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SKY-SCRAPERS BKLYN NY
AMA Club Charter 470

FLYOFF

Round 31 / Fall 1995

The SKYSCRAPERS Quarterly

Edited by Bob Hatschek

What's up? XXXI

The World Championships

The 1995 Free Flight World Championship, in Dömsöd, Hungary July 22–28, may have been the biggest ever. A listing of the results (graciously supplied by John Clapp, on his return from Hungary) shows 38 nations represented—some for the first time and several unfamiliar. Examples: the Czech Republic and Slovakia, both of which competed last time; the Baltic nations of Estonia, Latvia, and Lithuania; Croatia, Macedonia, and Bosnia-Herzegovina as well as Yugoslavia; Kazakhstan and Belarus, in addition to Russia, Ukraine, and the Baltic countries from the former USSR. A few of these were not full teams in all events, but the totals show that 272 free-flighters competed at Dömsöd. North Korea seems to be the only former top competitor that did not field any flyers.

That they flew superbly is attested to by the number of max-outs: 38 in A/2 (just shy of 35%), 34 in Wake (over 35%), and 37 in FAI Power (over 55%). Indeed, four full teams maxed out in Nordic (Russia, Austria, Romania, and Sweden); two teams did it in Wake (the Netherlands and Hungary); and four made it in Power (USA, Poland, China, and Hungary.)

That's right! The USA was top team in F1C—by the skin of our teeth. Gil Morris flew magnificantly to third place only 3 sec behind the new World Champ (Gil scored a 466 in the 11-min round to Boutillier's 469). Mike Achterberg (376 in the 7-min round) and Roger Simpson (346 going for 7 min) gave us two more superb scores to top the rest of the world.

F1C (67 flyers, 28 teams, 37 in flyoff)

1	B. Boutillier, France	1320+300+420+540+469
2	Wang Xian, China	1320+300+420+540+468
3	Gil Morris, USA	1320+300+420+540+466
4	Randy Archer, W Ch	1320+300+420+540+456
5	Zhang Qing, China	1320+300+420+540+123
15	M. Achterberg, USA	1320+300+420+376
17	Roger Simpson, USA	1320+300+420+346
36	F. Schlachta, Canada	1320+190
46	E. Condon, Canada	1258
66	A. Howard, Canada	185
52	Koei Tsuda, Japan	1202

1	USA	3960	(3 +15 +17 = 35)
	(Gil Morris, Mike Achterberg, Roger Simpson)		
2	Poland	3960	(6 +9 +20 = 35)
3	China	3960	(2 +5 +32 = 39)
15	Canada	2763	

Two-time World Champ Randy Archer—with a 456 in the 11-min round to place him fourth came within 13 sec of doing it again—and there may be some question about the results turned in by relatively inexperienced timers. (Remember, with 37 in the flyoff they needed extra timers.) But it's reported that Randy showed himself to be a true sportsman—losing with grace as well as winning graciously in past years.

The World's premier aeromodeling trophy—donated by Lord Wakefield of Hythe nearly 70 years ago—was won by American Jerry Fitch by a 33-sec margin (479 to 446 in the 9-min round) over Russian Andrey Khrebtov. With Nordic going by 11 sec (to Austria's Rudolf Holzleitner over Sweden's Mikael Holmbom) and the 13-sec spread among the top four power flyers, Fitch veritably clobbered the world's rubber modelers. Louis Joyner also maxed out and added a 234 in the 5-min round to place 25th, while Dan Tracy had a disastrous fifth round, dropping 89 sec to place 65th. These added up to a sixth place team finish for the USA in F1B.

F1B (96 flyers, 35 teams, 34 in flyoff)

1	Jerry Fitch, USA	1290 +300 +420 +479
2	A. Khrebtov, Russia	1290 +300 +420 +446
3	I. Vivchar, Ukraine	1290 +300 +420 +442
4	A. Zeri, Netherlands	1290 +300 +420 +440
5	M. Varady, Hungary	1290 +300 +420 +423
24	A. Andrjukov, W Ch	1290 +253
25	L. Joyner, USA	1290 +234
65	D. Tracy, USA	1201
11	J. McGlashan, Canada	1290+300 +407
39	C. Ackerly, Canada	1268
78	T. Mathews, Canada	1129

1	TheNetherlands	3870 (4 +12 +16 = 32)
	(Anselmo Zeri, Pim Ruyter, Jan Somers)	
2	Hungary	3870 (5 +18 +22 = 45)
3	Russia	3825
6	USA	3781
13	Canada	3687

Matt Gewain was our only glider flyer to max out and he added a 300 and a 174 to place 13th in the individual scoring. But the Skyscraper's Andrew Barron dropped maxes in the fifth and sixth rounds to tie for 59th individually, and Randy Weiler had a major disaster in the fifth round to score only 41 sec and to place No. 90.

F1A (109 flyers, 37 teams, 38 in flyoff)

1	R. Holzleitner, Austria	1260 +300 +297
2	M. Holmbom, Sweden	1260 +300 +286

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3	S. Rumpp, Germany		1260 +300 +280
4	A. Bongiovanni, Argen		1260 +300 +276
5	Y. Titov, Russia		1260 +300 +223
51	M. Fantham, W Ch		1214
13	M. Gewain, USA		1260
59	A. Barron, USA		1193
90	Randy Weiler, USA		1121
94	G. McKenzie, Canada		1117
103	P. Allnutt, Canada		1044
105	M. McMahon, Canada		1018
1	Russia	3780	(5 +18 +32 = 55)
	(Yuri Titov, Mikhail Kochkarev, Sergei Makarov)		
2	Austria	3780	(1 +21 +34 = 56)
3	Romania	3780	(10 +24 +27 = 61)
20	USA	3574	
34	Canada	3179	

Overall, the American team scored 59 maxes in their 63 pre-flyoff flights—equivalent to a batting average of .937. That's damned fine flying in anybody's book! Congratulations, team!

Those damned ticks...again!

The *New York Times* Week in Review for July 16 and both *Newsweek* and *Time* Magazine for July 24, 1995 all reported that the deer tick could transmit potentially fatal ehrlichiosis (human granulocytic ehrlichiosis or HGE) and babesiosis in addition to Lyme disease. This should come as no surprise to readers of *FLYOFF*, where these potential maladies were reported more than a year ago in a fine medical article by free flighting medic Dr. Bob Perkins.

We saw Doc Perkins at the USOC in June, and he suggested that it might soon be time to update our knowledge of the deer tick and its avoidance. He reports, "a huge research literature on Lyme disease and an emerging literature on ehrlichiosis, but not much more on ticks per se."

The good doctor adds, "...mentioning ehrlichiosis is important in view of more than 360 cases having been reported to CDC [Centers for Disease Control] since the infection was first reported in humans in 1990—fatality rate 2–10%."

True, that doesn't seem like a lot of cases. But remember that we free-flighters spend a lot more time in tick country than most people. As *FLYOFF* has reported, your editor has contracted Lyme disease twice.

We will keep in touch with Doc Perkins on this matter. But for the meantime we suggest you might want to reread his article "Lyme Disease and the Free Flighter" in *FLYOFF 25*, Spring, 1994, which describes both the tactics and the armament (by brand names) for frustrating the deer tick.

Good News at Galeville! Thank you, AMA

Those who attended the Aug. 5–6 old-timer doings at Galeville are well aware of the major brush-clearing operations that have been taking place since West Point allowed us to proceed—no earlier than Aug.1 so we wouldn't unduly threaten those threatened grass-nesting birds. In all, approximately 200 acres is being cleared in the present project at an expected cost of about $40 per acre. (We haven't got the bill yet, and it will depend on hours as well as acres.) That puts the total bill at about $8000—well beyond the present status of the Galeville Maintenance Fund.

Well, not to worry. At the instigation of District II Vice President John Grigg, the AMA Executive Council has voted to pay $7500 of the cost. This isn't the first time in recent history that the Council has voted to aid free-flighters in improving field conditions. They voted earlier this year to provide $2000 for field improvement at Bill Saunders farm in Cuckoo, Va.

Maybe it just goes to show that the squeaky wheel gets the grease. From time to time, we've had some harsh things to say about the Council and its actions or inactions. This time let's raise our voices in a heartfelt cheer of thanks.

Hip, hip, hooray! Hip, hip, hooray! Hip, hip, hooray!

Santa and the Galeville Maintenance Fund

By Jean Pallet, the Skyscrapers

"Whaddaya want for Christmas/your birthday/Fathers' Day?" If your family is at all like mine, you hear that plaintive perennial plea at every such festive, gift-giving occasion.

And, if you're at all like me, there probably isn't an awful lot that you really do need or want...except engines and accessories and kits and supplies for your hobby. And those you'd rather buy for yourself. So that leaves cash, which, although it never goes out of style, is a rather "cold" and impersonal gift.

Well, this past Fathers' Day the answer came, at least to the Pallet Family, and each gift giver was prevailed upon to make

[Continued on page 8]

Galeville Maintenance Fund, 8/13/95

Previous Contributions	Amount	Balance
Skyscrapers	2664	
Friends of the Skyscrapers	4229	
		6893
Previous Expenditures	-5044	
		1849
New Contributions		
Skyscrapers		
Mal MacLean (6/95)	25	
Andrew Barron (6/95)	50	
Pallet Family (Father's Day '95)	175	
Anonymous (7/95)	100	
Jim Bocckinfuso (8/95)	25	
		2224
Friends of the Skyscrapers		
Tom Ioerger (6/95)	20	
Joel Schwartzman (6/95)	10	
Al Vollmer (6/95)	10	
Brainbusters EFFC Raffle (6/95)	114	
Doc Zabelka (6/95)	40	
Ed Keck (7/95)	100	
AMA pledge (not yet received 8/7/95)	7500	
Paul Citrin (8/95)	25	
		10,018
New Expenditures		
Large area brush clearing and mowing, not yet billed 8/7/95 (est)	-8000	
Current Balance (8/13/95, est)		$2018

Sincere thanks for all contributions. Funds are held in a separate account and are fully reported here. Please send donations (payable to "Skyscrapers") directly to *FLYOFF*. Thank you!

Dumas IV F1C

(The Man in the Iron Mask)

By Bob Sifleet

Dumas is an obvious departure from the classic designs flown by nearly all F1C enthusiasts. It combines three parallel development efforts and a new type of airfoil turbulation. The three-view reveals several features not commonly seen in F1C: Short nose moment, short tail moment, high pylon, airfoiled pylon, airfoiled fin, large semi-symmetrical stab, high-aspect wing (24:1), Perryman-type wingtips, and pinhole turbulation.

Basic configuration

Ten years ago I tried the small-stab/long-tail type F1C models when they were becoming popular in eastern Europe. I found they were, and still are, difficult to adjust, inconsistent in power pattern, and quite sensitive to engine rpm and climatic changes. After two difficult seasons flying that type of model, I decided to backtrack to a previous, quite successful design and improve on it.

The updated Centaur F1C eventually evolved. It has a high pylon to keep the wing out of the propwash, which reduces both drag under power and sensitivity to trim changes. The stab has 20% of the wing's area and a 7% semi-symmetrical airfoil, which helps maintain consistency under power and produces a more stable glide.

The pylon has a 12%-thick symmetrical airfoil and the fin has a 6% symmetrical airfoil. The symmetrical sections have less drag than flat-plate pylons and fins, which commonly have flat-plate stall during side slip—especially with rotating propwash when the engine is running.

These models were easy to trim and were usually quite consistent. Once adjusted they seldom required trim changes. And in several cases, models that had not been flown for 8-10 months flew correctly without any trim changes.

The Dumas series

In 1986 I built a short-nosed engine-in-pylon model to test whether short-nose power models fly better. The model, Dumas I, won a place on the 1987 US team. But, unfortunately, just two weeks before the W/C it crashed due to pilot error.

Research by Paul Gilliam on short-nose configurations of his Civy Boy models showed that the best position of the propeller on a power model was just in front of the wing leading edge and possibly behind the leading edge under the wing. Some other well-known successful models with short nose moments are the Zomby, Gastove, Nig-Nog, Super Nog, Cumulus, and Starduster.

Shortening nose and tail moments will reduce moment of inertia, and it's well known that moment of inertia should be kept as low as possible to maintain high longitudinal stability which, in turn, will yield higher performance.

Data collected and analyzed by Bill Dunwoody some 35 years ago strongly indicated that shorter noses and lower inertial moments helped to increase the duration of indoor HLGs. And in the 1970s Bob Hatschek demonstrated improvements in Nordic glider performance by reducing moment of inertia through shorter noses and tails, larger stabs, and reduced weight in the extremities.

Dumas II also had the engine cylinder enclosed in the pylon in an effort to make the nose as short as possible. Due to a heavy tail boom and stabilizer, however, 70 grams of lead was required in the engine pan to obtain a 68% CG. Although the model was 80 grams overweight, it flew extremely well; during the four years it was used, it only missed maxing twice in 119 competition flights.

Dumas III incorporated Perryman-type tips on the wing and stab to reduce tip drag losses. A pod-and-boom type of fuselage was used to minimize weight behind the CG and to reduce surface area of the fuselage as much as possible. This model balanced without adding weight under the engine; its glide is exceptional for an 80" wingspan and it seems slightly faster than average under power.

High aspect ratio wing

In 1992 I constructed two models with high aspect ratio wings of 105" span. Initial flights and hand-glides from a hill showed promise, but both models crashed due to mechanical problems. This project was shelved until 1994 when a power wing that was partially built in 1992 was completed and fitted to an old Centaur fuselage. This model was quickly adjusted in a 2-hour flying session the day before the East Coast FF Championships. It not only won that meet but also took second at the 1994 USOC.

The model is 40 grams overweight and an assembly misalignment requires excessive stab tilt that results in too tight a glide turn. Despite these flaws, it won third at the Antonov Cup, first in veteran's division, and first at the Weltcup competition. Unfortunately it was damaged on the last flyoff flight and was not flyable at the 1994 team selection finals.

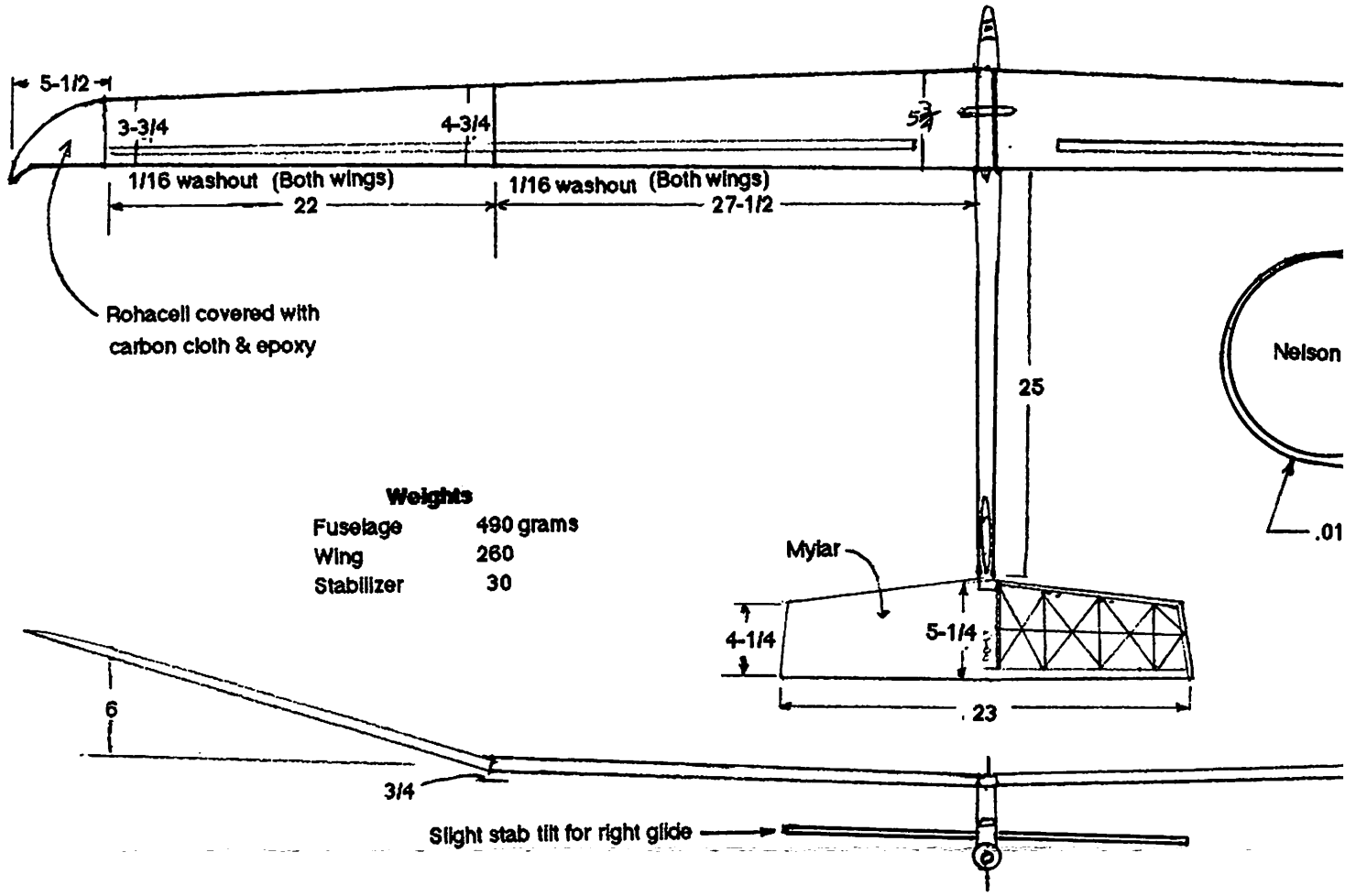
Pinhole turbulation

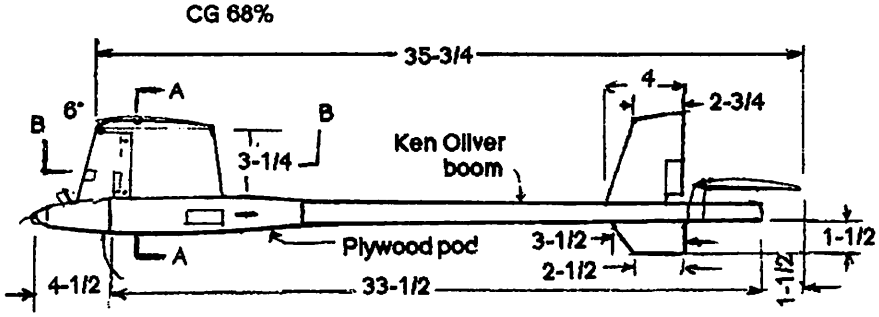
My first exposure to pinhole turbulators was in 1992 while competing in the Antonov Cup at Kiev, Ukraine, where I observed F1A models by N. Micheev of Moscow. I was impressed by the model's performance, but did not then consider application to F1C models.

After reading the article on pinhole turbulators in the NFFS *Digest* last year, I started thinking about possible application to F1C models. Then at the Antonov Cup, N. Micheev won F1B flying a model with pinhole turbulators. On the 7-minute flyoff flight his model climbed higher and outglided all others by a noticeably large margin. Later in conversation, Micheev recommended applying pinhole turbulators on F1C models.

Last fall I built a 24:1 aspect-ratio wing with pinhole turbulators. This wing was fitted to the same fuselage I used last summer. Glide tests were conducted using both the old high-aspect wing and the new wing by gliding each wing three times, then switching wings and gliding three times, etc, etc, and timing each flight. The tests showed an 18% increase in duration! Hand gliding off a hill may not be very accurate, but the results were positive enough to encourage me to build a complete model using the new wing.

Dumas IV was designed to utilize the best features of the models discussed here. Construction was completed in mid-June and initial testing was done just prior to the '95 USOC/Nats, where Dumas IV won second in F1C. One of the earlier models took first in Class A Gas with the meet's high gas time of 1600 seconds.





Nelson .15 engine,
mount & pan.
3° left thrust,
3° down

Dumas Mk 4 F1C (1995)
by Bob Sifleet

FLYOFF 31 / Fall / 1995

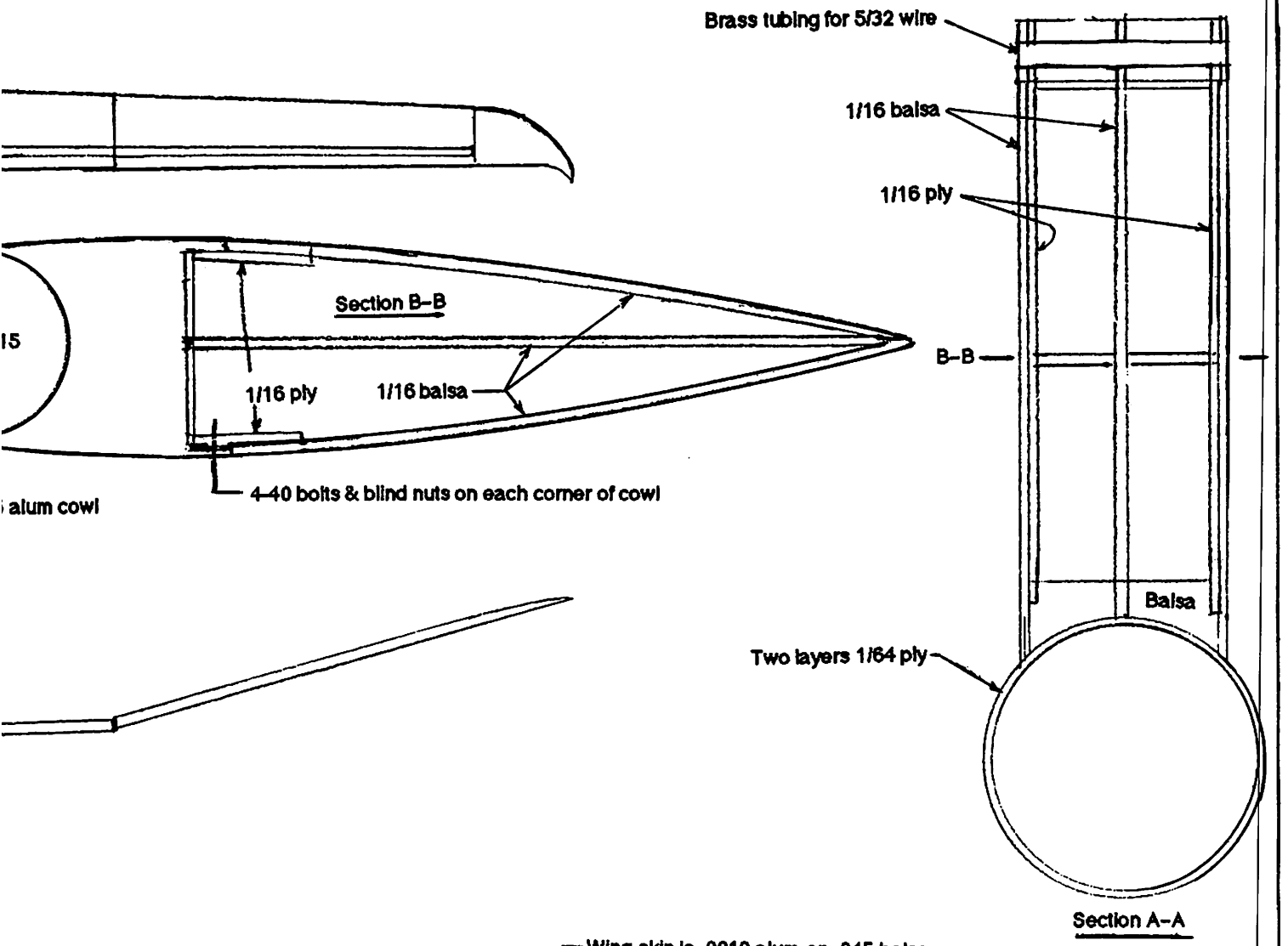
Projected wingspan	109.2"
Wing area	494 in.^{2}
Stabilizer area	109 in.^{2}
Aspect ratio	24:1
Overall length	39.5"
Required weight	7,79 grams

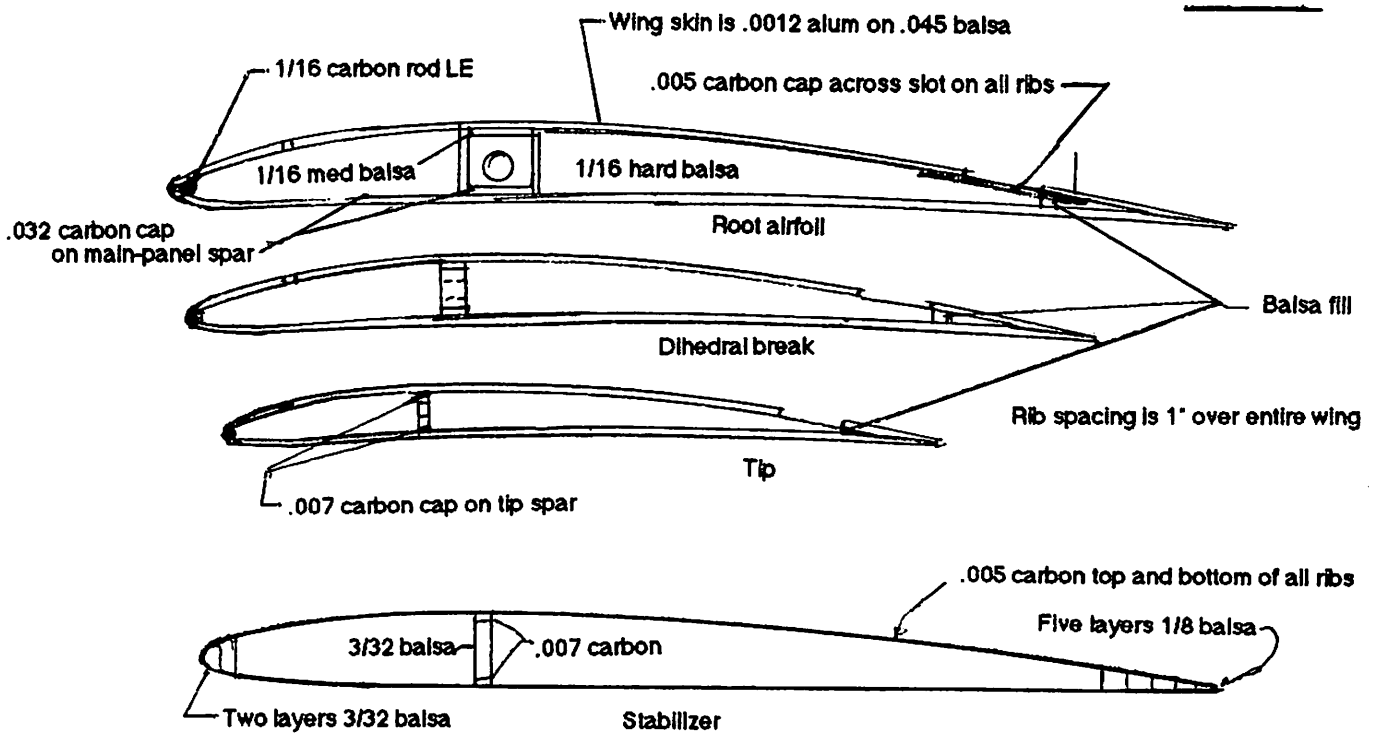
Recommended reading:

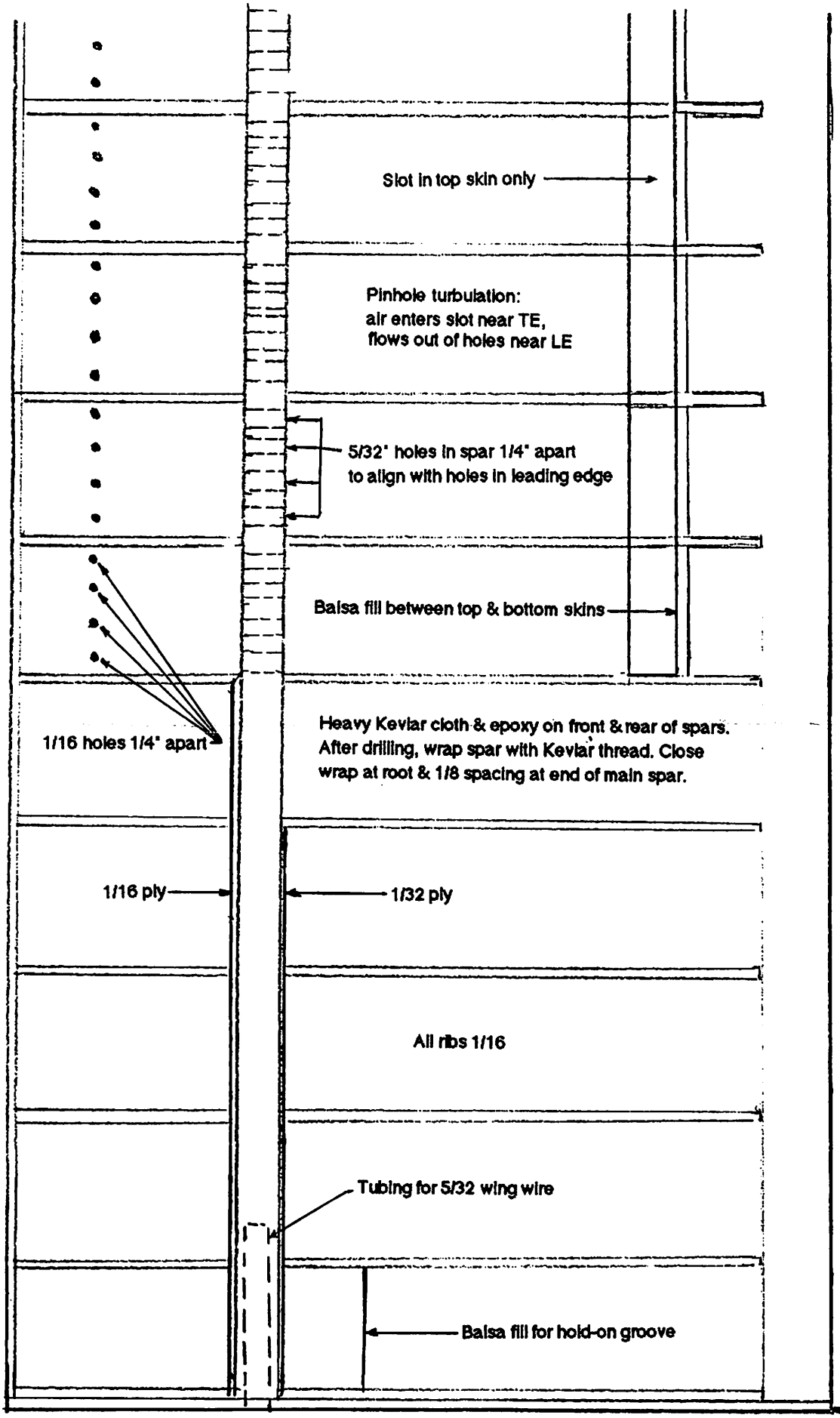
Passive Boundary Layer Control,
by G. Xenakis,
27th Annual NFFS Symposium, 1994

Discussion: Passive Boundary Layer Control,
by Bob Meuser
28th Annual NFFS Symposium, 1995

Criteria for Critical Reynolds Number Design
by Radoslav Breznikar
Free Flight, NFFS Digest, December 1987


Brass tubing for 5/32 wire
1/16 balsa
1/16 ply
Section B-B
B-B
1/16 ply
1/16 balsa
4-40 bolts & blind nuts on each corner of cowl
alum cowl
Balsa
Two layers 1/64 ply
Section A-A


Wing skin is .0012 alum on .045 balsa
1/16 carbon rod LE
.005 carbon cap across slot on all ribs
1/16 med balsa
1/16 hard balsa
.032 carbon cap
on main-panel spar
Root airfoil
Balsa fill
Dihedral break
Rib spacing is 1" over entire wing
Tip
.007 carbon cap on tip spar
.005 carbon top and bottom of all ribs
Five layers 1/8 balsa
3/32 balsa
.007 carbon
Two layers 3/32 balsa
Stabilizer



Wing root plan (shows typical construction)

Dumas Mk 4 F1C (1995)
by Bob Sifleet
FLYOFF 31 / Fall / 1995

Skyscrapers 29th International Challenge,
Galeville, NY, May 27-28, 1995

F1A, B, C flown in four 90-min rounds 12 noon to 6:00 p.m. on Saturday plus three 90-min rounds 8:00 a.m. to 12:30 p.m. on Sunday. F1G, H, J in five 90-min rounds from 8:00 a.m. to 3:30 p.m. on Sunday, May 28.

Weather was reasonably calm, foggy and damp Saturday morning. Clouds lifted in p.m. and weather became sunny, temperature in the 70s until about noon Sunday. Then clouds returned, temperature dropped, and wind increased to an estimated 10-12 mph. Intermittent light rain started after last round (4:00 p.m.). Tornado warnings next day.

F1A

1	AndrewBarron	180	180	180	180	52	180	180	1132
2	Aram Schlosberg	180	180	180	180	35	132	180	1067
3	Kay Fags	133	29	0	180	180	122	180	830
4	RodIoerger	180	180	—	—	100	180	180	820
5	OmerErguner	26	0	41	44	47	0	—	132
6	Bob Sifleet	0	0	—	—	—	—	—	0

F1B

1	Joe Williams	158	180	180	180	210	180	180	1268
2	Jim Brooks	171	163	180	180	210	180	180	1264
3	Vic Nippert	180	180	180	145	210	158	180	1233
4	Ed Pelatowski	152	180	149	180	210	180	180	1231
5	Fred Blom	180	180	180	180	154	147	180	1201
6	Larry Pelatowski	124	180	180	180	210	153	164	1191
7	Bill Buss	85	180	180	154	210	180	112	1101
8	JerryMcGlashan	145	162	150	162	210	163	85	1077
9	Art Ellis	50	180	161	55	210	120	180	956
10	Tom Ioerger	180	102	124	—	—	—	—	406
11	Hank Struck	0	180	70	55	—	—	—	305
12	RodIoerger	103	102	—	—	—	—	—	205

F1C

1	Bob Sifleet	180	180	89	92	155	180	180	1056
	Bob Gutai	—	—	—	—	—	—	—	0

F1G

1	Bill Buss	120	120	120	120	120	600
2	BobHatschek	120	120	120	109	118	587
3	Joe Williams	120	120	94	120	52	506
4	Vic Nippert	120	91	98	99	39	447
5	Doc Zabelka	120	77	78	84	—	359
6	Art Phillips	56	67	72	89	63	347
7	Fred Blom	102	72	43	—	—	217

F1H

1	Jean Pailet	120	62	120	85	80	467
2	Ed Pelatowski	40	49	105	120	120	434
3	Vic Nippert	85	69	82	77	77	390
4	Tom Ioerger	44	120	45	65	72	346

F1J

1	Jean Pailet	95	120	46	120	72	453
2	John Carbone	62	100	58	59	80	359

HLG (German rules)

1	Andras Vig	—	—	60	19	3	20	21	18	31	60	211
2	Vic Nippert	23	34	19	5	17	60	10	19	54	4	209
3	Jean Pailet	20	24	24	20	24	28	15	15	15	18	140
4	Larry Pelatowski	15	16	25	16	32	5	15	3	31	2	135
	Art Ellis	—	—	—	—	—	—	—	—	—	—	0

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Articles: We also seek your contributions (free-flight designs, letters, articles, drawings, ideas, etc). Unfortunately, we cannot pay in any currency other than the gratitude of all *FLYOFF* readers.

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Name_____

Address_____

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[Continued from page 2]
a donation to the Galeville Maintenance Fund in Papa's name. My family expects to make this a regular practice for each future occasion when, "I don't know what I want and there isn't anything I really need." I'll just request that the gift-giver make a donation to the Galeville Maintenance Fund.

My purpose here is to suggest that other *FLYOFF* readers consider doing the same. After all, what better gift for any free-flighter than a good place to fly?

Modeling Tip...from *The Winding Stooge*

By Dick Hawes, Editor

[*Winding Stooge* is the newsletter of the Nebraska Free Flighters. You get 9 issues for $10 to "Nebraska Free Flighters," c/o R.D. Hawes, 9220 N 52 Ave., Omaha, NE 68152— *FLYOFF*]

I suppose everybody else knew this all the time, but I just figured it out. When you have to glue a piece to a part that's already covered with tissue, you should "Scrape away the tissue" to get a good bond to the wood underneath. I could never do that without making a hole or otherwise messing up the covering. Solution: put a little piece of masking tape on the wood before you cover it, then trim around it carefully with a #11 X-Acto or equal, after you dope it, and peel off the tape. Took me 60 years to figure it out.

From our readers

To the Editor,

I've found, when building over plans, that waxed paper is hard to see through and white glue tends to go through it and stick to it. Also Saran wrap sticks to itself, is hard to handle, and white glue sticks to it, too. I like plastic bags, say from the dry cleaner or new shirt packages and the like. White glue doesn't stick, it's clear as a bell, and it's easier to get *flat* on the plan. And good size pieces are not hard to come by.

Chip Smith
Fairfield,NJ

Thanks, Chip, we really appreciate letters with not only a renewal check but also a building tip we can publish.— *FLYOFF*

To the editor,

Am now renewing all my newsletters. Get 7 or 8. Must be a newsletter "junkie," but I do enjoy them and am able to keep up with many of my friends that way. Best regards.

Frank Parmenter
Georgetown, Texas

Comment not required!— *FLYOFF*

To the editor,

Enclosed please find *FLYOFF* renewal check and donation to Galeville Maintenance Fund check.

Thanks for all the head-knocking and detail work involved in trying to build the Contest Calendar. *FLYOFF* is a real bargain with the plans and other goodies. Keep up the good work.

Al Vollmer
West Haven, CT

Thanks, Al. That's a letter we appreciate—with checks.

And all you other readers, please note that Al was one CD who adjusted site and schedule to suit realities.— *FLYOFF*