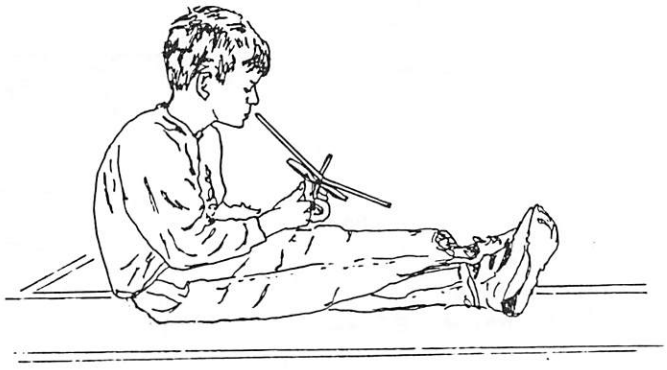
Indoor News



Issue 50 July 1999

DIARY

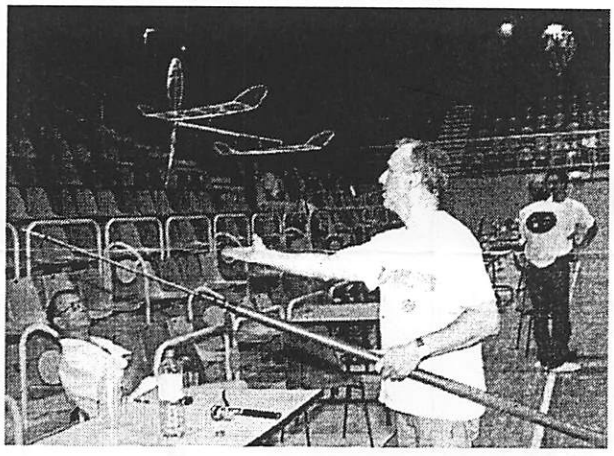
24-26 July Moscow, USA	**Kibbie Dome Annual, Event 1:** All AMA Official Indoor Events + Pro-20, Novice Ezb, P-24, A-6, Info: Andrew Tagliafico, (503) 452-0546 **Event 2:** FAC Flying Scale Event, Info: Dave Haught, (208) 773-5806, or: http://fly.to/kibbiedome
13-14 Aug Nagoya Japan	**Nagoya Nuts'99,** 8th Persel Post Proxy Peanut Contest + PPP Pistachio, Info: Jiro Sugimoto, 2-36 Kitahata-Cho, Nakamura-Ku, Nagoya 453-0815, Japan. See details elsewhere in this issue.
2-5 Sept Saint-Severin Belgium	**21st International Indoor Contest** Tennis Hall du Condroz, 12 Chemin de Fraineaux, Saint-Severin. Info: Bernard Delhalle, Rue de Souvret, 62, B-4000 Liège, Belgium. E-mail: bs361614@skynet.be. See also IN49.
10-12 Sept Prostejov Czechia	**Interscale '99,** F4D, F4E, F4F, Pistachio. Contact: A. Alfery, Lomena 876, 686 05 Uherske Hradiste, Czech Republic
28 Dec Enschede Netherlands	**Open Dutch Championship,** F1M, Ste Formule + Junior Contest (Moustique, Bostonian, (F)looper, Pylon Race). Contact: Ebele Schouwstra, Vijverlaan 6, 7553CA Hengelo, The Netherlands, +31 74 2420392

POSTAL/PROXY EVENTS

13-14 Aug Nagoya Japan	**Nagoya Nuts'99** Info: see above
1 Jan - 31 March 2000	**Mini-Stick Postal,** Brainbusters Model Club, 112 Tillerson Drive, Newport News, VA 23602, USA.

Jacques Valéry

A piece of news that saddens our community of Indoor and Outdoor FF. Jacques Valéry, 59, passed away on April 9, victim of a long and painful illness. To the last moment, Jacques showed great courage. Last February, even though his illness had reached its terminal stage, he insisted on taking part in an Indoor contest.



Jacques was an expert at Wakefield, Coupe d'Hiver, F1D, F1M and F1L categories. His record in both national and international contests was brilliant, and yet he remained kind and simple. As a former, retired, Armée de l'Air commander he had long been a pilot before taking charge of training young pilots on flight simulators. In addition to being famous for his FF models, he was well known for his commitment in the activities against racism and for human rights.

His wife, Laure, his 3 children and his friends will miss him.

Trung & Nadine HUA NGOC

(The accompanying plan, Jacques' latest F1M model, is courtesy of Les Cahiers du Cierva)

COLOPHON

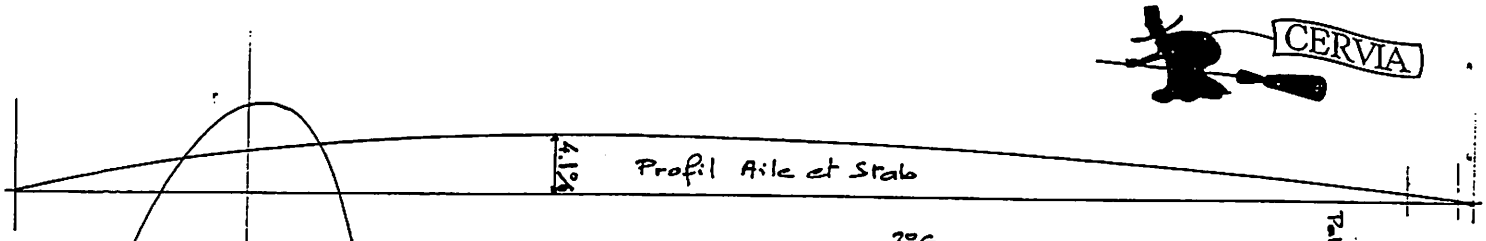
Indoor News is published at least four times a year and covers all types of indoor models, from peanuts to microfilm. Texts can be sent in Dutch, English, German and French. Please type your texts on 12,5 cm width. Texts can be sent on floppy disk (3½ or 5¼) in any text format. I can make drawings, if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

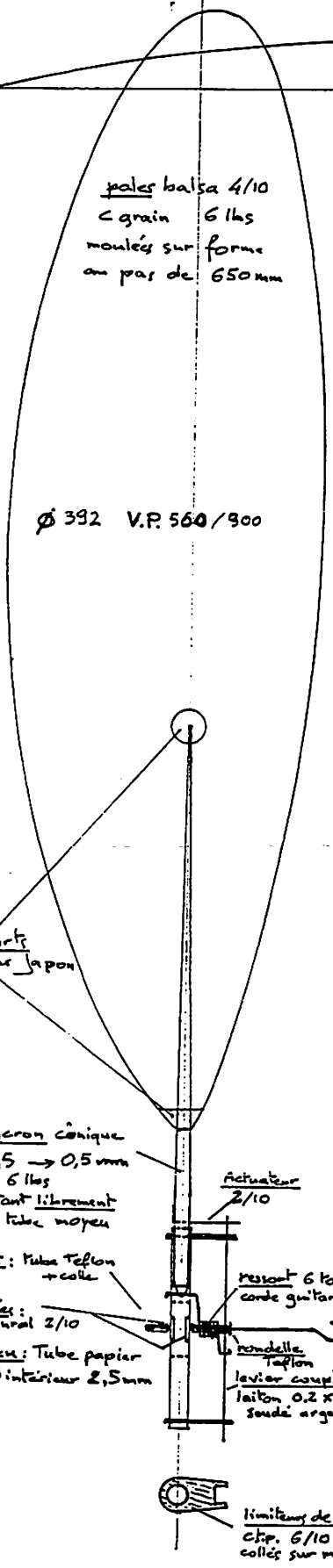
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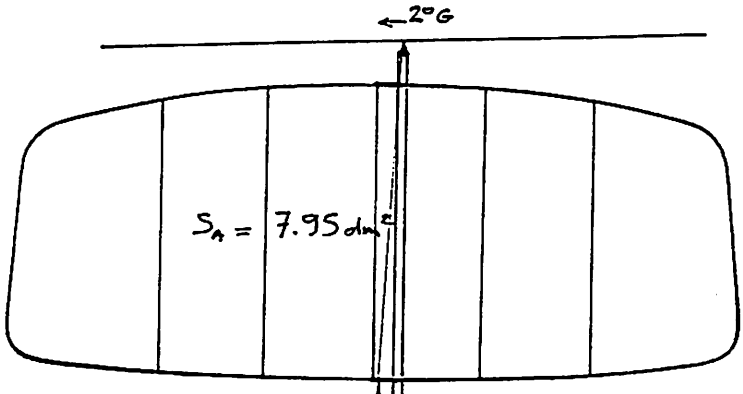
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CERVIA







Tube moteur : C 5/10 6 lbs
monté sur Ø 6 mm

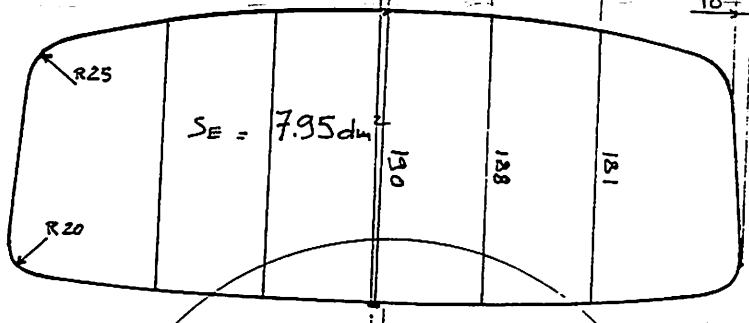
Boom : C 4/10 6 lbs
Ø 6 → 3,5 mm

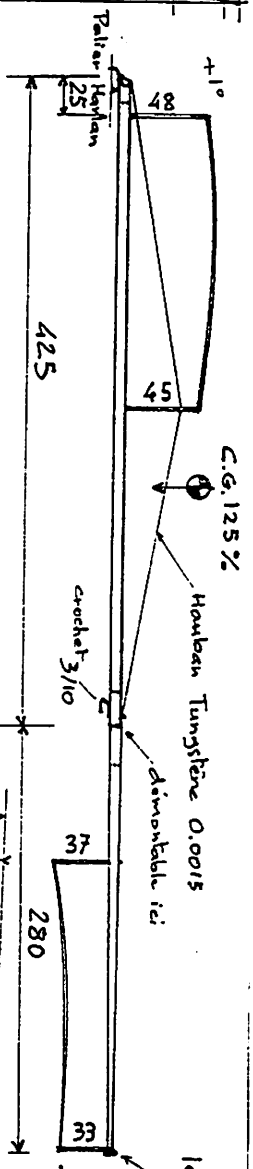
Aile : longerons 1 x 1,7 → 1,2 mm
dièdres 0,8 x 1,2 mm
A 6 lbs

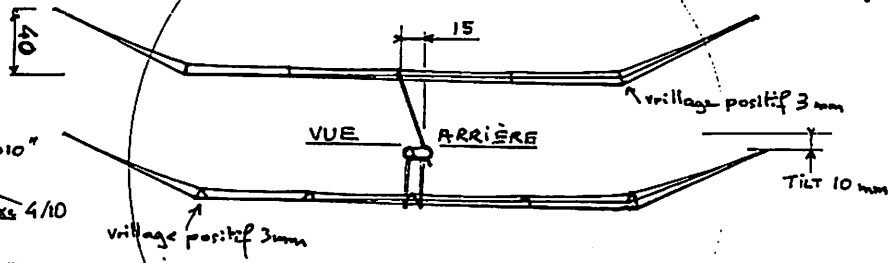
Stab : longerons 0,9 x 1,4 → 1 mm
dièdres 0,7 x 0,9 mm
A 6 lbs
toutes nervures 0,9 mm C 6 lbs

Mâts : 7 lbs Ø 1,6 mm
dans tubes papier collés
sur longerons Aile et Stab

Moteur : TAN II 06/98
1,92 x 385 mm
1800 tours - 60 tours
pour obtenir couple
4,1 g/cm au lâcher







Entoilage Polymicro

CLOPORTE 98
F1M TANDEM

184

par J. VALERY
Aéro Club des Landes

meilleur temps : 15'11" Orléans

Aile et Stab identiques

POIDS :	
Tube moteur :	0,70 g
Boom :	0,20 g
Stab :	0,45 g
Aile :	0,50 g
Hélice :	0,85 g
Lest :	0,30 g
Total	3,00 g

LES CAHIERS DU C.E.R.V.I.A.

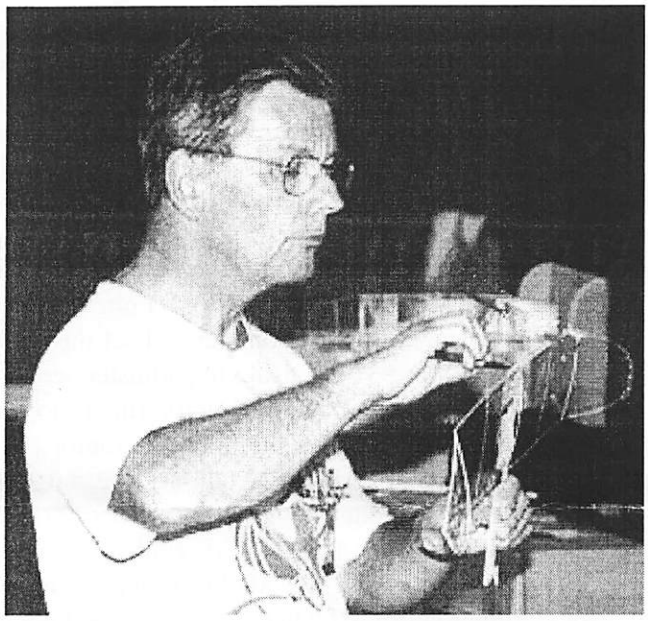
VLY 06.98

Bordeaux International 1999

Report by Peter Keller (SWI)

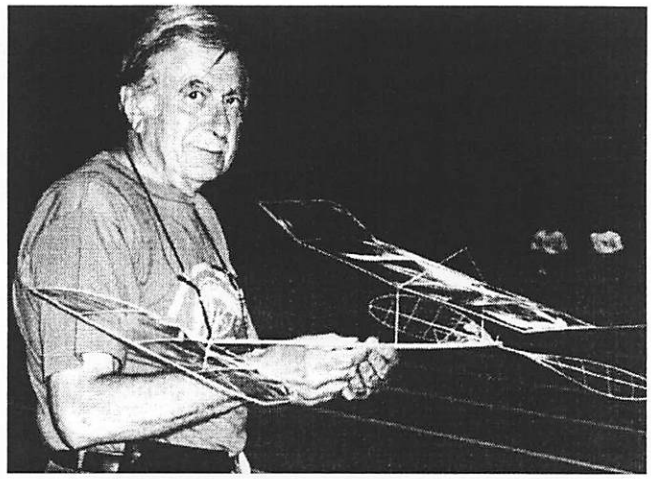
(photo's by Trung Hua Ngoc)

On June 19 and 20 the French Indoor Championships took place in the Velodrome in Bordeaux, a contest for which international entries were also invitated. At first the thought of the 1000km drive made me a bit reluctant to enter the competition, but where within reachable distance can you still fly in a 30 m ceiling hall? So the dicision to go was quickly made.



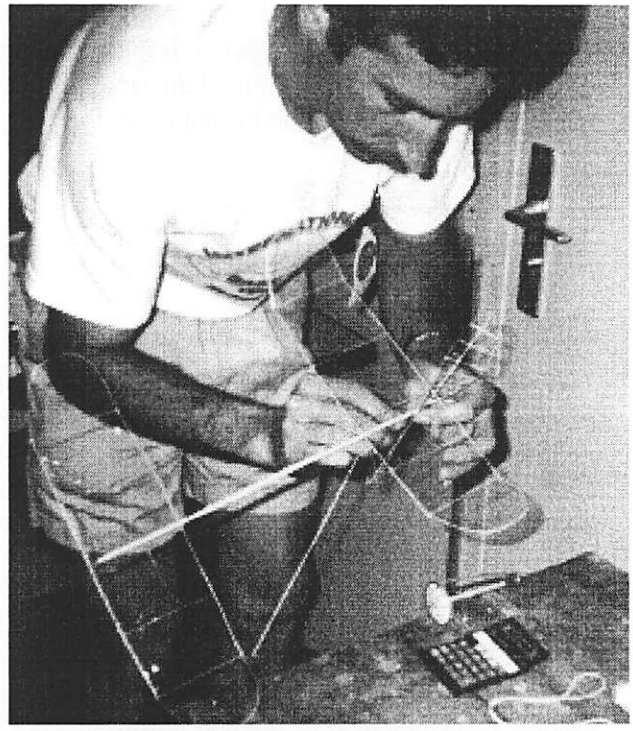
Bob Bailey carefully assembles his model

Already on entering the hall, which was located on an Expo area outside the city, it was immediately clear that the organizers of the A.S.C.P.A. Section Aéromodélisme, J.P. Darrouzes and his many helpers, had done a professional job. From the time keeping score cards, dinner coupons, table lay-out plan, everything, even helium in adequate quantity, was well prepared. A first look at the ceiling however dampened the expectations somewhat. In the center area, where the ceiling height was the largest at a little over 30 m, 4 ropes of about 8m length hung down about 10-12 m from each other. Every indoor flyer understands what this means: very cautious flying was required. To survive at a height of 25 m, ie. above these obstructions, one would need either incredible luck or perfect steering capabilities, which was proven during the actual competition. The organizers had tried every possible means to remove these ropes, but they could not get the equipment which was required to do this job.



Jean Francis Frugoli with his F1D model

The relatively high temperatures in the hall particularly on saturday resulted in many long flights.
John Tipper (GB) with flights over 24 minutes in the 35 cm class left his competitors far behind. Bob Bailey dominated the F1L and F1M categories with flights of 18 minutes. I succeeded in making a flight of 42.30 in F1D in safe height below the ropes. Further attempts to improve on this time ended in hang-ups, so that I traveled home with almost empty boxes. Considering the recent rules changes for F1D, which would require new models anyway, made this loss easy to bear. I should not forget to mention the large number of entries, in particular the number of juniors, more than I have ever seen in Europe. The total nr. of entries was 67, of which 30 were juniors.



John Tipper did well with his 35cm tandem model

I was impressed by the efforts of the organisers on strict application of the rules in order to guarantee a fair competition. This concerned not just the steering of the models but also the adherance to the model rules, in particular the min. and max. weights. Each model was checked without prior notice after one of the 6 competition flights. Bad luck for any flyer who's F1M-motor incl. lubricant would weigh 1510 mg. This very accurate check was possible thanks to a TANITA precision scale, which the organizers were able to use. Refering to the new F1D-rules, which require a max. motor weight of 500mg, accurate checks like these will be inevitable in the future. And a F1D-flyer himself will instead of a PESOLA-scale require an electronic diamond-scale, if he does not want to give away 10 or 20 mg of rubber and the associated performance with it.

The competition in Bordeaux was concluded by a galadiner in the wine-district of Médoc, with wine tasting, a tombola and the prizegiving ceremony, where the trophies were handed out by a real Miss. We could have had more participation from some other countries in Europe. But when the organizers succeed in removing these ropes this hall will become a perfect place to hold a european or even world championship.

Slanic Salt Mines

Various news agencies reported that the Slanic Salt mines had been damaged by severe storms and floodings. But according to Marius Cornu of the Rumanian Aeromodeling Federation the salt mines and the caves have suffered no damage at all. The salt mines are still available for indoor flying.

New Rules F1D

- First Impressions -

by B J Hunt (GBR)

The FAI CIAM meeting in Lausanne last March passed changes to the rules for F1D (effective 1 Jan 2001). The maximum span will be reduced to 55cm, the minimum model weight increased to 1.2 gram and the rubber weight limited to 0.5 gram maximum.

These changes are pretty major and there was much concern (particularly in the USA) that the class would be ruined. Some of us felt that the new rules needed a fair practical evaluation before making a judgement and so I have "built" and flown a couple of models to the new specification.

My first model was a simple variant of my Stork design (see John Tipper plan in IN48). I used the same stick, boom and tail but I replaced the unbraced wing with a similar rectangular one of 160 mm chord (6.3") x 550 mm (21.6") span. I also reduced the wing post height from 150 mm to 75 mm (3") and increased the boom to 460 mm (18"). The model was covered with Y2K 0.5 micron plastic film and it required 60 mg ballast to bring it to 1.2 g. Flight tests at Cardington showed the hook distance of 320 mm was impractical (too much tension / stick bow at launch) so I moved the rear hook forward to give 200 mm (8") between the hooks.

I flew this model at the US championships at Johnson City (end May) using my standard 500 mm (19.5") vp prop. The model was very easy to trim but there was an obvious problem with the propeller. The rubber for the new rules is much thinner and shorter than for the current rules so my prop spend almost all the flight on the bottom stop - it was effectively a fixed 600 mm (24") pitch prop. I couldn't change the spring on site so I set the pitch higher (800 mm =31.5") using the adjuster screws. I then had about a dozen 1/2 motor flights to get the rubber size right. On the optimum motor (97 mm (3.8") loop of 1.18 mm (0.046") Tan 2 = 0.25g, 750 turns), the model climbed to 23 M (70') and landed deadstick at 14-35. On this evidence, a vp is necessary for this site (32 M) but probably not so for Cardington (46 M) where I would expect about 30 min on a full motor.

On my return from the USA, I built a bigger unbraced wing (220mm=8.6" chord) and tail (40% of wing) and fitted it to the stick/boom above. By being careful with wood sizes, I was able to build the wing at 0.29g (even covered with Y2K). I also fitted a softer spring to my VP and reduce the preload to about 6 gcm. This model now weighs 1.21g and flies fine in my kitchen. I hope/expect that the bigger chord will give 1.5 min extra duration at Cardington.

Overall I am very happy flying to the new F1D rules. The models still fly majestically slowly and I can build unbraced, plastic covered models just about down to weight. Good wood and careful building technique is still required. The essential character of traditional microfilm flying has been retained but I think that the FAI have achieved their aim of improved practicality and reduced performance and I see no reason to look back.

French Indoor Championships/1st Indoor International

Vélodrome, Bordeaux, 19-20 June 1999

Results International Competition

F1D Inter

Nom Prénom	Club ou pays	Vol1	Vol2	Vol3	Vol4	Vol5	Vol6	Total
1. KELLER Peter	CH	27:54	**34:31**	**42:30**	22:08	8:55	0	**77:01**
2. FRUGOLI J,Francis	MARSEILLE	4:17	**33:48**	**30:27**	13:31	26:14	0	**64:15**
3. CHAMPION Robert		9:54	**30:01**	**31:54**	27:03	11:34	29:49	**61:55**
4. TIPPER John Kevin	GB	0	0	0	27:52	25:32	29:22	**57:14**
5. TRACHEZ André		26:10	29:40	21:50	**23:41**	27:20	**26:26**	**57:00**
6. COGNET Guy	AC POITOU	6:02	11:22	0	**26:23**	21:12	**23:31**	**49:54**
7. HANRIOT Christophe		17:34	15:06	**19:35**	14:41	18:52	**23:45**	**43:20**
8. MEDINA MANGAS Daniel	SP	7:41	17:10	**18:49**	14:23	18:42	**21:20**	**40:09**
9. HUA NGOC Trung	ASCPA	17:15	18:54	**19:35**	15:01	18:48	**20:04**	**39:39**
10. PAILHE Pierre	AA PENAUD	11:13	**14:20**	8:12	13:00	**14:21**	2:17	**28:41**
11. BRIERE Gauthier		**8:06**	**15:45**	7:00	0	0	0	**23:51**
12. BAILEY Bob	GB	**19:44**	0	0	0	0	0	**19:44**

F1M (Beginner) Inter

Nom Prénom	Club ou pays	Vol1	Vol2	Vol3	Vol4	Vol5	Vol6	Total
1. BAILEY Bob	GB	**17:26**	16:55	0	**18:37**	0	0	**36:03**
2. KELLER Peter	CH	**15:41**	9:42	6:14	11:00	**14:23**	13:53	**30:04**
3. COMET Jacques	AC LANDES	11:59	**14:03**	13:11	11:52	13:14	**14:36**	**28:39**
4. HUA NGOC Trung	ASCPA	13:13	11:28	12:17	12:08	**13:31**	**14:04**	**27:35**
5. DUCASSOU	AC LANDES	7:29	5:57	0	12:57	**10:38**	**13:57**	**26:54**
6. CHAMPION Robert		**12:41**	11:51	**12:40**	11:57	12:33	0	**25:21**
7. CARLES Maurice	AC LANDES	9:00	7:47	**13:08**	10:09	**11:32**	4:14	**24:40**
8. YRONDE François	Aérospatiale	11:16	**11:42**	**12:13**	10:43	6:43	7:40	**23:55**
9. NEREAUDEAU Francis		**11:56**	**11:19**	10:47	11:05	4:52	5:37	**23:15**
10. ROCH Edmond	PARIS	9:27	**10:18**	**11:14**	9:15	9:37	6:58	**21:32**
11. JONES Geoffrey	GB	0	0	0	**9:27**	**10:14**	0	**19:41**
12. DAO Jo	ASCPA	**8:28**	**9:58**	0	6:42	6:05	8:02	**18:26**
13. PAILHE Pierre	AA PENAUD	**7:28**	7:03	**10:51**	5:34	6:26	4:51	**18:19**
14. MEDINA MANGAS Daniel	SP	**9:04**	8:55	8:02	5:10	8:46	**9:12**	**18:16**
15. DARROUZES Jean Pierre	ASCPA	0	0	0	**7:53**	**8:51**	0	**16:44**
16. DELCROIX Jacques	ORLEANS	3:36	2:31	**4:06**	**9:54**	0	0	**14:00**
17. LOUBERE Gabriel	AC Landes	0	0	0	**8:12**	**4:58**	0	**13:10**
18. PAGENAUD Christophe	ASCPA	0	0	0	**5:14**	**5:23**	0	**10:37**

MICRO 35 SENIORS Inter

Nom Prénom	Club ou pays	Vol1	Vol2	Vol3	Vol4	Vol5	Vol6	Total
1. TIPPER John Kevin	GB	16:20	3:25	9:34	**24:16**	**24:40**	0	**48:56**
2. FRUGOLI Jean -Francis		**19:17**	**18:02**	5:05	17:40	17:23	0	**37:19**
3. CHAMPION Robert		15:32	**18**	17:08	6:40	**17:44**	4:56	**35:44**
4. HUA-NGOC Trung	ASCPA	13:59	14	0	**15:01**	14:46	**16:11**	**31:12**
5. COGNET Guy	AC POITOU	13:42	**14:26**	**16:40**	2:20	9:55	1:47	**31:06**
6. CROGUENNEC Vincent		4:57	**14:11**	11:33	**11:54**	0	0	**26:05**
7. POURIAS Fabien		**11:05**	**12:11**	0	10:01	3:15	3:15	**23:16**
8. ROCH Edmond	PARIS	3:11	**9:01**	0	3:44	**13:59**	0	**23:00**
9. SORESE Laurent		**12:20**	**9:48**	0	10:02	6:28	0	**22:08**
10. PAILHE Pierre	AA PENAUD	**10:06**	0	9:41	6:36	9:02	**9:59**	**20:05**
11. MORICEAU Bertrand		7:04	7:20	8:21	7:02	**8:40**	**8:39**	**17:19**
12. LOUBERE Gabriel	AC LANDES	0	0	0	0	**7:04**	**7:17**	**14:21**
13. BRIERE Gauthier		5:19	5:28	0	**6:54**	**7:20**	4:00	**14:14**
14. HANRIOT Christophe		**7:54**	6:40	**6:40**	0	0	0	**14:34**
15. DAO Jo	ASCPA	0	0	0	**4:41**	**7:26**	3:33	**12:07**
16. BOUNOUS Jean Louis	ASCPA	3:14	0	0	2:28	**5:01**	**4:58**	**9:59**
17. BOUNOUS Stéphane	ASCPA	3:59	4:03	0	**4:29**	4:02	**4:22**	**8:51**
18. DARROUZES Jean Pierre	ASCPA	0	0	0	3:00	**3:25**	**4:18**	**7:43**
19. FRITZ Maurice	ASCPA	**3:35**	2:27	**3:48**	3:00	3:08	1:06	**7:23**

F1L (EZB) Inter

Nom Prénom	Club ou pays	Vol1	Vol2	Vol3	Vol4	Vol5	Vol6	Total
1. BAILEY Bob	GB	14:06	0	0	**17:52**	**18:35**	0	**36:27**
2. TIPPER John Kevin	GB	**17:06**	06:03	0	**18:34**	16:28	0	**35:40**
3. FRUGOLI J, Francis	MARSEILLE	14:49	16:05	12:21	**14:12**	**16:10**	15:48	**32:15**
4. ROCH Edmond	PARIS	15:06	**15:26**	11:12	07:43	14:51	**15:20**	**30:46**
5. JONES Geoffrey	GB	06:40	**12:37**	07:31	**17:13**	09:38	0	**29:50**
6. YRONDE François	Aérospatiale	04:25	11:30	**13:43**	10:38	**12:54**	10:36	**26:37**
7. MEDINA MANGAS Daniel	SP	10:34	**12:55**	12:26	04:25	09:46	**13:15**	**26:10**
8. GRANGE Yannnick	PARIS	**06:04**	**11:06**	11:13	08:55	**11:20**	**13:44**	**25:04**
9. CHAMPION Robert		11:44	12:59	08:46	02:59	11:06	2:03	**24:43**
10. CARLES Maurice	AC LANDES	10:46	10:13	04:59	**12:30**	09:07	**12:06**	**24:36**
11. DELCROIX Jacques	ORLEANS	09:45	**10:12**	07:56	08:43	07:03	**12:46**	**22:58**
12. MORICEAU Bertrand		08:27	**11:30**	**11:00**	06:45	07:15	3:22	**22:30**
13. DUCASSOU François	AC LANDES	**12:39**	00:08	08:38	06:02	06:15	**9:12**	**21:51**
14. SORESE Laurent		08:22	06:54	07:37	07:04	**09:13**	**9:46**	**18:59**
15. BUSTIN Franck		04:37	**06:15**	0	05:21	04:25	**5:26**	**11:41**

Results French National Championships

F1D Chpt de France

	Nom Prénom	Club ou pays	Vol1	Vol2	Vol3	Vol4	Vol5	Vol6	Total
1.	FRUGOLI J,Francis	MARSEILLE	4:17	**33:48**	**30:27**	13:31	26:14	0	**64:15**
2.	CHAMPION Robert		9:54	**30:01**	**31:54**	27:03	11:34	29:49	**61:55**
3.	TRACHEZ André		26:10	**29:40**	21:50	23:41	**27:20**	26:26	**57:00**
4.	COGNET Guy	AC POITOU	6:02	11:22	0	**26:23**	21:12	**23:31**	**49:54**
5.	HANRIOT Christophe		17:34	15:06	**19:35**	14:41	18:52	**23:45**	**43:20**
6.	HUA NGOC Trung	ASCPA	17:15	18:54	**19:35**	15:01	18:48	**20:04**	**39:39**
7.	PAILHE Pierre	AA PENAUD	11:13	**14:20**	8:12	13	**14:21**	2:17	**28:41**
8.	BRIERE Gauthier		**8:06**	**15:45**	7:00	0	0	0	**23:51**

F1M Chpt de France

	Nom Prénom	Club ou pays	Vol1	Vol2	Vol3	Vol4	Vol5	Vol6	Total
1.	COMET Jacques	AC LANDES	11:59	**14:03**	13:11	11:52	13:14	**14:36**	**28:39**
2.	HUA NGOC Trung	ASCPA	13:13	11:28	12:17	12:08	**13:31**	**14:04**	**27:35**
3.	DUCASSOU	AC LANDES	7:29	5:57	0	**12:57**	10:38	**13:57**	**26:54**
4.	CHAMPION Robert		**12:41**	11:51	**12:40**	11:57	12:33	0	**25:21**
5.	CARLES Maurice	AC LANDES	9	7:47	**13:08**	10:09	**11:32**	4:14	**24:40**
6.	YRONDE François	Aérospatiale	11:16	**11:42**	**12:13**	10:43	6:43	7:40	**23:55**
7.	NEREAUDEAU Francis		**11:56**	**11:19**	10:47	11:05	4:52	5:37	**23:15**
8.	ROCH Edmond	PARIS	9:27	**10:18**	**11:14**	9:15	9:37	6:58	**21:32**
9.	DAO Jo	ASCPA	**8:28**	**9:58**	0	6:42	6:05	8:02	**18:26**
10.	PAILHE Pierre	AA PENAUD	**7:28**	7:03	**10:51**	5:34	6:26	4:51	**18:19**
11.	DARROUZES Jean Pierre	ASCPA	0	0	0	**7:53**	**8:51**	0	**16:44**
12.	DELCROIX Jacques	ORLEANS	3:36	2:31	**4:06**	**9:54**	0	0	**14:00**
13.	LOUBERE Gabriel	AC Landes	0	0	0	**8:12**	**4:58**	0	**13:10**
14.	PAGENAUD Christophe	ASCPA	0	0	0	**5:14**	**5:23**	0	**10:37**

MICRO 35 Séniors Chpt de France

	Nom Prénom	Club ou pays	Vol1	Vol2	Vol3	Vol4	Vol5	Vol6	Total
1.	FRUGOLI Jean Francis		**19:17**	**18:02**	5:05	17:40	17:23	0	**37:19**
2.	CHAMPION Robert		15:32	**18:00**	17:08	6:40	**17:44**	4:56	**35:44**
3.	HUA-NGOC Trung	ASCPA	13:59	14:00	0	**15:01**	14:46	**16:11**	**31:12**
4.	COGNET Guy	AC POITOU	13:42	**14:26**	**16:40**	2:20	9:55	1:47	**31:06**
5.	CROGUENNEC Vincent		4:57	0	0	**14:11**	11:33	**11:54**	**26:05**
6.	POURIAS Fabien		**11:05**	**12:11**	0	10:01	3:15	3:15	**23:16**
7.	ROCH Edmond	PARIS	3:11	**9:01**	0	3:44	**13:59**	0	**23:00**
8.	SORESE Laurent		**12:20**	9:48	0	**10:02**	6:28	0	**22:08**
9.	PAILHE Pierre	AA PENAUD	**10:06**	0	9:41	6:36	9:02	**9:59**	**20:05**
10.	MORICEAU Bertrand		7:04	7:20	8:21	7:02	**8:40**	**8:39**	**17:19**
11.	LOUBERE Gabriel	AC LANDES	0	0	0	0	**7:04**	**7:17**	**14:21**
12.	BRIERE Gauthier		5:19	5:28	0	**6:54**	**7:20**	4:00	**14:14**
13.	HANRIOT Christophe		**7:54**	**6:40**	6:40	0	0	0	**13:20**
14.	DAO Jo	ASCPA	**4:41**	**7:26**	3:33	0	0	0	**12:07**
15.	BOUNOUS Jean Louis	ASCPA	3:14	0	0	2:28	**5:01**	**4:58**	**9:59**
16.	BOUNOUS Stéphane	ASCPA	3:59	4:03	0	**4:29**	4:02	**4:22**	**8:51**
17.	DARROUZES Jean Pierre	ASCPA	0	0	0	3:00	**3:25**	**4:18**	**7:43**
18.	FRITZ Maurice	ASCPA	**3:35**	2:27	**3:48**	3:00	3:08	1:06	**7:23**

MICRO 35 CADETS Chpt de France

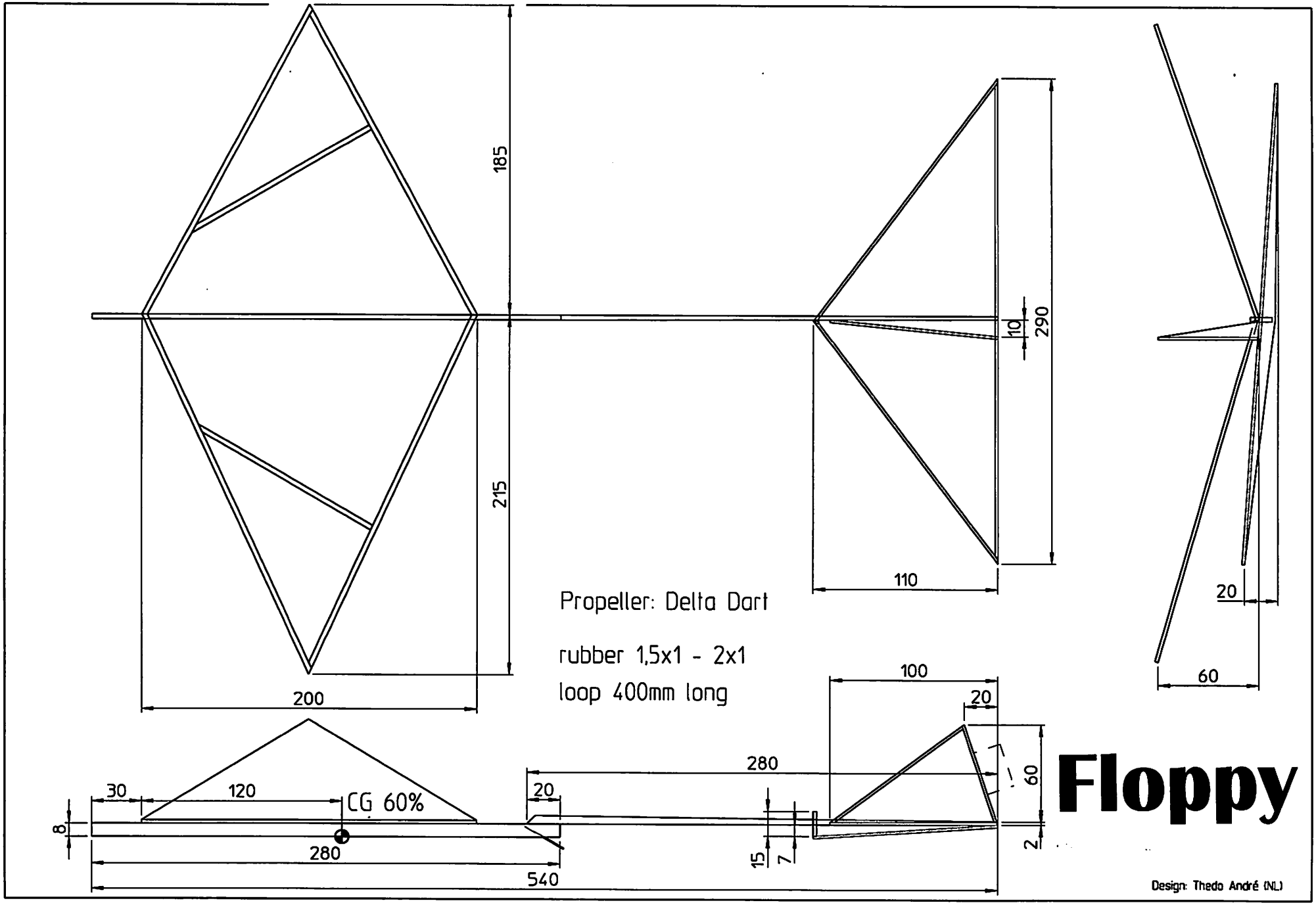
	Nom Prénom	Club ou pays	Vol1	Vol2	Vol3	Vol4	Vol5	Vol6	Total
1.	BOSSE ANTHONY	ANJOU	7:20	**10:20**	7:42	6:18	7:34	**7:58**	**18:18**
2.	GASTE Johann	ANJOU	**8:17**	**9:38**	7:03	7:01	4:43	4:45	**17:55**
3.	GAUTIER Stanislas	ORLEANS	5:55	5:45	7:15	**7:57**	4:27	**9:32**	**17:29**
4.	GABARD Maxime	ANJOU	**8:35**	2:50	0	**7:26**	2:02	3:57	**16:01**
5.	DRONNEAU Jonathan	ANJOU	5:55	6:17	**8:05**	**7:53**	7:12	5:59	**15:58**
6.	DUMERY Pierre Antoine	ORLEANS	2:35	2:55	1:15	2:46	**6:35**	**8:15**	**14:50**
7.	FORRE Thibault	ANJOU	**7:09**	6:59	5:34	6:46	**7:33**	1:05	**14:42**
8.	BRETON Guillaume	ANJOU	5:13	**6:00**	0	5:32	5:25	**6:10**	**12:10**
9.	CESBRON Samuel	ANJOU	**6:04**	**5:37**	2:46	3:54	5:37	4:48	**11:41**
10.	LEREBOURS Marine	AA PENAUD	3:14	2:41	4:27	5:14	**5:35**	**5:24**	**10:59**
11.	GALLARD Mathieu	ANJOU	3:18	**5:55**	3:46	**4:16**	3:36	4:01	**10:11**
12.	BOUCHET Vincent	ASCPA	4:10	0	0	3:37	**4:30**	**4:55**	**9:25**
13.	LAFOURCADE Rémy	ASCPA	0	0	0	**4:50**	**4:03**	2:05	**8:53**
14.	GALLEN Loïc	ASCPA	0	0	0	3:23	**4:01**	**4:19**	**8:20**
15.	LAGORCE Charles	ASCPA	0	0	0	3:10	**3:50**	**4:00**	**7:50**
16.	RUIZ Guillaume	ASCPA	1:55	3:14	**4:16**	2:31	1:28	**3:20**	**7:36**
17.	MALLET Anabelle	AA PENAUD	1:26	1:45	0	3:33	**3:43**	**3:47**	**7:30**
18.	DROMARD Florent	ASCPA	0	0	0	**3:31**	**3:28**	2:58	**6:59**
19.	MARTIN Vincent	ASCPA	**2:33**	2:01	**2:30**	0	1:23	1:49	**5:03**
20.	DROMARD Cyprien	ASCPA	0	0	0	**2:25**	2:11	**2:32**	**4:57**

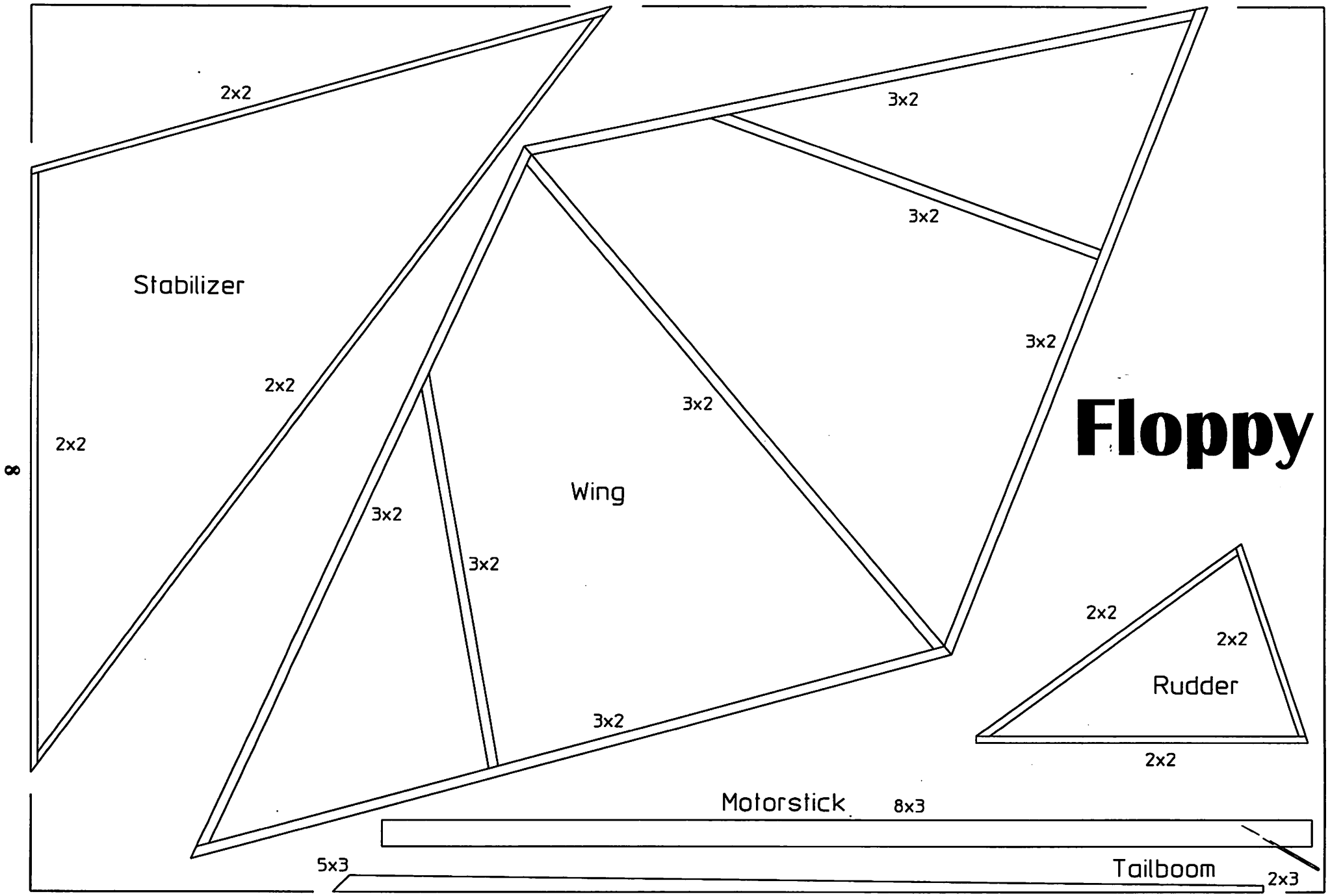
MICRO 35 JUNIORS Chpt de France

	Nom Prénom	Club ou pays	Vol1	Vol2	Vol3	Vol4	Vol5	Vol6	Total
1.	YRONDE Clément	Aérospatiale	9:00	**11:55**	**12:00**	8:05	10:15	11:02	**23:55**
2.	CHERON Samuel	Orléans	10:06	**10:50**	**10:39**	7:47	6:23	0	**21:29**
3.	MONGIN Olivier	AC LANDES	4:50	5:18	0	**10:20**	**10:21**	6:49	**20:41**
4.	TOUZE Mathieu	ANJOU	7:42	7:59	**8:23**	**9:18**	8:21	8:25	**17:41**
5.	BODET Sylvain	ANJOU	6:57	5:10	6:20	**8:32**	7:32	**8:49**	**17:21**
6.	BURGOT Laurent	ORLEANS	3:40	6:24	**7:50**	7:15	**8:31**	7:47	**16:21**
7.	MAGDELEINE Sylvain	ORLEANS	**8:41**	**7:33**	3:52	5:00	7:19	06:58	**16:14**
8.	BERGERARD Adrien	ORLEANS	4:18	5:12	4:47	2:36	**7:23**	**8:14**	**15:37**
9.	HERVOUET Maxime	ANJOU	**6:19**	0:26	0	**5:56**	5:29	5:11	**12:15**
10.	MARTIN Nicolas	ASCPA	0:20	0	0	1:20	**3:11**	**2:43**	**5:54**

F1L (EZB) Chpt de France

	Nom Prénom	Club ou pays	Vol1	Vol2	Vol3	Vol4	Vol5	Vol6	Total
1.	FRUGOLI J, Francis	MARSEILLE	14:49	**16:05**	12:21	14:12	**16:10**	15:48	**32:15**
2.	ROCH Edmond	PARIS	15:06	**15:26**	11:12	07:43	14:51	**15:20**	**30:46**
3.	YRONDE François	Aérospatiale	04:25	11:30	**13:43**	10:38	**12:54**	10:36	**26:37**
4.	GRANGE Yannnick	PARIS	06:04	11:06	11:13	08:55	**11:20**	**13:44**	**25:04**
5.	CHAMPION Robert	TOURS	**11:44**	**12:59**	08:46	02:59	11:06	2:03	**24:43**
6.	CARLES Maurice	AC LANDES	10:46	10:13	04:59	**12:30**	09:07	**12:06**	**24:36**
7.	DELCROIX Jacques	ORLEANS	09:45	**10:12**	07:56	08:43	07:03	**12:46**	**22:58**
8.	MORICEAU Bertrand		08:27	**11:30**	**11:00**	06:45	07:15	3:22	**22:30**
9.	DUCASSOU François	AC LANDES	**12:39**	00:08	08:38	06:02	06:15	**9:12**	**21:51**
10.	SORESE Laurent	PERTHUIS	08:22	06:54	07:37	07:04	**09:13**	**9:46**	**18:59**
11.	BUSTIN Franck		04:37	**06:15**	00	05:21	04:25	**5:26**	**11:41**


185
215
200
10
290
110
20
60
Propeller: Delta Dart
rubber 1,5x1 - 2x1
loop 400mm long
100
20
280
60
30
120
CG 60%
20
8
280
540
15
7
2
Floppy
Design: Thedo André (NL)



8

Enlarge 148%

Forming Nose Bearings for Indoor Models

by John Marett (CAN)

(This article is copied from SAM 86 Speaks. This is a Canadian newsletter, edited by Dan O'Grady, 50 Largo Crescent, Nepean, Ontario K2G3C7, Canada)

I get two pieces of .020 wire (assuming a prop shaft of .020 or slightly smaller). One is almost 2" long, it is the 'forming wire'. The other from which the bearing is formed is about 12" to 15" long. The tools I have are a pair of needle nose pliers and a pair of wire cutters. So first I place the forming wire under the 12" bearing wire and grab with the needle nose pliers in my right hand, see Figure 1.

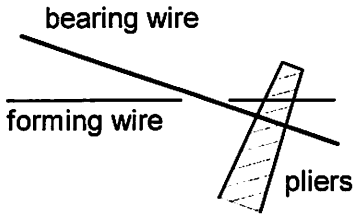


Figure 1

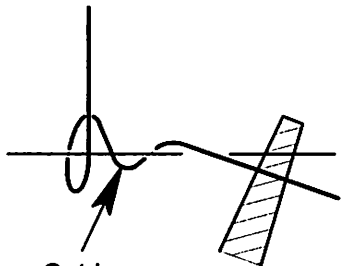


Figure 2

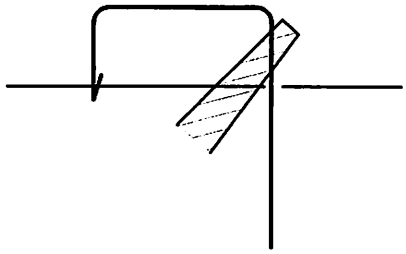


Figure 3

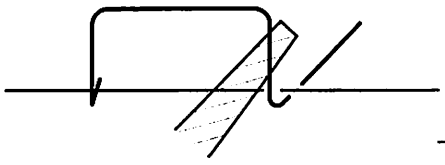


Figure 4



Figure 5

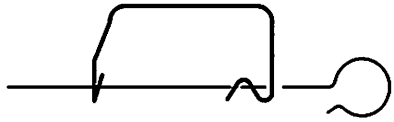


Figure 6

When I start to bend the bearing wire around the forming wire with my left hand, it pig tails at first, but as soon as I can, I wind at least a full turn perpendicular to make the nose loop (Figure 2). Make sure it is a full closed loop - don't squeeze, but make sure the loop is not more than 1 loop. Now you bend the bearing into the shape shown in Figure 3.

Put the forming wire through the loop and under the extended end of the wire and grab the two as shown with the needle nose pliers in the left hand. Now using the right hand twist the long bearing wire up under (Figure 4) and around over the top, finishing up like Figure 5. When you cut off the pig tail end leave only enough to hold the prop shaft wire firm. Too much and you'll have trouble getting the prop hook through.

You can also put the pigtail inside the bearing (Figure 6) to cut down on the prop shaft, but don't try this until you have mastered the outside pigtail first. Now all of this will take practice. You will probably make 8 or 10 before you get one you like. .015 wire is easier to use and are made smaller.

WING TIP

by Bill Henderson (CAN)

Four different types of covering material are used on indoor models: Japanese tissue, condenser paper, thin plastic film, and microfilm.

Japanese tissue is made in the same way as regular softwood pulp paper, but uses pulp made from

the mulberry tree, which produces a very thin, but strong, paper tissue. It shrinks when moistened with water and it is best to preshrunk it on a frame and lightly spray it with dope to seal the porous surface.

Condenser paper is a tan-coloured, non-porous, thin tissue used in the electronics industry. It also shrinks when moistened with water or when exposed to high humidities, To overcome these problems it is usually placed on newsprint, sprayed with water and then ironed under a J-cloth to give it texture. The texture allows it to shrink further without distorting the structure,

Plastic film, such as Ultrafilm or Polymicro is usually made from thermoplastic polyester (the same plastic that is used for soft drink bottles), although some appears to be made from polycarbonate (the plastic used for Cds).

Microfilm is made from a solution of cellulose nitrates in thinners, modified with plasticisers and other additives. The formulation of microfilm solution is an arcane secret, but when poured onto the smooth surface of a tank of water produces a very thin film with shimmering colours. The thickness of the film is the wavelength of the colour of the film, hence red/green is the thickest and purple/silver is the thinnest. The film must be aged after lifting from the tank, since some of the additives take a long time to evaporate from the film surface, causing long term shrinkage.

Weight is one our major enemies and the table below gives the weight of each covering for a given area and it's nominal thickness.

Material	Weight		Thickness	
	(gr/m^2)	(gr/100 sq. in)	(μm)	(inches)
Jap tissue (preshrunk and doped)	10.79 - 13.21	0.696 - 0.852	20.32	.0008
Condenser paper	4.84 - 3.52	0.312 - 0.227	7.62	.0003
Ultrafilm (Ray Harlan)	1.98	0.128	1.524	.00006
Polymicro 2 (Dick Obarski)	1.19	0.077	0.889	.000035
Microfilm	0.67	0.043	Varies according to colour	

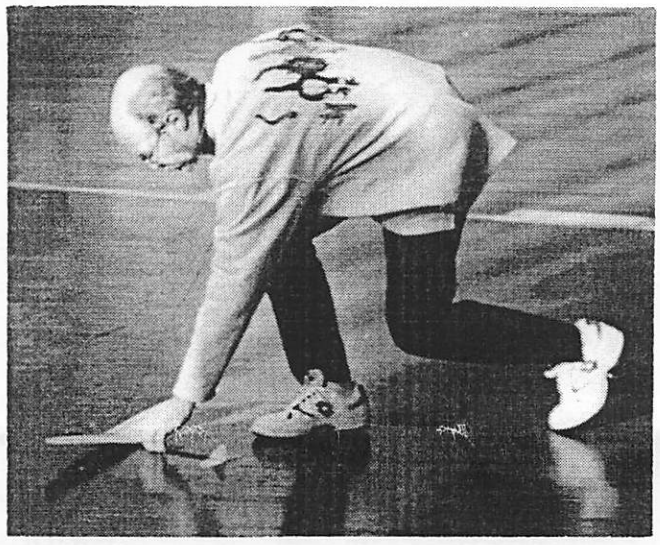
The next question is "How do you attach it to the model structure?" and this will be dealt with when we discuss adhesives.

Florence Open Indoor 1999

Report by Carlo Pesciolini

The first international edition of the Florence Open Indoor Contest was saved by the entry of a Spanish competitor, expressly arrived from Madrid, and a small group of newcomers represented by Vittorio Negri, a well-known name of Wakefield fame back in the sixties. Two local records were broken during the contest: one in the German origin TH class and one in the new F1N hand launch glider class, just 24 days after having become an official international class.

The 9th edition of this contest, hopefully again with same excellent organisation, will be held on 23rd of January 2000.



Urs Schaller, a Swiss who now lives in Florence, retrieves his hand launch glider after his successful 40 second flight.

All Japan F1L Contest

Report by Akihiro Danjo

This contest was held again in the Todoroki Arena (20m ceiling) in Kawasaki city on May 23. It was a very warm day for May and the indoor temperature was 25°C. But the condition of the air was not good and everybody was bothered by drift and heavy turbulence around the air ducts in the ceiling, even though the air conditioning was turned off.

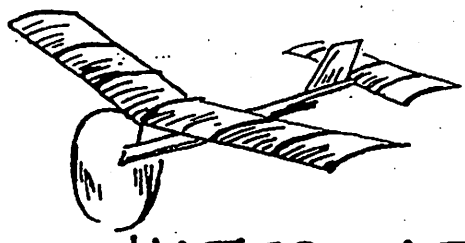
F1L (21 flew), Best 2 of 5

1. Akihiro Danjo	18:32+18:16=36:48
2. Masatoshi Misawa	17:49+17:12=35:01
3. Michio Osada	17:20+15:01=32:21
4. Shinsuke Miura	16:07+15:53=32:00
5. Shigeyoshi Nonaka	16:45+14:59=31:44
6. Youichi Kato	16:08+15:35=31:43
7. Yasutaka Tanaka	16:09+15:00=31:09
8. Shozo Masuda	16:28+13:50=30:18

FIRENZE

GRANDE gara INDOOR

24 gennaio '99





8ª edizione - INTERNAZIONALE

organizzata dal GRUPPO AEROMODELLISTI FIORENTINI

Postacasella 18250
50100 Firenze

C L A S S I F I C H E

Categoria: Elastico formula "F1M"

1)	Tabellini Renzo (Bologna)	4'37	6'04	7'43	3'35	8'01	--	= 15'44
2)	De Angelini Giacomo (AeC Roma)	0'50	3'10	6'30	3'24	3'26	6'09	= 12'39
3)	Ghisalberti Mauro (Como)	2'53	3'50	1'03	3'59	5'00	3'45	= 8'59
4)	Pianigiani Franco (ASA Siena)	1'47	4'10	3'20	2'45	3'55	4'25	= 8'35
5)	Sighelle Nello (Bologna)	1'08	1'02	5'17	1'00	1'14	1'26	= 6'43
6)	Vaccaro Silvia (T.A. Ripoli)	2'08	1'32	1'54	2'05	2'14	2'07	= 4'22
7)	Negri Vittorio (T.A. Ripoli)	1'21	1'06	1'30	1'53	1'35	2'24	= 4'17
8)	Bartoli Claudio (T.A. Ripoli)	1'27	1'03	1'42	1'38	1'44	1'53	= 3'37

Iscritti: 9

Categoria: Elastico formula "TH"

1)	Pianigiani Franco (ASA Siena)	4'03	2'51	3'58	3'11	5'01	6'31	= 11'32
2)	Tabellini Renzo (Bologna)	4'59	4'56	5'32	5'40	0'00	5'13	= 11'12
3)	De Angelini Giacomo (AeC Roma)	3'46	2'50	3'54	5'20	1'12	5'05	= 10'25
4)	Sighelle Nello (Bologna)	4'47	1'09	3'37	--	3'54	5'19	= 10'06
5)	Ghisalberti Mauro (Como)	0'07	4'27	0'00	3'20	3'06	3'29	= 7'56

Categoria: Elastico formula "Mini-Stick"

1)	De Angelini Giacomo (AeC Roma)	3'04	3'11	4'10	3'45	3'07	3'48	= 7'58
2)	Pianigiani Franco (ASA Siena)	0'35	2'35	3'50	3'20	3'52	3'12	= 7'42
3)	Sagnotti Maurizio (AMIReL Roma)	2'42	1'31	2'43	3'34	3'34	3'19	= 7'08
4)	Ghisalberti Mauro (Como)	2'57	3'14	2'50	1'10	3'43	3'14	= 6'57
5)	Tabellini Renzo (Bologna)	2'41	3'00	2'49	--	--	--	= 5'49
6)	Sighelle Nello (Bologna)	2'11	2'25	0'56	--	--	--	= 4'36

Iscritti: 7

Categoria: Balsetta formula "F1N"

1)	Schaller Urs (GMP Prato)	35-13-32-35-34-37-36-40-38 = 115
2)	Zamperini Marco (ASA Siena)	20-21-20-21-23-23-23 = 69
3)	Pesciolini Jacopo(GAF Firenze)	16-08-16-17-17-20-19-19-20-21-22-22-22 = 66
4)	Rodriguez Santiago --ESP--	14-13-10-13-17 = 44

Iscritti: 7

Categoria: Balsetta "Catapult"

1)	Sagnotti Maurizio (AMIReL Roma)	06-13-14-15-16-16-18 = 50
2)	Pesciolini Carlo (GAF Firenze)	14-14-16-15-15-17 = 48

Iscritti: 4

"Migliore prestazione assoluta": 105,26 % Schaller (Balsetta "F1N").

Nuovi primati:
- Elastico "TH" = 6'31 Pianigiani (precedente: 6'20 Sighelle, 1992).
- Balsetta "F1N" = 40" Schaller (precedente: 38" Melloni, 1991).

Commissari di gara: Daniele Apicella - Giovanni Barchielli - Niccolò Gianni - Piero Pecchioli - Silvano Tonetti.

Direttore di gara: Giancarlo Sestini.

Allestimento "party": Vanda Bizzarri - Cécile Pesciolini - Anna Schaller.

51st New Zealand Indoor Championships 1998

Report by Paul Squires

The 51st New Zealand Nationals were held between 28th Dec 1998 and 2nd Jan 1999 and all RC, CL and F/F events are flown near a central venue. The 29 ft high hall we are given is not great to fly in as it has a treacherous ceiling and can be very drafty. On the given days the average temperature was 30°C with 45% humidity.

This year the numbers for F1L and open microfilm were up but Peanut and Rubber Scale numbers were down.

Peanut Scale

1.	Antony Koerbin	Voisin Canard
2.	Paul Lagan	Lacey M10
3.	Paul Squires	Jodel D9
4.	Graham Lovejoy	Lacey M10
5.	Alan Reed	Wright 'L'Biplane
6.	Bill Rouse	Andreason BA4B

Open Rubber Scale

1.	Paul Lagan	Lacey M10
2.	David Ackery	Auster
3.	Bill Rouse	Sopwith Triplane
4.	Graham Lovejoy	Stahlwerk

F1L

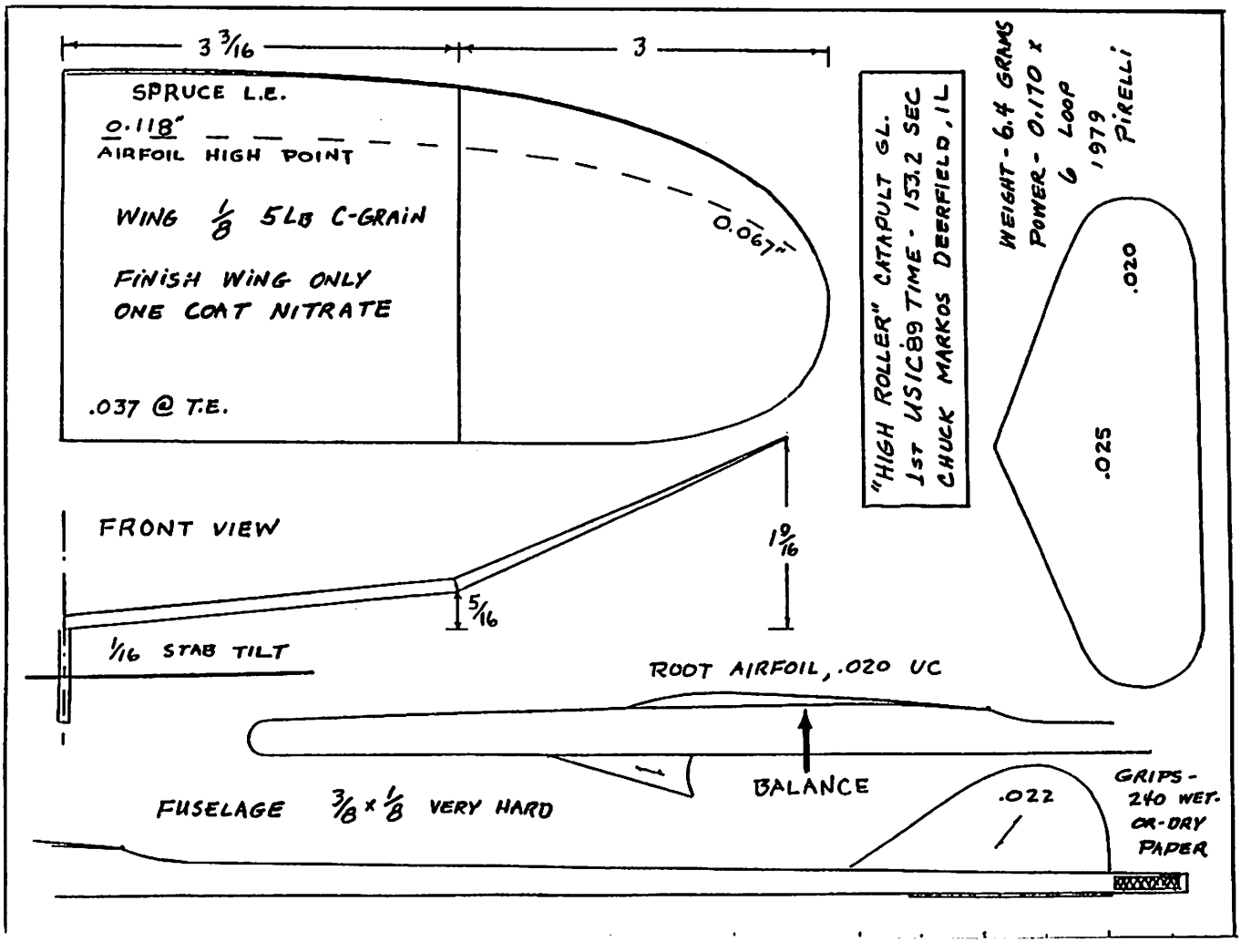
		Total
1.	William Long	1257
2.	Paul Squires	1149
3.	Antony Koerbin	890
4.	Richard Dalziel	828
5.	Mike Mulholland	720
6.	Denise Tristram	616
7.	James Koerbin (jr)	565
8.	Hayley Koerbin (jr)	398

Open Microfilm

		Total
1.	Paul Squires	802
2.	Antony Koerbin	657
3.	Richard Dalziel	402
4.	William Long	378

Hand Launch Glider

		Total
1.	David Ackery	71.0
2.	Stewart Cox	51.9
3.	Paul Lagan	50.9
4.	Brendan Robinson	49.7
5.	Richard Dalziel	48.7
6.	Antony Koerbin	37.9
7.	William Hickson	32.6
8.	Hayley Koerbin	27.1
9.	Antony Cox	23.7



1998/1999 EZB Postal Contest

Results supplied by Don Slusarczyk

F1L EZB (1.2 gram minimum)

	Contestant	Date Flown	City,State,Country	Flight Time	Ceiling Height	Fudge Factor	Corrected Time
1.	**Akihiro Danjo**	**7/15/98**	**Tokyo, Japan**	**18:36**	**29.52 ft**	**1.511**	**1685.98**
2.	**Derek Richards**	**1/4/99**	**Great Britan**	**16:09**	**25.5 ft**	**1.568**	**1519.68**
3.	**Paul Squires**	**2/7/99**	**New Zealand**	**14:59**	**23.29 ft**	**1.605**	**1443.21**
4.	Bill Long	3/7/99	New Zealand	12:29	22 ft	1.629	1220.26
5.	Fred Tellier	3/3/99	Windsor, On. Can	12:23	23 ft	1.611	1196.64
6.	Harley Ellis	3/12/99	Ajax, On. Can	11:55	21 ft	1.649	1179.01
7.	Graham Lovejoy	2/14/99	New Zealand	11:56	23.29	1.605	1149.43
8.	Jim Boyd	3/7/99	New Zealand	10:31	22 ft	1.629	1028.02
9.	John Marett	2/8/99	Toronto, On. Can	10:14	20.58 ft	1.658	1017.79
10.	Bill Henderson	3/12/99	Toronto, On. Can	9:01	21 ft	1.649	892.09
11.	Daniel Medina	3/31/99	Malaga, SPN	8:27	16.40 ft	1.759	891.71
12.	Elma Rajnauth	12/4/98	Toronto, On. Can	7:28	21 ft	1.649	738.74
13.	Jacob Murray	11/20/98	Schomberg, On. Can	7:22	21 ft	1.649	728.84
14.	Steve Krug	1/20/99	Burlington, On. Can	6:32	19.88 ft	1.672	655.67
15.	Al Baker	2/6/99	Burlington, On. Can	6:28	19.88 ft	1.672	648.98
16.	Stu Watson	12/5/98	Burlington, On. Can	2:14	19.92 ft	1.672	224.03

USA Style EZB

	Contestant	Date Flown	City,State,Country	Flight Time	Ceiling Height	Fudge Factor	Corrected Time
1.	**Akihiro Danjo**	**10/11/98**	**Tokyo, Japan**	**21:22**	**29.52 ft**	**1.511**	**1936.76**
2.	**Fred Tellier**	**3/24/99**	**Windsor, On. Can**	**16:39**	**23 ft**	**1.611**	**1608.94**
3.	**Derek Richards**	**1/4/99**	**Great Britan**	**16:55**	**25.5 ft**	**1.568**	**1591.82**
4.	Tom Sova	3/28/99	Sylvania, OH	19:19	49 ft	1.332	1544.10
5.	Don Slusarczyk	12/13/98	Willoughby, OH	15:20	20.00 ft	1.670	1536.42
6.	Chris Borland	3/31/99	Sacramento, CA	11:29	25.83 ft	1.563	1076.96
7.	Daniel Medina	3/31/99	Malaga, SPN	9:35	16.40 ft	1.759	1011.30
8.	Bill Dodson	3/21/99	Tehachapi, CA	15:55	150 ft	1.040	993.28
9.	Roger Schroeder	11/22/98	Overland Pk, KS	9:00	17.5 ft	1.729	933.79
10.	Carl Perkins	11/22/98	Prarie Village, KS	8:36	17.5 ft	1.729	892.29
11.	Tony Nguyen	3/2/99	N Syracuse, NY	8:15	21.0 ft	1.649	816.24
12.	Mike Basta	11/22/98	Lenexa, KS	3:34	17.5 ft	1.729	370.06

1998/1999 F1M Postal Contest

	Contestant	Date Flown	City,State,Country	Flight Time	Ceiling Height	Fudge Factor	Corrected Time
1.	**Akihiro Danjo**	**11/20/98**	**Tokyo, JAP**	**13:45**	**29.52 ft**	**1.511**	**1246.35**
2.	**Fred Tellier**	**11/25/98**	**Ontario, CAN**	**11:48**	**23 ft**	**1.611**	**1140.27**
3.	**John Marett**	**1/22/99**	**Ontario, CAN**	**9:16**	**21.0 ft**	**1.649**	**916.82**
4.	Tapio Linkosalo	11/21/98	Helsinki, FIN	9:42	29.52 ft	1.511	879.25
5.	Fred Rash	3/27/99	Johnson City, Tenn	12:58	114 ft	1.100	855.94
6.	Susumu Tanaka	3/26/99	Toyota, Aichi, JAP	10:31	60 ft	1.270	801.09
7.	Daniel Medina	3/31/99	Malaga, SPN	7:28	16.40 ft	1.759	787.94
8.	Harley Ellis	2/19/99	Ajax, ONT	7:51	21 ft.0	1.649	776.66
9.	Toshiaka Okada	3/26/99	Toyota, Aichi, JAP	9:46	60 ft	1.270	743.96
10.	Bill Henderson	2/19/99	Toronto, On. Can	7:28	21.0 ft	1.649	738.74
11.	Antti Tuominen	11/21/98	Helsinki, FIN	7:44	29.52 ft	1.511	700.98
12.	Jacob Murray	11/20/98	Ontario, CAN	3:41	21.0 ft	1.649	364.42

Congrats to Akihiro Danjo for winning both postal meets!

Canadian Postal Contest

Results supplied by Bill Henderson. Below are the final results for this year's Canadian postal contest events. They are corrected to a ceiling height of 26.25', which is the maximum height for a Category I ceiling.

F1L (1.2 gram Easy B)

			Height	Time Actual	Time Corrected
1.	Fred Tellier	Windsor	23'	12:23	12:52
2.	Harley Ellis	Markham.	21'	11:55	12:42
3.	John Marett	Aurora.	20.58'	10:14	10:58
4.	Bill Henderson	Markham	21'	9:01	10:49
5.	Elma Rajnauth	Markham	21'	7:28	7:58
6.	Jacob Murray	Markham	21'	7:22	7:51
7.	Steve Krug	Aldershot	19.88'	6:32	7:04
8.	Al Baker	Aldershot.	19.88'	6:28	7:00
9.	Stu Watson	Aldershot	19.88'	2:14	2:25

F1M

1.	Fred Tellier	Windsor	23'	11:48	12:16
2.	John Marett	Markham	21'	9:16	9:53
3.	Harley Ellis	Markham	21'	7:51	6:22
4.	Bill Henderson	Markham	21'	7:28	7:58
5.	Jacob Murray	Markham	21'	3:41	3:56

A6 Tailless

1.	Jack McGillivray	Markham	21'	3:39	3:53
2.	John Marett	Aurora	20.58'	3:06	3:19
3.	Mike Thomas	North York	20.31'	2:25	2:36
4.	Richard Miller	Aurora	20.58'	2:21	2:31
5.	Brian Gothard	Aurora	20.58'	2:05	2:14
6.	Jacob Murray	Markham	21'	1:00	1:07

FAC No-cal Scale (6.2 gram)

			Height	Time Actual	Time Corrected	
1.	Mike Thomas	Aldershot	19.88'	3:41	3:59	Hosler Fury
2.	John Marett	Markham	21'	3:41	3:56	Fike E
3.	Bill Henderson	Markham	21'	3:35	3:49	Hosler Fury
4.	Chris Brownhill	Markham	21'	3:27	3:41	Lacey
5.	Ted Toth	Aldershot	19.88'	2:37	2:50	Fike E
6.	Sam Burke	Aldershot	19.88'	2:19	2:30	
7.	Martin York	Markham	21'	1:23	1:28	Boulton Paul Defiant
8.	Doug Wilkin	Aldershot	19.88'	1:22	1:28	Zero
9.	Al Baker	Aldershot	19.88'	1:08	1:14	Fike

Our Postal Contest was listed in a US magazine and we did receive an entry from Japan. Another flight was reported from Ohio, but since both of them were flown in ceilings higher than Category I, they are listed below for comparison purposes:

Akihiro Danjo	Yokohama	44.3'	5:14	4:27	Lacey M-10
Mike Thomas	Kent State Univ.	49.21	5:00	4:06	Hosler Fury



"I still think it's on the thick side."

1998/1999 MiniStick Postal Contest Results

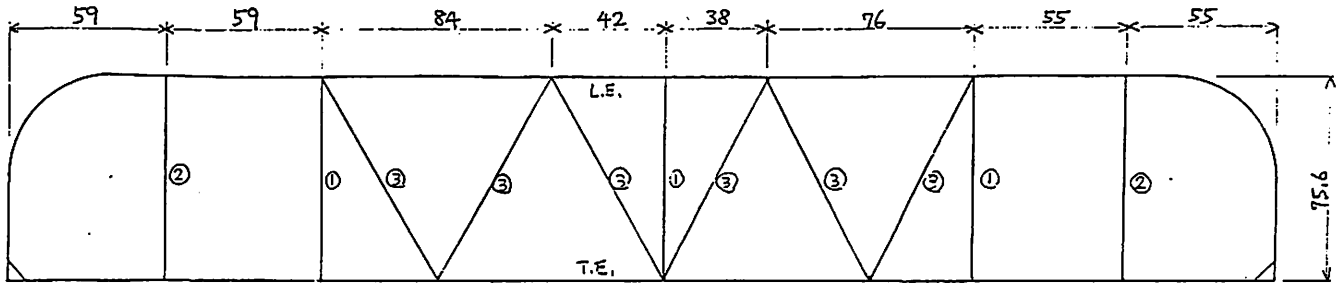
Results supplied by Kai Halsas and Don Slusarczyk

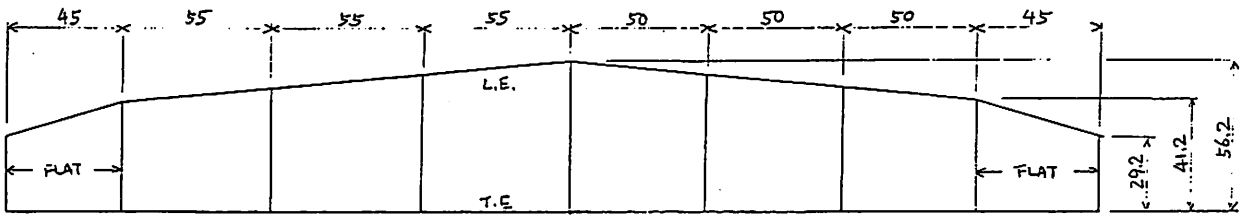
	Name	Corrected Time (sec)	Country	Recorded Time (sec)	Ceiling Height (ft)	
1	**Collins, Walt**	**1069,304**	**USA**	**509**	**8,167**	**1st Overall**
2	**Danjo, Akihiro**	**968,482**	**JAPAN**	**644**	**29,520**	**1st Int.**
3	**Platt, Bob**	**962,163**	**USA**	**458**	**8,167**	**1st USA**
4	**Onishi, Toru**	**941,413**	**JAPAN**	**626**	**29,520**	**2nd Int.**
5	**Van Gorder, Walt**	**935,330**	**USA**	**580**	**23,250**	**2nd USA**
6	Van Gorder, Walt	889,249	USA	513	17,917	
7	**Roch, Edmon**	**843,611**	**FRANCE**	**498**	**19,500**	**3rd Int.**
8	**Sova, Tom**	**842,800**	**USA**	**501**	**20,000**	**3rd USA**
9	Clem, Jim	793,128	USA	444	16,000	
10	Katoh, Yoichi	789,524	JAPAN	525	29,520	
11	O'Grady, Dan	774,478	CANADA	488	24,583	
12	Clem, Jim	751,959	USA	447	20,000	
13	Kihara, Kazumasa	726,362	JAPAN	483	29,520	
14	Miura, Shinsuke	726,362	JAPAN	483	29,520	
15	Munoz, Romulo	721,759	ARGENTINA	446	22,966	
16	Tomita, Sadayoshi	703,804	JAPAN	468	29,520	
17	Sano, Yasuhito	700,796	JAPAN	466	29,520	
18	Schutzel, Emil	696,922	USA	448	26,333	
19	Person, Lee	676,456	USA	322	8,167	
20	Obata, Takashi	651,169	JAPAN	433	29,520	
21	Kelly, James	647,044	USA	308	8,167	
22	Fujita, Shigeru	646,657	JAPAN	430	29,520	
23	Koga, Tsutomu	622,596	JAPAN	414	29,520	
24	Iida, Minoru	616,580	JAPAN	410	29,520	
25	Raymond-Jones, Colin	606,273	CANADA	382	24,580	
26	Osada, Michio	594,023	JAPAN	395	29,520	
27	Tamai, Seizou	588,007	JAPAN	391	29,520	
28	Westerblad, Kalle	585,095	SWEDEN	387	29,000	
29	Ferreyra, Andres	579,349	ARGENTINA	358	22,966	
30	Murakami, Masao	574,472	JAPAN	382	29,520	
31	Nakajo, Yoshiharu	544,395	JAPAN	362	29,520	
32	Tanaka, Yasutaka	515,822	JAPAN	343	29,520	
33	Moriyama, Takao	515,822	JAPAN	343	29,520	
34	Ohishi, Yuji	505,295	JAPAN	336	29,520	
35	Ikeda, Yoichi	500,784	JAPAN	333	29,520	
36	Masuda, Shozou	490,257	JAPAN	326	29,520	
37	Sullivan, Ed	483,183	USA	230	8,167	
38	Tsuji, Tsunekazu	475,218	JAPAN	316	29,520	
39	Fluehr, Jack	474,467	USA	305	26,333	
40	Van Dover, Abram	470,578	USA	224	8,167	
41	Kanemaru, Yoshio	455,464	JAPAN	270	19,800	
42	Suzuki, Hidcharu	410,552	JAPAN	273	29,520	
43	Halsas, Kai K.	395,236	FINLAND	271	32,667	
44	Hakansson, Anders	388,240	SWEDEN	288	42,000	
45	DeAngelini, Giacomo	386,767	ITALY	250	26,833	
46	Pianigiani, Franco	358,920	ITALY	232	26,833	
47	Ghisalberti, Mauro	344,996	ITALY	223	26,833	
48	Sagnotti, Maurizio	331,073	ITALY	214	26,833	
49	Iiyama, Takuji	323,329	JAPAN	215	29,520	
50	Tabellini, Renzo	278,472	ITALY	180	26,833	
51	Sighelle, Nello	224,325	ITALY	145	26,833	

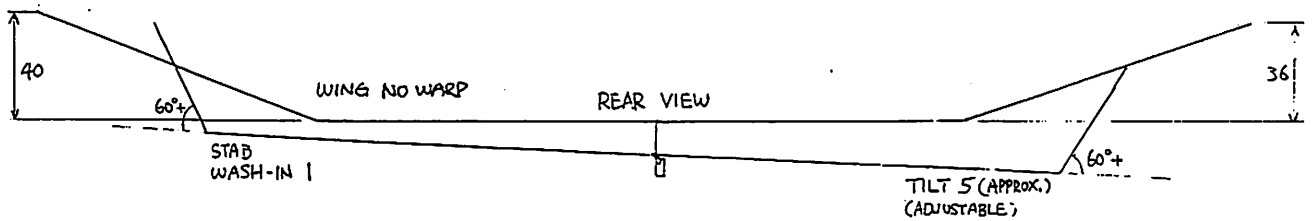
1998/1999 A6 Postal Contest

Results supplied by Don Slusarczyk

	Name	Corrected Time (sec)	Country	Recorded Time (sec)	Ceiling Height (ft)	Correction Factor
1	Stan Chilton	547,78	USA	517	23,833	30,7780
2	Akihiro Danjo	520,13	JAPAN	503	44,300	17,1333
3	John Lenderman	466,33	USA	451	47,000	15,3333
4	Andrew Tagliafico	428,33	USA	413	47,000	15,3333
5	Walt Collins	401,00	USA	401	70,000	0,0000
6	Peter Kearney	400,95	CANADA	368	20,580	32,9467
7	Ed Berray	393,33	USA	378	47,000	15,3333
8	Don Slusarczyk	389,33	USA	356	20,000	33,3333
9	Robert Landhuis	377,33	USA	362	47,000	15,3333
10	Jerry Powell	369,33	USA	354	47,000	15,3333
11	Fred Tellier	367,33	CANADA	336	23,000	31,3333
12	Roger Schroeder	351,00	USA	316	17,500	35,0000
13	John Diebolt	345,00	USA	345	70,000	0,0000
14	Mark Allison	343,33	USA	328	47,000	15,3333
15	Ed Sullivan	329,00	USA	329	70,000	0,0000
16	Lee Person	321,00	USA	321	70,000	0,0000
17	Tem Johnson	317,67	USA	287	24,000	30,6667
18	Chris Borland	314,33	USA	299	47,000	15,3333
19	Don Steeb	304,67	USA	272	21,000	32,6667
20	Bob Clemens	303,33	USA	274	26,000	29,3333
21	Artie Jessup	302,00	USA	302	70,000	0,0000
22	Ken Hark	296,33	USA	281	47,000	15,3333
23	Len Singer	265,00	USA	265	70,000	0,0000
24	Abram Van Dover	257,00	USA	257	70,000	0,0000
25	Tom Kopriva	256,33	USA	241	47,000	15,3333
26	Tom Stalick	246,33	USA	231	47,000	15,3333
27	Steve Hissner	237,33	USA	204	20,000	33,3333
28	Len Alderson	226,33	USA	211	47,000	15,3333
29	Dick Hawes	222,11	USA	193	26,333	29,1113
30	Jon Boeckling	216,33	USA	183	20,000	33,3333
31	BILL Mcdow	211,33	USA	196	47,000	15,3333
32	Michael Ganz	207,33	USA	174	20,000	33,3333
33	Alan Miller	199,33	USA	166	20,000	33,3333
34	Kevin Gichevski	185,33	USA	152	20,000	33,3333
35	Jim Breyfogle	177,33	USA	144	20,000	33,3333
36	HEATH Mccartney	171,33	USA	138	20,000	33,3333
37	James Warner	168,33	USA	135	20,000	33,3333
38	Nick Gfeller	157,33	USA	124	20,000	33,3333
39	Bob Kochersperger	132,11	USA	103	26,333	29,1113
40	Reid Hull	132,00	USA	132	70,000	0,0000
41	Adam Bishop	124,33	USA	91	20,000	33,3333
42	Paul Forney	121,33	USA	88	20,000	33,3333
43	James Grossi	115,33	USA	82	20,000	33,3333
44	Bill Vellucci	107,33	USA	74	20,000	33,3333
45	Charles Andrusky	105,33	USA	72	20,000	33,3333
46	Jim Penland	98,00	USA	98	70,000	0,0000
47	Brian Coyne	83,33	USA	50	20,000	33,3333
48	Nick Albu	82,33	USA	49	20,000	33,3333
49	Jessica Smith	81,33	USA	48	20,000	33,3333
50	Hank Sperzel	80,11	USA	51	26,333	29,1113
51	Kelli Schering	63,33	USA	30	20,000	33,3333







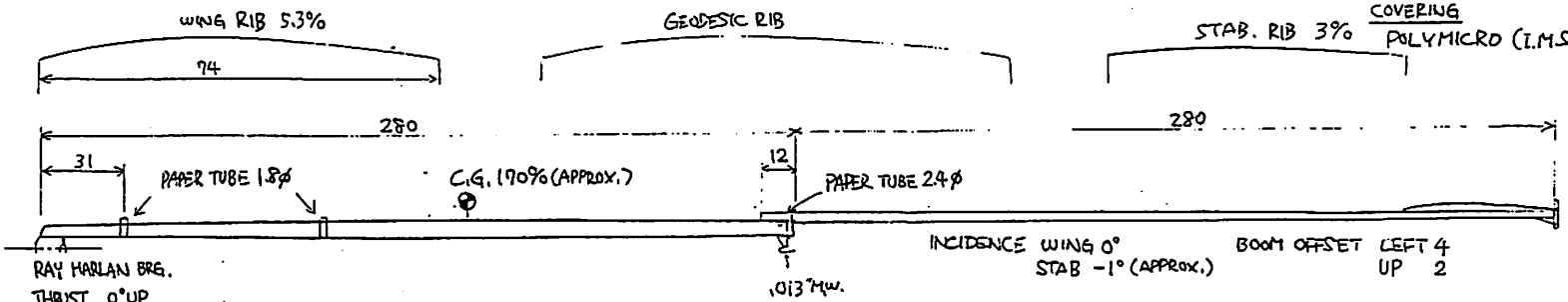
Slim-Ran²-3

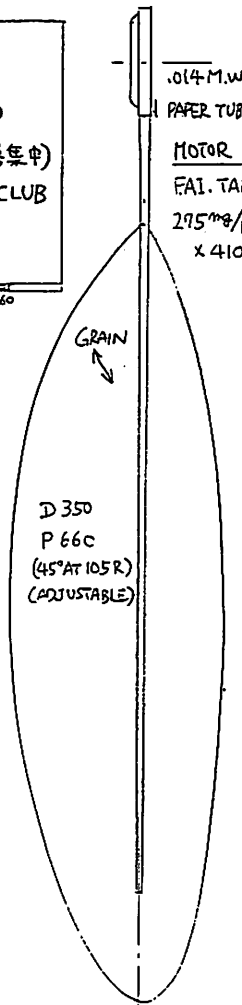
SLIM - RANRAN - 3

BY AKIHIRO DANJO
檀上彰浩(36才.独身.彼女募集中)
KANAGAWA INDOOR PLANE CLUB
RANRAN WORLD # 10250
TOKYO, JAPAN FEB. 98

0 10 20 30 40 50 60
SCALE (×2)

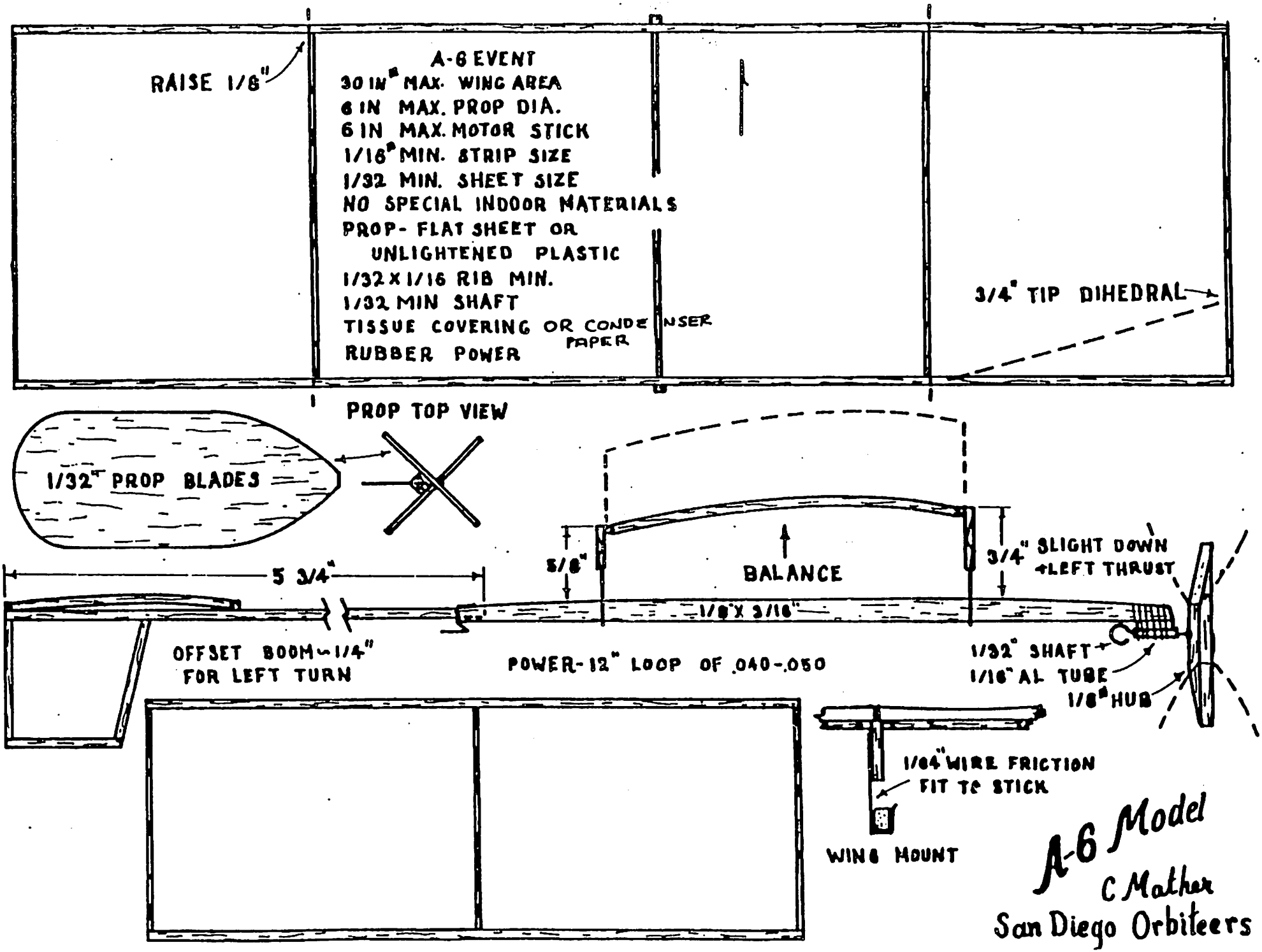
WING		
SPAR	0.8×2.0~1.3	5.9
TIP	0.6×1.3~1.0	5.9
RIB①	0.7×1.3	5.1
②	0.7×1.15	
③	0.7×1.2	
POST	1.8φ×20	8
STAB.		
SPAR	0.6×1.5~0.75	5.9
TIP	0.6×0.6	5.9
RIB(5)	0.6×1.0	4.8
M.S.		
	2.1×4.8~3.4×6.7~2.4×4.7	4.9
BOOM		
	2.4φ~2.4×3.3~1.4×2.3	4.6
PROP.		
BLADE	0.24~0.22	5.0
SPAR	1.8φ~0.9φ	6.0
COVERING	POLYMICRO (I.M.S.)	





WEIGHTS (g)	
WING	.26
STAB.	.11 +
M.S.	.42
BOOM	.14
PROP.	.27 +
TOTAL	1.20+

JMA '98 ALL JAPAN F1L CONTEST, '98 MAY 4, TODOROKI ARENA, 20M CEILING, FIRST PLACE, 19:50+21:13=41:03


RAISE 1/8"
A-6 EVENT
30 IN² MAX. WING AREA
6 IN MAX. PROP DIA.
6 IN MAX. MOTOR STICK
1/16" MIN. STRIP SIZE
1/32 MIN. SHEET SIZE
NO SPECIAL INDOOR MATERIALS
PROP- FLAT SHEET OR
UNLIGHTENED PLASTIC
1/32 X 1/16 RIB MIN.
1/32 MIN SHAFT
TISSUE COVERING OR CONDENSER PAPER
RUBBER POWER
3/4" TIP DIHEDRAL
PROP TOP VIEW
1/32" PROP BLADES
5 3/4"
5/8"
BALANCE
3/4" SLIGHT DOWN +LEFT THRUST
1/8" X 3/16"
OFFSET BOOM ~1/4" FOR LEFT TURN
POWER-12" LOOP OF .040-.050
1/32" SHAFT
1/16" AL TUBE
1/8" HUB
1/64" WIRE FRICTION FIT TO STICK
WING MOUNT
A-6 Model
C Mather
San Diego Orbiteers