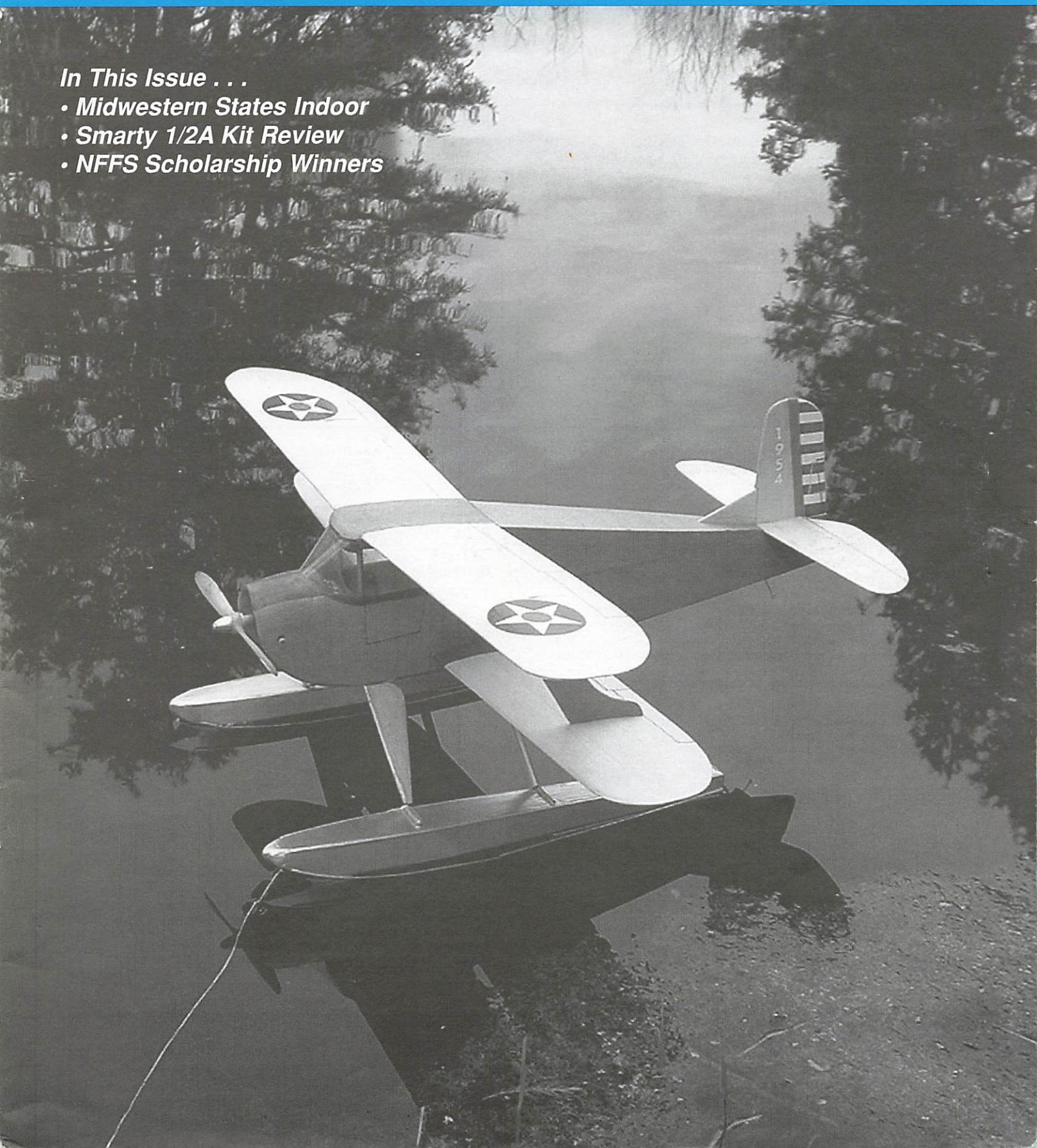
VOLUME XXXVIII, NUMBER 6 JUNE 2004

FREE FLIGHT

THE NATIONAL FREE FLIGHT SOCIETY DIGEST



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- *Smarty 1/2A Kit Review*
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FREE FLIGHT
The National Free Flight Society Digest
Volume 38, No. 6, June 2004

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On the Cover. It's not every day you see a Dakota Bipe like this one, and it is a jewel. The model was constructed especially for the Dakota time/target event at the 2004 Muncie Nats. Until then, identity of the builder must remain under wraps, at his request. It's not too late for you to order a Dakota kit from BMJR and participate in this fun event. (Photo by the builder.)

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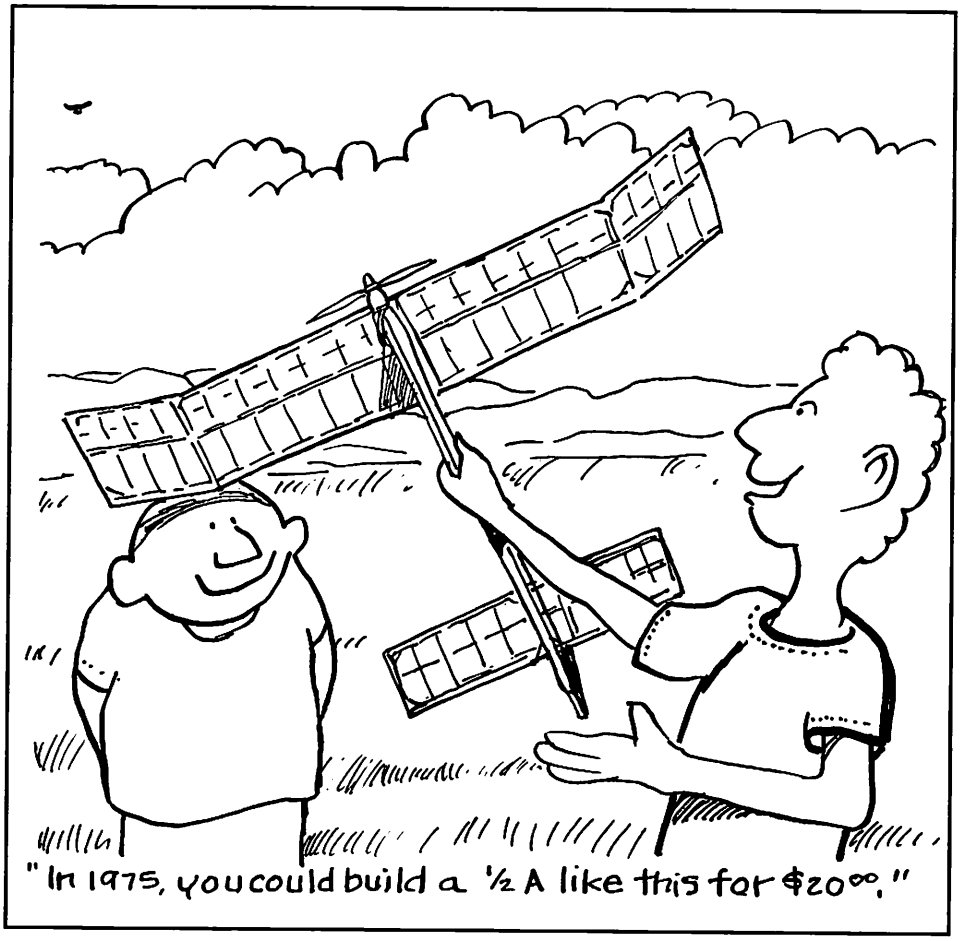
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— From the Editor —



'Times, They Are a Changin'

It comes as no surprise to say that, with the rest of our globe, our free-flight world is shrinking. All you have to do is look at contest reports in *Free Flight News* or *SCAT Electronic News* to quickly discern that our free-flight society has become as mobile as has society in general. Look at the listings and you will see contestants from far corners of the globe.

When you can jump on a jet and, in a matter of hours, have it deliver you and your model box to a contest halfway around our world, the scope of model aviation, in geographical terms, has indeed become smaller.

This goes to say the same can apply to *Symposium,* the premier publication of our society. Over the years, the 37 productions of *Sympo (counting 2004)* have been well supported by the international free-flight community, in purchase of editions and especially in submission of numerous papers of significance. But the editorial reins have remained within the geographic confines of the U.S. of A. That is "A'Changin'."

Next year's edition of *NFFS Symposium* will come under the guidance of Mike Woodhouse, a British modeler of premier international stature. He is well known to anyone who has set foot on contests in England, Continental Europe, or even the Southwest Regionals in Arizona and the annual Max Men at Lost Hills, where Mike is a fixture.

Mike has represented the Crown on some 10 teams. And he says, in fact, he possibly sees as many U.S. modelers at contests than he does his own countrymen.

A retired accountant, Mike is also well known to the international community through his four decades of providing a premier source of those "little fiddly pieces," ranging from various thicknesses of Mylar to that carbon sock that, plopped onto a length of music wire, makes a pristine spar.

Thank you, Mike, for quickly responding in the affirmative to take on this formidable task of service to free flight. And thanks to June, Mike's wife, for her blessings and support of his accepting the job

I am convinced that Mike will not spare the exertion (delicately placed though it may be) in securing input from the global free-flight community to ensure yet another outstanding *Sympo.*

Make no bones about it, we owe a titanic debt of gratitude to anyone who takes on the job of editing a *Sympo.* Show your appreciation for Mike Woodhouse's efforts by being a Sympo patron, or by writing a paper!

Oops! Lost in Translation

We experienced a snafu in crediting the design of one of the Argentine Nostalgia models recently approved by the NFFS Nostalgia Committee.

The El Narico, a 1/2A-size model presented in April 2004 *Digest* (pp. 20-21) was actually designed by Cesar Altamirano, not the person named on the plan. *Digest* apologizes for the error..

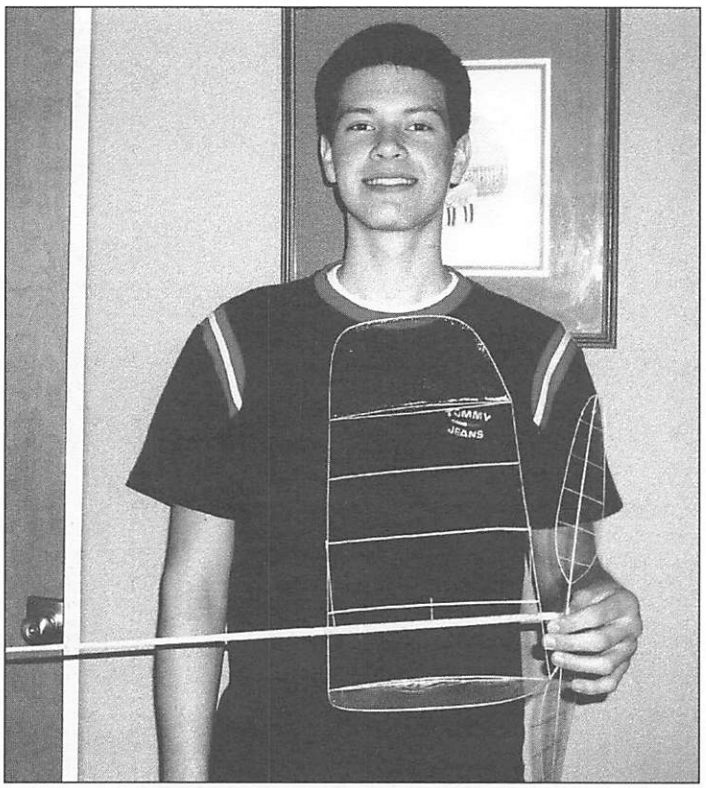
Busy Days Ahead

As we head into the meat of the contest calendar, plans are under way to provide max coverage of some major events for *Digest.*

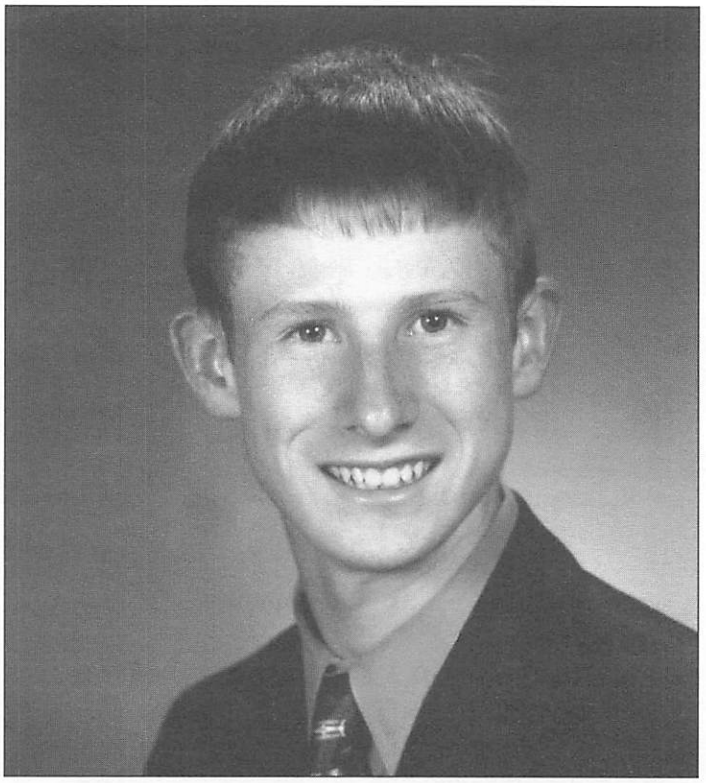
Next up: the U.S. Indoor Champs in Johnson City, which will have concluded by the time you read this.

Covering for *Digest*: former world F1D champion John Kagan. His report is scheduled for the July-August issue, one of the combined numbers for 2004. □

Schaefer, Avallone Win NFFS Scholarships



Doug Schaefer (Lewisburg OH) is reigning Jr. F1D indoor champion. He plans to study aeronautical engineering at Purdue or physics at MIT.



Michael Avallone (Grand Rapids MI) will again represent the U.S. in F1A at the Jr. World Champs. He plans to study pre-med at Marquette University.

Ed Lamb *Bellevue WA*
Chair, NFFS Scholarship Committee

Ed Wiley, NFFS Education chair, and the Scholarship Committee [Ed Lamb (Bellevue WA, chair), Larry Kruse (Lawton OK), Chuck Markos (Deerfield IL) and Blaine Miller (Orlando FL)] are pleased to announce NFFS scholarships winners for 2003-2004.

Douglas M. Schaefer (Lewisburg OH receives the Joe Guylas Scholarship Award of $3,000. Joe Mekina is his sponsor, and he has letters of recommendation from Joe Mekina, Walt Van Gorder and Fred Tellier.

Doug's impressive accomplishments began at age 12 with Science Olympiad competitions. His experience progressed rapidly through Easy-B, Penny Plane, Mini-Stick and F1D by the following year. In the F1D national team trials, he was actually leading the entire contest in the first day of competition. He placed first in the Junior Division at the U.S. Indoor Championships and went on to the World Championships in Slanic-Prahova, Romania. At the World Champs, at age 15, Doug became the Junior champion and posted the second highest time of 36:12, only 3 seconds behind Jim Richmond's winning time. He has been an active and successful competitor in indoor events, with every indication that he will continue to do so.

Doug's academic record is excellent; he is a straight-A student, with a 4.0 GPA. He is involved in marching band, playing the tuba, is an active member of the Boy Scouts of America and participates in school outreach programs.

After he graduates from high school in May 2005, Doug plans to major in aeronautical engineering at Purdue University, or study physics at MIT.

Michael Avallone (Grand Rapids MI) receives a $2,000 scholarship. An NFFS member since 1999, Michael has letters of recommendation from Joe Williams and Brian Van Nest.

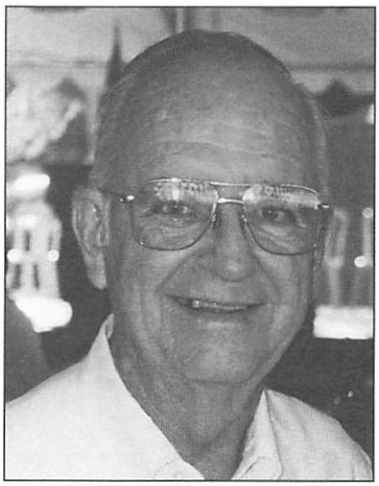
Michael's first free flight was a simple indoor rubber powered duration model, which he built at age 13. At this age, he was designing his own indoor models and began building and flying P-30s. A year later, he was flying P-30, hand launch and catapult gliders, F1G and F1A. Lately, he has specialized in F1A.

Michael qualified for the U.S. World Champs Junior team in August 2002. This past year, at age 17, he again made the team, so he is looking forward to the trip to France.

Michael's academic record is excellent: He is also a straight-A student. He plans to enter Marquette University this fall to study pre-medicine. □

— The President's Column —

Rex Hinson *Inverness FL*



Whether attending a contest, or heading out test flying, we take support equipment, and hopefully all of the model components we intend to fly. But we often leave behind the most important item of all: Safety!

We do an infinite number of things that are potentially dangerous. Here are just a few that come to mind. Any could prove disastrous. I'm sure that all of you could add to the list.

At Home. Have you ever cleaned a dope a brush by leaving it soaking in an open container of thinner or acetone on your workbench? Do you . . .

. . . *use* a soldering iron or small torch near the above or near containers of dope or glue?

. . . *use* a grinder without wearing safety glasses, or near an open container of solvent?

. . . *drop* solvent-soaked or oily rags in the trash?

. . . *paint* or *dope* in an area that has poor ventilation?

. . . *hold* a metal or wooden object in your hand while drilling a hold in it?

, , , *make certain* the CA glue goes only where you intend it?

. . . *spray-paint* indoors, especially in the vicinity of a gas hot water heater?

. . . *have* a serviceable fire extinguisher of the correct type near your workbench?

Traveling to the flying site. When packing your vehicle, and before you leave home, do you . . .

. . . *place* model components so they don't block your view to the rear or to the sides while driving?

. . . *leave* items untethered that could fly forward in event of a sudden stop?

. . . *pack* fuel in the same box with your starting battery and tools? (This is especially dangerous if battery terminals and tools are exposed so that a tool could short the battery and set the fuel on fire).

. . . *have* safety chains connecting your motorcycle trailer to the tow vehicle?

. . . *make certain* your trailer lights are in good working order?

Flying site safety failures. Some of the most common violations of common-sense safety practices include:



• Setting up to fly in a location that is not the minimum distance downwind from vehicles or spectators.

• Using a damaged propeller rather than quit flying.

• Failure to give power model propellers and surging engines their due safety consideration.

• Careless management of glow plug leads while starting the engine.

• Using a poorly anchored rubber-model stooge.

• Failure to wear hearing protection around engines.

• Riding your chase bike through a crowd, and failure to observe other traffic or obstructions while trying to keep an eye on your model.

• Riding chase bike while looking up at the model and not observing other traffic or obstructions.

We are doing our fellow fliers no favors when we (1) fail to point out a safety problem to others; (2) don't accept safety criticism openly; (3) permit the CD to skimp on enforcing flying safety.

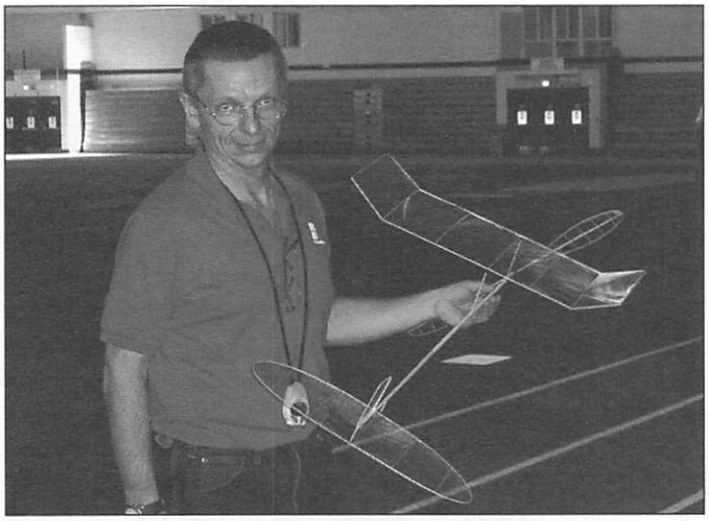
The NFFS Board of Directors has established the position of Safety Director and committee reporting directly to the board. Dick Covalt (Anderson IN) has been appointed to this new position and will be working to help all of us become more safety conscious. Lets all give Dick our support.

Fly Safely and don't forget to sign-up at least one new NFFS member this year. □

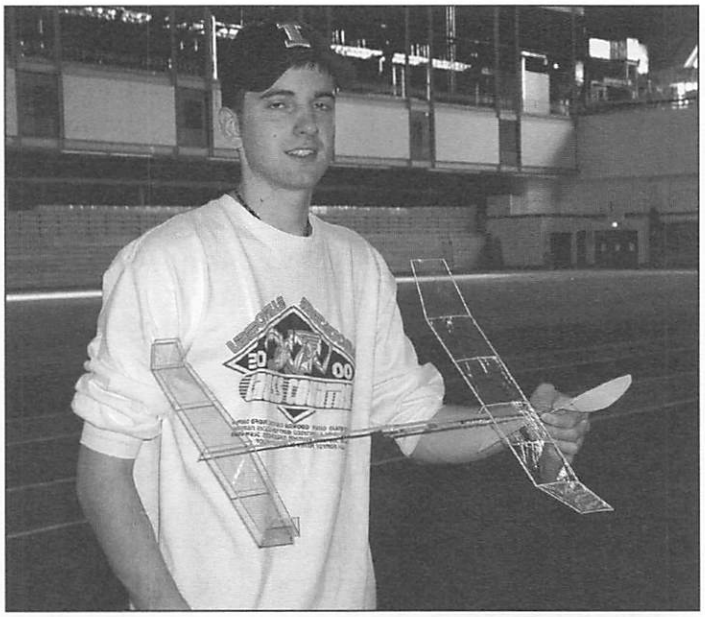
Contest Report

Midwestern States Indoor Championships

Bob Warmann *Elmhurst IL*
Contest Director



Tom Sova (Sylvania OH) with his winning F1D. He won four events and repeated in winning the Joe Stanton high-point award. (Pics by Chuck Markos.)



Geoff Bower (Mt. Prospect IL) with his original F1L. He's a 3rd year U of Illinois student and was the 2003 recipient of the Joe Guylas NFFS scholarship.

The Chicago Aeronuts Midwestern States Indoor Championships date back to the early 1970s. Contests were held each year in National Guard armories in Chicago. Following the 1987 contest, the Aeronuts lost the armories as sites, and the club had to shelve the event due to lack of a suitable site.

Fast forward 15 years, to 2002. The University of Illinois provided a suitable site at its Champaign-Urbana campus, in the ROTC Armory. This contest's Grand Champion trophy was a donation by Joe Stanton, former proprietor of Stanton's Hobby Shop. Dennis Jaecks was the first winner, in 1974. In 2002,

Top Three Finishers at Midwestern States Indoor Champs

Std. Cat Glider (9 flew)
Bob Warmann 136.2
Kenneth Krempetz 127.3
Kurt Krempetz 126.8

Unl. Cat Glider (6)
Bob Warmann 134.3
Kenneth Krempetz 127.6
Kurt Krempetz 105.9

HL Glider (4)
Bill Gowen 63.7
Kenny Krempetz 45.5
Kenneth Krempetz 32.0

Pennyplane (6)
Tom Sova 13:59
Bill Gowen 13:38
Steve Richman 10:46

Ltd. Pennyplane (12)
Tom Sova 13:00
Bill Gowen 12:46
Earl Brockmeier 12:07

Ministick (8)
Bill Leppard 9:35
Tom Sova 9:16
Geoff Bower 7:55

A6 (6)
Bill Leppard 7:22
Tom Seva 7:00
Bob Warmann 5:21

Wright Stuff "B" (3)
Juston Young 4:14
Ryan Moy 2:24
Laura Grace 2:06

Wright Stuff "C" (3)
Doug Schaaefer 5:53
Brett Sanboprn 5:42
Eric Kato 2:24

Bostonian (4)
Chuck Markos 307.40
Bob Moulton 263.32
Ed Konefes 228.15

No-Cal (2)
Ed Konefes 9:51
Bill Leppard 8:45

F1L (7)
Bill Gowen 32:13
Bill Leppard 31:33
Tom Sova 29:25

Int. Stick (1)
Bill Leppard 17:43

Easy-B (7)
Jim Richmond 21:49
Tom Sova 19>52
Bill Leppard 15:52

F1D (4)
Tom Sova 51:01
Geoff Bower 37:54
Jim Richmond 32:30

ROG Stick (1)
Tom Sova 12:25

Joe Stanton Perpetual
Tom Sova 23
Bill Gowen 18
Bob Warmann 13

Stuart Weckerly was the first grand champion at Champaign. Tom Sova was the top gun in 2003 and became the first repeat winner at Champaign by taking top honors this year. Tom won with three firsts and two second places in his five designated events.

Saturday flying (April 3) began at 8 a.m. and was limited to gliders for three hours. Standard Catapult was the most contested of the events. Atlanta's Bill Gowen was the only contestant in Hand Launch, flying a model designed for a strong arm. Catapult gliders being hand launched made up the other entries. Unless there is more interest in this event, it may be dropped in 2005 and glider flying time reduced.

The remainder of Saturday's flying was restricted to AMA classes (Pennyplane, Limited Pennyplane, Ministick and Bostonian) and a few non-AMA events (A6. No-Cal and S.O. Wright Stuff). The day also featured four mass launches.

Limited Pennyplane was the most hotly contested event. Tom Sova won, with Bill Gowen only 14 sec back. The same pair finished first and second in Pennyplane with Gowen 21 sec back.

The top two in A6 and Ministick were Bill Leppard and Tom Sova. Leppard topped Sova by 32 sec in A6 and 19 sec in Ministick. Jim Richmond lost a Ministick on top of a support girder near the roof. The model wasn't visible from the floor and retrieval attempts failed.

Chuck Markos' winning Bostonian was the type of model Don Lindley envisioned when he fostered the event's rules; a cabin model resembling a full-sized aircraft. Ed Konefes won the No-Cal competition with a Chambermaid Racer.

Justin Young won Wright Stuff "B" with 254 sec; Doug Schaefer won "C" with 353 sec. Brett Sanborn won both "B" and "C" mass launches.

The Double Whammy mass launch is a traditional Aeronut event. The CD supplies each contestant with rubber from the same batch and with the same cross-section and length. This and the Delta Dart event are now one-design contests, with same prop and rubber used on each entry. The winner then should be the contestant who best matches rubber/prop combination to the aircraft.

Rubber used this year was the Chinese Tru Torque from Tim Goldstein, which performed well. Motor length was 30 in. and cross-section (.086 x .037 in.). Kurt Krempetz got the most out of the rubber. He also won the Delta Dart mass launch.

Sunday's flying also started at 8 a.m. Drift this year seemed to be much worse at this site. Air movement above 70 ft was in a south-to-north direction, moving flights along the length of the site. This required a great deal of steering to avoid the air-conditioning and heating systems and associated ductwork. Hangups terminated many potentially good flights.

F1D competition resulted in only four flights exceeding 20 min. Thanks to some excellent steering, Tom Sova won the event. His first flight was 26:46; the second, 24:15. Geoff Bower put together flights of 20:03 and 17:51 for second place.

Jim Richmond's first flight of 24:36 was an excellent start. But he got a nasty break on his second. when the model struck a rope tied back to the balcony just as his variable pitch-diameter prop folded and it hung up. This terminated the flight at 7:54. The propeller was damaged on retrieval.

Bill Gowen won F1L, with a fourth flight of 16: 22 and a sixth of 15:51. Bill Leppard, who had posted second and third flights of 16:10 and 15:23, forced Gowen to fly all six flights for his win. Steve Richman had one flight of 16:10, but failed to get a second good flight to improve his total.

F1L, with seven fliers, is becoming one of this contest's most popular events. On the other hand, ROG and Intermediate Stick each had only one entry: Bill Leppard in Intermediate and Tom Sova in ROG.

Easy-B had a total of seven fliers. Jim Richmond put up a beautiful flight of 21:49 to take first place. Tom Sova took second place with a time of 19:52. Richmond's Easy-B was a little different than the conventional: Only one tip of the horizontal stabilizer turned up, with no other vertical stabilizer. (Don't recall if it was the left or right tip that turned up 30- 45 deg, with the remainder of the stab being flat. When asked for his reasoning, Richmond replied that's all the model seemed to need. Knowing him, I am sure there is more to it than he implicated by this simple reply.

The 2004 contest was great! It was the most successful of the three held in Champaign. It attracted contestants from IL, IN, MI, OH, KY, LA and GA. Thanks to all contestants, Gregory Krol (Assistant CD.) the Chicago Aeronuts, AMA and The University of Illinois for making it all possible.

We are already planning next year's contest, and we would appreciate any input regarding format and events that might increase interest and participation. Suggestions made could possibly be incorporated next year. Let's hear from you. Contact Bob Warmann, 245 N. Oaklawn, Elmhurst IL 60126-2522. Phone (630) 834-9075. E-mail < bandswarmann@mynex.net> □

U.S. Indoor Champs

Digest has arranged for a major feature on the U.S. Indoor Championships at Johnson City TN. Look for coverage of this 5-day event in the July-August issue. John Kagan, former F1D champion, will report the action.

Kit Review

Southland Models' 1/2A Smarty

Bob Stalick *Albany OR*
Nostalgia Editor at Large



Ex-NFFS president Bob Stalick, with his recently completed Smarty. He opted to make Smarty a Pee Wee 30, with good results. (Bob Stalick photos)

When Walt Rozelle offered me a kit for the Smarty, an early 1950s model, I was interested in it, even though the design was unfamiliar to me. The good part of the deal was that I would get to build the model and keep it. But in return, I had to do a kit review for the *Digest*.

Time went by and by, and it took no time at all for me to forget my pledge. In the meantime, I took on the responsibility of the Publications Services Dept. for NFFS. So, I kept busy. Then, one day, a nice package arrived in the mail. It was the Smarty. Walt had kept his end of the deal, now it was my turn.

The Kit Itself. In looking over the kit box, I was impressed with how small it was. It was full, and typical of 1950's style free-flight kits, it was also packed with goodies. The balsa wood was die cut (some of it pretty clean, some not so clean). The wood selection was very good for a kit from this period, so it was undoubtedly manufactured by a modeler.



The plans were well drawn, but the details are sketchy and a bit archaic in places. A small package is included which contains the wheel, some plywood and wire parts. The kit contained yellow silkspan, but only enough to cover the wing and stab if you are careful and made no covering mistakes.

What Category? After this quick review, my decision was to determine which category I wanted to build the model to fly in: Early 1/2A Nostalgia, 1/4A Nostalgia or Pee Wee 30. The model has projected span of 29-1/2 in. and wing area of about 150 sq in. Although the plans show a Wasp .049, I surmised that it might be better suited to .020 power. Since I have several .020 Nostalgia models and only one Pee Wee 30, I decided to build Smarty as a Pee Wee. However, I believe it would make an excellent 1/4A Nostalgia model, and would probably be a nice model for 1/2A Early Nostalgia as well.

Initial Stages. After punching out all of the parts (some of which needed some help with a #11 blade), I lined them all up and did some finish sanding to get them ready for use. I also checked all of the strip wood for straightness and strength. A couple of spar pieces failed the test and required replacement. I checked the pylon and wing and stab tips, which are from die cut 3/16-in. balsa, and sanded them down a bit, then I decided to lighten them by cutting away a good portion of the inside of each of the tip pieces (see picture). This lightened each piece by half. I also cut two chunks out of the pylon so that the part inside the fuselage looks like a fat letter "M". This reduced the pylon weight by 3 grams and still left enough material to glue the formers into place.

I also measured the pylon incidence and noted that it had 3/16-in. built in, I decided to reduce this to 3/32-in. by cutting away the bottom leading edge of the pylon so that it tapered to zero at the back of the pylon. This would, I surmised, eliminate the excessive



The author provides another view of Smarty. At 150 sq in., the design is a tad small for standard 1/2A Nostalgia, but would make a dandy 1/4A.



Unusual Pee Wee engine is from Cox RTF helicopter. It has few of the quirks of the tank-mounted Pee Wees, plus a 128-thread/in. needle valve.

loopiness under power that such a high angle of wing incidence would cause.

At this point, I followed the instructions on the plans and built the wing and stab. For the DT system, I replaced the wire system illustrated on the plans with a simple false rib arrangement one inch on either side of the fin, to which I'd install hold down hooks after covering. I also built the firewall to accept a 2-wheel landing gear as specified in the PeeWee 30 rules.

C.G. Location? Construction is straightforward, but the plan shows no C.G. position. Interestingly enough, the instructions say that the model should be test flown and weight added to the nose (or tail) until it climbs and glides correctly.

The plan recommended no change in incidence angles. However, I wanted some clue as to a starting point for the C.G., so I did a bit of calculation and determined that a good starting point for the C.G. would be at 75% (this places it about 1-1/8 in. forward of the wing TE).

Covering, Finishing. After construction was completed, I decided to cover the model with yellow Japanese tissue, of which I have plenty. After predoping the structure, I covered, watershrunk and doped the tissue with three coats of nitrate.

I then applied my AMA numbers, NFFS decal, and ID information sheet. I mounted the engine, fastened the eyedropper tank in place, added small finishing nails for wing hold downs, etc. *["LFPs"—Little Fiddly Pieces—as my OFB Bill Baker calls them—Ed.].*

I then balanced the model, and found it was behind my targeted 75% C.G. mark. So I tried different wheel combinations and decided on a pair that weighed 10 grams. They served to get the C.G. right on the mark. Note: Subsequent testing suggests that a better C.G. location is at 70% (1.6-in. forward of the wing TE).

After the wheels were installed, I fuel-proofed the fuselage and wing center section with some clear Hobbypoxy and set the model aside to cure.

Test Glides, Flying. Now it is time for some hand gliding in the proverbial tall grass. Fortunately, I had some tall grass since I haven't mowed the lawn in awhile. The model stalled on every glide, so I added some nose weight (U.S. pennies attached with CyA). Then I tried adding some stab tilt to induce a glide turn. After two pennies and about 1/32-in. tilt on the right side of the stab platform, glide leveled out.

Smarty sat in this condition for about three weeks until I had a chance to test fly it. On the last weekend of April, the Strat-O-Bats club was holding its annual RAGG meet at Harts Lake Prairie, so OFB Jack Shafer and I headed north to Ft. Lewis WA.

Smarty was the first plane out of the box. A test glide showed it seemed the same as at home, so it was time for power flights. The first flight was loopy, so I

Original Smarty Kit

The early-1950s Smarty kit, produced by Southland Models, Greensboro NC, is available from Richard Harding, 4400-H Rucker Blvd., Enterprise AL 36330. Phone (334) 347-6925. Cost: $30 for one; $50 for two, postpaid.

added some right rudder tab and a bit of right thrust, which cured that problem. But the model was still stalling in the glide. After a bit of fiddling, I increased the stab tilt so that I had nearly 1/16-in. of packing on the right side of the stab mount. This settled the model out, and it really began to perform.

I found that the model takes a bit of a push at the launch to get it up to flying speed, then it really climbs well, making about 2 turns climb during the 15 second engine run. Transition to right glide (average for a 110 gram model) is good .

Suggestions. I think this model may be better suited to a Cox TD 020 since this engine has more power than the PeeWee I was using. That would get it moving faster at the initial part of the climb.

Kit instructions call for the model to be flown right/left, and I think it might be wise to give a left glide a try. I built the wings totally flat on the board, and then trimmed to model to fly right/right, which is the way I trim all of my models. However, a left glide circle might solve some of the problems I had with stalling in the glide.

It would be easy to build this model from the kit and keep the weight down to the PeeWee minimum of 100 grams. Mine was over by 6 grams with the heavy wheels, then the nose weight added another 3+grams. Building the tail a bit lighter and using lighter wheels would be all you'd need to bring this model in at the required weight.

It has been a long time since I have built a model from a kit, and I had forgotten just how easy it could be. This kit is really pretty well done, with decent wood selection and reasonable die cutting. I only replaced a couple of pieces of strip wood, and I lightened the wing and stab tip pieces and the pylon to save some weight.

Engine. If the PeeWee engine in the photo looks odd to you, that's because it is the one that Cox produced for its RTF helicopters. It comes with a large round plastic backplate that contains the needle-valve assembly but no tank.

I have several of these engines, and I simply cut the backplate to size with a razor saw. These engines have nearly none of the problems associated with the tank-equipped PeeWee engines, and the needle valve has 128 threads/in., which simplifies engine adjustment.

Attaching a fuel line is also a snap, since the engine has a fuel pickup nipple. Check your local collecto or MECA Swapsheet for these engines. □

Nats Update

Don't Forget the Special Events and Other Functions

Besides the plethora of events listsed on the official schedule for the upcoming AMA/NFFS Outdoor FF Nats, a number of other events taking place during Nats week deserve your attention. They include:

• **Starduster-X.** Following the exceptional support of Bill Vanderbeek's one-design event last year, Kim and Steve Bruno stepped forward and volunteered to sponser a Starduster-X event at this year's Nats. Here's the deal:

(1) No entry fee for the event, on Tuesday, Aug. 3. Just show up with your model, register and fly.

(2) Rules will be the same as for the event last year: Nostalgia flight guidelines, stock Sal Taibi Starduster-X model. Power by Cox TD .049-.051 is OK

• **Zero.** Toshi Matsuda's classic high-thrust design is this year's selection for Vanderbeek's one-design event. A kit is available from BMJR. The Muncie event is scheduled for Thursday, Aug. 5. Nostalgia rules, including engine power, apply.

• **Dakota Bipe.** Set for 3 p.m. on Thursday, Aug. 5, this is a time/target event. As you'll note from the subject of this issue's cover, some are not taking this event lightly. Show up in the area just west of AMA Field HQ and enjoy the fun.

• **Swap Meet.** Thermal Thumbers of Metro Atlanta have volunteered to run a swap meet on Tuesday, Aug. 3, in the tent behind Field HQ. Proceeds will go to the NFFS Scholarship Fund. Show up at 4:00 p.m. with some of your treasures, rent a table and enjoy the fellowship while making a contribution toward the fund.

• **NFFS Banquet.** If you haven't made your reservation for this Wednesday night (Aug. 4) affair at the downtown Convention Center, you can do so Monday or Tuesday by dropping by the NFFS tent. Cocktails are at 7:00 p.m., and the dinner begins at 7:45.

• **Night Flying.** While we oldsters are downtown at the Wednesday night banquet, Lee F. Campbell will again host Jrs. and Srs. to a session of night flying. Show up at 7:00 p.m. for a couple of hors of fun.

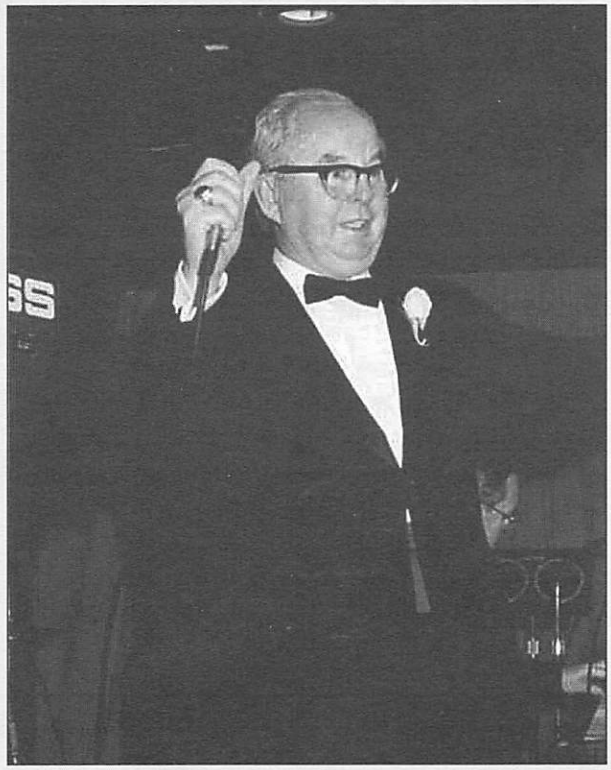
• **Texas Timers/NFFS Cookout.** This late-afternoon event is a highlight of Nats week in Muncie. Arranged and hosted by Texas Timers' Hank Nystrom, the Thursday is always well attended. Come to the big tent behind AMA Field Headquarters.

Scholarship Raffle. A feature of the cookout is the raffle of donated items, with proceeds going to the AMA Scholarship Fund. Send your raffle items to J.P. Kish, NFFS membership chairman, 22 Pine St., Homosaassa FL 34446. And buy your raffle tickets from J.P. during Nats week at the NFFS tent.

Bill Gibbons , RIP

(1925-2004)

Jerry Murphy *Manitou Springs CO*
Chairman, FF Contest Board



I had the pleasure of Bill's friendship for more than 30 years: we traveled to many contests around the world, built many models and retold the same jokes. I am lucky to have had him in my life for so many years

Bill was a true war hero, husband, father, successful businessman, friend, traveling buddy, mentor, and coach. In WW II he survived 50 missions over Europe as a B-24 tail gunner. He was shot down once but managed to come home.

In the business world he worked his way up from outside sales to owner. His people skills and management insight made this possible. He could sort out complex issues and derive a solution.

Once, Bill and I were planning to attend the USFF Champs at Taft, but I was busy at work and I told him that I didn't have time to get a new model ready. Bill offered to build one for me. We worked up a design and he built it.

When it was finished I asked what we should name it. He suggested "Gertrude," because it was a thing of beauty, and it was happy flying free. Gertrude was his first wife who died at an early age. I won F1A at the 1991 NATS with a later version of Gertrude. Bill launched every flight for me and helped with chasing in the wind that day.

Bill was truly a Magnificent Mountain Man. His contributions to free flight are recognized around the world. Bill served as the District IX representative on the FAI team selection committee and was its chairman. In this role he built a strong relationship with AMA which still benefits us all.

Bill led the way to establishing the Gollywock event, which has become an international contest staple. He copied the plans, added notes for his trimming information and other hints that enabled so many to enjoy this great airplane.

His management skills helped secure for our club one of the finest U.S. flying sites. Bill envisioned the July 4th 14-round FAI contest, which will mark its silver anniversary this year. *[It has the reputation as the toughest FAI contest around: In the contest's long history, only two contestants have maxed out.—Ed.]*

Many of us have benefited from his mentoring and advice to increase our level of competition. Bill was indeed a competitor: He won the MMM club's annual championship more times than anyone.

Bill is well respected by those in our world of aeromodeling who knew him. Former world champion Bob White called from California as soon as he heard of Bill's passing. He got the news from Australia's David Anderson!

Of all the messages, Ken Phair captured the feelings of the MMM community when he said in his message, "May N830 ride thermals in peace!"

Bill has a special place in our household. When you visit, you can't help but notice that our guest room has a plaque on the door declaring it is the William T. Gibbons Suite.

Bill, you remain in our hearts and prayers. N830, we hope you fly long, and fly free of pain and suffering. □

Nats Contestants vs. Advance Entries

Bob Perkins *Columbus OH*
Chair, NFFS Competitions Committee

Little detailed information has been published about entries at the AMA/NFFS USOC Nats. But in 1998 Phil Sullivan developed NFFSGate, a Microsoft Access-based program that makes processing and management of Nats data virtually routine.

NFFSGate derived entry data for the 2002 and 2003 Nats, where Chuck Markos and Bob Perkins, respectively, were CDs. The accompanying tables show entries in individual events vs. numbers who actually flew, with similar information for the events grouped by general categories. For events that were scheduled with age groups combined, data are broken out for Junior, Senior and Open entries.

Results. Comparison of event-by-event data for the 2002 and 2003 Nats shows surprising consistency of entries and flying from year-to-year, with only a few differences likely approaching statistical significance.

Events in either 2002 or 2003 with the lowest percentages of entrants flying included OT 020 Replica (29%), OT Rubber Cabin (31%), Early 1/2A Nostalgia (31%), and AMA A Gas and CD-Classic Gas (both 32%). Highest percentages were in AMA C Gas (77%), Moffett (80%), Electric B and Scale Gas (both 100%). Excluding FAI, most events ranged 43-60% of entrants who actually flew.

Of individual events in either year with large numbers of entries (35 or more), the highest percentage of entrants who actually flew was in Moffett (72% and 80%), and in Outdoor Hand Launch and Outdoor Catapult Glider, ranging from 64% to 77%.

2002 AMA-USOC Nats: Number who Flew/Number who Entered[1]

AMA Events	Jr.	Sr.	Open	%Flew	
1/2A Gas		3/4	3/3	22/41	55
A Gas		--	--	12/38	32
B Gas	--	--	16/37	43	50
C Gas	--	--	17/22	77	
D Gas		--	--	9/19	47
ABCD Gas		1/1	2/4	--	60
1/2A Cl. Gas	--	--	22/43	51	
AB Cl. Gas	--	--	21//37	57	48
CD Cl. Gas	--	--	9/28	32	
Moffett	--	--	28/35	80	
Mulvihill	10/21	0/0	28/50	54	59
P-30	16/24	3/4	41/67	62	
Dawn Unlim.	1/5	0/1	14/32	39	
Cat Glider	14/23	5/7	44/58	72	
HL Glider	16/21	6/9	28/35	77	74
Electric A	--	--	7/11	83	
Electric B	--	--	6/8	75	68
CO2 Unlim.	--	0/1	10/11	83	
F1K CO2	--	0/1	8/9	80	
Payload	1/1	0/1	8/16	50	
Cargo	--	0/1	7/13	50	50
Peanut Scale	--	--	6/11	55	
Rubber Scale	--	--	6/11	55	54
Gas Scale	--	--	3/6	50	
FAI Events					
F1A	8/12	1/2	14/19	70	
F1B	1/1	1/1	21/26	82	76
F1C	--	--	10/13	77	
F1G	6/8	0/2	40/52	74	
F1H	5/7	1/3	12/18	64	69
F1J	3/3	2/2	13/23	64	

NFFS/USOC Events	Open[2]	% Flew	
1/4A Nos Gas	20/46	43	
1/2A Nos Gas	31/70	44	
A Nos Gas	22/48	46	
B Nos Gas	20/47	43	45
C Nos Gas	19/39	49	
Early 1/2A Nos Gas	17/35	49	
Ign. Lg and Sm Nos	6/16	38	
Nos Rubber	8/17	47	
Nos Wakefield	6/11	55	50
OT ABC Cabin Gas	7/16	44	
OT ABC Pylon Gas	9/24	38	35
OT 020 Replica Gas	10/35	29	
OT Rubber Cabin	8/26	31	
OT Rubber Stick	16/33	48	41
OT Cat Glider	12/31	39	
OT HL Glider	18/28	64	51
Super D Gas	9/19	47	
Pee Wee 30 Gas	10/20	50	45
1/2A T-Bird Gas	15/36	42	
Jetex	10/18	56	56
Jimmie Allen	6/11	55	55
A-1 Event	11/33	33	33

Total Contestant Events Entered, 2002 Nats = 1,621
Total Contestant Events Flown = 880 (54%)

[1] Data breaks out Jr., Sr. and Open entries from combined age groups in each event.

[2] All NFFS/USOC entries were Open except one Sr. in OT Cat Glider, OT HL and OT Rubber Stick, plus four Sr. in A-1; none flew.

The general category with the highest percentage of entrants recording flights was FAI, about 70%, with four of the six events equaling or exceeding that percentage in both years. Electric and CO2 categories generally had high participation rates but total entries were relatively modest.

Totals of all AMA-FAI event entrants that actually flew in 2002 and 2003 were combined and compared to the combined totals for USOC entrants. The overall percent of AMA-FAI event entrants that flew was 60% (1,153 of 1,920) and for USOC events was 47% (591 of 1,261).

This may have to do with the relative lack of participation by Juniors and Seniors in USOC categories, except for Special events—in which a few young people entered but none flew.

Comments. The percentages of 43-60% for entrants flying in most non-FAI and non-glider events might seem low for a Nats. But those numbers likely reflect hopes and plans of those who entered the biggest contest of all: They intended to fly and compete in as many events as possible, limited only by the time available, their physical endurance, good judgement and luck.

Summary. Using NFFSGate to maintain and analyze a succession of Nats free flight entry data allows each oncoming CD and Management Team to respond as needed to changing trends and interests of participants.

Adjustments called for by the data may range from none to minimal tweaking of the events schedule (adding, deleting or combining events, making changes in age groups, revising arrangements for registration and processing, or improving safety features).

Also, since Nats experiences reflect in many ways the evolution of U.S. free flight, the impetus for rules change proposals may arise from the data. □

2003 AMA-USOC Nats: Number who Flew/Number who Entered[1]

AMA Events	Jr.	Sr.	Open	%Flew	
1/2A Gas		1/3	6/6	16/35	52
A Gas		--	--	10/31	32
B Gas	--	--	15/31	48	50
C Gas	--	--	14/22	64	
D Gas		--	--	12/20	60
ABCD Gas	0/0	3/5	--	60	
1/2A Cl. Gas	1/1	4/4	20/45	50	
AB Cl. Gas	--	--	13/39	33	41
CD Cl. Gas	--	--	7/20	35	
Moffett	--	--	28/39	72	
Mulvihill	7/15	2/6	35/49	63	56
P-30	10/23	5/11	31/62	48	
Dawn Unlim.	2/7	0/3	14/26	44	
Cat Glider	15/26	9/15	45/65	65	
HL Glider	17/25	8/15	26/40	64	64
Electric A	--	--	5/6	83	
Electric B	--	--	3/3	100	89
CO2 Unlim.	--	--	4/8	50	
F1K CO2	--	--	3/5	60	54
Payload	--	--	9/17	53	
Cargo	--	--	5/11	45	50
Peanut Scale		--	--	6/10	60
Rubber Scale		--	--	4/8	50 62
Gas Scale		--	--	3/3	100
FAI Events					
F1A	5/12	5/7	20/22	73	
F1B	1/3	6/9	19/24	72	74
F1C	--	0/1	10/11	83	
F1G	8/9	3/6	35/47	74	
F1H	5/12	2/3	12/19	56	66
F1J	1/3	5/6	8/14	61	

NFFS/USOC Events	Open[2]	% Flew	
1/4A Nos Gas	18/36	50	
1/2A Nos Gas	22/56	39	
A Nos Gas	23/45	51	
B Nos Gas	21/39	54	45
C Nos Gas	17/31	55	
Early 1/2A Nos Gas	11/35	31	
Ign. Lg and Sm Nos	8/15	53	
Nos Rubber	12/19	63	
Nos Wakefield	6/17	35	50
OT ABC Cabin Gas	8/16	50	
OT ABC Pylon Gas	6/13	46	53
OT 020 Replica Gas	17/29	59	
OT Rubber Cabin	13/29	45	
OT Rubber Stick	20/32	62	54
OT Cat Glider	23/32	72	
OT HL Glider	14/29	48	61
Super D Gas	7/13	54	
Pee Wee 30 Gas	7/18	39	47
Starduster-X Gas	23/47	49	
Jetex	8/17	47	47
Jimmie Allen	6/10	60	60
A-1 Event	11/24	46	46

Total Contestant Events Entered, 2003 Nats = 1,570
Total Contestant Events Flown = 862 (55%)

[1] Data breaks out Jr., Sr. and Open entries from combined age groups in each event.

[2] All NFFS/USOC entries were Open except one Jr. and one Sr. in A-1 and one in Starduster-X; none flew.

Contest Report

San Valeers Annual

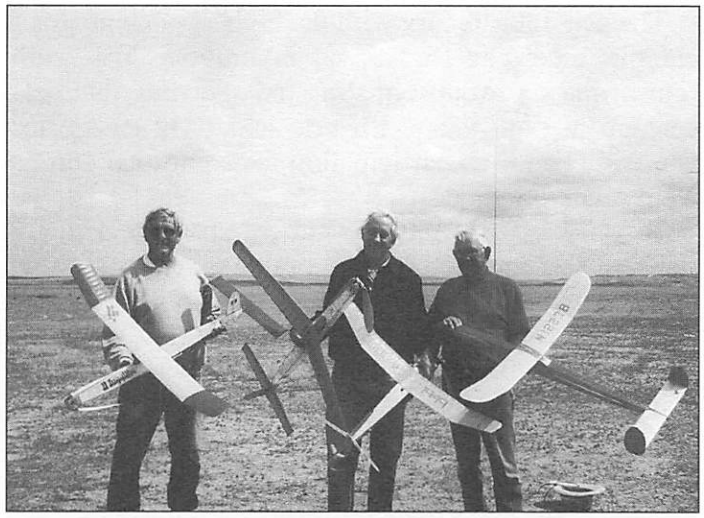
Terry Thorkildsen *Thousand Oaks CA*

The forecast called for a 30% chance of rain on Saturday, but the weather turned out much better. The 50 contestants who showed up didn't regret it.

Saturday started off at 6:30 a.m. with the Cannonball Run for the best total of two flights on a 7-second engine run. Guy Menanno won with his Heavensent Cyclon .061 F1J with 13:09, over Lynn Pulley's 10:02 using his Nelson powered Killer Bee, a 2003 NFFS Model of the Year.

Saturday started off with thick, overcast air. It stayed that way all day, while the temperature remained at 62-67 for most of the day. But the wind wasn't bad, so with 3-minute maxes the chases were pretty easy. I only had one flight that was specking out but most were easy to keep in sight.

Tony Robertson won 1/2A Gas, making six maxes with his high-aspect-ratio original, powered by a hopped-up AME. He beat out Norm Furutani, who dropped his sixth max. Tony's model earned him Ralph Prey's award, a year's membership in NFFS, for high time flown by the designer of the model, . Tony also won a Texas Timer for winning 1/2A.



Nostalgia Wakefield winners (l to r): Juan Livotto (Fea's Il Fuggitivo); Dick Gildersleeve (Kothe's 1955 Wake); Bob White (Ranta's Torontonian). (Bob White photo)

Text continues on p. 16

Top Threes at San Valeers Annual

Cannon Ball Run (2 flew)

Guy Mennano	Heavensent	Cyclon .061	13:19
Lynn Pulley	Killer Bee	Nelson 36	10:02

Bob Hunter Memorial (6)

Terry Thorkildsen	Astrostar 600	K&B 3.25	11:32
Mike Thompson	Satellite 450	K&B 3.25	9:29
Lynn Pulley	Killer Bee	Nelson 36	9:21

1/2A Gas (7)

Tony Robertson	Original	AME 049	1,080
Norm Furutani	Starduster-X	TD 049	1,033
John Sparling	Marval	AME 049	510

A Gas (8)

Mike Thompson	Satellite 450	K&B 3.25	1,547
Jeff Ellington	Satellite 600	K&B 3.25	1,216
Terry Thorkildsen	Astrostar 600	K&B 3.25	856

B Gas (4)

Bob DeShields	Solar	K&B 3.5	1,620
Terry Thirkildsen	Astrostar 600	K&B 3.5	1,436
Jeff Ellington	Satellite 600	K&B 3.5	1,189

C Gas (3)

Lynn Pulley	Killer Bee	Nelson 36	1,440
Tom Carman	Texan	Torp 40	992
Terry Thorkildsen	Astrostar	K&B 6.5	720

D Gas (2)

Tom Carman	Texan	Torp 41	720
Terry Thorkildsen	Astrostar	K&B 7.5	526

1/4A Nostalgia Gas (3)

Del Adam	Zeek	TD	420
Bob DeShields	Frisco KIddie	TD	420
Mike Thompson	Hot HEad	TD	404

1/2A Nostalgia Gas (6)

Bob DeShields	Frisco Kiddie	Holland	540
Gus Sundburg	Green Hornet	K. Bee	506
Ken Kaiser	Frisco Kiddie	Fox	493

ABC Nostalgia Gas (8)

Ken Kaiser	Hogan	GH 29	1,260
Del Adam	Crusader	Fox 15	1,080
Gus Sundburg	Spacer	GH 23	531

Slow Gas (9)

Jim Hurst	Ramrod	OS 35	731
Dave Rounsaville	Maverick	TD 051	728
Lynn Pulley	Sloppy	OS 29H	710

Nostalgia Wakefield (3)

Bob White	Torontonian	774
Juan Livotto	Il Fuggitivo	465
Dick Gildersleeve	1955 Kothe Wake	462

P-30 Jr. (2)

Kevin Kusik	288
Deangelo Kusik	198

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PROPELLER_High pitched Czech prop to match the fast high spiral climbing thin Burdov airfoil. Prebent prop shaft included.

WING_Ribs are precision "Accura" machine cut. The 4 mm carbon/fiber spars are hand rolled for strength and lightness. Trailing edges are notched for ribs. Leading edges are semi-shaped as also the wing tips are.

STAB & RUDDER_Ribs are precision "Accura" machine cut. The 3.5 mm carbon/fiber leading edge spars provide ridig anti-warp structures. All tips are semi-shaped for final sanding after construction.



Bob DeShields' (Caldwell ID) Solars, in his usual gorgeous style, are winners too. The K&B 3.5 600 took B Gas with 1,620 seconds. (Terry Thorkildsen pics)



Cody Secor (Chino CA) and his dad Randy check for lift before flying Cody's F1P Excelsior, modification of a Dave Rounsaville 1/2A design.

Bob DeShields did his usual in Nostalgia, with a Holland .049-powered Frisco Kiddie. More Holland Hornets then usual showed up this year. I don't know where they are getting the Hollands (maybe eBay) but the Medallions and FAI Foxes work great also.

DeShields also won B Gas. DeShields, making nine maxes with his beautiful Solar 600. One flight had a short run and poor recovery. But a good air pick gave him a max. I handed him a dollar and told him to go buy me a lottery ticket since his luck seemed to be pretty good. It beat my effort when I short fused on the eighth max. DeShields won a K & B 3.5 in this event for his high time of the meet in the Gas events.

In C Gas Lynn Pulley again whipped us with his great-flying Killer Bee powered by a honking Nelson 40. Mike Thompson won A Gas with eight-plus maxes over Jeff Ellington who dropped his seventh.

Slow Gas was the second-most popular event, with nine entries. Jim Hurst won, flying a Max III .35-powered Ramrod on the flyoff flight . He beat out Dave Rounsaville (our long-distance traveler from New Jersey) and Lynn Pulley, who also maxed out.

In the FAI events we had eight competitors in F1C but only two maxed out. Dave Johannes was the only one to flyoff after that for the win over Walt Ghio.

F1J on Sunday was our most popular event, with 10 entries and seven making the flyoff. The 3-minute flyoff)which they all thought was way too easy before

---

P-30 (3)

Al Hotard	360
Tyler Secor	298
Tony Robertston	240

HL Glider (1)

Jeff Ellington	128

Catapult Glider Jr. (3)

Kevin Kusik	173
Chucky Keller	83
Brianna Keller	44

F1A (5)

Peter Allnut	1,260
Mike Thompson	1,228
Don Zink	1,208

F1B (4)

Alex Andriukov	1,260
Bob Piserchio	1,226
Jack Emery	1,207

F1C (8)

Dave Johannes	1,374
Walt Ghio	1,260
Guy Menanno	1,260

F1G (3)

Jack Emery	600
Bob White	581
Al Hotard (proxy for the late Jim Quinn)	514

F1H (3)

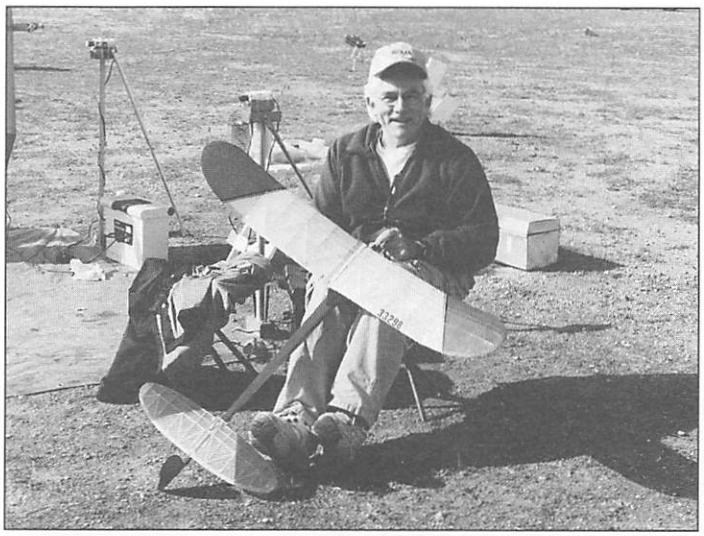
Peter Allnut	600
Martyn Cowley	575
Bob Norton	446

F1J (10)

Jeff Ellington	741
Dave Johannes	737
Lynn Pulley	733



Dave Johannes, an environmental engineer from Camarillo CA, pushed his F1C Telesis into the flyoff round and took the win.



Dave Rounsaville brought his TD-powered Maverick from Milford NJ to compete in 1/2A Gas, F1J and Slow Gas. He placed second in the latter event.

the flyoff) was a real lesson in tactical flying. Most went at the start of the 10-minute window and they all fell out of the sky in a big downer. Jeff Ellington waited until the last 2 minutes of the window and scored the win and was given a CS .049 donated by Fred Ginder. In F1A Peter Allnutt was the only one to max out. In F1B, ditto for Alex Andriukov.

In F1G Al Hotard flew proxy for the late Jim Quinn, using one of Jim's old models. One of the first flights landed about 10 ft from the spot where Jim's ashes are scattered. Jack Emery was the only one to max out in this event.

Sunday's activities began at the crack of dawn with the Bob Hunter Memorial for the longest flight on a 15-sec engine run. This was sponsored by Mike Thompson, with entry fees going to the Heart Foundation. It was a perfect morning, with light drift so the models could be kept in sight for the full flight. An 11:32 scored the win for me and there were a lot of good flights by the other contestants.

In ABC Nostalgia Ken Kaiser won with seven maxes flying a Torp GH .29-powered Sandy Hogan. One of the added special events was Nostalgia Wakefield, sponsored by Bob White and he also won it. They all had some neat looking models. I especially like the Torontonian with its twin fins.

Open Catapult Glider was tightly contested and Ralph Ray, who designed the Apache gas model from the 1960s, won with 19 seconds short of a maxout. Kevin Kusik, Chucky Keller and Brianna Keller went 1,2 and 3, respectively, in Jr. Cat Glider. They got nice trophies for their efforts. (Juniors had free entry.)

At 3:00 p.m. Sunday we began handing out the loot. We had some great prizes, including over almost 600 sheets of contest wood, kits, engines, timers, stopwatches, 40% fuel, FAI rubber, carbon fiber, Micafilm and glassware. WE also handed out a number of cash awards to happy contestants.

Special thanks go to CD Terry Kerger for an outstanding job in keeping things running smoothly. And to the sponsors who provided some great prizes. □

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FAI 14-Rounder July 10/11 2004
America's Cup F1A-B-C-H-G-J-P
Bonus events: **P-30, Open Power, Gollywock and Cat/HLG shootout**

39th Annual Rocky Mountain FF Champs & Dynasty Cup
Sept. 6/7 2003 Amer. & Nat'l Cup
FAI – AMA – FAC – Nos – SAM

For detailed information:

CDs: Jerry Murphy 719-685-3766
Don DeLoach 719-578-1197

Contest Report

15th MACH Wintercoupe

Bob Thoren *Huntsville AL*
CD

Model Airplane Club of Huntsville AL (MACH) added some new twists to its 15th annual Wintercoupe contest at Pensacola (Pace) FL in late February: National Cup (NC) glider events plus elevation of P-30 to NC status.

We also included towline glider as a provisional to test the waters and try the proposed 15-second towline launch rule. Response to the glider events (HLG and CLG) was enthusiastic. The towline event drew several entries. It was fun seeing some of the older guys hauling up towline gliders like they (we) did years ago. By next year we should have all the kinks ironed out (gliders and fliers).

We hope that NFFS will make this a permanent addition to the NC schedule. However, we determined the 15-second launch rule is probably unnecessary.

Ray Combs (Orlando FL) won hand-launch with a 239 score, flying during the windy afternoon. Ronnie Thompson (Athens AL) won Catapult, with a 237.

Addition of NC events pumped up our attendance: We had 21 entries, which surpassed our previous high of 19 in 1998.

The Sunday events (F1G—Coupe d'Hiver, P-30 and Commercial Rubber) were flown in perfect weather, with 70-degree temperatures and light thermals most of the day. The Coupe event was the most competitive, with nine entries recording a total of 26 maxes. Tom Hepler (Decatur AL) and young Michael Avallone (Grand Rapids MI) were clean until the fifth round when Michael dropped his max. Tom finished with 5 maxes to win and Dick Hall (Athens AL) moved up to second, only 2 seconds short. Eric Hepler (Decatur AL) took third place with a 591.

Jim Bethea (Covington LA) won P-30 with three maxes, followed by Paul Grabski (Pensacola FL) and Connie Perry (Athens AL). Scott Cannon maxed out in Commercial Rubber, flying his old reliable Orr's Chieftan. Ronnie Thompson was second, flying a hot climbing Sparky and Bob Thoren (Huntsville AL) took third with a Stahl Hi Climber. □

Top Threes at MACH Wintercup

HL Glider (7 flew)	
Ray Combs	239
Al Seither	103
Bob Thoren	92

Catapult Glider (9)	
Ronnie Thompson	237
Bob Thoren	200
Al Pardue	129

F1G Coupe (9)	
Tom Hepler	600
Dick Hall	598
Eric Hepler	591

P-30 (6)	
Jim Bethea	360
Paul Grabski	310
Connie Perry	307



F1G flyers at the 15th Wintercoupe. Tom Hepler (back row, second from left, wearing white hat) was the winner.

Carbon Construction: Completing the Wing

John Lorbiecki *Hubertus WI*
Power Editor

In past issues of *Digest (December 2003, p. 10; March 2004, p. 9)* we have discussed making the spar and completing the D-box. After all this work, it is time to construct the rest of the structure.You need a simple wing plan, showing location of the D-box, ribs and trailing edge. Coat the back of the plan with 3M Spraymount and lay it on your building board. Next, spray both sides of a piece of waxed paper with Spraymount. Lay this over the plans. You'll need no pins. Place the completed D-box into position.

Cut out the rear ribs. Just like the leading-edge false ribs, use a template made from either 1/16-in. acrylic or .032-in. G-10 fiber glass circuit-board material. Models up to F1C size commonly use 1/16-in. balsa.

Fit up each rib to the spar. If the trailing edge is a bit long, that is acceptable, as you will trim them after the ribs are glued to the spar, using thick CyA. Waxed paper and Spraymount will keep the ribs in place.

The center rib will need to be thicker—at least 1/8-in. thick. Make sure that the dihedral-break ribs are angled to match the appropriate dihedral angle.

The most common carbon TE measures .015-030 in. thick and .090-.187 in. wide. Cut the TE to length and sand to size. Trim the ends of the ribs straight. They are thin, so a sharp (new) razor blade works best. Lay the TE into position and butt it against the ends of the ribs. Use thick CA and glue it in place.

Capstrips. Now comes the fun part: capping the ribs. Use .001-.003 in. thick carbon. I have tried many ways to cut capstrips, and this is what I found works best. From a 3-in. wide piece of the carbon use scissors to cut it to the length required, plus about 1/2 in. Lightly sand both sides to remove mold release and then clean with thinner.

Using your steel straightedge and a piece of acrylic to cut on (or one of the nifty rubber-like cutting boards), plus a piece of balsa the same thickness as the ribs as a template, slide the straightedge, using the balsa as a width gauge, along the carbon to get the proper width. Cut a strip. If it comes out slightly wider, don't be concerned, as we will sand the capstrip to the width of the rib later.

Glue the capstrips onto the ribs, using slow-drying CyA. Place a small amount on the rib, TE and D-box. Then, starting at the D-box, hold down the strip and work it towards the trailing edge. *[Try wrapping a length of waxed paper around your finger for rubbing the capstrips as they dry.—Ed.]* Continue, until you have installed all the upper capstrips. Some actually relieve the D-box to get a smooth fit. I find it far easier to just lightly sand the ends of the caps.

After all the capstrips are in place, remove the wing from the board and add the bottom strips. Use a thin straightedge and, starting from the front, lightly "saw" the wing from the board.

Use a pair of scissors to trim the remaining capstrip material flush with the trailing edge. *[A pair of good-quality nail clippers works great for this.—Ed.]* Use acetone to remove any remaining Spraymount.

Next comes final sanding. Using 220-grit paper, sand the cap strips at a slight angle to the trailing edge.

Next, take a wide popsicle stick and Spraymount some 180-grit sandpaper to it. This makes an excellent small sanding block to get the capstrips to the same width as the ribs. Using the same sanding stick, blend in the cap strips to the D-box.

Your finished wing panel won't be quite as light as a conventional balsa wing, but it will be far superior in strength and warp resistance. You will build the tips and the stab in similar fashion. □

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America's & National Cup
FAI – AMA – FAC – Nos – SAM

For detailed information:

CDs: CDs: Jerry Murphy 719-685-3766
Don DeLoach 719-578-1197

Contest Calendar

NOTE: Some listed contests are carryovers. Contact the club or person(s) listed before making any definite plans. (W) World Cup; (A) America's Cup; (N) National Cup; (J) Jr. Events. Check the NFFS Web site for possible late-date changes. <www.freeflight.org>

JUNE

13.

California. Sacramento. Western Free Flight Champs. Walt Ghio, 209-478-8225, Doug Galbreath, 530-757-6058

19-20.

Florida. Pensacola. Fiesta of Five Flags. (Pensacola FF Team) (A)(N)(J). Bob Junk, 984 Williams Ditch Rd., Cantonment FL 32533. (850) 968-9619.

26-27.

Texas. Grandview. Regional FF Champs. (Cloud Climbers). (A)(N). Steve Spence, 7500 Crosstimbers Ln., North Richland Hills TX 76180. (817) 581-1971.

JULY

3-4.

Florida. Palm Bay. Dixie Nats. (FMA). (N). Walter Rozelle, 2924 Staples Ave., Key West FL 33040. (305) 296-6033. <rozelw@bellsouth.net>

10-11.

Colorado. Denver. Annual FAI 14 Rounder. (MMM). (A). Chuck Etherington, 33946 Goldfinch Drive, Elizabeth CO 80107. (303) 646-3705.

JULY

11.

Minnesota. North Branch. Summer Meet. (MMAC). (N). Don Monson, 131 W. Wentworth Ave., West St. Paul MN 55118. (651) 457-2321.

16-18.

New York. Geneseo. FAC Nats. (FAC). Lin Reichel, 3301 Cindy Ln., Erie PA 16506. (814) 833-0314.

17-18.

Canada. CFB Borden. Huron Cup. (Aero Club of Canada). (W)(A). Jerry McGlashan, 372 6th Concession Rd. RR1, Clear Creek Ont.N0E1C0 CANADA. (905) 468-1829. <rgmcg@home.com>

18.

Massachusetts. Falmouth. NEWG Contest. (NEWG). (N). Tom Acciavatti. (617) 696-1229.

18.

Wisconsin. Bong. IMAC Annual. (IMAC). (N). Charlie Sotich, 3851 W. 62nd Pl., Chicago IL 60629. (773) 775-1353.

2-6.

Indiana. Muncie. AMA Nats/U.S. Outdoor Champs. (AMA/NFFS). (A)(N). Phil Sullivan, 4536 southern Ave., Anderson IN 46013. (765) 640-2921. <ciasilk@aol.com>

7.

Wisconsin. Bong. Annual Outdoor. (Bong Eagles). (N). Bob Black. (262) 544-5694.

15.

Massachusetts. Falmouth. NEWG Contest. (NEWG). (N). Paul Nelson, 4 Tall Tree Way, Georgetown MA 01833. <paulnels@earthlink.net>

Minnesota. North Branch. Almost Silent Meet. (MMAC). (N). Gary Oakins, 291 Jay Street, Birchwood MN 55110. (651) 429-3150. <gjoakie@goldengate.net>

Wisconsin. Bong. Noonan Memorial. (Bong Eagles). (N). Tony Italiano, 1655 Revere Dr., Brookfield WI 53045. (262) 782-6256.

20-22.

Indiana. Muncie. Summer FF Champs. (NOFFA). (N). Rudy Kluiber, 2021 Lakeland Ave., Lakewood OH 44107. (216) 226-6838. <rjkhomcho@aol.com>

21-22.

Florida. Palm Bay. Fla. State Champs. (FMA) (N). Ray Combs, 6747 Sugarbush Dr., Orlando FL 32819. (407) 351-2209. <rcombjr@cfl.rr.com>

Oregon. Tangent. NW FF Champs (Willamette MAC). (A)(N). Bob Stalick, 5066 NW Picadilly Circle, Albany OR 97321. (541) 928-8101. <freefliter@aol.com>

27-29.

New York. Geneseo. Empire State Champs. (WNYFFS). (A)(N). John Carls. (814) 362-7789.

28-29.

Colorado. Denver. Rocky Mt. FF Champs/Dynasty Cup. (MMM). (A)(N). Don DeLoach, 815 N. Cedar St., Colorado Springs CO 80903. (719) 578-1197. <ddeloach@pcisys.net>; Jerry Murphy, 9 Via Excondido Valle, Manitou Springs CO 80829. (719) 885-0512. <jmurphy@agilent.com>

Indiana. Muncie. Midwestern States Champs/FAI. (Aeronuts). (A)(N). Chuck Markos, 655 Carlisle Avenue, Deerfield IL 60015. (847) 945-9225. <cmarkf1@aol.com>

SEPTEMBER

4-5.

California. Lost Hills. Dual Club Annual. (San Diego Orbiteers/Fresno GMC). (N). Don Bartick, 22465 Casa de Carol, Ramona CA 92065. 760-789-3773.

Florida. Palm Bay. Confederate Affair FAI. (FMA). Harry Grogan, 4176 Reynard Ct., Ovieda FL 32765. 407-365-1682.

4-6.

Canada. CFB Borden. Canada Cup. (W)(A). (Aero Club of Canada). Leslie Farkas. 905-885-3025.

11/12.

Oregon. Tangent. Silents Please OT (N). (Willamette MAC). Leland Schroeder, 30099 Canyon View Dr., Lebanon OR 97355. 541-258-3366.

13-17.

Indiana. Muncie. SAM Champs. (N). (Capital Area Antique Modelers). Dave :acey, 510 Tennessee Ave., Alexandria VA 22305. 703-548-9058.

18-19.

Indiana. Muncie. Regional FF Champs. (N) (CIA). Phil Sullivan, 4536 Southern Ave., Anderson IN 46013. 765-640-2921.

Oklahoma. Perry. Glue Dobbers Champs. (N). (Tulsa Glue Dobbers). Bob Hanford, 1608 So. Poplar Ave., Broken Arrow OK 74012. 918-251-7564.

19.

Arizona. Eloy. Fall Kickoff. (N) (Phoenix Model Airplance Club/Tucson Free Flight Club). Bob Loeffler, PO Box 25454, Tempe AZ 85285. 480-345-1154.

Massachusetts. Falmouth. NEWG Contest. (N) (NEWG). Stan Colson, 47 Sammett St., Everett MA 02149. 928-686-6869.

25-26.

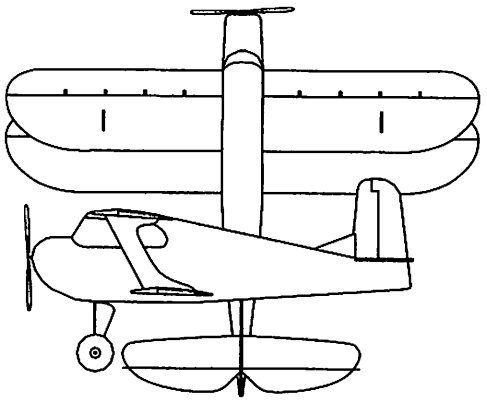
Minnesota. North Branch. Fall Meet. (N) (Minneapolis MAC). Dale Mendenhall, 763-535-2976; Gary Oakins, 291 Jay St., Birchwood MN 55110. 651-429-3150.

California. Lost Hills. U.S> Free Flight Champs. (A) (N). (CUFFMAC). Terry Thorkildsen, 1536 Adele Place, Thousand Oaks CA 91360. 805-495-6135.

Virginia. Dinwiddie. Fall Annual. (N) (Brainbusters). Richard Pierce, 757-539-4854. □

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National Cup Point Standings

Bob Mattes, chairman of the NFFS National Cup, presents the following "top five" standings in the five National Cup categories, as of April 29. Look for further updates on the NFFS Web site and in *Digest.* □

AMA Power	
Don DeLoach	75
Paul Stober	71
Jack Marsh	67
Terry Thorkildsen	66
Frank Roberge	50

AMA Classic Power	
Jack Marsh	180
Bill Barr	39
Steve Bruno	34
Glenn Schneider	26
Mike Thompson	23

AMA Rubber	
Ernst Johnson	91
John Kamla	60
Gordon Dona	55
Phil Klintworth	41
Chris Borland	38

AMA Glider	
Tim Batiuk	186
Lee Hines	62
Craig Cusick	61
J. Jhousou	45
Stan Buddenbohm	42

Junior	
Taylor Boe	93
Albert Johnson	55
S. Hurley	46
Kevin Kusik	45
S. Brown	36

[Only four months into the year, and two competitors have sizable leads: Jack Marsh in Classic Power and Tim Batiuk—again—in Glider.—Ed.]

Classified Advertising

For Sale. NIB Engines: K&B, FI/RE 3.25 to 7.5; Shuriken, two 050 & one 061; CS 049, reworked by B. Johannes, 28,500; Nova Rossi 21; Cox 020 to 09. Like New: Arden 09 glo & 19 ignition; Forster 29 ignition; Bantam 19 ignition; McCoy 60 Red Head ignition; O&R 60; Dyna-Jet Red Head. Accessories: two Oliver C/D carbon tube/alum boom systems; two Galbreath Super C/D engine mounts for Nelson 36/41 with integral bladder fixture, fuel control & fuel pinch-off, fit Oliver C/D system. Jensen Acoustic Tachometer (Galbreath). Glo-plugs, Nelson, Glo-Bee, Sonic Tronic, K&B, Cox, AME. Tatone timers, DT & fuel pinch-off. Props, Poti, Zinger, Cox. Call or e-mail for lists and prices. Bob Perkins 2285 Pinebrook Rd., Columbus, Ohio 43220. rperkin1@columbus.rr.com 614-451-3558.

F1B models for sale. All Andriukov components including VP hubs. Models have very little flight time and are in excellent condition. Free delivery at Nats. Buy all three and get Batiuk box for free. E-mail for detailed list: <joyner28@comcast.net>

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Doug Galbreath. G/K Hummer F1C geared Nelson, F1J mounts, latex fuel tanks and tubing, Nelson 15-41 and Cyclon .049, .051 and .061 engines. 3408 Topsail Place, Davis CA 95616. 530-757-6058 eves. <F1Cdoug@aol.com>
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Inquiries, press-ready ad copy, payments: Send to Walter Rozelle, NFFS, 2924 Staples Ave., Key West FL 33040. 305-296-6033.
E-mail: rozelw@bellsouth.net. Make checks payable to NFFS.

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Gorban Models F1B, F1G Ready to fly. F1B short & long wing models. F1G Winders. Most model parts in stock. Bob Tymchek, P.O. Box 594, Nipomo CA 93444. Phone (805) 929-1605. E-mail <tymchek@best1.net>

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Coming Next Issue

Report from Johnson City. John Kagan will file a major recap of the highlights of the 5-day U.S. Indoor Championships.

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Signed: _____

Note: Membership in the AMA is required to fly in SAM contests. Please put your SAM number on your check if renewing. Checks payable to Society of Antique Modelers. **Send to:**
Charlie Reich, P.O. Box 860236, St. Augustine FL 32086

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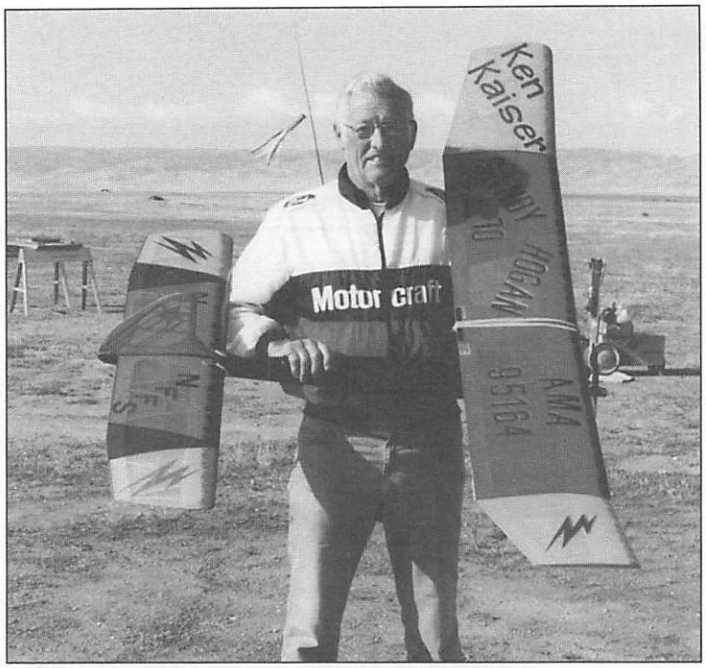
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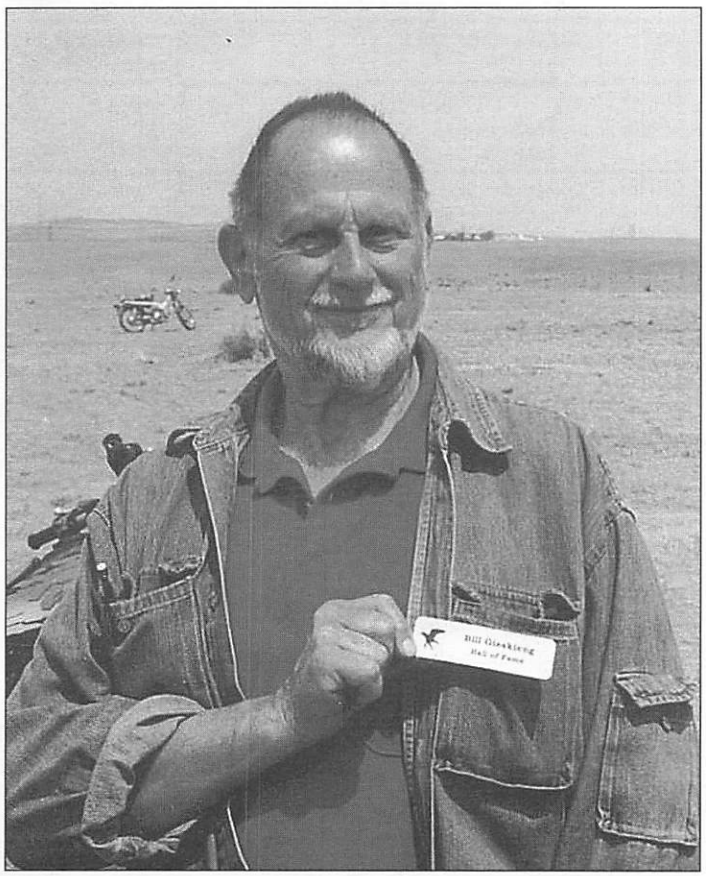


Ken Kaiser (Cypress CA) won ABC Nostalgia at San Valeers Annual with this Greenhead 29-powered Sandy Hogan. (Terry Thorkildsen pic)

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Moving? Please notify J.P. Kish, membership chairman, of your new address, so you won't miss an issue of *NFFS Digest*. Write to NFFS c/o J.P. Kish, 22 Pine St., Homosassa FL 34446.(352) 382-1425



At the club's 27,000-acre flying site, Magnificent Mountain Men's Bill Gieskieng proudly wears his NFFS Hall of Fame badge. (Jerry Murphy photo)



At Max Men Annual, Al Hotard (Covina CA) proxy flew this F1G of the late Jim Quinn. One flight chose a predestined landing spot. (See report on p. 14)