0.060	0.111	0.171	0.239	0.314	0.395	0.483	0.576	0.675	0.778	0.887	1.000	1.118	1.239	1.365	1.495	1.629	1.767	1.908
28	0.019	0.054	0.099	0.153	0.213	0.281	0.354	0.432	0.515	0.604	0.696	0.794	0.895	1.000	1.109	1.222	1.338	1.458	1.581	1.707
30	0.017	0.049	0.089	0.138	0.192	0.253	0.319	0.389	0.465	0.544	0.628	0.716	0.807	0.902	1.000	1.102	1.207	1.315	1.426	1.540
32	0.016	0.044	0.081	0.125	0.175	0.230	0.289	0.354	0.422	0.494	0.570	0.650	0.732	0.818	0.908	1.000	1.095	1.193	1.294	1.398
34	0.014	0.040	0.074	0.114	0.160	0.210	0.264	0.323	0.385	0.451	0.520	0.593	0.669	0.747	0.829	0.913	1.000	1.090	1.182	1.276
36	0.013	0.037	0.068	0.105	0.146	0.192	0.243	0.296	0.354	0.414	0.478	0.544	0.614	0.686	0.761	0.838	0.918	1.000	1.084	1.171
38	0.012	0.034	0.063	0.097	0.135	0.177	0.224	0.273	0.326	0.382	0.441	0.502	0.566	0.633	0.701	0.773	0.846	0.922	1.000	1.080
40	0.011	0.032	0.058	0.089	0.125	0.164	0.207	0.253	0.302	0.354	0.408	0.465	0.524	0.586	0.650	0.716	0.784	0.854	0.926	1.000

DANISH INDOOR NATIONALS Flensborg May 7-8th

From a report by Jorgen Korsgaard : I had been consulting Laurie Barr on Indoor for some time and suddenly he and Bernard Aslett decided to leave for Flensborg. We were delighted and very thankful to them for coming and showing us how to do it.

Bernard won F1D with two very long flights, fantastic considering the ceiling of 9.5m. Laurie managed only one good flight due to instructing and repairing Danish models (thanks Laurie), so he took second place - only improving the Danish record by 55 sec !

In 35cm microfilm, only the two Englishmen managed good flights. By contrast, EZB saw 14 competitors making many good flights. We fly the class paper covered with a one gram rule and it is significant how much better the new long models fly. The first three flew this type and the rest more normal models. I managed to beat "the best" and set up new Danish and hall records with a flight of 13.10. Laurie had suggested moving the wing forward by 2cm and twisted my prop to a more coarse pitch and my time went up from 11.56 to 13.10! Next year the competition in this class will be really tough. I hope that FAI will accept EZB - away with that F1D Beginner class - and it will give indoor a worldwide boom.

F1D

1	B Aslett	27.18+26.41=53.59
2	J Korsgaard	15.55+14.18=30.13
3	L Barr	22.20+ 0 =22.20

35cm Microfilm

1	L Barr	14.25+15.26=29.51
2	B Aslett	10.34+13.17=23.51

EZB

1	J Korsgaard	11.56+13.10=25.06
2	L Barr	11.22+13.09=24.31
3	B Aslett	11.09+11.41=22.50
4	F Dahlin	8.46+ 8.33=17.19

FREE FLIGHT NEWS

Subscription information. The following subscriptions expire in the near future :

July issue - T Bundock
August issue - J T Blackburn, G Herzberg, G McKenzie, P Novoszad, R Rohrke, P Stewart
September issue - G Klemke.

The current cost of an annual subscription running from the next issue is £6 or US $14 by surface mail, £10.50 or $25 if including airmail delivery. Please add £1 for clearance costs if paying by Eurocheque. Please make all cheques payable to FREE FLIGHT NEWS. The FFn Giro account number is 25 365 4009.

NOTICEBOARD

BALSA CABIN : In case you were not able to stock up at their stand at the Nationals, we list below some examples from the Balsa Cabin price list.

36" Balsa Sheet

	5 sheets Grade A			1 sheet C grain	5 sheets Contest Grade		
Density	LMH	LMH	LMH	8-12	6	6	6
Width =	2"	3"	4"	3"	3"	4"	3" C grain
Thickness							
1/32	0.81	0.99	1.68	0.24	1.30	2.38	1.40
1/16	0.84	1.08	1.73	0.26	1.40	2.45	1.50
3/32	0.90	1.29	1.87	0.31	1.70	2.60	1.80
1/8	1.04	1.47	2.16	0.33	1.90	2.80	2.00
3/16	1.22	1.86	2.53	0.44	2.40	3.32	2.60
1/4	1.59	2.16	3.30	0.52	2.80	4.30	3.00
3/8 *	2.14	2.85	4.45	0.67	3.70	5.80	4.00
1/2 *	2.68	3.59	5.59	0.84	4.65	7.35	5.00

Key to densities : L light 6 - 8, M medium 9 - 12, H hard 12 - 16
All densities are approximate, in units of lb/cu ft.

Sheets are also available in thicknesses 1/24" and 1/20" by 3" wide in Grade A only, at the same price as the corresponding 1/16" sheet. The 3/8" and 1/2" sheets are available singly in all grades (to find the price of single Grade A or Contest Grade sheets, divide the above price by 5).

Other forms of balsa available include balsa strip in sizes from 1/16" square up to 1/2" x 1" ; trailing edge section from 1/8" x 3/8" up to 1/2" x 2"; leading edge and triangular sections; block balsa from 3/4" square (36" long, 41p) up to 3" x 4" (£4.74).

Birch plywood ranges from thickness 1/64" to 1/4" in sheets 12" x 36" Beech engine bearers, plywood sheets and squares, birch dowel, and spruce sheet and strip are also supplied. Balsa sheet and strip and spruce strip can be supplied in 48" lengths. Non-standard sizes of balsa and hardwood can be cut to special order, write for a quote.

Postage and packing in the UK costs £1.75 for 36" parcels and £2.50 for 48" parcels. Overseas readers should write for details.

Send orders or request a full price list / order form from : - Balsa Cabin, The Street, Little Totham, MALDON, Essex, CM9 8JQ.