Established 1936
SKY-SCRAPERS BKLYN NY
AMA Club Charter 470

FLYOFF

Round 25 / Spring 1994

The **SKYSCRAPERS** Quarterly

Edited by Bob Hatschek

What's up? XXV

Neither snow nor rain nor gloom of night...

Following true to the precedent set last year, the Skyscrapers' 2nd Annual St. Valentine's Day Massacre was weathered out by the deepest snow these parts have seen in many a year—along with the February meeting. As this is being written (Feb. 11) it's been snowing about an inch an hour for the past dozen hours, on top of about a 10-in. base here on Long Island. You can bet it's deeper in the lee of the Shawangunk Ridge where Galeville sits.

As you read this first issue of *FLYOFF* 's seventh year (now being written on Mar. 9) the meet has been rescheduled for the day the Sun crosses the equator into the northern hemisphere (Mar. 20, see Contest Calendar inside), the February business has been taken care of, and we are about to partake of our Annual Dinner (Mar. 12). But it seems unlikely that the snow will have melted. The meteorologists are predicting the season's 16th storm by tonight.

One of the events at the Annual Dinner, of course, is presentation of awards for the season just ended. First place in the competitive point totals went to Vic Nippert—who garnered more points than the next two winners combined, in order, Bob Hatschek and Gene Pailet. Those three also won the task of naming the 1993 winners of the Skyscrapers Outstanding Modeler Award and the Royal Order of the Purple Shaft.

Their selections: Outstanding Member is Tom Waddington for his superb stint as club treasurer—or Finance Minister—a job he'd still hold if he hadn't moved to Niagara Falls. And the Shaft goes to Mal MacLean for the restricted range of his tracking receiver—which was switched to the wrong channel.

In memoriam. . .And to the kids!

In 1992, when the Skyscrapers dedicated contributions to the Junior World Championship Team to the memory of former member Mark Valerius, his widow responded, "I think Mark would be very pleased with the Junior Free Flight Team as a memorial."

It's now two years later, we have all lost more free-flighting friends, and a new Junior Team needs our support.

Pete Andrews, Joe Bilgri, and Tom McLaughlan were three good friends of mine. Back in the late '40s, when he learned that I didn't own one, Pete Andrews gave me a micrometer that I still use. In 1959, Joe Bilgri was one of my teammates (Herb Kothe was the other) in winning the World Wakefield Team Championship in France to bring the Alphonse Penaud Trophy back to the USA. And Tom McLaughlan served with me for many years on the Team Selection Committee.

All three were towering figures in the world of free flight, not only as world class competitors, designers, and innovators, and as role models for the less experienced, but also for their contributions to the development of younger modelers.

Gone now, Pete and Joe and Tom can no longer contribute to their own replacements. But we can do it in their names—both to keep alive their memories and to foster the development of younger free-flighters to step into their shoes.

Make out a check payable to "Academy of Model Aeronautics." Be sure to attach a note stating it is **for the Jr. FAI FF Fund and made in memory of Pete and Joe and Tom. And if you have lost some other free flighting friend, do it in his memory.** It's tax deductable, too.

Do it today!

At the King Orange, 1994

By Vic Nippert, The Skyscrapers

Back in September, while we were flying at the Nationals in Muncie, Lee Campbell was passing out flyers to the King Orange Meet in Palm Bay, Fla., and my wife caught me in a weak moment as I was returning from a max.

"What say we go this year?" she asked.

"Sure," I said, temporarily weakened from a long chase and forgetting how much driving was involved. I'm a pushover when near heat exhaustion. Driving home between snowstorms just doesn't register in the conscious mind under those dizzying conditions.

We left Kingston on the 23rd of December, right after my wife finished teaching, and headed toward I-81. If you're heading south there isn't a prettier and less traveled route. After stopping off to visit my parents in South Carolina for Christmas the following day, we headed through Georgia into Florida on I-75.

We must have joined about a trillion tourists heading to DisneyWorld! Traffic on the Interstate was bumper-to-bumper covering both lanes to Orlando! There were occasions when we were stopped cold for several minutes at a time. That's when I remembered how long a drive it was!

We pulled up to our hotel on the beach outside Melbourne late in the evening with a little sanity intact and almost 1500 miles on the odometer. The next few days were spent recuperating, walking the beach, and doing side trips. We visited Kennedy Space Port and were treated to an exceptional art display and more massive crowds! Most of them were commuting to DisneyWorld! We also discovered a very fine hobby shop in Melbourne, Ernie's. If it ain't there, you don't need it!

The flying site at Palm Bay is several miles from the community proper but is still within city limits. Somebody mentioned that Palm Bay is the second largest city in Florida, Jacksonville being the largest. That isn't based on population, but rather on square miles. Jacksonville is claimed to be the largest city in the USA. We commuted from our hotel each

[Continued on page 4]

For 1994, Moffett goes in for P-30U

This year the Skyscrapers Monthly meets will replace P-30U with Moffett. Popular as it is, P-30U just didn't make it into the book; so the club is dropping it with regret. The new Moffett, after all, does have national stature with NFFS rules and a place on the USOC card. And it's more of a challenge than repropping a P-30. You'll find Vic Nippert's Little Miss Moffett in a couple of pages—the second model *FLYOFF* has published for this new class.

1993 Skyscraper Monthly Meet Results

May 2— Reported in *FLYOFF22*
June 20—Reported in *FLYOFF23*

Aug 14 (Calm to light drift, Bill Collish, CD)

HLG		Cat G		P-30	
John Whittles	305	Art Collard	254	Ray Factor	334
Rob Ludwigsen	126	Vic Nippert	240	Vic Nippert	306
R Ludwigsen JR	115	Jo Darling	190	John Barron JR	149
Peter Barron JR	35	Bob Hatschek	89	**P-30U**	
Greg Abriss JR	27	**NosGas**		Ray Factor	328
ABCD		Mal Maclean	360	Art Phillips	314
John Whittles	289	John Whittles	316	**Mulv**	
Clark Darling	240	**PW-30**		Hank Cox	339
1/2A		Bob Langelius	2153	Peter Barron JR	54
John Whittles	345	Alan Abriss	1729	**Moffett**	
Payload		**F1ABCn**		Bob Hatschek	120
PeteFerrara	72	Hank Cox	515		

Sept 19 (Alan Abriss, CD)

HLG		P-30		Payload	
L Pelatowski	198	Vic Nippert	272	Vic Nippert	57
Greg Abriss JR	36	John Barron JR	166	**F1ABCn**	
John Barron JR	30	Hank Cox	101	L Pelatowski	502
Peter Barron JR	29	**Cat G**		**ABCD**	
Mulv		Dick Delinski	156	Dick Delinski	355
Bob Hatschek	360	Vic Nippert	113	**NosGas**	
Peter Barron JR	35	**PW-30**		Mike Cook	237
Moffett		Alan Abriss	1179	**P-30U**	
Dick Delinski	77	Bob Langelius	210	Art Phillips	227
Peter Barron JR	35				

Oct 24 (Dave Acton, CD)

HLG		Cat G		NosGas	
Al Vollmer	113	Al Vollmer	181	Dick Delinski	281
Vic Nippert	82	Art Collard	117	Mal Maclean	120
L. Pelatowski	39	Vic Nippert	93	**PW-30**	
Greg Abriss JR	31	Jo Darling	80	Alan Abriss	746
Payload		**P-30U**		Bob Langelius	273
Bob Langelius	172	Bob Hatschek	360	**ABCD**	
P-30		Art Phillips	55	Mal Maclean	317
Art Ellis	313	**F1ABCn**		Clark Darling	315
Vic Nippert	228	L. Pelatowski	342	**Mulvi**	
J. Schlosberg JR	99	Jack Minassian	109	Bob Hatschek	109

Overall Season Point Scores

See *FLYOFF 4* for point system (10,7,5,4,3,1)

HLG (14)		Cat G (11)		1/2A (3)	
L. Pelatowski	27	Vic Nippert	24	Stew Wolff	10
Al Vollmer	20	Art Collard	17	John Walsh	10
Greg Abriss (JR)	14	Jo Darling	14	John Whittles	10
John Whittles	10	Bob Hatschek	14	**Payload (4)**	
Peter Barron (JR)	8	Dick Delinski	10	Vic Nippert	20
Vic Nippert	7	Al Vollmer	10	Dave Acton	10
Andras Vig	7	E. Pelatowski	7	PeteFerrara	10
Rob Ludwigsen	7	John Carbone	7	Bob Langelius	10
R. Walsh (JR)	5	Dick Delinski	5	**PW-30 (3)**	
R.Ludwigsen JR	5	David Ellis (JR)	4	Al Abriss	30
E. Pelatowski	5	Clark Darling	4	Bob Langelius	27
John Barron (JR)	5	**P-30U (3)**		Dick Delinski	10
David Ellis (JR)	4	Art Phillips	30	**P-30 (7)**	
J.P.Smyth (JR)	3	Ray Factor	10	Vic Nippert	27
ABCD (4)		Bob Hatschek	10	Ray Factor	20
Clark Darling	27	**F1ABCn (5)**		L. Pelatowski	14
John Whittles	10	L. Pelatowski	20	John Barron (JR)	12
Dick Delinski	10	Art Ellis	10	Hank Cox	10
Mal MacLean	10	E. Pelatowski	10	Art Ellis	10
Mulvi (5)		Hank Cox	10	J. Schlosberg (JR)	5
Hank Cox	30	Jack Minassian	7	**NosGas (5)**	
Bob Hatschek	20	**Moffett (1)**		Mal MacLean	17
Peter Barron (JR)	14	Bob Hatschek	10	Mike Chiado	10
Jack Rice	7			Mike Cook	10
Vic Nippert	7	**.02 Repl (0)**		Dick Delinski	10
				John Whittles	7

FLYOFF 1994 FF Contest Calendar for the Northeast, TENTATIVE (As of Mar. 7, 1994)

Any sponsor of a FF meet (unrestricted entry) within 500 miles of New York please contact *FLYOFF*. We will list as many as space allows.

This list is not complete. Some entries are incomplete; others may change. We regret any errors. Contact sponsor to confirm all info.

Dates	Site	Meet	Event guide	Info contact (Phone or send S.A.S.E.)
3/20.....	Galeville, NY.....	St. Valentine's Day Massacre.....	P-30, Cat G, F1G.....	Dave Acton (914/628-0526), RD#3 Box 302, Lakeview Dr, Mahopac, NY 10541
	(Rescheduled from 2/13 due to excess depth of snow)			
4/30-5/1	Culpepper, VA	CAAMA, SAM 10, Balt Aero	A,N,O	Dave Lacey (703/548-9058), 510 Tennessee Ave. Alexandria, VA 22300 .
5/14-15	Petersburg, VA	Brainbuster Spring Meet	A,F,Fm,N,O,+	A. Van Dover (804/877-2830), 112 Tillerson Dr, Newport News, VA 23602
5/14-15	Muncie, IN	Kirkwood Thermaleers (FF)	A,O,N,Fm,	Bob Johannes (314/441-3945), 5117 Silverlake Dr, St Charles, MO 63304
5/21-22	Muncie, IN	Jim & Dale FF Meet	A,N,O,+	Jim Haught (317/378-6879), 4629 East 150 North, Anderson, IN 46012
5/22	Galeville, NY	Skyscraper May Monthly	A,F,N,O,+	Dave Acton (see 3/20, above)
5/28-29	Galeville, NY	Skyscrapers Intl Challenge	2,3 F,Fm,+	Dave Acton (See 3/20 above)
5/29	Westover AFB, MA	SAM 7 Spring Rally	O,N,A	Carmen Botticello (203/568-5733), 30 Bluefield Dr, East Hartford, CT 06118
6/2-4.....	Johnson City, TN.....	USIC.....	In.....	Phil Klintworth (615/484-3192), 936 Lakewood Rd. Fairfield Glade, TN 38555

Dates	Site	Meet	Event guide	Info contact (Phone or send S.A.S.E.)
6/4-5	Wright-Pat AFB, OH	COFFC Spring Meet	A,N,O,Fm,+	Larry Willis (614/745-2327), 10303 Peat Moss Rd, Utica, OH 43080
6/19	Wright-Pat AFB, OH	FFAMS AMA & NosGas	A,N	Marty Richardson (513/236-4058), 7130 Claybeck Dr, Dayton, OH 45424
6/19	Durham, CT	Glastonbury FAC meet	S	Ed Novak (203/238-9066), Cutlery Ave, South Meriden, CT 06450
6/25-26	Galeville, NY	EFFC Championships	2,3, A,F,Fm,N,O,S,+	Bill Poythress (914/246-8850), 2 Hemlock Ct, Saugerties, NY 12477
7/3	Galeville, NY	Skyscraper July Monthly	A,F,N,O,+	Dave Acton (see 3/20 above)
7/3	Westover AFB, MA	SAM 7	O	Tom Lucas (203/875-5293), 18 Burke St, Rockville, CT 06066
7/5-9	Muncie, IN	USOC (incl NFFS NosGas)	2, A,N,F,Fm,S,+	Norm Poti, 244 Hadley Ave, Dayton, OH 45419
7/8-10	Geneseo, NY	FAC Nats	S	Lin Reichel (814/833-0314), 3301 Cindy Ln, Erie, PA 16506
7/9-17	Brandon,	MAAC Nats		MAAC (905/632-9808) or
/9-11	Manitoba	Indoor Events	In	Larry Maltman (204/222-2535)
/13-17		Outdoor FF Events	(?)	
7/16-24	Lubbock, TX	AMA Nationals		Chip Smith (317/287-1256), AMA HQ,
/17-20	"	Indoor Events	In	5151 E Memorial Dr. Muncie, IN 47302
/20-24	"	Outdoor FF events	A,F,Fm,N,+	A. Van Dover (see 5/14, above)
7/23-24	Wright-Pat AFB, OH	CIA OT & NosGas Meet	N,O	Harry Murphy (317/642-7377), 3824 Oakwood Blvd. Anderson, IN 46011
7/31	Westover AFB, MA	SAM 7	O	George Armstead (203/633-7836), 89 Harvest Ln. Glastonbury, CT 06033
(?)	Muncie, IN	IntraCity FAI meet	F	Jerry McGlashan (see 8/27-28 below)
8/6-7	Wright-Pat AFB, OH	NOFFA FF Meet	A,N,O,+	Marge or Warren Weisenbach (216/671-8623), 4568 W 146 St, Cleveland, OH 44135
8/10-12	Gananoque, Ont	SAM 86 Great Grape Gathering	O,N,S,+	Noel Kirby (613/592-5744), 5 Tiffany Crescent,
	(Note: dates are Wed to Fri)			Kanata, Ont, K2K 1W1 Canada
8/12-14	Fayette, NY	25th Empire State FF Champs	A,N,O,Fm,S,+	Brooks Goodnow (315/252-9170), 183 State St, Auburn, NY 13021
8/20	Galeville, NY	Skyscraper Aug Monthly	A,F,N,O,+	Dave Acton (see 3/20 above)
8/21	Galeville, NY	Mid Hudson Modelmasters	A,N,S,+	Vic Nippert (914/382-1967), 6 Douglas Dr, Lake Katrine, NY 12449
8/20-21	Cuckoo, VA	4th Cuckoo Challenge	A,N,O,F,Fm,S,(ROW),+	Bill Saunders (301/593-7196), 11613 Le Baron Terr, Silver Spring, MD 20902
8/20-21	Wright-Pat AFB, OH	COFFC Fall FF Meet	A,N,O,F,Fm+	Larry Willis (see 6/4-5, above)
8/27-28	Gananoque, Ont.	Eastern Canada Open	C,N,F,Fm,O,S,+	Jerry McGlashan (514/695-7415), 170 Fairhaven Ave, Pointe Claire, Que, Canada H9S 4A7
9/3-4	Muncie, IN	CIA Annual FF Champs	A,O,N,+	Harry Murphy (317/642-7377), 3824 Oakwood Blvd, Anderson, IN 46011
9/3-4	Westover AFB, MA	SAM 7 EC OT Champs	O,N	John Stott (203/426-5190), 8 Bradley Ln, Sandy Hook CT 06482
9/11	Galeville, NY	Bath BAM Bash	A,F	Clay Ott (215/837-7757), 6018 Nor-Bath Blvd, Bath, PA 18014
9/11-16	Muncie, IN	SAM Champs	O	Don Reid (613/828-2467), 7 Pinepoint Dr, Nepean, Ont. Canada K2H 6B1
9/18	Durham, CT	Glastonbury FAC	S	Ed Novak (see 6/19, above)
9/18	Galeville, NY	Skyscraper Sept Monthly	A,F,N,O,+	Dave Acton (see 3/20 above)
9/21-24	Palm Bay, FL	Team Selection Finals	F	Jim Bradley (305/277-9132), 1337 Pine Sap Ct, Orlando, FL 32825
10/1-2	Galeville, NY	Skyscraper Fall Annual	2, A,F,N,(ROW),+	Dave Acton (see 3/20 above)
10/9	Westover AFB, MA	SAM 7 Fall Rally	O,A	Jack Whittles (508/255-5920), P.O.Box 1976, Orleans, MA 02653
10/9	Petersburg, VA	Brainbusters Fall Meet	A,F,Fm,N,O,+	Ed Sullivan (804/596-6104), 19 Frederick Dr, Newport News, VA 23601
10/23	Galeville, NY	Skyscraper Oct Monthly	A,F,N,O,+	Dave Acton (see 3/20 above)
12/30 to 1/1	Palm Bay, FL	King Orange Intl	2, A,F,Fm,N,O,S,+	Jim Juhl (407/393-6267), 22911 Ironwedge, Boca Raton, FL 33433

Notes: FF events only. Most meets similar to 1993. 1 = World Cup. 2 = Americas Cup. 3=Selected contest for '95 Team. "Event Guide" codes indicate type of events or source of rules (As: SS Val meet, Cd'H, P-30, HH Cat would list as Fm,A). May not include all such events (check info sources for list). Codes follow: A=AMA gas/non-gas; C=MAAC gas/non-gas; N=NosGas; O=Old-Timer gas/non=gas; S=Scale; F=FAI (F1A,B,C); Fm=FAI mini (F1G,H,J); In=indoor; +=Special added events.

[Continued from page 2]
day and used some of the main roads, having no trouble at all.

[Note: Some years ago we heard the same about Oklahoma City—three times between the airport and downtown—from the cabbie, a hotel bellhop, and another whose identity is now lost in the dim recesses of the past. – the Editor.]

It's hard for most of us to picture an open area 2 x 4 miles and flat as a billiard table, but there it is. The site is an abandoned housing development that has all the roads in place along with drainage ditches and bridges over them. If you get too complacent, there are several swampy areas, canals, and stands of palm trees to make retrieving a challenge.

The major difference between the drainage ditches and the canals is the size of the critters. If any alligator or water moccasin that you meet is over 6 feet long, it means you're in a canal! In all fairness, we never saw or heard of any scary meetings from the modelers during the meet, even though the fellows who use the field regularly told us of some "hairy" encounters at other times of the year.

[Note: What the locals told us a few years back—in the field adjacent to the housing development—was, "Don't worry about snakes; the alligators have et them all." the Editor.]

Our only heart thumping time came at the end of the second day of flying when Tena and I found ourselves the last ones on the field, alone at sunset, and were trying to get to the only exit from the field in failing light. The field is like one of those Victorian garden mazes—with many streets ending in cul-de-sacs or looping around on themselves. There are no markings at all to help you if you take a wrong turn!

One of the things you can count on is that the weather always knows when a model meet is scheduled. For three days prior to the meet, the weather was balmy and decidedly tropical. Guess what. . .

Friday, Dec. 31. The first day was sunny with temperatures in the 70s and the air had a lot of booming lift until about 2 o'clock. Then the winds from the northeast really started moving through. The air got really streamlined with very little lift. That's when I decided to fly hand-launch

[Continued on page 8]

Galeville Maintenance Fund, 3/9/94

Previous Contributions	**Amount**	**Balance**
Skyscrapers	2554.00	
Friends of the Skyscrapers	3527.00	
		6081. 00
Previous expenditures	—4002.19	
		2078.81
New Contributions		
Skyscrapers	00.00	
		2078.81
Friends of the Skyscrapers		
William Fox (1/94)	25.00	
		2103.81
New Expenditures		
None as of 3/9/94	— 0.00	
Current Balance (2/19/94)		$2103.81

Sincere thanks to all donors. We welcome additional contributions. Funds are held in a separate account, and a full accounting is published here. Please send donations (payable to "Skyscrapers") directly to *FLYOFF*. Thank you!

Little Miss Moffett

By Vic Nippert, the Skyscrapers

This ship was designed and built in a few weeks before the 1993 Nats in Muncie. My usual philosophy is always to complete one or two models the night before a major competition so that I have something to blame my poor showing on! True to form, our little Moffett entry was completed the night before we left, with the dope still drying when I chucked it into the carrying box. The day before the meet I was able to trim it out in just four flights before clouds and wind made me tuck it away for the next day.

That next day dawned with wind and some overcast causing the meet officials to move the take-off site upwind into a depression below the usual flight line, which caused some problems with timing. As it was, the ship made the three 2-minute flights, 3-minute round, and the 4-minute max—but we couldn't go on because the timer couldn't see the whole 4-minute flight due to the ridge line interfering with her line of sight. Next time we're going out there with a bulldozer and get rid of that blankety-blank ridge!!!

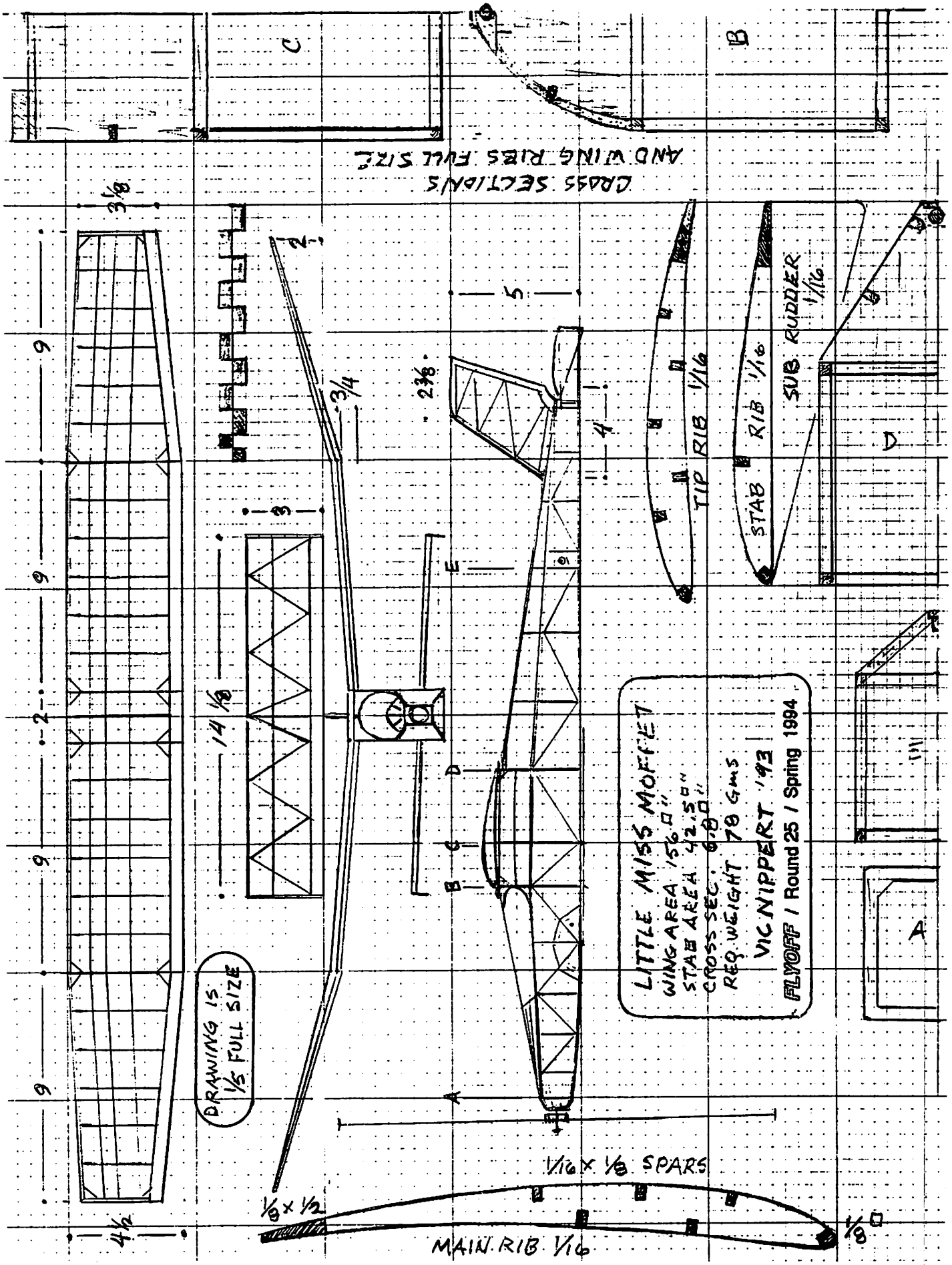
[Editor's Note: The model placed fifth, which was still pretty good going in Nats competition. And FLYOFF had already requested the article on the previous day—on the basis of good looks alone and long-time confidence in its designer. – the Editor]

Due to the special requirements of the Moffett event, it took me a little extra time to cook up the design. The fuselage cross-section—mandatory in the rules at $L^2/150$ (Length squared divided by 150)—is a throwback to the early days of the Moffett trophy. The maximum total area of wing plus stab of just over 200 sq. in. puts the model in the Coupe d'Hiver size range, with which I'm familiar. And the weight was to be 80 grams without rubber. So the big challenge was to deal with that fat fuselage! I chose to fair in the cross-section with a shape that was attractive and streamlined rather than going fully functional as some others have done. It took me at least six drawings before I was completely satisfied with the looks of the thing (I'm an artist, not an engineer!), but I think the ship is both attractive and practical to build. Several people have asked me for the plans, so I guess others like its looks, too.

I used some time-proven components in the design: A multispar wing with a good old NACA 6409 airfoil, a Champion Coupe prop with a Simplex Mini front end. The fuselage uses hard 3/32-in. square longerons and hard 1/16 x 3/32 uprights and cross-pieces for the basic structure. The formers were from medium-hard 1/16. The stabilizer is a bit too rugged, but I wasn't sure how much pressure I would be putting on it during the mandatory Rise Off Table launch—which gives new meaning to the term, "This ship ROTs!" My advanced design snap-up take-off gear was fashioned from a 3/32-in. bamboo barbecue meat skewer and a piece of brass tubing soldered to a wire arm that pivots in a piece of aluminum tubing epoxied to a reinforced fuselage cross-piece.

Flight trim is right-right with some amazing acceleration at the beginning. The motor is made up of 30 grams of 1/8-in. Tan II—14 strands with about 2 in. of slack—and it easily takes over 700 turns.

The only future change I plan for this design is to increase the diameter of the prop—probably going to the same prop that Bienenstein uses on his Bandit design. I think this would give the ship more efficient use of the 700+ turns available in the normal motor run and result in even better performance—probably in the 5-minute range.


CROSS SECTIONS AND WING RIBS FULL SIZE
C
B
A
D
E
TIP RIB 1/16
STAB RIB 1/16
SUB RUDDER 1/16
LITTLE MISS MOFFET
WING AREA 156.0 in²
STAB AREA 42.50 in²
CROSS SEC. 6.00
REQ. WEIGHT 78 GMS
VIC NIPPERT '93
FLYOFF / Round 25 / Spring 1994
DRAWING IS 1/2 FULL SIZE
1/16 x 1/8 SPARS
1/8 x 1/2
MAIN RIB 1/16
1/8 D
3 1/8
3/4
2 3/8
1 1/4
1 1/8
4 1/2
9
5
4
3
2
1

Lyme Disease and the Free Flighter

By Robert L. Perkins, MD

Ticks and the infecting organisms. Ticks inhabit almost all outdoor locations used by free-flighters. Risks of serious human infections transmitted by tick bites include Lyme disease, spotted fever, Ehrlichiosis, babesiosis, and other less common diseases. Each of the infectious organisms involved has selectively adapted to specific ticks which are distributed in certain broad geographic areas. The infected ticks must also feed on intermediate hosts indigenous to the areas, such as the white footed mouse and the white tailed deer. As a result of the unique relationships of infecting organisms, local ticks and intermediate hosts, a bite in Wisconsin may lead to Lyme disease, a bite in Nantucket may result in Lyme disease and babesiosis, and a bite in North Carolina may cause spotted fever.

Where are the ticks? In the USA, small nymphal forms of ticks (1.5mm or less) are found on grass and other low vegetation from early May to July. When brushed onto a human foot or leg, the infected nymph may migrate to a dark, remote skin area, attach, feed, and transmit the infectious agent. Adult ticks (up to 5mm) are found on grass, brush, and other vegetation at the height of a human knee or thigh during all warm months and in some locations in lesser numbers throughout cooler periods.

Avoiding tick contact and attachment. Occlusive clothing, such as a long-sleeved shirt with a snug collar, long ankle-banded pants or pants tucked into socks, and closed-toe shoes, lessen the opportunity for tick contact but are not completely effective. Walking on cleared trails away from brush reduces exposure. Careful body search, including skin folds, belt line, nape of neck, and scalp, promptly after exposure and again in 24 hours, is extremely important in order to remove ticks before attachment and feeding. Remember that nymphs are small and difficult to see or feel. Wash all clothing suspected of tick exposure.

What is the best tick repellent? Preparations which contain 0.5% permethrin (sold as aerosols: Coulston's Permethrin Tick Repellent; Duranon Tick Repellent; and Permanone) quickly kill all life stages of ticks on contact, but the aerosol is intended for application to clothing and not to skin.

Repellents which contain 5% to 30% N,N-diethyl-m-toluamide (DEET, sold as OFF or Deep Woods Off), or DEET in combination with hexanediol (sold as 6-12 Plus) applied to clothing and/or skin provide an estimated 90% protection. However, about 40% of the DEET applied to the skin is absorbed into the circulation and has potential toxicity if used excessively. Repeated spraying of children with DEET, even in low concentrations, may cause severeadverse reactions. Formulations with 75% to 100% DEET (Deep Woods Off —Maximum Strength; Jungle Formula; and Muskol) must be used with caution even by adults, if at all by children.

A 14-second spray application of 0.5% permethrin to clothing has been shown to provide 100% protection and kill all Lyme disease nymphs and adult ticks on contact compared to 86% to 92% protection and no tick kill by 20% to 30% DEET. In addition, permethrin persisted in an active form on clothing for 4 weeks even after three detergent washings. Skin absorption of permethrin is low and no toxic reactions have been reported.

Used as a clothing repellent, permethrin is the single best tick deterrent. The overall best tick protection may be a combination of DEET to exposed skin and permethrin to clothing.

How to remove an embedded tick. Be ready for splinters and ticks. Buy a small pair of pointed forceps for the toolbox now. Disinfect the bite site before and after tick removal. Grasp across the embedded tick mouthparts firmly with the pointed forceps as close as possible to the site of skin attachment and pull away perpendicular to the skin with steady, even pressure. If forceps are unavailable, a tick can be removed with fingers shielded by tissue paper or rubber gloves. Squeezing too firmly may inject infected saliva or feces like a mini-syringe. Save the tick for identification of species. Do not handle the tick with bare fingers. Forget the use of alcohol, fuel, oil, vaseline, nail polish, cigarettes, matches or other irritants since none will detach a tick and may cause injection of saliva or feces. A group of compounds called formamidines, which induce tick detachment in minutes, is currently undergoing research for that purpose.

Infection risk after a tick bite. Risk of Lyme infection after a bite is dependent upon whether the tick was infected and the duration of tick feeding. Careful examination of an attached nymph or adult tick with a hand lens by a professional can provide an accurate estimate of feeding time, based on visibility of gut details and

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What? A medical article? In *FLYOFF*?

By Bob Hatschek

I've been chasing free-flights for more than half a century—across all kinds of terrain, both rural and urban; all over the USA and Canada, and on two other continents as well. I've flushed pheasants and rabbits and deer and kangaroos. I've been lured by "broken-winged" quail and harried by red-winged blackbirds. I've detoured around watchdogs and skunks and rattlesnakes. I've calmed cattle and armed farmers with shotguns. I lather myself with sunblock. I wear long pants and tuck them into my boots or socks or canvas leggings. At night I check my body for parasites. In all that time, I've never caught anything worse than poison ivy.

Until last year—when I was diagnosed with Lyme disease.

I had many exposures but no ticks I could remember. I never developed the classic bull's-eye rash (or it was on a part of my body I cannot see). I didn't feel particularly ill—just a bit more tired than usual, and a little achier in some of my joints. But I figured the fatigue was my age catching up to me, and the sore knees and elbows were a touch of gout (which I knew I had).

Early in the flying season I went for my semiannual physical (my doctor checks regularly on my hypertension, gout, asthma, diverticulosis, and other old men's infirmities not related to model aviation), and I mentioned the fatigue and stiffness. Because he knows I chase model airplanes and because the soreness was in several different joints (not concentrated in one like gout), the doctor sent a sample of my blood for a Lyme test—and it came back positive. He prescribed a regimen of oral antibiotic—and, lo, the symptoms disappeared.

Later in the season, sharing R&R in a Muncie bar with the Central Ohio Free Flight Club's Doc Perkins, the subject came up—and he agreed to squeeze his crowded schedule to do the accompanying article for *FLYOFF* on what every free-flighter should know about Lyme disease. Thanks, Doc!

configuration of the usually translucent tick body. But do not delay tick removal for such professional assistance unless it is readily available. Transmission of infectious Lyme organisms to the host has been estimated to occur at the rate of approximately 5%, 50%, and 100% of bites after 12-24 hours, 48 hours, and 96 hours active feeding, respectively. Clinical disease in the human body may not result in all such cases, particularly if the feeding tick was an adult. Regardless, the message is: remove ticks as soon as possible and always within 24 hours. Less risk data is available regarding transmission of most other tick-borne infections, such as spotted fever, but similar principles apply.

Lyme disease. Lyme disease is the leading tick-borne infection in the USA. More than 9600 cases were reported in 1992, and 50,000 cases from 1982 through 1992 involving 48 states. More than 90% of the cases occurred in northeastern coastal states, the upper Midwest, and northern California—the same distributions as the tick vector. Many of the reported cases from other states reflect travel to endemic areas. Three to 31 days after a tick bite, 60% to 80% of infected humans develop a red, expanding target-like skin rash called erythema migrans ("red, migrating") at the bite site. The target rash is the diagnostic clinical hallmark. However, more than 50% of patients with proved Lyme disease fail to recall a tick or bite and some of the same patients fail to develop erythema migrans. The organism disseminates widely from the bite and/or rash site throughout the body and may establish secondary skin lesions and infection of multiple joints, the heart, and central nervous system. The disease process may develop acutely or chronically with multi-organ system involvement in stages. The early stage, days or weeks after the bite, is limited to the local skin infection and flu-like symptoms. The early disseminated stage, after weeks to months, may involve the heart, eyes, or nervous system with findings such as Bell's palsy and meningitis. The late disseminated stage, after months to years, involves chronic inflammation of the large joints, the central and peripheral nervous system, the eyes, and the skin. The three stages can overlap and can also occur independently.

Lyme disease diagnosis. The clinical diagnosis must be based on combined findings, including the classic skin rash and a history of tick bite or exposure in an area endemic for Lyme disease. Supporting laboratory tests may be useful but must be interpreted by the most experienced clinicians. The causative organism can be cultured from biopsy tissues and body fluids as proof of the diagnosis. A small number of patients may develop disease without rash and also have negative laboratory tests using commercially available testing methods, in which case the diagnosis must be based on other clinical features and in some instances high-tech research studies.

Treatment of Lyme disease. Antimicrobial drugs are effective against the bacterium of Lyme disease, but the specific choice of drug, the dose and the route, intravenous or oral, and the duration of treatment must be based on a number of considerations: 1) child or adult, 2) pregnant or not, and 3) stage and extent of disease. Although doxycycline, erythromycin, penicillin G, amoxicillin, and ceftriaxone have all been used to treat all stages of acute, chronic, or relapsing Lyme disease, published guidelines strongly suggest that very specific choices must be made to ensure favorable outcomes and cures for the following stages of infection, including: 1) early Lyme disease, 2) carditis, 3) nervous system infection, 4) arthritis, and 5) any stage associated with pregnancy. A highly trained physician should make the treatment choices for severe and complicated forms of Lyme infection. A few dependable principles of treatment have evolved at this point. Early treatment of early Lyme disease definitely helps prevent development of the later stages and doxycycline may be superior to the other oral drugs in that regard. Treatment failures may be more common in general with erythromycin. Involvement of the heart and central nervous system require prolonged intravenous treatment. Arthritis may require similar prolonged intravenous therapy or prolonged oral doxycycline.

Use of antibiotics as a preventive after tick bites is common but controversial, with only modest supporting data and negative connotations in the form of low cost-effectiveness and adverse reactions. However, many practicing physicians feel compelled to prescribe an antibiotic for prophylaxis.

Who to consult for special Lyme disease questions. Always consult your private physician. If necessary, request additional opinions or information from a private infectious diseases subspecialist, the nearest university-based Infectious Diseases Division or Section, your city or state Health Departments, or the Centers for Disease Control.

[References available on request. Send SASE to *FLYOFF*]

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[Continued from page 4]
glider. I think my longest flight was about 37 sec. Way to go, Nippert!

We spent New Year's Eve with Ray Factor and his lovely wife and Al Vollmer with his charming bride at a Chinese restaurant in Melbourne. The all-you-can-eat buffet was outstanding. All of us went back at least for thirds. Afterward, the Factors let us borrow their cassette tape of Vance Gilbert to listen to. He's an excellent scale modeler and we run into him at FAC meets all the time. He's an excellent singer and performer, too, as demonstrated on this tape. I laughed at his tribute to the Volkswagen Beetle and enjoyed his ballads, too. Writes all his own material and I believe he has an album coming out on a major label.

Saturday, Jan. 1. Now it was overcast with light rains off and on and rising winds from the southeast. Gusts were over 20 mph at times. Since it reminded me of Galeville, I was stupid enough to try and fly six events! Yes, I did it with the aid of my moped and some delicate arm-twisting by my wife and Bob Gutai and Andrew Barron. Flew the last flight at 4:55, just 5 minutes before the day's flying ended. While returning from several long chases, I found myself musing at how much torture a few sticks of balsa and tissue could take. Here I was, riding into a wind of 20 mph (gusting higher at times), doing 5 or 10 mph on the moped, holding a fragile rubber model against my chest, hoping the poor thing wouldn't disintegrate in its soggy condition. Somehow all of my models survived, but I saw a couple of models rip apart in their owners' hands during the retrieve or when they were about to be launched. This evening we were last on the field. What a way to start the New Year!

Sunday, Jan. 2. It poured through the night and we had to move the launch site several times until we wound up in the southwest corner of the field and flying finally started around 10:30 a.m. amidst showers. I had hoped to get started northward by noontime, and so flew hurriedly to get going. I was ready to bag a couple of events, but the sun came out and the winds dropped to mere zephyrs and we wound up flying till almost 2:00 o'clock. Then, shaking hands and saying goodbye to our new and old friends, we set off to chase a developing nor'easter up the coastline toward home.

We arrived home on the afternoon of Jan. 4 after 1200 miles and fighting through freezing rain and snow.

This morning, whilst digging out from our latest big snowstorm, I'm almost sure I heard some whimpering from the direction of our camper. A sub-audible voice kept repeating, "Florida...Florida...Florida...." Must have been snow madness!

[Note: When Vic penned the above, just after returning, he didn't know how well he'd done. "King Orange," he said, "is so laid back that they don't use any visible score sheets and don't hand out any awards until the end of the meet." Latest issue of the FMA Newsletter reports that Vic took the following: 1st in Coupe, A1 Glider, OT Commewrcial Rubber, Embryo, and No-Cal Scale; 2nd in Payload, P-30, HLG, and FAC OT Rubber; and 3rd in Cat Glider, and OT Rubber Cabin. In all, Vic flew 14 events. Oh, yes, they also gave him the Ironman Award. Do you wonder why? The Editor.]

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