Strictly Scale!

Complete coverage of the first annual Torrey Pines Scale Fun Fly

Vol. 2. No. 2 November 1989 \$1.50



Torrey Pines Scale Fun Fly players: (Top row) Steve Turnbull and the OV-10 Bronco, Brian Laird's Slope Scale P-63 over the cliff, Joe McBride's Schweizer TG-2 and TG-3. (Row two) Dan Danrich and "Tsunami," Sal Peluso's sailplane squadron, Combat Models' Blue Angels A-4s. (Row three) Cliff Hanger Models' war machines, Charlie's F-86 "Boom Boom" nose art, a Vintage Minimoa. (Bottom row) Bob and Kim Reynolds' F-14Bs, Mark Hambelton's new DCU F-14 fuselage, Larry Jolly's swing-wing MiG-23 movie plane.

BIGGEST ISSUE EVER! 20 PAGES!

- Miss Go-Fast Project Continues: How To Make Your Fiberglass Fuse ●
- Photos of the Full-Scale Klingberg Wing Rick Palmer's SR-71! ●
 Organized Slope Racers? (see Air Mail) Selig Airfoil Info: Where To Get It!

Wingin' It

THE GOOD BOOK

Michael Selig, John Donovan and David Fraser have done something extraordinary. They constructed a modelsized wind tunnel, found modelers from around the world to build test 'foils, and then they conducted an extensive series of tests on the little wing sections.

They tested most of the familiar 'foils to establish a set of standards (from Clark-Y to the popular Epplers to hightech, F3B-proven HQs and RGs), and then they proceeded to develop some new airfoils of their own.

The job of documenting their effort fell to Soartech publisher Herk Stokely. Complete information has been reproduced on every airfoil they tested—coordinates, polars and lift plots, plus comments on each 'foil. The result is a 412-page, 1-inch-thick paper-bound reference book that every builder needs! Read Herk's message below for info on how to order yours.

Selig/Donovan/Fraser is here!

The Princeton Wind Tunnel Studies, conducted by Michael Selig, John Donovan and David Fraser, has been published as *Soartech #8*. Originally, this study was going to be about 90 pages, and it would have cost \$5. As it progressed, the Princeton study developed, until now, *Soartech #8* is FOUR TIMES as large as I'd originally expected. The page count is more than 400 pages, and it has been reproduced commercially as a fully-bound 8-1/2 x 11- inch book.

For those of you who are unfamiliar with *Soartech*, it started about 10 years ago as a series of technical papers in the Tidewater Model Soaring Society newsletter, the *TMSS Technical Journal*. When Bruce Abell and Jim Gray later suggested an English-language technical journal for RC soaring, it seemed to be just the right idea at the time. We then developed and began publishing *Soartech* from papers submitted to us from interested modelers and from other publications. *Soartech* is NOT a business. It's produced and sold for the cost of doing it, and no profit is collected.

So far, seven *Soartechs* have been issued at odd intervals as there was time to do them. Their cost is based on the number of pages and the difficulty of producing them. All are available as reprints, though the first few are second-generation, the originals having been lost by a printer.

The costs are as follows:

		Other countries
Soartech #1	\$7	\$10
Soartech #2	\$10	\$15
Soartech #3	\$5	\$8
	\$5	
	\$5	
Soartech #6	\$7	\$10
	\$5	
	\$15	

These prices include postage, and all overseas shipments are sent by air mail, except #8. Those wishing to receive #8 overseas by air mail will have to pay \$27 (England/Europe) or \$32 (Australia and others). When ordering, please make the check or money order payable to H.A. Stokely.

Soartech #9

I currently have enough material to put out Soartech #9, although I won't start working on it until I get most of the work of shipping #8 finished. It'll be a "normal" (about 100 pages) issue and will cost \$5. Expect it late in 1990 at the earliest. If you want to be put on the list for that issue, please send the \$5. These advance orders help a lot by providing part of the money needed for printing and other expenses.

Herk Stokely 1504 North Horseshoe Circle Virginia Beach, VA 23451

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EDITORIAL CONTRIBUTIONS are welcomed. Unfortunately, we can't pay for them. Editorial material is selected based on its perceived value to the slope-soaring community, and the publisher assumes no responsibility for accuracy of content.

CLUB CONTRIBUTIONS are welcomed. Please keep us notified of your club's events and/or fun flying activities. Material printed will be selected at the discretion of the editors.

ALL CONTRIBUTIONS should be addressed to SSN, c/o Charlie Morey, 2801 E. 19th St., #29, Signal Hill, CA 90804. All contributions requested for return must be accompanied by return postage. The editorial deadline is the 15th of the month preceding the cover date. All material is subject to editing and revision as necessary to meet SSN requirements. We can accept Ascii text files over the phone or work with your IBM-compatible 3-1/2' or 5-1/4' disk. Please call first for details at 213/494-3712. Don't get depressed if you get our answering machine. Just leave your name, phone number and the purpose of your call, and we'll get back to you.

ADVERTISING inquiries should be addressed to SSN, c/o Charlie Morey, 2601 E. 19th St., #29, Signal Hill, CA 90804, 213/494-3712.

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COMBAT MODELS SLOPE SOARERS









A-4 SKYHAWK



About the MiG 27...

The Soviet Union designed the MiG 27 primarily for attack on surface and ground targets. This highly maneuverable Soviet aircraft is the mainstay for their ground attack requirements.

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About the A-4 Skyhawk...

The United States designed one class of the A-4 to be a single-seat attack bomber. This aircraft has proven its worth by remaining in production for over 26 years.

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- Aggressor Aircraft.

 Pilot Skill Accomplished Intermediate to Advanced.

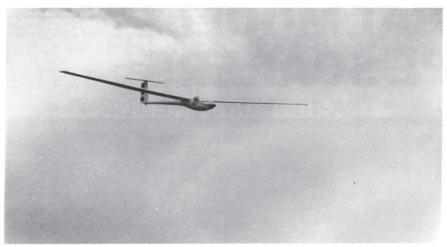
About the A-10 Thunderbolt...

The U.S. Air Force planned the A-10's primary mission for sustained close air support and as a deterrent. It was designed to be the most effective aerial tank destroyer in history.

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Scale? There are many interpretations of the word...

Scale can be a graceful-yet-high-performance rendition of a full-size sailplane like Bill Liscomb's DG-202, a currently available kit from Scale Glider Components (top left), or it can be an interpretation of futuristic craft (top right), like Richard Jarel's JADE Shogun ATF kit (available in about two months), or it might be Ray Smith's huge scratch-built reproduction of the original A.J. Fighter 74 balsa glider (above left), or it could be a trio of Combat Models fighter jocks (above right) holding miniature versions of three of the old Blue Angels' A-4 Skyhawks. What does "scale" mean to you? Build it, and then come show us at next year's Torrey Pines Scale Fun Fly!

Torrey Pines Scale Fun Fly

Way Too Much Fun!

By Charlie Morey

Although the Torrey Pines Scale Fun Fly lasted for three days (and two long evenings of "excess"... thanks, Byron!), I best remember a sunny, Saturday afternoon. Nearly 60 pilots had registered. There were more than 100 planes on the ground or in the air, and a crowd of 200 spectators walked among them admiring the carefully prepared models and asking questions of their owners. That evening after sunset when everyone had left except the organizing club, the Torrey Pines Gulls, we agreed that if the event had ended

then and there, after only two days, it would have been a resounding success.

The Players

Almost everyone in Southern California who has anything to do with scale slope soaring was there, and they brought out their best planes to show off. Several manufacturers used the Torrey Pines event to showcase their product line or introduce a new model. Cliff Hanger Models

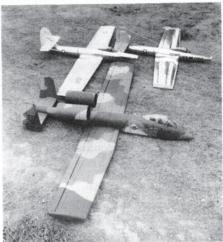
The Cliff Hanger Models team— Marty Silberstein and Steve Peacock displayed a full product line, plus took advantage of the event to show and fly their all-new prototype F-18. The F-18 kit will be ready very soon, so give them a call now to place your order. I flew Tom Moxley's original prototype at Bluff Cove a couple months ago, and it's got all the desirable jet characteristics: stable, fast and beautiful!

Combat Models

Combat Models' Byron Bruce has become a permanent fixture at scale fun fly events, from his original appearance with his then-new F-16 at Wil Byers' Tri-Cities shindig two years ago to present. And since Miramar, Califor-









The two most popular categories at Torrey Pines ware power scale and modern 'glass sailplanes.

Charlie's F-86 Sabre Jet got a new coat of paint and insignia, along with a dummy landing gear dolly to sit on between flights (top left). Check the detail (top right) in Hugo Sandroni's Graupner Mini-Nimbus cockpit! It has map pockets with maps, full instrumentation and controls...even a camera. Two-meter A-10 Thunderbolt and the pair of F-84s (above left) were scratch-built by Howard Hulin and Larry Ervin from three-views found in the Squadron/Signal books. So, it's BIG you're after? This High Performance Air "Albatross" (above right) spans 21-feet, three-inches! Wayne Spani and Keith Hollenbeck — big guys themselves — are dwarfed by their creation. It'll soon be available as an all-fiberglass kit.

nia – home of the Top Gun school and Combat Models – is less than five miles from Torrey Pines, his presence was inevitable.

Byron brought his own Top Gun team (brother Derek, fellow maniac pilots Erik and Gary and his non-flying-but-much-better-looking associate, Sharon). Since he just recently introduced three new kits, Byron wasn't ready for the world to know about his next projects, but there were still some very interesting jets in his corner based on his F-16, A-4, A-10 and MiG-27 kits.

Three A-4s were beautifully detailed to look like numbers 1-3 of the Blue Angels (who used to fly Skyhawks), and we were teased into believing that Byron, Erik and Gary would perform a formation show. Unfortunately, the right

combination of wind, nerve and clear airspace never materialized.

Erik Hogan also brought out a couple of his own designs, an Aeromacchi and a tiny BD-5. The larger Aeromacchi, brightly finished in red and white, seemed to fly very well; perhaps he should consider kitting it.

Slope Scale

Brian Laird, Paul Masura and flying buddy Gary Kawamura brought out a variety of the Slope Scale warbirds and joined the fray to display their Bluff Cove flying techniques whenever the wind came up. Brian and Paul fly together often, so close formation is the rule, and contact is often part of the game. They proved it on Friday with a tangle that sent them down the cliff to retrieve a pair of dogfighters that lock-

ed together.

I joined the Slope Scale crew this weekend with my new P-51. The Mustang's maiden flight off the 350-foot Torrey Pines oceanside cliff was a nervous experience, but only because of the psychological ramifications. After one slightly tail-heavy flight (easily corrected with downtrim) and the addition of one small chunk of lead upon landing, it flew with the best of them.

DCU

Mark Hambelton and Kevin Gribben of DCU brought out a Stryker to fly, but the exciting news was the fiberglass fuselage they brought along for showand-tell: an F-14 Tomcat! Mark's been so busy producing fiberglass parts for other manufacturers and doing model work for movies, that he hasn't had time

to build and fly a prototype, yet. But the fuselage has The Look, and when he completes the kit, there'll certainly be a waiting line.

JADE

Richard Jarel of Jarel Aircraft Design and Engineering (JADE) brought out two examples of his new Shogun ATF (remember the mock-up from last year's International Modeler Show coverage?). Although it's not a true scale design, it does closely emulate the experimental Advanced Tactical Fighter (ATF), so it's close enough for slope.

(Richard helped me a great deal with finishing my F-86 Sabre Jet, and whenever I'd screw up something, the standard routine would be to shrug and say, "Hey, it's just a slope glider!" At this stage of the scale game, I guess that applies to designs, too. If it looks scalish and flies well, it's close enough for slope!)

The Shogun ATF definitely does fly well. I got an opportunity to play with it at Torrey Pines, and as usual when I fly one of Richard's designs, he finally had to slap me around and wrench the transmitter out of my hands to get in some flying time of his own. The futuristic design, like its namesake, cuts quickly and smoothly in slow, tight maneuvers, yet picks up speed and moves when you push the go-fast stick forward!

The construction of the Shogun is as innovative as its design. The wing is made of conventional foam/balsa sheeting, but the highly detailed fuselage is vacuum formed in two pods (a top and a bottom) that simply fit together over the wing to hold the radio, control rods, vertical stabs and elevator. Construction promises to be quick and easy, and the kit price is expected to be very competitive! Watch for an announcement in SSN.

Scale Glider Components

Joining all the SoCal power-scale kit manufacturers was Bill Liscomb of Scale Glider Components with his outstanding new scale DG-202 sailplane. This is a serious, high-performance glider! The 12-foot, 4-inch wing sports a modified Eppler 374 airfoil (7.5% thick at the tip and 9% at the root), and with a 22 oz./sq.ft. wing loading, it's fast! The wing comes sheeted with obechi wood, and the carbon fiber spar and wing tubes are already installed. Likewise, the stabilizer and rudder are

foam, sheeted with obechi. The pressure-bagged, one-piece fuselage is gelcoated white. Five-foot, 1/16-in. music wire pushrods are included. You just install the spoilers, cut the ailerons, slip in a radio and hang on! It's intended mainly for slope soaring, but Bill says it will thermal, too.

High Performance Air

A new glider company, thusfar consisting of two guys and one monstersized sailplane, has entered the industry in a very dramatic way! Wayne Spani and Keith Hollenbeck of High Performance Air displayed their partially completed 21-foot, 3-inch span Albatross, an ASW-20 mutant.

They got one of the huge ASW-20 fuselages from Gary Anderson of American Sailplane Designs as a starting point, and then took off on their own. They've modified the fuselage around the wing shoulder area and completely manufactured all the other parts.

The airfoil is a Wortmann FX-60-126 that they modified by thinning it slightly and creating a sharper entry. Functions include rudder, elevator, ailerons, flaps, spoilers and retractable landing gear, all linked together with one of Airtronics' amazing Vision radios. The split-aileron design is interesting. There are actually two ailerons on each side, and they're set so that the outside aileron moves just a few degrees further than the inside one, giving sort of a progressive aileron effect.

The first Albatross is expected to make its first flight in about one month, probably at Torrey Pines.

Power-Scale Phenomena

Of course, Bob and Kim Reynolds were there. Bob had promised to have his huge F-14B Super Tomcat ready for the Torrey Pines event, and he also brought along his tiny prototype sacrificial F-14 "Kitty Kat."

The big plane has turned into an even longer-term project than anticipated. What began as a few-month commitment is now expected to fill two years of fairly intensive R&D and building time. The little plane is staying just ahead of the big one in development; that's Bob's testbed for his concepts about how to make a swing-wing glider work! Both gliders have flown with their wings in the forward position.

Although the big one was ready in time

for the last day, the wind gods apparently weren't too excited about seeing it fly. Bob worked on it all weekend, installing the rudders he discovered he needed after flying it at Long Beach. The Long Beach flight proved that it will fly and that it doesn't really need lots of wind to do it, but on Sunday, the wind let us down.

Bob's one F-14 flight at Torrey Pines was with the small plane, and although he ultimately wound up down on the beach with it, the flight still is considered a success because he finally got a chance to swing the wings in flight! The plane reacted to having its wings swung back in the generally predicted manner; it dived. Seems some more brain-storming and R&D work is necessary to get the center of gravity to remain within limits that are controllable with trim changes.

Flying the first swing-wing glider was one of Bob's main goals with this project, and although it didn't fly well, he did actually cycle the wings twice during the flight becoming (we think) the first to do it.

Scratch-built Jets

Howard Hulin and Larry Ervin produced three head-turners, a six-foot-span A-10 Thunderbolt and a pair of F-84s, all scratch-built from three-view drawings they found in the Squadron/Signal books.

The A-10's size was determined simply enough. The fuse is exactly the length of Howard's drawing table, and the rest is proportional. It turns out to be approximately 1/14 scale which, by the way, is the same scale as the G.I. Joe figure they used as a pilot. The fuse is an all-wooden, built-up structure with balsa, spruce and plywood formers. Howard found a vacuum-formed canopy from Sig that fit the plans, and he photocopied the instrument panel from a photo he found and mounted it inside. It's covered with SolarTex and painted with Pactra model paint. The A-10 airfoil is an Eppler 205 for the center section of the polyhedral wing, and it transitions to a thinned (8%) Eppler 374 on the tips.

The F-84s, resplendent in chrome Monocote, were a team project where Howard built the fuses and Larry did the wings and tails. Their airfoils are Eppler 374s, thinned to 8-1/2%.

Tsunami Reno Racer

Dan Danrich copied a real Reno



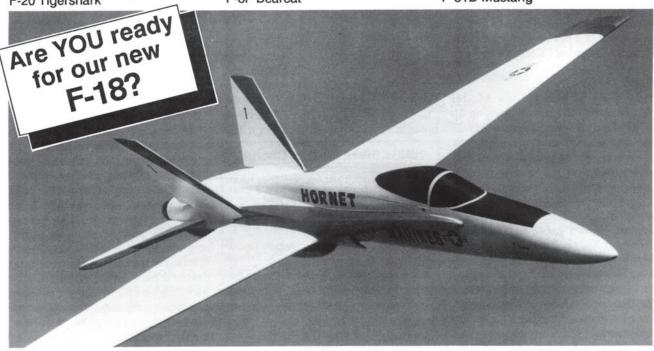




F-20 Tigershark

F-8F Bearcat

P-51D Mustang



P-40 Warhawk

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Racer with his rendition of the "Tsunami" pylon racer. Dan used a Scale Model Research Photo-Pak to get an accurate look at the full-scale plane (which we understand is stored at Chino). He selected the new SD6060 airfoil for the 50-inch vacuum-bagged wing. Overall weight was 46 ounces for a 15.3 oz./sq. in. wingloading. Dan tossed it off the cliff in only moderate wind, and it flew well (causing witnesses to question his weight/wingloading specs), but it did perform! There's talk of kitting this model; I'll let you know as soon as I learn more.

MiG-23

Larry Jolly of Larry Jolly Model Products surprised us all by walking up unannounced carrying a large MiG-23 under his arm. Apparently, it's left over from one of his movie projects, and oddly enough, it's a slope glider.

Larry flew his MiG at the same time I was flying my F-86 Sabre Jet, so I don't have any in-flight photos of his glider. They sure looked good, though, sideby-side over Torrey Pines! Larry left as suddenly as he'd arrived, shortly after making his one flight of the weekend, so I didn't get together with him to write down the specs on his glider. I overheard that it does have an Eppler 205 airfoil and that the wing actually does swing although he hasn't swung it in flight, yet. Jolly's sudden departure was blamed on his latest movie project: a huge 737! He had to go back to work on it to meet the movie deadline.

Charlie's F-86 Sabre Jet

I've already bored you enough with the details of my Jet Hangar F-86 in the last issue, but as you can see, it's now finished. It made its "reborn" maiden flight on Saturday, and it flies even better at the heavier 16-ounce wingloading. Kevin Gribben tossed it smoothly, and the big jet simply flew away with no trim adjustments to be made and with impeccable handling qualities (much to my relief!). An added treat for me was the presence of Harry Finch, the original builder of the plane. I think he was as thrilled as I was to see it finally completed and in flight!

How About Those Birds!

The Torrey Pines Gulls organized the fun fly, and the club has a number of scale specialists among its ranks. Angelo Orona brought his museum quality SG-38, based on the Krick kit that's available from Hobby Lobby. Angelo

also displayed an immaculate Salto; I apologize for not getting the manufacturer's name.

Sal Peluso rolled out superbly prepared versions of the four-meter Discus by Roebers, a 3.75-meter Multiplex DG-300, a 3.75-meter Pilatus B4 by Mathias Hanell and a 3.75-meter Rodell ASK-21. Sal is a former auto painter, and the rich, mirrorlike finishes on his models reflected his skill with a spraygun.

Dennis LaBerge kept the crowd on its toes with awesome, high-speed passes with his Discus throughout the weekend, and he also displayed a small Schweizer 1-26 classic glider.

Contest Director Joe McBride brought out a pair of Schweizers, a TG-

HBICs (Head Birds In Charge)

Good events don't just happen. They take work from club members who care. If you had a good time, please direct your thanks to the following Torrey Pines Gulls club members for their parts in producing the first annual Torrey Pines Scale Fun Fly.

Jerry Miller Dennis LaBerge Joe Souza Martin "Joe" McBride Rob Owen Bill Liscomb Larry Fogel Angelo Orona Sal Peluso Carl Gwartney Jim Bolen Gary Knapp Hap Merrifield Charlie Morey

Scratch-built masterpiece. Carl Gwartney's Schweizer TG-2



2 and a TG-3. Although he never found a spare moment from his CD duties to do any flying, Joe's big vintage ships served pit-decoration duty with style.

Carl Gwartney brought his unfinished, framed-up TG-2 for display. It will eventually be an exact replica of the sailplane Carl learned to fly as a WWII combat glider pilot trainee at Twentynine Palms, California. The plane is being built from *Model Aviation* plans with wood that Carl bought at the local lumber yard and cut up himself on his 10-inch table saw.

Two of Red Simonson's Waco CG-4A troop carrier gliders were on display although Mr. Simonson himself wasn't in attendance. The small, nine-pound (!) gliders reportedly fly like the real ones

whose mission it was to land quickly rather than float around over enemy territory.

Funny Scale

I got a phone call from Ray Smith of Hobby Town a few days before the fun fly. He said he had a glider that was scale, but that instead of being one-sixth size, it was six times the size of the original!

"How big is this model?!" I asked.

He replied that it was 72 inches in span, and then explained that he'd built an exact six-times replica of the old A.J. Fighter 74 balsa glider that many of us played with as kids!

You may recall a design contest run by Model Airplane News (last year, I think), and Ray's plane was one of the two that caught my eye. The other one looked like a paper plane. Has anyone built a paper-plane look-alike sloper, yet?

The original A.J. balsa gliders are back in production. The company reportedly will have a booth at the International Modeler Show at Pasadena Center on January 12-14, 1990, and Ray Smith's over-sized RC version will probably be on display.

I saw one bird-shaped glider from a distance, but I never caught up with the owner, nor did I see it fly. If you're the owner/builder of that glider or any other one that looks like a real bird, how about sending in some information about it and a few photos? If the guy who used to fly the Pterodactyl at Long Beach is out there somewhere, please get in touch with me, too. Oh yeah, and how about Mark Smith's movie-star sloper of Jonathan Livingston Seagull...is it still hanging around somewhere? Let's print a section on bird look-alike slopers!

What's Next?

The Torrey Pines Gulls' first effort at producing a scale fun fly was very successful, thanks to all of you who showed up and brought your outstanding gliders, and we intend to do it again next year...perhaps on a different date.

One possibility involves a cooperative effort with Wil Byers. Wil, who organizes the Tri-Cities Scale Fun Fly, wants to run his event every other year instead of annually. So, there's some discussion about the Gulls picking up the event on alternate years.

Before the sun set on the last day,

VS sailplanes

those of us who were involved in organizing it were already planning the next one. We expect to hold a meeting within two weeks to review this year's effort and to discuss what we'll do differently next time.

This event shows great promise, in my opinion. It's held in a dense population area at Southern California's best (legal) location. With good planning and lots of work, it'll become an instant classic.

Any thoughts about this year's event or suggestions for 1990? Please send 'em in to *Slope Soaring News*, TPG Fun Fly '90, 2601 E. 19th St., #29, Signal Hill, CA 90804, and I'll pass 'em on

SCALE MODEL COMPANIES THAT SUPPORTED THE 1989 TORREY PINES SCALE FUN FLY

American Sailplane Design

2626 Coronado Ave., #89 San Diego, CA 92154 619/575-5133 Gary Anderson Numerous scale kits, both sailplane and power scale.

Cliff Hanger Models

to the Gulls. Thanks!

P.O. Box 9081 Torrance, CA 90508 213/320-4530 Marty Silberstein, Steve Peacock P-40 Warhawk, P-51D Mustang, F-4U Corsair, F-8F Bearcat, T-6 Texan, KAI-100 (Zero), F-20 Tigershark, F-5E Tiger II, F-18

Combat Models, Inc.

8535 Ārjons Drive, Suite R Miramar, CA 92126 Byron & Derek Bruce F-16, A-4 Skyhawk, A-10 Thunderbolt, MiG-27

DCU

1556 S. Anaheim Blvd., Unit C Anaheim, CA 92805 714/535-6969 Mark Hambelton Stryker, F-14 Tomcat

High Performance Air

25652 Cervantes Mission Viejo, CA 92691 714/859-4476 Wayne Spani, Keith Hollenbeck "Albatross" (modified ASW-20)

JADE

12136 Braddock Dr. Culver City, CA 90230 213/390-1348 Richard Jarel Shogun ATF

Scale Glider Components

7034 Fern Place Carlsbad, CA 92009 619/931-1438 Bill Liscomb DG-202, scale retractable landing gear

Slope Scale

12935 Lasselle St. Moreno Valley, CA 92388 714/924-8409 Brian Laird, Paul Masura Spitfire Mk. XIV, P-51D Mustang, Zero, Me-109, P-63 King Cobra, FW-190

rotor



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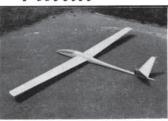
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Wing loading 12 oz/sq ft 2m span E374 section Kevlar/glass fuselage

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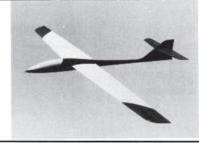
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xica

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TYPE: Light to heavy lift sport/aerobatic sloper. Lift range depends on strength of wing/builder's option.

CONTROLS: Same as KICA/ rudder optional 3rd channel STRUCTURE: Same as KICA, with various reinforcing options for wing internal structure.

DIMENSIONS: Span = 100 ins; area = 614 sq ins Aspect ratio = 16; length = 45 ins

Aspect ratio = 16; length = 45 ins
Typ wt = 51 oz; loading = 12 oz/sq ft
Section = \$D6060

XINGU 100 kit \$170

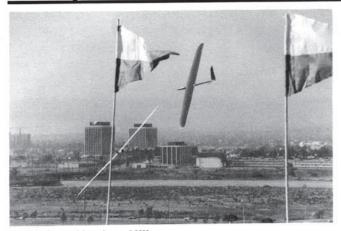
Send for free product brochure showing complete kit line as well as options and replacement parts for ROTOR

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US sailplanes 2317 n 63rd Seattle WA 98103 206 525 5776

Scraps...



Dueling at Hughes Hill.

Daryl Perkins won again with his Ron Vann Eliminator (the dark-colored plane in this photo).

S.O.S.R.S.

Same Old Slope Racin' Story: Daryl Perkins won again at the Hughes Hill two-day event held over the first weekend in November. The man of steel nerves (Daryl's thumbs never shake...even on maiden flights) flew his Ron Vann Eliminator.

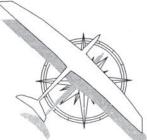
Jerry Bridgeman (head man at Team Snipe) took second with his dual-purpose F3E electric/slope racing Snipe. Jerry's plane is a one-off special developed for F3E competition; he just removes the electric motor nose and replaces it with a slip-over nose cone.

ModelCAD & SOARING BBSes

If you're a computer head, here's a few interesting tips. American Small Business Computers offers a budget-priced CAD program (\$99) designed specifially for modellers. I haven't had the opportunity to test it, but it certainly sounds interesting. For more information, contact the ModelCAD people

at ASBM, Inc., 327 S. Mill St. Pryor, OK 74361; 918/825-4844, or FAX 918/825-6359. Please mention that you heard about it in SSN.

There are two very good model airplane computer bulletin boards that I contact regularly, one here in SoCal and the other in Arizona. The Hanger, located in Anaheim and run by Tim Cardin, is at 714/740-0551, and the Craftsman's Workshop, SysOp'd by Doug Klassen in Tempe, is at 602/491-3494. Check 'em out, and leave me a message.



"BACK EAST" GLIDER EXPERTS

NorthEast Sailplane Products—ever hear of 'em? You will! The fearsome threesome (Sal De-Francesco, Stan Eames and Jay Kempf) have just launched a new company, and their catalog is nothing short of excellent. The pages are computergenerated (like SSN), so they have a good, typesetquality look. But the most unique feature is their "editorial" commentary on the kits they sell. In many cases, they have bought, built and flown the gliders, and they offer their customers the benefit of their experience in a short article on each sailplane. It's a wonderful idea, both informative and entertaining. Also, the team's aerodynamics expert, Jay Kempf, offers tidbits of wisdom throughout the book. It's easily worth the price (\$2.95) in information alone, and they'll credit the cost of the catalog toward your first order. If you'd like to see for yourself, please phone NESP at 802/658-9482 or write to NorthEast Sailplane Products, 16 Kirby Lane, Williston, VT 05495.

SCALE INSIGNIA

Looking for Stars n' Bars, Iron Crosses or Rising Suns to accurately trim your power scale warbird or jet? Major Decals probably has exactly what you need! Send \$2.00 for their brochure to Major Decals, Northeast Screen Graphics, 21 Fisher Ave., East Longmeadow, MA 01028, or call 413/525-4110 for information. Please mention that your heard about them in Slope Soaring News.

SR-71 SLOPER!

Rick Palmer, Arizona's most completely certifiable slope nut, sent in a photo of his partially completed SR- 71 Blackbird. Rick got the plans from Eric Clutton, 913 Cedar Lane, Tullahoma, TN 37388; 615/455-2256. Eric also offers plans for a 47-1/2 in. BAC Hawk Trainer for \$16; 52 in. Tornado F-2 for \$16; 48-1/2 in. Harrier G-3 for \$14; 37-1/2 in. English Electric Lightning for \$12; 48 in. F-4 Phantom for \$12.

Rick had hoped to fly the SR-71 at the Thanksgiving Weekend Torrey Pines Scale Fun Fly; now we're trying to convince him to trek up to Washington next Memorial Day Weekend for the Tri-Cities Scale Fun Fly.

How about it, buddy? I'll bet that if you paid his way, that poor college boy, Mike Holland, would do all the driving for you while you finish your building in the back seat!



Nose job candidate. Looks like Rick Palmer's SR-71 could be "interesting" to fly. (The full-scale one uses up about twoand-a-half states to make a 180° turn, we're told!)

POWER SCALE SOARING ASSOCIATION

Alan Hulme and I have

...bits and pieces from the world of slope soaring

been trading newsletters for the past year, and if you're into power scale gliders, you might want to join the PSSA, too. Contact PSSA at the following address – Alan Hulme, 52 Mountway, Waverton, Chester, CH3 7QF, England – for membership information.

The PSSA newsletter is a very good source of information about new kits from overseas. For example, there's a new South African kit of the Aermacchi 326 with a fiberglass fuse and foam wing (approximately 65-70 span, according to the newsletter). It's offered by Anton Benning, 10 Bennington Road, Tamboerskloof, Capetown, 8001 South Africa. Of course, there are the two B-52 kits available from Simon Cocker/Skytime Soarers, 67 Peel Street, Macclesfield, Cheshire, SK11 8BL, England (phone: 0625 613382). The original 3-1/2 meter behemoth has recently been joined by a more conservative little brother, a B-52 with a wingspan of only 104 inches! Mr. Cocker also offers plans (not a kit) for a 54-inch span Grumman F-20 Tigershark.

FULL-SCALE K-WING!

You've seen Rollin Klingberg's flying wing kit, right? Now eyeball the real thing! Test pilot Martin Bell says that its the nicest foot-launched aircraft he's ever flown, and he's been flying hang gliders since 1971.

SPECIFICATIONS

Span38	ft.
Area165 sq.	ft.
Weight93	lb.
Max. Speed 70 mg	h.
Materials: Graphite, Kev-	•
lar, fiberglass, foam, woo	d
L/D: 25:1, with lower door	•
and full canopy.	

The photo shows it flying at Marina Beach, California. At the time Rollin sent me this information, it had about two hours flying time on it.

As you'll see from the ad in this issue, Klingberg has added the X-Wing Interceptor to his product line. It can be built as a slope glider or be powered by electric or glow motors.

BAUER MODELLE

Been thinking about a scale sailplane or high per-

pan Been thinking abo

A South African Aermacchi 326?
Yep! This kit and other exotic delights await members





Rockin' with Rollin!
Rollin Klingberg's hang glider uses state-of-the-art model construction techniques.

formance German glider? Give the guys at AMS Imports/Exports a call, or send \$6 for their full color brochure. Direct your inquiries to Arnold Wratschko or Tom Nordness at AMS, 1110 S. Wells Ave., Reno, NV 89502; 702/786-7733.

TRITON MODELS

I'll bet you've been wondering about that guy from Alaska who sells the Reiher kit. I asked Greg Harding to send in some photos and information on his product line, and here's what he had to say:

"Right now, my product line consists of this one kit, the Reiher. I've sold just enough so far to be encouraged. I'm working on a 1/5-scale Kirby Kite, and I'm planning some other things, but it's a long, slow process.

"It's especially hard being out here on the end of the supply line. Kotzebue is above the Arctic Circle and on the coast of the Arctic Ocean. It's not hell, but you can see it from here. We're about 200 miles closer to Siberia than to the nearest McDonald's. I'm not sure if that's good or bad.

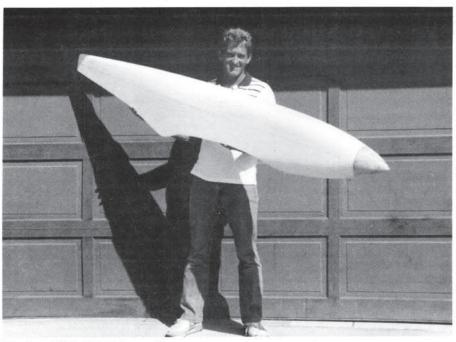
"On the coast, the air is very stable, and there's almost no thermal activity. All my flying is slope soaring off a bluff south of town that faces the prevailing west wind. Of course, the wind can get a little brisk, but I guess we're all a little crazy."

Greg sent several photos. The one we're running here is apparently a summer- or springtime shot (that's an Easter hat, no doubt); another one shows him in full parka and beaverskin hat tossing the Reiher off over an endless white snow-field which he says is the Arctic Ocean. Brrrrr!

Contact this hardy soul at Triton Models, P.O. Box 1157, Kotzebue, AK 99752; 907/442-2617.

Kotzebue cruisin' Greg flies his Reiher out over the Arctic Ocean.





No fat chicks? Well, maybe...

This partially-shaped, quarter-scale P-51 foam plug is a real armful, yet it was fabricated using the techniques described in this article.

The Shaping of Miss Go-Fast

How To Build A Fiberglass Fuselage

By Pete Marshall

owdy, slopeheads! In case you just tuned into Slope Soaring News, I'll say a few words about the first article in this series, "Looking for Miss Go-Fast." Part one provided a set of guidelines for you to design your own version of the generic slope glider for high-speed aerobatics. She can look like anything

List of Materials

- 1. Blue styrofoam, Type SM or IB, 3-4 inches thick.
- 2. Tracing paper large enough for the fuselage length.
- 3. Double-sided tape, 3M wing sheeting tape or spray adhesive.
- 4. A quart of slow-cure epoxy of your choice, Saf-T-Poxy. (Thin laminating resin is best.)
- Three yards of two-ounce fiberglass cloth and three yards of fourounce fiberglass cloth (optional: two yards of two-ounce Kevlar).
- Calibrated mixing cups and/or disposable syringes for dispensing accurate amounts of epoxy and hardener.
- 7. One quart of acetone or M.E.K. for clean-up and dissolving foam.
- One-half dozen disposable children's paste brushes.
- Isopropyl alcohol 99% (optional).
 Two rolls single-ply toilet paper.
- 11. Plastic or rubber disposable gloves.

you want, from a full-on experimental design to a slope scale version of your favorite full-size airplane.

If designing your own sloper interests you, then beg, borrow or steal the previous issue of SSN, and start from the beginning. On the other hand, if you just want to build your own super-strong fiberglass fuselage, procure a set of full-size plans, and let's get on with it!

To construct your mold, you must have full-size plan (top) and profile (side) views. Trace them onto some paper templates. I use a translucent drafting paper, but any kind of paper you can trace through is okay.

Before we go any further, please read through the list of materials and get any items that you don't already have in stock.

Foam Facts

A couple comments about foam: Styrofoam SM and IB are both blue and about two-pound density. Type IB has a bit coarser bubble and is nicer to shape, however, it's not always available. Type SM is fine. Both are great for cutting foam cores. Do not use white "popcorn" foam for shaping. It chunks out while sanding and is too soft and

flexible. An exception is the high density white foam such as used by Combat Models in their F-16A which is suitable for reshaping should you wish to 'glass one of their kits.

Back to the Drawing Board...

Okay, so far, you've traced the top and side views onto your tracing paper. Carefully cut out the templates, just leaving the ink outline on the edge of your template.

Measure and mark your sheet of styrofoam the same length as your fuselage and about an inch wider than the top and side view templates. Cut the block square using either a hot wire or a bandsaw. Carefully center the templates and stick them to the block. Using a bandsaw to maintain square 90° cuts, cut around the outline of your templates, and save the cut-off pieces. Then, using double-sided tape, stick the cut-off pieces back on exactly where they came off. Flip the stuck-together block sideways and cut around the other template. Pop the extra pieces off now, and check out your square, true fuselage plug.

Accurately scribe a centerline along the top, bottom and both sides of your squared fuselage with a felt-tipped marker pen. These lines are to be used as reference marks for shaping and are not to be sanded out.

Use 12-inch wooden sandpaper blocks, two or three inches wide. Glue 80-grit sandpaper on both sides with rubber cement (available at stationery stores). Shape your fuselage round, oval or rounded-rectangular by using the sharp-eye method. You can also create female templates of cardboard to assure sectional symmetry, if you like.

Switch to 120-grit as your shape gets closer to perfection, finishing off with carefully folded 150-grit for final smoothing.

About 30 minutes or so is about all it will take after your bandsaw cuts to complete your shaped mold. If you blow it on the bandsaw, start over with a new block. There's no way to fill major foam cavities and still maintain uniform shaping properties. If you get a couple dings in the final foam plug, don't despair. Fill 'em with Model Magic of another light, fluffy, water-based filler after all your shaping is done.

Before molding, a word about epoxy: First of all, do NOT use polyester resin. It eats foam! Use epoxy resin. Epoxy

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- with Special Guest Speaker Mr. Michael Selig! -



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resin is absorbed into the human body

good ventilation while working with this substance.

I use Shell Epon 815, a 4:1 mix of epoxy to hardener which can be varied to 3:1 for a faster cure, if you like. On exterior laminations, like the one we'll be doing here, I thin this rather thick epoxy with about 20% isopropyl alcohol. (Buy it at the drug store.) Some epoxy experts warn against thinning any epoxy, and I won't argue with them, but I haven't noticed any adverse effects. The alcohol evaporates out of the resin for each layer. Mixing one to two ounces is normally sufficient for a 40 or 50-inch fuselage. It's better to mix another smaller batch than to watch an ounce or three kick off in the pot.

Hey, this stuff isn't cheap, so if you want to stop a large batch from going critical and making like a major meltdown, find a large, flat-bottomed, metal container to mix it in. It'll help maintain a cooler epoxy temperature while you get the resin from the container to the job. You can also mix in about 10% isopropyl alcohol which will cool the epoxy by evaporation and give

through bare skin, and it's not something you want pumping through your veins. Resin tolerance is cumulative to a degree. That is, you could mold epoxy with no protection for an unspecified period of time which varies with each individual. But at some point, your epoxy tolerance will fall to zero, and you'll be unable to even get close to it without showing a severe reaction (skin rash, itch, dizziness, headaches, kidney problems, etc.). As a minimum precaution, wear surgical gloves and provide





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Please tell 'em you saw it in SSN! you another five minutes working time.

"Moldy" Philosophy

Remember: Maximum glass; minimum resin. We want to use only enough resin to stiffen the glass cloth and cement it to the layer below.

Lay your foam plug on a sheet of wax paper taped to your work bench. Mix a couple ounces of resin and coat the plug all over using a disposable brush. let this cover coat cure with the plug sitting on its belly so as not to develop a warp in the tail boom.

Block the plug upright using scrap foam wedges. This coat will stiffen the plug and fill the pores in the foam so your first layer of glass will not be resin starved when the epoxy soaks into the foam. Do not allow sunlight to shine on the plug while shaping or curing resin. Sunlight on one side of your plug will warp the foam like a banana.

Allow the coated plug to cure 12 hours, then hand sand it smooth to the touch with 150-grit sandpaper. Cut a piece of coat hanger wire 8-12 inches long and bend a hook at one end. Carefully drill out the foam in the tail boom so you can epoxy the wire hook into your plug with no bulges or distortion. From this point on, all epoxy curing will be accomplished with the plug hanging in the warmest, non-sunny place you can find.

Glass It!

Use two- and four-ounce glass to maintain a high glass-to-resin ratio. Coarser, heavier weaves have larger gaps between the glass strands which suck up resin. Six-ounce glass is okay for larger fuselages.

Cut a slightly oversize piece of twoounce cloth and smooth it over one side of your mold. Carefully trim it with a marking pen and scissors so that the edge of the cloth overlaps the centerline by 1/2 to 1-1/2 inches. Arrange it so the edge runs along the point of maximum curvature (i.e., a rounded square corner) if possible. This makes it much easier to sand the edge to a smooth taper for the opposite side lay-up.

Before laminating the two-ounce glass onto your mold, trace the outline on your cutting table for the rest of your glass cutting. Simply slide the glass cloth over the marked pattern, then mark and cut all your lay-ups. Set these aside in order of lamination.

Okay, let's get down to the actual molding. Smooth the first two-ounce

layer over your mold, gently stroking it to conform to the curves. This is also a check for any foreign substance and the placement on both centerlines. The fabric must overlap the centerline, top and bottom.

Mix a batch of resin (thin up to 20% with alcohol if it's too thick) and pour a thin line down the center of the glass cloth. Squeegee the resin outwards with a 2- x 3-inch plate cut from 1/64-inch plywood. (Round and sand the corners of the squeegee slightly so that it won't catch on the weave of the cloth.) Wet any dry spots with a disposable brush.

Try to squeegee excess resin out of the first layer of cloth before going to the next step. Clean your brushes and squeegees in acetone or alcohol.

Toilet Paper Time!

Now to "roll out" your fresh lay-up to get rid of air pockets and excess resin. For this job, you need two or three rolls of single-ply toilet paper. This amount will do your whole fuselage. You can lay your mold on its side and roll the toilet paper firmly over the lay-up. Turn the roll only 360° at a time before stripping off the wetted paper. Continue to roll and strip off the paper until the paper is almost completely dry after rolling it across the glass.

"Remember: Maximum glass; minimum resin. We want to use only enough resin to stiffen the glass cloth and cement it to the layer below."

If your lay-up was very wet to start with, the paper may stick to it. Don't despair. Continue rolling, and the glass will lay down again. The alcohol evaporates out of the resin during all this work and reduces the volume of resin in the lay-up.

In successive layers, it becomes difficult to roll out fuse without touching the other side to the table, to use the wire hook to hang it and do your rolling there instead.

Inspect the lay-up for air bubbles, dry spots and wet spots. The lay-up should have a dull, satin finish look. When it looks right, hang it in a warm dry place to cure.

After 12 or more hours at 80° or 18 hours at 70°, the cure should be com-

plete. Now feather the edges of your last layer with 100-150-grit sandpaper. Very lightly sand the whole lay-up, just to take off any knobs or points. Inspect the feathered edges for ridges or ledges.

Repeat the glassing sequence on the other side of the plug. Glass from side to side with each successive layer overlapping the previous lay-up at the centerlines until the desired skin thickness has been built up.

How Much Is Enough?

As a rough guide for a typical sloper, the tailboom might have two layers of two-ounce and two layers of four-ounce glass cloth. The pod/forward section should have two more layers of four-ounce. Finish all your lay-ups with two-ounce cloth because it's much easier to fill for painting than heavier weaves.

If in doubt about the number of layers required, err on the heavy side for slope. Remember, your design's wingloading should run around 15 ounces per square foot, so a heavier fuselage, especially in the pod area, won't need so much ballast!

Meltdown!

To remove the foam from inside the model, carefully mark and cut the hatch or wing saddle. An X-acto saw works fine for this operation, and the removed part may then be used for the hatch cover, canopy or wing fairing, as applicable. Hollow out some of the exposed foam in the hatch area, Pour in acetone or lacquer thinner, and watch the foam bubble away and dissolve. There's more important info about this critical operation in Part III, next issue, so wait until then before cutting your fuse and melting the foam..

Kevlar: Tough Enough

If you decide to use Kevlar, don't lay it up like you did the fiberglass. When you sand Kevlar, it fuzzes up like the golden fleece! Then you Hot Stuff it and sand again, ad infinitum. The easy way is to lay it up after you finish the exterior glass lay-ups. To obtain the maximum benefit from Kevlar, sandwich this stuff between layers of fiberglass...on the inside. After the foam has all been dissolved out of your new fuselage, sand the inner surfaces, lay-up a couple layers of Kevlar, then add a couple layers of fiberglass, all at once. I use Keylar to beef up all my pod areas while leaving the boom areas light.

Stay tuned for the next step...

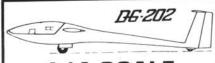






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MOVING?

Don't miss a single issue of Slope Soaring News!

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Air Mail

SUPER-AEROBATIC!

Why does Jef Raskin stop at demanding a fully-symmetrical airfoil? Perhaps he hasn't gone far enough in his design requirements.

Why not a stabilator instead of stab and elevator? How about placing the wing on the centerline of the fuselage? The rudder should be half above and half below the centerline of the fuse. Be sure the stabilator is on the centerline, too. The fuselage itself should also be fully symmetrical, and the radio gear must be located on the centerline. The plane should be the same color, top and bottom, to avoid any push/pull from the sun's rays.

When Jef builds his ship with these specs, he should call it the Absolute.

I'd love to fly my Dodgson Pivot (with modified stabilator tail) alongside Jef with his Absolute.

I agree with his concept but not his recommendation. The bottom line: that green stuff from the advertisers.

Mark Hurwitt Northridge, CA

ORGANIZED SLOPE RACING?

(I received this letter from John Dvorak, newsletter editor at the South Bay Soaring Society. It's reprinted here for your information and so that you may express your support/opposition/comments both here in SSN's Air Mail column and also directly to the group who's organizing it through Mr. Dvorak. — Charlie.)

Dear Charlie,

Please read the slope race proposal outlined here and give me your views. Do you think it would be feasible? Would you help? Be an officer? C.D.? Ground support? P.R.?

A Proposal to Organize Slope Race Pilots in California

I. Goals

- 1. To provide an annual international slope race.
- 2. To sponsor three regional slope races during the year; one at each of three different sites: southern, central and northern California.
- 3. To encourage soaring clubs to include slope races among their club contests.

II. Elements of the Organization.

1. Made up of slope race pilots and other interested people in California who would be willing to support an annual international slope race and regional races.

2. Would provide the management and secure the personnel required to run an annual international slope race and to run regional races (contest directors, flaggers, score keepers, matrix makers, publicity, etc.)

3. Possible race sites: Davenport, Los Baños, Santa Maria.

 Soaring clubs would be encouraged to help provide the slope sites, support personnel and communication.

5. Contest fees could cover expenses such as trophies, slope site support equipment and communication. Start-up costs could be raised from membership dues.

6. AMA affiliation: insurance, contest status.

III. Action

Send your written comments or phone as soon as possible.

The proposal will be sent to several slope race pilots and other interested people in California. Their input will be published.

John Dvorak South Bay Soaring Society 1638 Farringdon Court San Jose, CA 94087 408/259-4205

John, I'll support this project in every way possible, beginning with this attempt to round up more support from among the SSN readers. That also includes an offer to be involved at the early planning stages, publicity in SSN as the project progresses, and both pre-event publicity and post-race coverage in SSN. (Pre-event publicity includes a notice in my "Scraps" column, and the standard offer to Contest Directors of half-price ad rates.) Hopefully, printing this letter will encourage SSN readers to get involved, too.

I'd like to participate more, but I'm afraid I'll get even further behind with publishing SSN if I do. And I don't think my being lynched by irate readers would help the cause.

I do know of a couple SoCal clubs that might participate, though, and I'll contact them immediately.

Good luck! Please keep me advised, and I'll pass the information along to my friends here at SSN. – Charlie.

COX COMPLIMENTS

Many thanks for the copies of SSN. Very simply, you have a quality product, and as others have said, "Keep up the good work!"

I've enjoyed the "Raskin" discussions and replies on what seems to be an interpretation of a play on words (it's called "advertising")! It's like certain soap powders that every year or so are being touted as "new and improved..."

Cox Hobbies will have a couple of new two- and three- channel systems available after the first of the year. They'll be at the IMS show. They were shown at the recent RCHTA show in Chicago and created a fair amount of interest. I'll keep you posted.

John Elliot, Jr. **Public Relations Manager** Cox Hobbies, Inc.

Thanks, John! You've been a strong SSN supporter from the beginning, and I very much appreciate it. Please send along photos and specs on those new systems as soon as you can. Assuming they're single-stick systems, I know of a bunch of slopeheads (including me!) who are interested already. See you at the International Modeler Show at Pasadena Center on January 12-14. - Charlie.

1,000 OAKS...AND SOME SLOPES, TOO

We've got some great sites out here in Thousand Oaks, California that we'd be happy to share with you and the SSN readers. We'll send pictures as soon as possible.

Your dedication and effort in publishing this one-of-a-sort magazine, complete with contests, results, trends and designs is greatly appreciated by us RCers. Keep up the good work.

Hey! What do you and your readers think of this?

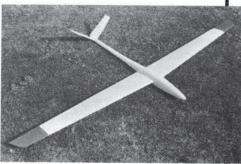
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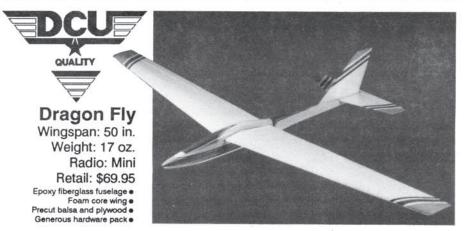
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trophies? 3. Am I crazy?

Chris Loveiov Glidesigns Thousand Oaks, CA

Sounds like a good event for Cheetahs! Or perhaps the new Banzai combat ships. Also sounds like a tricky event to sanction and insure. There are lots of pros and cons to this idea, Chris. Let's see what the readers think. - Charlie.

UFO IT!

A long time ago, I read in RCM's "For What It's Worth" column that a good way to glue the second piece of sheeting to ribs when using D-tube wing construction is to make pin holes throught the sheeting directly above and into each rib, and then run Zap through the holes. This works well.

Now with the intro of Satellite City's UFO (which does not attack wing foam), the same method can be used to relaminate delaminated wing skins to foam core wings. If a large enough area is delaminated, drill a hole large enough in the skin to allow their plastic tube that comes with the thin stuff to fit through, and squirt in a bunch. Then hold it 'til it cures. All better!

Doug Hertzog Long Beach, CA

Ya know, buddy, you really are smarter (as I stated in my product evaluation of UFO), but still only marginally better lookin'. Delamination being a specialty of mine, I'll make good use of this information. Thanks! - Charlie.

UNORGANIZED FUN FLY?

In a past issue (June or July?) you mentioned the possibility of a minimum-organizational effort (frequency board and monitor) fun fly at Richland sometime after the Nats. Did it ever happen? Or is it still in the works?

Sounds like a great idea. I was over there Memorial Day between fishing seasons in Alaska, and I've been wanting to go back ever since. I saw you fly the Vader pod-and-boom there, and I was impressed enough to order one of Gregg Okert's copies. I've only flown it twice so far, but it's a gas!

Jim Carson Port Townsend, WA

No, the fun fly never happened, Jim. Here's the story: Wil Byers, the contest director from Richland, and I had discussed hosting an unofficial fun fly at Cape Blanco, Oregon. From what I understand, that's another "Richland quality" flying site, and it was featured in a story by Dan Fink in last month's SSN. Unfortunately, both Wil and I have been so busy, we haven't had time to do anything more than daydream about what might have been.

The Richland idea is excellent. I'll certainly be there next Memorial Day weekend for the scale fun fly, but I think a general fun fly would be a good event, too. I'm willing to take the time off work and make the drive up there twice a year.

How about it, Wil? We stumbled on the Cape Blanco plan, but Richland could work. (Uh-oh. I think I just heard a loud and heartfelt groan from Mary Jo Byers!) - Charlie.

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Color photos, 3-view, Randolph color code and owner information on the following types: Grunau Baby IIb (\$10), Eon Olympia (\$10), DFS Rhoensperber (\$10), Kirby Kite (\$10), Kocjan Orlik II (\$10), Schweizer TG - 3A (\$10), Go 3, Minimoa 38 (\$15), Rubik Cimbora (\$10), Laister Kaufmann TG-4A (\$10). Scott Airpark, Rt. 1, Box 239, Lovettsville, VA 22080

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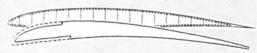
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Slope Soaring News won't have a booth this year, but I'll be there all three days, visiting my flying buddies in their booths and walking the aisles in search of new and exciting slope soaring products - Charlie.

Ask about me in any of the following booths:

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