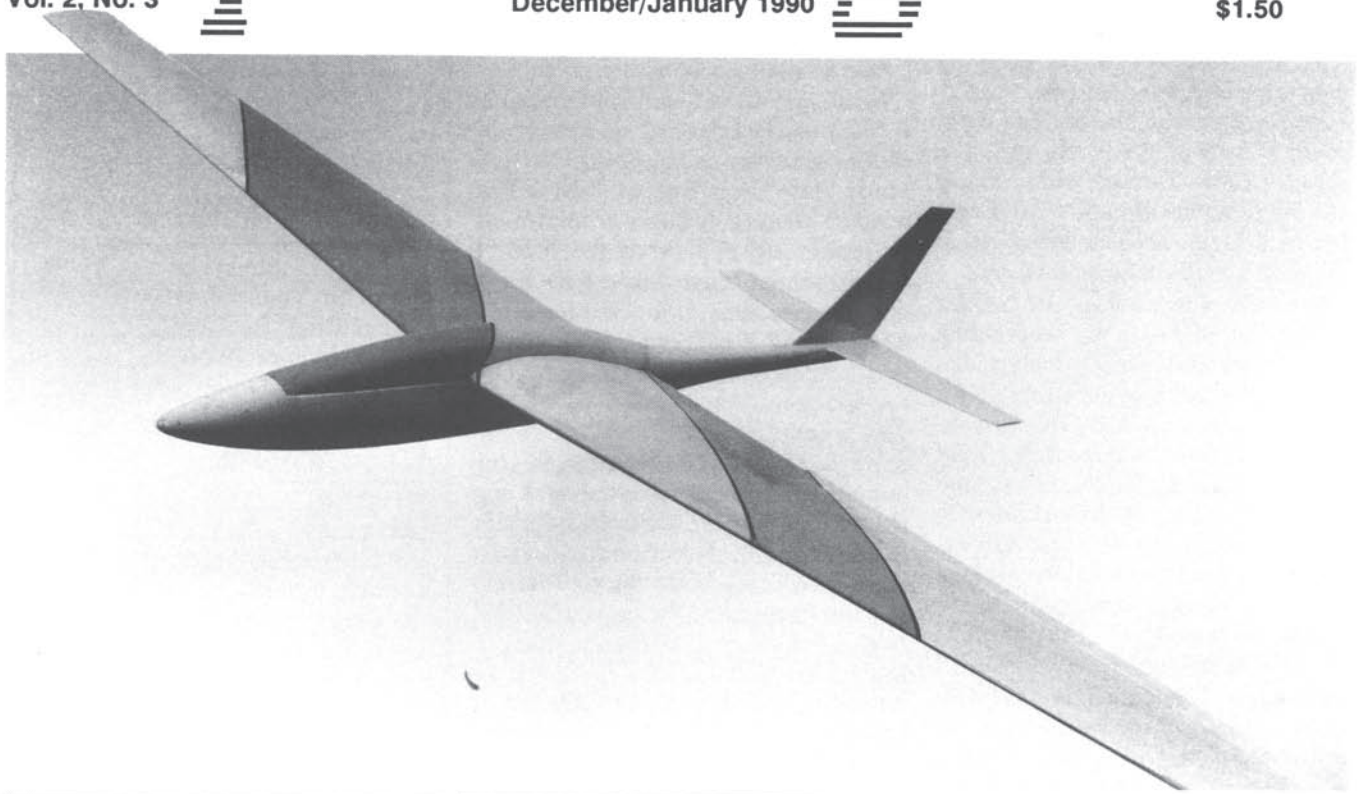
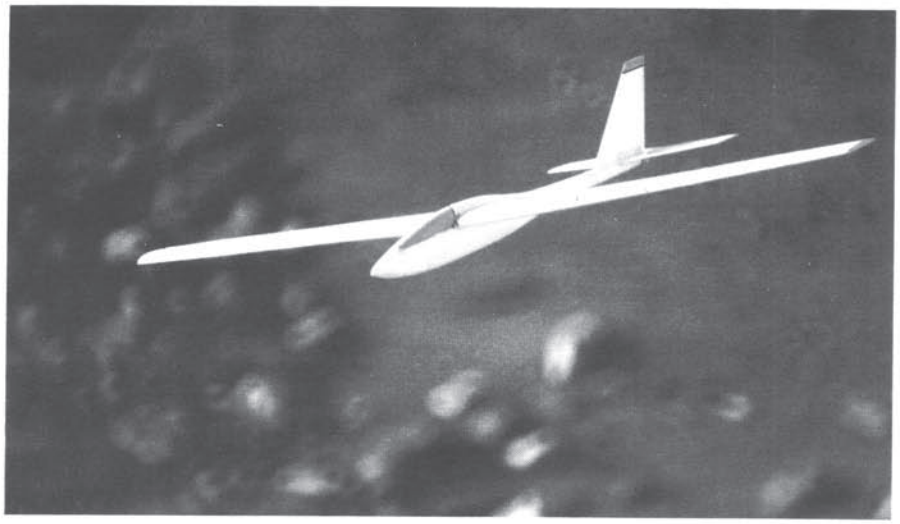
Under Investigation!

DCU's Super Dragon Fly Undergoes A Slope Soaring News Build/Test Evaluation

Slope Soaring News

Vol. 2, No. 3 December/January 1990 $1.50





Warbirds! Jake Chichilitti's Planes and Plans • Cheap Foam Core Cutter • How To Use (And Cut) DuPont's Kevlar 49 Aramid Fiber • 1990 Torrey Pines Scale Fun Fly Scheduled • Aerobatic School? Maybe...If You're Interested! • Ready-To-Fly "Lance" • "Dead Meat" Retold (All Lies) •

Wingin' It

SAIL KITTY

Sunday, December 17,1989 was an outstanding day! The strong, easterly Santa Ana winds which had plagued us for weeks finally subsided. Point Fermin was back to its rowdy best conditions, a bunch of my flying buddies showed up ready to click some wings, and Bob Reynolds finally took his heart in his hands, gulped twice...and tossed one of his prized swing-wing F-14s over the jagged edge into some big lift!

It was the little one, the one he's nicknamed Kitty Kat. (The big guy, the eight-foot Super Tomcat, will probably make its first big lift flight off Eagle Butte next Memorial Day Weekend at Wil Byers' Tri-Cities Scale Fun Fly.)

Bob is a professional model builder for McDonnell Douglas, so creating fine scale models is no big deal to him. But slope soaring is something else...he's only been doing this foolishness for 6-8 months. His flying (and landing) experience is centered around Long Beach, our local 60-foot bluff with its Sunday-in-the-park atmosphere. Until today, he'd never tossed a plane off a no-second-chances 150-foot vertical cliff overlooking a rocky shoreline with surfer-sized waves.

He'd gone through all the motions several weeks before, hauling his entourage down to Torrey Pines for the scale fun fly, and pitching the same small plane off that monster cliff. But conditions weren't sufficient for it to fly well, and he eventually guided it to the infamous Black's (nude) Beach below. Unfortunately, in November, it wasn't even an eye-opener going to fetch it.

Bob is a very patient man – at least he seems to be – but we could tell the suspense was killing him. He'd reached a plateau with his Super Tomcat project. He needed to fly the little one to test his swing-wing theories before he could continue.

And it finally got to him.

We all met around noon at the south-facing Long Beach bluff where the conditions were surprisingly good. Carl and Andy flew their Snipes, like killer whales cutting though a school of flounders, up and down the bluff. I tossed off the Slope Scale P-51 for a couple good runs. Bob tried the Kitty Kat with the usual result: a trip to the beach when it fell out of the light, narrow lift band.

At around two, the wind had swung more westerly, and it was stronger. Our appetites had been whetted at Long Beach; now we were ready for a Fermin feast! I made one last effort to drag Bob along, and he seemed to be considering it. Then he repeated the same story he'd told us before about Fermin's unforgiving nature and his doubts about his ability to deal with it. So we left him at Long Beach and headed up the coast.

Later, at Point Fermin, Ken tapped

(Continued on page 18)

The end of a great day!
Kim and Bob Reynolds and test pilot Carl Fountain had no problem working a smile for the camera after their first successful swing-wing flight with the smaller of Bob's two F-14 Tomcat slopers. (The other one's 1/10 scale!)

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Just call me "Draggin' Fly!"

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 editor.

ALL CONTRIBUTIONS should be addressed to SSN, c/o Charlie Morey, 2601 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.

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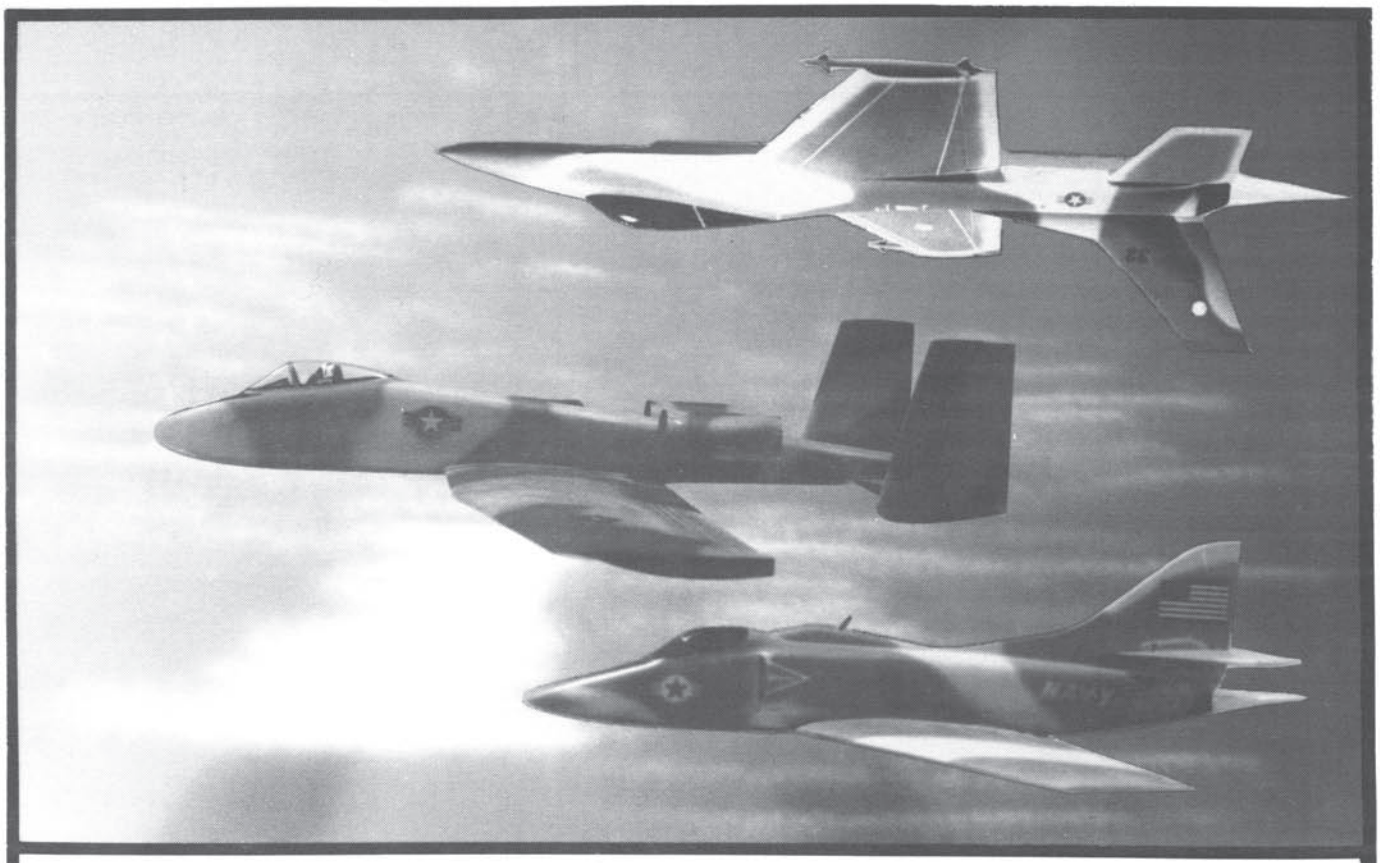

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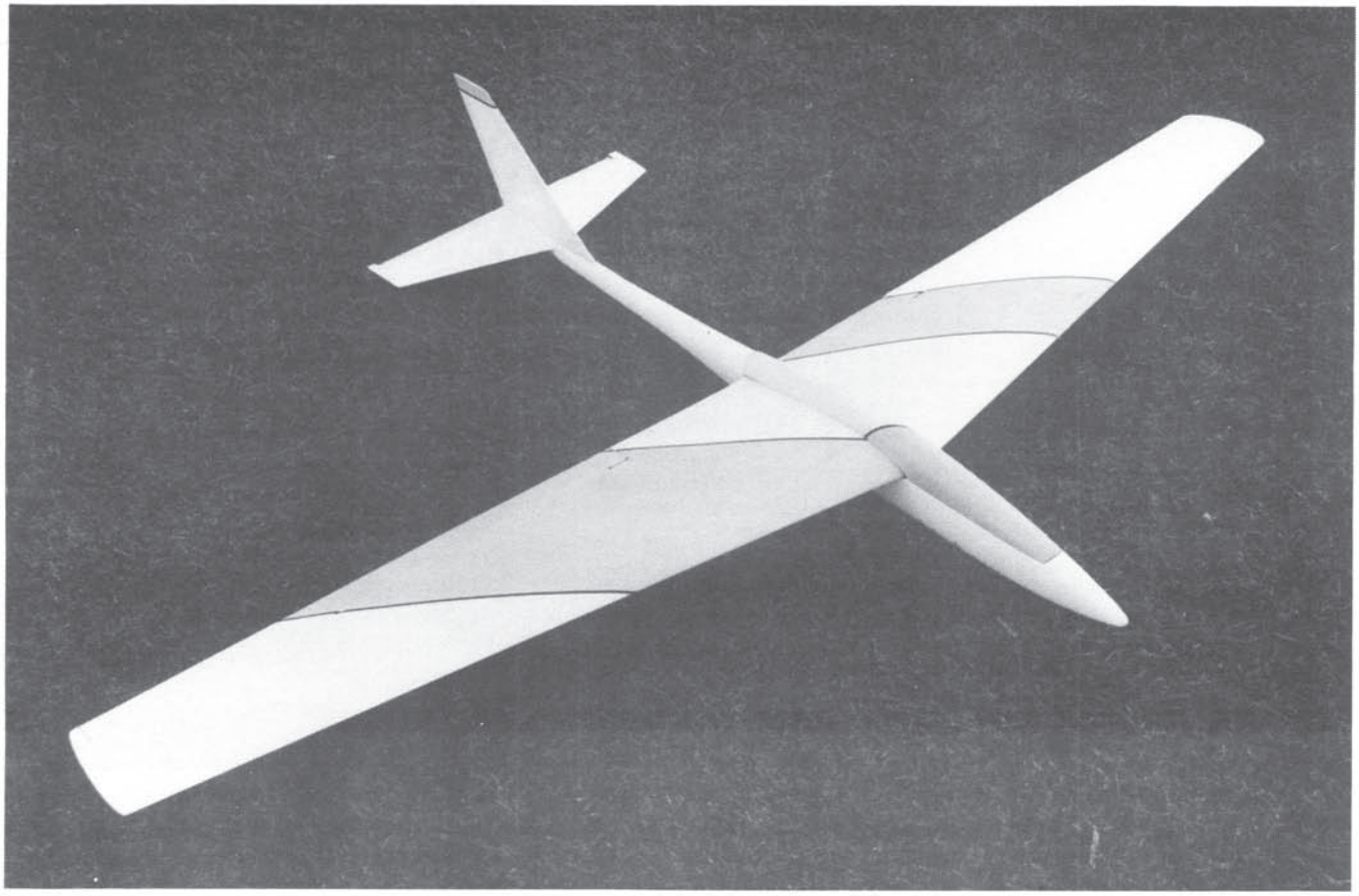


Splendor in the grass...
Unballasted, the Super Dragon Fly is a gentle aileron trainer with high-performance looks. Stow some lead on the CG, and its Eppler 374 airfoil picks up speed and performance.

DCU's Super Dragon Fly...

...Can Take You From First Aileron Flight to the AMA Slope Soaring Nats

By Carl Fountain

Point Fermin's 150-foot vertical face beckoned, but its rocky coastline and powerful waves made me wonder if making the Super Dragon Fly's first flight at this location was truly a good idea. On one hand, the model's conventional design had posed no major building, set-up or trimming problems. I was sure it would fly. On the other hand, if something did go awry, my alternative (bail-out) landing sites were limited to stuffing it in over the rail on the small lawn behind me or searching for a soft spot on the rocky beach below! The options were not reassuring...

After the ceremonial on-the-ground-in-case-we-don't-get-it-back pictures, we made final preparations to throw this beast off the cliff. Charlie took one more picture for posterity, and with the CG set at the aft limit of blueprint recommendations, the trim neutral and my knees shaking, I heaved my weeks-long project over the edge!

She took off fast and smooth in the

downward direction! About three clicks of up-trim had the nose on a much better heading. On a light day at Long Beach you don't want to throw a new plane off unless you don't mind walking down to the beach...and on a light day at Point Fermin, you'd better be darned sure everything is set pretty close to where you want it! (It's a dreadfully long way down!) Fortunately, everything was on the money and she took off like a dragonfly possessed!

After getting trims set and acquainting myself with the way the plane responds to the controls, a few close fly-bys were in order. With the sun quickly setting, we had to get a few flying pictures and they had to be up close. No, closer! Now closer and lower! Now come through inverted! Hey! I've only been at the sticks for five minutes! Give me a break!

After the paparazzi disbursed, it was

time to get to know my new flying partner. Unfortunately, my aileron setup did not give me enough throw for comfortable rolls. The first one took about three seconds with me panicking when it got inverted. I fed in about twice as much elevator as it needed (yeah, I had plenty of that!) and completed my roll with a flop. When my heart started beating again, I attempted another. The next roll was slow but clean. Later flights – with the aileron throw doubled and sufficiently more lift – proved much more impressive, with crisp axial rolls.

First Impressions

The kit off-the-shelf is impressive. Fiberglass fuselage quality is excellent! Wood quality is good. Foam core quality is average. The small parts come neatly stored in plastic zipper lock bags. This is a nice touch, because when you just need a few items out of the bag you don't have to worry about the rest of them falling out and getting lost before you have a chance to use them!

A quick scan of the instructions convinced me that someone at DCU thought things through before releasing them. They lead you through most of the steps so that anyone familiar with model building techniques could follow along.

Wings

As with any foam wing kit the construction is pretty straightforward: After prepping the cores with a sandpaper block, I matched the balsa skins, joined them with cyanoacrylate glue, and cut to size. I chose to bond the skins with 45-minute epoxy (one of the choices given by the instructions) and later used 15-minute epoxy to attach the leading and sub-trailing edges.

The only problem I encountered was in attaching the section of trailing edge that houses the aileron torque rods. After gluing it flat to the sub- trailing edge I noticed that the wing had taken on a noticeable undercambered appearance. I knew that this particular airfoil was supposed to be semisymmetrical, so I had to break the bond, shim the base somewhat and glue it again. Take care when you glue the trailing edge in place to assure that you will be able to reach the airfoil profile shown on the blueprint.

The Super Dragonfly uses an interesting wing joining method: after butt-gluing the wing halves at the recommended dihedral, a dihedral brace is glued between the skins. The instructions claim that no fiberglass is needed for the center section. Really? Well, I didn't put any on, but I don't trust it!

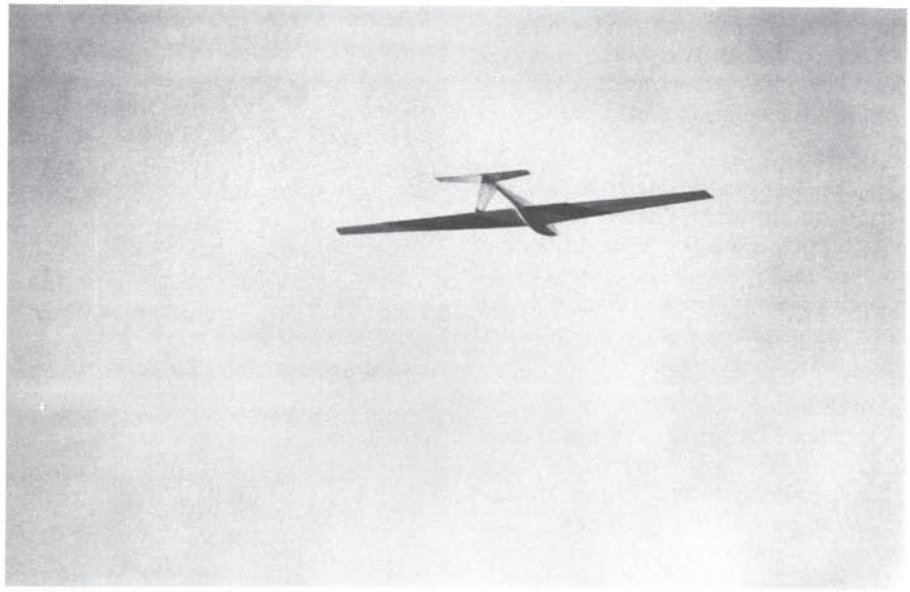
Fuselage

While waiting for the wings to cure, I started prepping the fuselage. First I wiped everything down with a wax and grease remover (Prep-sol or equivalent). Then, I used a razor plane to work down the excess epoxy from the joining seam, and finally moved to #220 paper to prep for paint. Not much work was required and there were hardly any pinholes to fill. The ones I found were easily filled with automotive putty. Interior areas where gluing will take place were wiped-down with wax and grease remover, and then roughened up with coarse sandpaper. For extra strength, it's a good idea to take a small drill bit and drill through several places where the horizontal stabilizer will later be glued on. This will allow the glue to get a much stronger grip.

All of the interior components were installed in the same location as shown on the plans. There's enough room in the fuselage for practically any modern radio gear.

Empennage

Most of the parts for the vertical and horizontal stabilizers come pre-cut and stashed in a sealed plastic bag. Both surfaces are assembled over the plans (don't forget to protect plans with plastic) with your favorite brand of cyanoacrylate glue. Unfortunately, only



Every which way but loose...
(Above) Inverted flight? No problem! (Below) On the rocks. Fun at Pt. Fermin.

half of the horizontal stabilizer is shown, so you either have to do a little measuring first, or you can flip it over when you finish the first half. I usually like to get everything laid out before I start spreading the glue to make sure it fits, but I settled for flipping the assembly over halfway through the process. All but one of the pre-cut parts fit! Not bad! I've had kits where I ended up making parts halfway through because nothing fit, so I didn't mind too much.

The construction is straightforward and produces lightweight rigid assemblies. A unique feature in this kit is a vacuum-formed plastic fairing/fillet that is used between the horizontal and vertical stabilizers. The vertical is butt-glued to the horizontal in standard fashion, but then the fairing/fillet is epoxied to the two units to form an extremely tough union. Make sure you don't leave this piece out. It could save your tail (literally) in a mid-air!

Final Assembly

In the hardware department, you supply an elevator pushrod (Nyrod or equivalent), aileron pushrods, and of course, radio gear. The generous kit supplies aileron torque tubes, elevator horn and pushrod end, wing bolts and blind nuts, servo mounts.

Overview

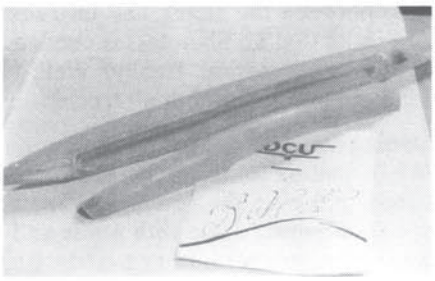
The Super Dragonfly is a much overlooked model with excellent flight characteristics. It builds quickly and easily, requires little "dialing-in," and the price isn't too bad, with most retailers selling the kit for well under its list price of $116.95.

Built to the plans, it has the capability of being a docile soarer, and with a minor change in CG or wing loading, it moves out in a hurry. This is a plane that can be enjoyed by novice aileron flyers and experts as well.

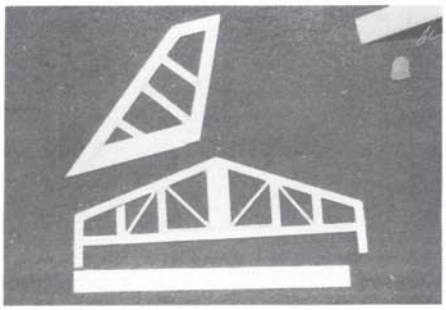
I was surprised to hear that Kevin Gribben flew a Super Dragon Fly to win third place in the unofficial slope soaring Nats F3F race. Total modifications to the kit: Enough lead to bring the total weight up to six pounds. I'm surprised I haven't seen more of these babies out on the slopes...you can bet you'll see mine!

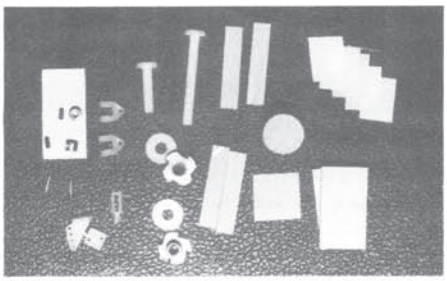
Testimonial

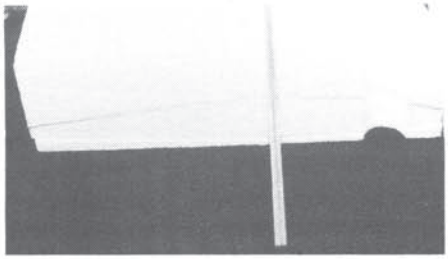
Oh, one little detail...those who witnessed this first flight surely wouldn't let me get away without this last testimonial of either the plane's integrity or of the earlier-scoffed wing-joining method.



Quality parts, good design. (Above) DCU specializes in epoxy fiberglass fuselages. This one is very well made; strong and light. (Below) Both tail surfaces are built up for lightness. (Next to bottom) Complete hardware pack comes in a resealable zipper lock bag; great for keeping track of tiny wandering pieces. (Bottom) The plywood wing-joiner dihedral brace looked wimpy but passed the Fountain land/crash test!







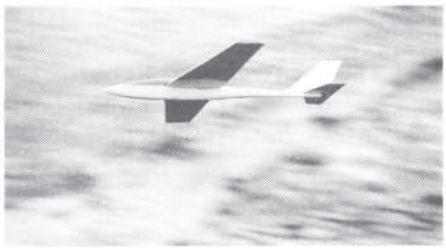
Specifications

Span	70 in.
Weight	40 oz.
Radio	Standard
Balsa Sheeted White Foam Wing	
Epoxy 'glass Fuselage/Canopy	
Aileron/Elevator Control	
Suggested List Price	$116.95

Landing at Point Fermin is an exercise in decisions, concentration, and depth perception. As the winds were light, I didn't feel comfortable landing the plane across the street as is the normal practice on anything better than a lousy day. To make a long story short, I decided to land on the grassy side.

Picture this: trees and street to the left, trees to the right and picnic benches about fifty yards in front of you. You land by flying through a tunnel of trees, making sure that you touch down well before the picnic benches, and, well... uh...I came in a little hotter than I should have, clearing the railing by about ten feet and climbing. I quickly got the nose down and at a foot off the ground decided it was time to flare out (I still had 30 yards to work with!).

Well, either my thumb was too slow, or I wasn't actually a foot off the ground, because the next sound we heard was one of total destruction. The nose caught the sod before the plane had a chance to level out making a divot that would probably get me thrown off many



a golf course! My new beauty was looking like a well thrown lawn dart!

I thought the plane was history, but here's the damage report: (2) sheared wing bolts, (1) sheared off servo shaft (Airtronics 102), (2) aileron pushrods that now look exactly like coat hanger hooks, and (1) torque rod pulled partially out of the wing. There was no breakage at the center of the wing and no structural damage to the fuselage!

I'm impressed! Embarrassed nonetheless, but pride heals quicker than a dead airplane! It took me only 20 minutes to fix all of the structural and mechanical damage on the plane. I fixed it as soon as I got home – still shaking my head in disbelief at my most pathetic excuse for landing (with witnesses!).

FYI

For more information on the Super Dragon Fly, see your local hobby shop or contact Mark Hambelton at DCU, 1556 S. Anaheim Blvd., Anaheim, CA 92805; 714/535-6969.

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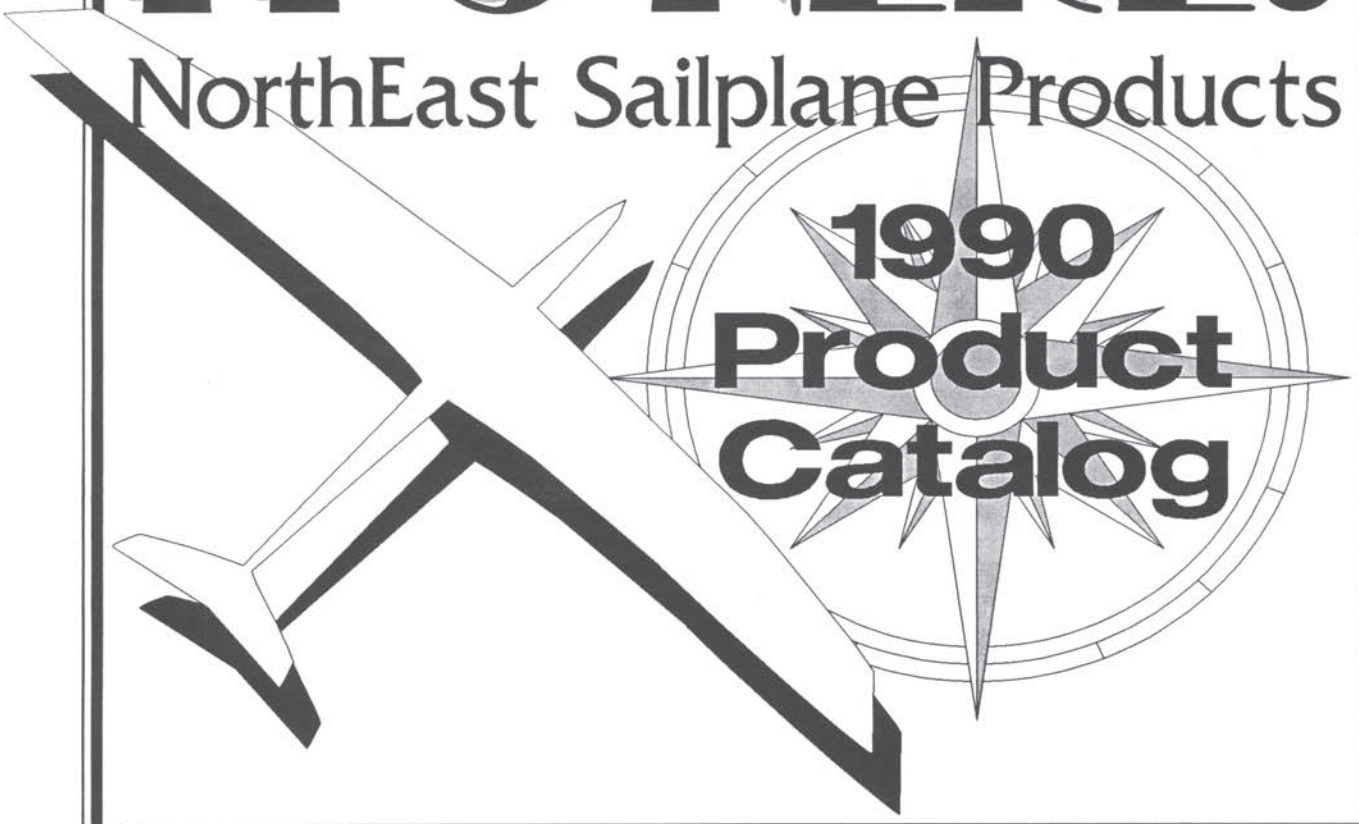

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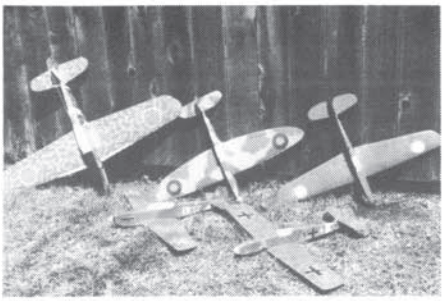
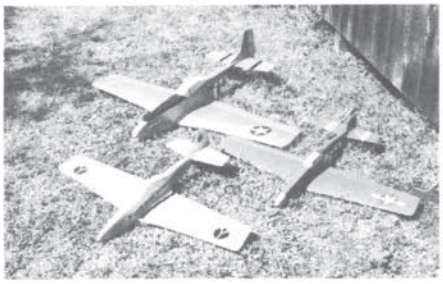




Commander Chichilitti
(Left) Jake copied a T-shirt design to get this Blue Angels A-4. (Above and below) WWII Warbirds are his current love after a lifetime of building just about everything else!

WARBIRDS!

Welcome to Jake Chichilitti's Air Force

By Geoff Willis

The weather is typically San Francisco. The cloud cover is thick, but the sun still manages to break through in spots, each time creating a light-colored circle in the dark, rough sea. The wind is blowing a strong 25mph straight up the cliff. Wearing a thick down jacket and gloves, Jake Chichilitti is on his knees at the edge of the cliff flying his original design P-51 D Mustang.

Suddenly, to the north, a small yellow plane breaks out of a gentle turn from two hundred feet into a steep dive. It streaks past just below the cliff line, the words "Rockwell International" just legible as the craft points its nose to the sky in a hard pull up. The wings slowly rotate 180 degrees as the excess speed is quickly converted to height. The Mustang stops climbing, gliding weightless on its back. Then, in an instant, the plane zooms back down to the cliff line, this time headed in the opposite direction, pulling smoothly into a perfect four-point roll. The plane continues to loop, roll and dive before turning inland, spinning around into the wind and flopping down onto the sand. Jake reaches down and picks up the tiny Mustang.

Jake Chichilitti started his modeling career at age 12 with a Fox .25 powered Warrior. He has since built hundreds of planes, including free flight, hand launch gliders, rubber-powered models, and control line stunt planes. Recently, Jake settled on slope scale warbirds, and has built a dozen of them in the past three years. Each one stands as a testimony to the incredible skill that this man has acquired from a lifetime of modeling.

The quest for scale, and for "slope planes that look like real planes" are the reasons for Chichilitti's very own squadron. His first was the Messerschmitt Me-109. Success on that project led him to build a Spitfire. Later came the P-51 B and D models, the Curtiss P-40 Warhawk, the Yakovlev Yak-9, and the Kawasaki Ki-61 Tony. They are 1 inch = 1 foot on the full size counterpart. All are as close to scale as possible, fudging just an inch or two at most.

All of Jake's planes have balsa wood fuselages with a conventional built up balsa wood wing. For fuselage reinforcement, 1/32" sheet plywood doublers are added. The fuselages are painted. The wings on the smaller planes are covered with light grade silkspan. The larger models have a layer of silk added underneath for strength. Most sport an Eppler 205 airfoil. The Rockwell P-51 has a semi-symmetrical 'foil that Jake designed himself. The small ones are aileron/elevator control with a Futaba four channel radio, S-33 micro servos, and a 250mah battery pack. The big Mustang and the Kawasaki Ki-61 also have a rudder and spoilers, controlled by a standard size airborne system.

These planes are all pretty light. Of the small planes, the Yak-9 is the lightest at 13 ounces, and will fly in an 11 mph breeze. The Rockwell International P-51 is the heaviest at 15 ounces. Jake says he had to use a lot of paint on it to get the yellow to look good. He recommends Coverite as a better alternative. The A-4 Skyhawk jet tops the scales at 23 ounces, even after top grade wood, lightening holes. and a lot of sanding. The big P-51 weighs 43 ounces and the Kawasaki Ki-61 weighs 35 ounces. Both have a wingspan of approximately 50".

Jake spends a lot of time detailing his airplanes. He starts with a three-view from a book or magazine. If the model is to be camouflaged, he adds on the color with a Miller sprayer. Then panel

lines are drawn on with a Rapidograph pen (available at art supply stores).

In the air, these planes are designed to be stable. No surprises. "They're not hands off, but they're not a handful," says Jake. Fighter maneuvers are his favorite. He really likes strafing passes and four-point rolls. Every now and then he can get a good eight-point roll but, "it's hard because you have to get a lot of speed and pull the nose up to just the right angle." The Cuban 8 is the hardest maneuver for him because it is always flown in a crosswind. Jake is an expert at loops that start high in front of the cliff and pull out so close to him that most observers gasp. He always keeps the speed up because "it just doesn't look right" to see a Mustang or a Messerschmitt wiggling its tail after a stall turn.

What's next? After building a dozen of them, Jake took a break from WWII fighterplanes and focused his attention on the McDonnell Douglas A-4 Skyhawk. He claims to have used an old T-shirt of a Blue Angels A-4 that he bought at an airshow to get accurate lettering. Now he is back to warbirds and has just finished plans for a P-38 Lightning.

Plans are available for the Rockwell International P-51 D Mustang. If there is enough interest, a double set of plans will be released for the P-51 B model and the Yakovlev Yak-9. Both use the same wing. Plans are $10. Send a check or money order to:

Geoff Willis
663 The Alameda
Berkeley, CA 94707

COMPOSITE COOKBOOK #2

By Richard Jarel

Kevlar

This month we take a look at Kevlar 49 aramid fiber. Introduced commercially in 1972 by Du Pont, Kevlar fabric is yellow in color, resembles fiberglass and is available in several styles including mat, crowfoot, unidirectional and individual threads. Weights ranging from a 0.5-ounce mat up to a five-ounce cloth are available, but for most modeling applications, a 1.8-ounce cloth is commonly used. A square yard will cost you about $17.

The Bad News...

The bad news about Kevlar (besides the price!) is that it is difficult to lay up around compound curves, is nearly impossible to cut, it can't be sanded and can't be used with polyester resins!

...And The Good News!

The good news? This is the stuff they use to make bullet proof vests! Tired of wrecked fuselages? Read on!

Kevlar can be used with most epoxies and cyanoacrylates exhibiting good "wetting" characteristics. With the right kind of shears, Kevlar can be easily cut, and when laid up behind fiberglass, it should never need sanding. Kevlar is thinner than a similar weight of fiberglass and requires only half the epoxy to apply it. Kevlar is easily five times stiffer than fiberglass and 100 times tougher! Although tensile strength is quite good, compressive strength is poor so don't use it for wing spars.

Kevlar can be used in place of fiberglass when extra strength is required and saving weight is a prime concern. The belly of a slope ship is a perfect place for using Kevlar. (Remove any primer or paint before applying it to the inside of the fuselage.) To aid in the use of Kevlar around tight radius curves, try cutting the fabric so that the fibers are at a 45° angle to the curve. (This will also yield a stronger laminate!) Compound curves just need more patience.

Cost Cutters

Special Kevlar shears are available for $50-$100 (yow!), but you can make your own for less than $10 and some careful work! (That's more like it!)

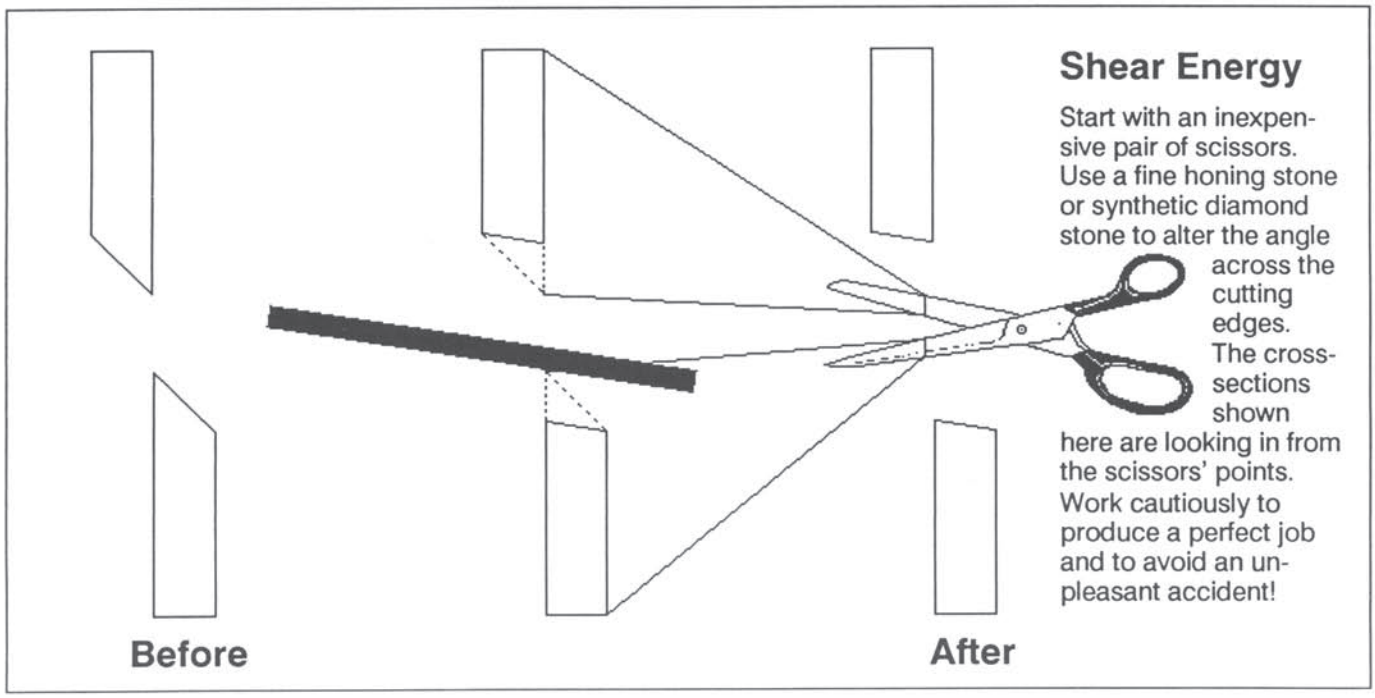
Purchase a pair of Zephyr or Fiskars scissors with nine-inch blades from a fabric or stationary store. Then, using a fine honing stone or synthetic diamond stone (my favorite), flatten the angle of the cutting edge on both blades as shown in the illustration. This is accomplished easier (and safer), by clamping one blade at a time, edge up with the point facing away from you in a vise. Wearing thick protective leather gloves, carefully pass the stone along the edge. For those of you who were never Boy Scouts, the stone's direction of travel should be from the flat side, across the blade to the beveled side. Do not drag the stone back and forth. Lift it up, move back to the starting point and pass it along the edge again. Take your time, you'll get better results and run a better chance of not injuring yourself by getting over anxious.

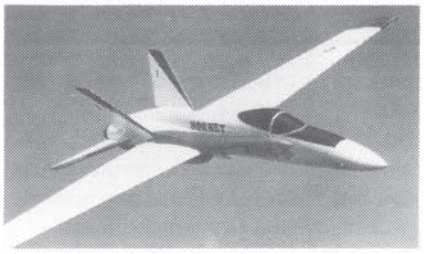
Don't Be Careless!

WARNING! THIS IS A POTENTIALLY DANGEROUS PROCEDURE! EVERY EFFORT SHOULD BE MADE TO INSURE THE SAFETY OF YOURSELF AND THOSE AROUND YOU!

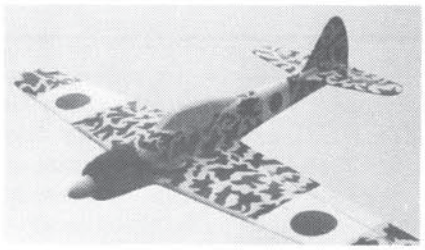
The job will be complete when the edges are razor sharp! Try cutting a piece of Kevlar as you near completion to find the flat spots. When you're through, you'll have a pair of shears capable of cutting yards and yards of Kevlar before additional sharpening is required. Cutting paper and other non-fabric materials will dull these blades!

Till next month, remember: Safety is no accident!

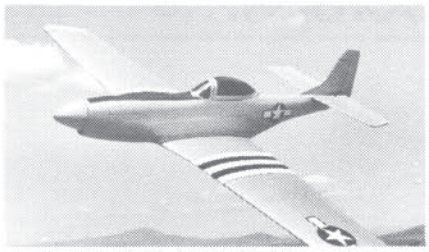




F-18 Hornet



KAI-100 (Zero)



P-51D Mustang

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DON'T

Tri-Cities Scale Fun Fly
Richland/Pasco/Kenewick, Washington
Memorial Day Weekend
May 25-27, 1990

Watch this

MISS

International Slope Race
Davenport (Big Creek)
No date has been established yet, but it will probably take place inJune.

newsletter

THESE!

Torrey Pines Scale Fun Fly
Torrey Pines Glider Port
La Jolla, California
Labor Day Weekend
September1-3, 1990

for details!

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R/C FLYING WING GLIDER *Almost-Ready-to-Fly-Kit*

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(No C.O.D.'s Please)

Quantity _____ Amount Enclosed _____

(Add 6% tax only if delivered in Texas) — Allow 2 to 3 weeks delivery

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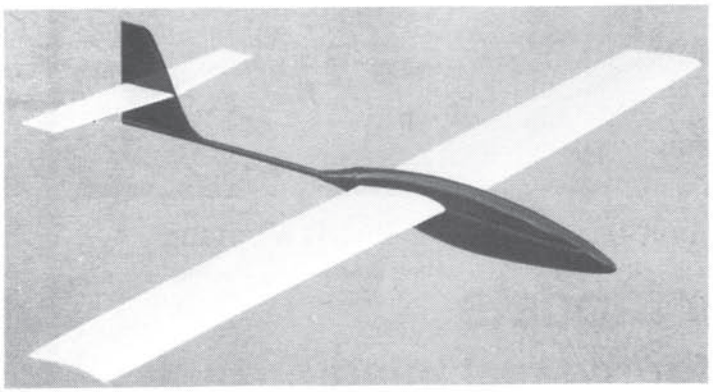
Houston, Texas 77075

Scraps...



Why be building when you could be flying?
Chris and Eugene Lovejoy of Glidesigns offer this prebuilt pod-and-boom in two spans: 48 inches and two meters. The fiberglass pod, carbon fiber boom and solid balsa flying surfaces are completely finished (except covering or paint). Just add a radio and and your choice of covering material!

JUST CALL ME LANCE (A LOT)

Chris Lovejoy and his dad, Eugene, have spent the last several months designing and refining this pod-and-boom slope soarer called the Lance. I'll let Chris describe it:

"The Lance comes to the user with all construction complete, ready to cover and install radio gear. Right now, we're using the Selig 3021 airfoil over a 48-inch span with a six-inch root chord tapered to a five-inch tip. The fuselage is fiberglass and carbon fiber with a full-flying stab. Wing construction is channel-routed, epoxy laminated solid balsa with hardwood leading edge. The wingloading is 10.4 oz./sq. ft. with micro gear, however there's enough space for standard radio gear with a 270mah battery pack.

"My father and I have been avid slope soaring enthusiasts for years, designing and fussing endlessly to come up with a good plane to challenge intermediate and expert pilots alike. With dad's engineering background, he was just the guy when it came to designing our wing-milling machine as well as eliminating some of the guessing games associated with hand-crafted composite model construction.

"In January or February, our company, Glidesigns, will offer a two-meter stretch version of the Lance (named Lance-A-Lot), complete with ailerons, rudder, flaps and stab. Both planes with be fully manufactured. The 48-inch Lance will go for $145, and the Lance-A-Lot will sell for about $190. If interested, call 805/498-2491."

SoCal locals can see the Glidesigns products on display at the International Modelers Show at Pasedena Center on January 12-14.

VADER ILL

Dick Vader, mastermind behind the popular Vader pod-and-boom slope gliders and all-around good guy, suffered a severe heart attack in early December. He spent six days in Intensive Care, nine days altogether in the hospital, but is resting at home now. If you'd like to send him a get-well card or note, please mail it to Dick Vader, c/o *Slope Soaring News*, 2601 E. 19th St., #29, Signal Hill, CA 90804, and I'll see that he gets it. Thanks!

LOOKING FOR MISS GOOD DIMENSION

Correction: The tail moment proportion given in the "Miss Go-Fast" series is incorrect for this particular project. The correct numbers should be 1-1/2 to 2-1/2 (not 2-1/2 to 3-1/2).

The original dimensions are fine for standard sailplanes, but that longer tail moment would give your scale sloper a definite stringbean look!

Proportional Relationships

Wing Span	60-80 in.
Root chord	7-9 in.
Tip chord	4-7 in.
Wing area	400-600 sq. in.
Tail area	12-15% Wing area
Nose moment	1.5-2.0 x root chord
Tail moment	1.5-2.5 x root chord
Wing thickness	7.5-11% chord
Tail thickness	6-8% chord
Aspect ratio	8:1-12:1
Wing loading	15-17 oz./sq.ft.
Fin area	6-8% wing area
Dihedral	0-5 degrees

PLAN YOUR VACATIONS NOW!

At the December executive board meeting, Torrey Pines Gulls members established the date for their 1990 Torrey Pines Scale Fun Fly. It'll be changed from Thanksgiving Weekend (when the original event was run in 1989) to Labor Day Weekend (Sept. 1-3, 1990). It's still a three-day event, and the Gulls are hoping that the new holiday weekend will make it easier for out-of-state modelers to attend.

"DEAD MEAT" REVISITED

The story entitled "Dead Meat" in the October issue was just another dream of Commander Chas H. Morey, an F-20 jet jockey of notable combat skill claiming to have downed an A-4 Skyhawk of the Combat Models Aggressive Squadron. Ha!

The Real Story
by Major Byron P. Bruce

Looking high in the clear blue sky over Point Fermin, I noticed two aircraft were just turning around from a pure vertical climb and entering a steep, high speed dive. An unidentified aircraft was on the wing of well known pilot Commander Chas H. Morey. I was feeling a little antagonistic and decided to fly my A-4 Skyhawk dressed up as a combat aggressor sporting a red star on the vertical fin. It was time for a little harassment.

As the jets went screaming by, I turned on the power and let the other pilots know of my intention to launch. I launched the Skyhawk just after the two jets passed, turning south to put as much as possible space between us. I then turned north, which now made for a head-on pass with Cmdr. Morey. The

Skyhawk was at about 1/4 to 1/2 speed. She wasn't in any position to maneuver aggressively, but one more pass down the cliff face would bring me to full speed, which would surely be Cmdr. Morey and his wingman's death warrants.

Knowing a head-on pass was in my favor, I pushed forward on the stick for added speed.

When Cmdr. Morey got his first look at my Skyhawk, it was obvious that just my presence alone caused him to lock up. His blood was frozen and curdled with fright. His knees trembled. His hands weakened and could barely hold the stick, for he saw the A-4 Skyhawk, and he knew he was at risk.

It was strange, it was sad, it was pitiful to see Commander Morey turn Kamikaze. He slammed into the Skyhawk which threw me out of control. I fought my disintegrating jet to watch Morey dig his own hole. He slammed into the cliff and went out of sight. No ejection; it was death. He was killed by his own fright.

I crashed to the bottom of the hill and, no, I did not die. I do, however, want revenge, you can see it in my eye.

So...should someone crawl from below the hill displaying a red star "kill" mark, he'd best fly high, 'cause I'm on your six, Chas. I have you in my sights!

(Whew! It's gettin' deeper! You may have noticed that I wear shorts whenever we go flying, Byron. Now I'll have to add a pair of hipboots to my wardrobe! – Charlie)

DOUBLING UP

As you can see, I've gotten behind again. The November issue went out extremely late due to two reasons: (1) problems with two of my service companies, one that does my photo processing and the one that converts those pictures into "halftones" which can be printed in the newsletter. Instead of the usual one- to three-day turnaround, they each took more than a week. And on a monthly deadline, that's too much to overcome. (2) The holidays and time spent with friends and family took up time that I'd otherwise have spent working on SSN.

This happened once before, and I compensated by adding one issue credit to everyone's subscription. But now that the circulation has grown, the task of changing all the records has become more than I can accomplish, too. It's my intent to compensate for the missing issue with larger (20-page and up) issues more often in 1990. And of course, I'll continue to streamline my still-young parttime business/hobby to the point where this problem will no longer occur.

If anyone feels that this decision is unfair or unreasonable, please write and tell me about it (I'm hard to catch by phone), and I'll work something out with you. Fair enough? – Charlie Morey

AEROBATIC INSTRUCTION

Jef Raskin, who's become quite a controversial figure in our Air Mail column lately, has expressed an interest in conducting classes in Aresti-style aerobatics for slope soarers. He's planning to do some at his home slope in Pacifica, California, and I'm considering sponsoring some of his classes in Southern California, too. But before we plan anything, we need to know: Are you interested? Please tell me, either by letter, postcard or phone at Slope Soaring News, 2601 E. 19th St., #29, Signal Hill, CA 90804; 213/494-3712. Thanks!

CHEAP FOAM CORE CUTTER

Been looking for a power source for a hot wire setup to cut foam core wings? Many modelers bite the bullet and spend $60-$80 for a Variac transformer, but you can do it for a lot cheaper! Aircraft Spruce & Specialty Company offers a Home Builder's Hot Wire Kit that consists of a transformer and dimmer switch for only $16.95. The photo shows that kit, plus an additional on-off switch with electrical outlets that Tom Overton added, bringing his grand total up to around $23.

Interested? Phone Aircraft Spruce & Specialty Company at 714/870-7551. The Home Builder's Hot Wire Kit is part number 01-15600. Be sure to order their 300-page catalog at the same time for only $5.00.

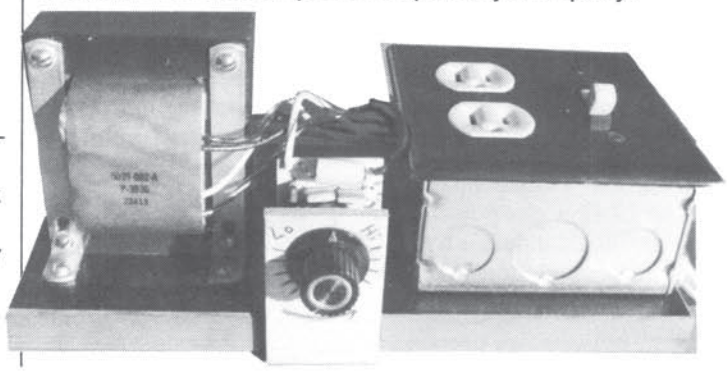
Thanks to Tom Overton for the information and his tip about adding the electrical switch and outlets. Tom operates a company called R.C. Hangar at 1302 Arleen Ave., Sunnyvale, CA 94087; 408/736-1568. He reportedly sells neat little widgets for vacuum-bagging setups. Drop him a line for more information.

LIVE BETTER ELECTRONICALLY

Remember the tiny receiver we showed you a few months ago that cost only $34.95? That item and (as they say) much, much more is available from Bob Markle at RJM Systems, Unit #3, Sandy Hill Rd., RD #6, Irwin, PA 15642; 412/863-0103. RJM offers quick battery chargers, servo testers and such handy items as a $12.95 Dual Airborne Power System which allows you to hook two batteries into your receiver for longer flight times (going for the slope duration record?). He also offers a shirt-pocket sized expanded scale voltmeter (battery checker) so you'll always know your batteries are truly charged and ready for a safe flight. If you like to play with electric powered planes, Bob has a complete product line of widgets for them, too. Please tell him Charlie says hello when you call or write!

Cheap trick!

Here's a $23 foam cutter power source, thanks to Tom Overton and Aircraft Spruce & Specialty Company.



Air Mail

FULLY AEROBATIC REVISITED...REVISITED

Van Hazewinkel's and Jim Metzger's letters disagreeing with my request that advertisers and writers distinguish between merely "aerobatic" and "*fully* aerobatic" seem to miss the point I was making.

I did not say, as Jim implies, that an airplane with a "Clark-Y or even a NACA 6409" cannot be aerobatic. Nor did I say that a plane had to have any specific controls to be aerobatic. I used to fly loops and rolls with an Ace rudder-only pulse proportional system when I learned to slope soar in the 1960s at Torrey Pines. Any RC glider can do some aerobatics. Incidentally, Van's letter is incorrect when he says that a glider must have ailerons in order to do snap rolls. Snap rolls are basically a rudder/elevator maneuver.

I don't disagree with Van's statement that the Pharaoh is very aerobatic. It is. But it can't do "every trick in the book," as he claims. Few (if any) flying wings can do knife-edge flight, clean four-point rolls, snap rolls or real hammerheads. Van is right in that you cannot get the efficiency from a symmetrical airfoil that you can from asymmetrical ones, but that is completely irrelevant to the point I was making. Jim's citation of Webster's definition of "aerobatic" was also irrelevant. I wasn't discussing "aerobatic" but the use of the term "*fully* aerobatic."

All I am asking is that when a glider is labelled as fully aerobatic, it should be capable of equal inside and outside maneuvers, snap rolls, hammerheads and the full panoply of Aresti-style aerobatics. I observed that nobody would label a gas-powered model as fully aerobatic unless it had a complete complement of controls and a symmetrical airfoil. We glider fliers should do no less.

Van says that one of his semi-symmetrical planes flies great inverted. I have no quarrel with that, either. I can fly some of my flat-bottom airfoil polyhedral thermal ships inverted quite well, too. But they cannot do inside and outside maneuvers with equal ease and equal control inputs, and for precise aerobatic flying, that is just what's needed.

Jim Metzger is incorrect when he says, "There aren't any kits that meet Mr. Raskin's standards." Both the Avenger and the Phase VI slope soarers have rudder, elevator, ailerons and fully symmetrical airfoils. Van's comment, "Don't let anybody tell you what is good and what isn't," shows he misread my letter since I never said or implied that fully aerobatic planes are good and others are bad. Lastly, there was no need for Jim to be insulting and comment, "If he wants to fly pattern ships, then let him fly power; leave the clean air for the good guys." In my book, there is room for all kinds of slope flying whether it be scale, precision aerobatics, sport aerobatics, racing or whatever. I fly and like them all.

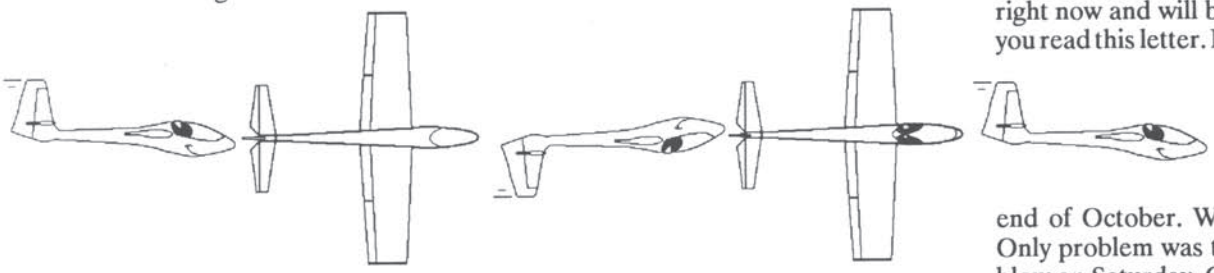
I thank Charlie for going to bat for me in his reply, and I continue to look forward to each issue of the one magazine that talks about my favorite kind of flying: slope soaring.

Jef Raskin
Pacifica, CA

Jef has offered two stories about aerobatics to be printed in SSN. He's written one that discusses slope-glider design for purely aerobatic purposes (it's got some really wild, fun ideas that'll get your creative mechanisms into gear) and another that explains the Aresti-style aerobatic maneuvers. You'll see them both in upcoming issues!

I must admit my ignorance about the availability of kits that meet his fully aerobatic requirements. I had no idea they existed! I'm not personally familiar with the two he mentioned here, but I'll see what I can find out about them and let you all know.

Thanks for the letter and the stories, Jef. I believe that aerobatics are the most natural form of competition for slope soaring (even more so than racing), and I hope this discussion – and others that will surely follow – will help motivate us all to get more involved with that exciting facet of the hobby. – Charlie.



BANZAI!

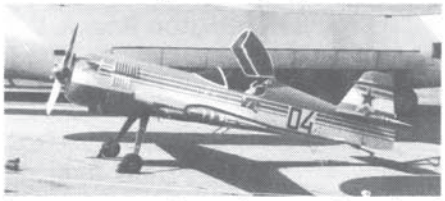
(Jeremy Teo, owner of Banzai Enterprises in Canada, sent me an update on some of his slope soaring projects recently along with a couple photos I thought you'd enjoy – Charlie.)

The X-29 project is coming along very slowly. Hopefully, it will be built in time for the Puyallup model show. I've been working on another design called the Manta. It's a T-tailed, short-coupled, delta-winged sloper which should have an incredible roll rate. The wingspan is 36 inches, and the wing area is 450 sq. in. The first prototype is being finished right now and will be flying by the time you read this letter. I'll let you know how it turns out. *(Please send photos of both! – Charlie.)*

I went down to Richland at the end of October. Wow! What a place! Only problem was that the wind didn't blow on Saturday. Can you believe it? I got skunked at the best site in North America. On Sunday, the wind blew, and we got some flying done at another site. I don't remember the name of the other site. *(Probably Kiona. – Charlie.)* It was surprising that the majority of the pilots were from Canada. Frank Pilz, Pete Marshall and I were three of the five people who showed up. I guess when you live in an area like that, you go flying when the conditions are ideal, not just adequate.

During the summer, I went to a couple air shows, Victoria and Abbotsford. The Russians showed up in force at Abbotsford with the largest transport in the world, the Su-28 and the MiG-29. The transport didn't fly the day I was there, but the other two surely did! The Su-28 has the best roll rate of any aircraft I've seen. It performed a turn-around aerobatic sequence flawlessly. Precise maneuvers were performed at a constant speed. That rotary engine in the nose must surely put out some

Russian Ragers!
(Above) The USSR's MiG-29 is a state-of-the-art jet fighter. (Below) The radial-engined SU-28 is a world-class aerobatic ship. Both would make great slope gliders!



horsepower. The MiG was fast, loud and very "bad." What an aircraft! To say I was awestruck would be an understatement. This fighter can definitely make other pilots worry.

I'm anxious to get some feedback about the Banzai. So far, no one has returned any response, so I don't know if they're truly satisfied with the kit. If you know someone who has built and flown it, please ask him to let me know how it worked out.

Jeremy Teo
Banzai Enterprises
2997 Anderson Ave.
Port Alberni, B.C.
V9Y 2V3
CANADA

SSN VETERAN

Several of us Long Beach Bluff fliers saw your first issue and went home and wrote our checks immediately. We saw good possibilities from that first edition. Every one has been very interesting, and I always look forward to the next.

I'm a ham radio operator (30 years plus). I learned to fly in 1979 and started on a Cirrus transmitter and a frequency that we filed for a class D license, as I recall. Once I found out that we hams had allocated frequencies, I bought a Cox/Sanwa transmitter and receiver for six meters. (It's still in service.)

In 1980, I had Bob Novak build up two receivers for me to complement the Cox/Sanwa transmitter. In December of 1988, I bought a Futaba five-channel Conquest from Hobby Shack, who had a six-meter setup in stock.

About six months ago, one of the

Hans Weiss Memorial Slope Race

Hughes Hill (Los Angeles), March 3-4, Sign-up at 9:00 a.m.
Info: Ray Kuntz, 6570 W. 84th St., L.A. CA 90045; 213/645-4269

BE THERE! • BE THERE! • BE THERE!

Novak receivers gave up the ghost, but Novak no longer in the receiver-making business. Futaba will do one, but at a cost of $189.

Are there any fliers out there who will build a receiver at a reasonable price? At $189, I could buy a complete radio set as I did last year for about $225. But who needs a bunch of transmitters on the same frequency?

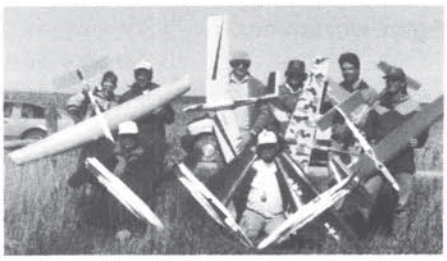
Thanks again for *SSN*, Charlie. Looking forward to 1990!

Don Gray
Huntington Beach, CA

MINNESOTA SLOPIN'

Yes! We enjoy slope soaring in the midwest, too. In 1989, the Minnesota R/C Soaring Society (MRCSS) held its Second Annual Fall Slope Soar and the interest is growing. We fly from atop a ridge which is clear of trees and has a smooth farm field below and behind. Our club has 90 members, and come fall and winter we head for the hills for hours of casual sloping.

Our contest director, Steve Metz held a fun outing this year combining a pylon race and an aerobatic session separately scored to determine the winners.



The enclosed photos shows the following: (back row) Jack Cotter and son, Dale Eason, Andy Olive, Steve Metz and Tom Rent, (front row) Steve Johnson and Bob Sealy.

Tom Rent
Lakeville, MN

NO T--- F-----!

I'll bet your question about putting information about electrics was greeted with yelps of protest, but my answer is yes. On the slope where I fly near Cotati-Rohnert Park, California, both the property owner and slopers tolerate, even enjoy, electrics. Mostly we see Goldberg Electras, but I have flown a Graupner Uhu, and Electraglide II and even an electric Viking from this location.

While we're on the subject of

preferences, I hope you'll humor my pet peeve. I hate it when people refer to an airplane's "tail feathers" in an article. Yech!

I'm pretty much a scratch builder, and as slope soaring kits are pretty expensive on the whole, I'm looking forward to the day when construction plans and articles begin to appear in *SSN*. They'll be used and much appreciated. It's remarkable how few aileron slope designs have been published in the mags.

Al Wahrhaftig
Sebastopol, CA

Thanks for the input on electrics, Al. I've gotten about a 50-50 mix of answers to that one. I don't have any electric stories waiting in the wings, but I guess it wouldn't hurt to run one once in a while. (At least I'd have an equal number of readers happy with, and mad at me at once.)

Okay, those words (t--- f------) are no longer in the SSN thesaurus. Unless we do a story on a bird look-alike glider, that is...

Readers, do you think we should offer a plan service? I've considered trying to talk a deal with one of the existing services, but I'm not sure how many of you would want that. – Charlie.

Want Ads

MODEL DOCUMENTATION

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

LOOKING FOR SCALE MODEL PLANS AND DOCUMENTATION?

Send me a business-size self-addressed stamped envelope, and I'll return a list of Cliff Charlesworth's quarter-scale plans and a list of Scale Model Research's Photo-Pak documentation packages. Byron Blakeslee, 3134 Winnebago Drive, Sedalia, CO 80135.

YOUR WANT AD HERE!

SSN Want Ad Rates
Per-word charge – 25 cents
Minumum charge – $5.00
Bold headline* – $1.00
Total the amount, then multiply times the number of issues the ad will run.

Wingin' It

(Continued from page 2.)

me on the shoulder and whispered, "I brought him up with me."

Sure enough, Bob was there, and he'd gotten his courage up enough to seriously consider flying the little F-14. With just a little encouragement, he called out his frequency, ran a preflight check and stepped up to the edge.

Off it went. Instead of faltering as it had in previous flights, the little jet rose steadily and pulled away. Bob let it fly

for a few seconds, then turned it and brought it back past a standing ovation from all the other pilots who'd landed to watch!

He made several more passes, feeling it out carefully. Then he pulled back on the throttle stick, swinging the wings back. The nose dropped slightly, and the jet picked up speed. He moved the right stick, and it turned smoothly. He swung the wings back forward, and it lifted briskly over the cliff. It worked!

"Want to try it, Charlie?" he asked.

As I responded with a couple of questions about what bears do in the woods and the pope's religious persuasion, he grinned and handed me the transmitter.

The lightweight plane is controlled only by tailplane movement. The "tailerons" provide both pitch and roll control, and they're a little vague compared with ailerons, but they do work.

The fun part, of course, was playing with the swing-wing. Tucked back, the plane picks up speed quickly, trading lift/drag for a steeper glide path. It was great fun to make a speed run with the wing back, then slide it forward for the turns. As they extended forward, the plane picked up (seemingly) double the lift, and I could pitch it into the turn with confidence. With the wings back, it would turn, but I didn't feel comfortable with anything other than a gradual bank at high speed to keep it from dropping.

"If it crashes now, I won't care. I've seen it fly!" Bob said with a big smile on his face. We were going to try real hard to keep that from happening, though.

Carl Fountain has been Bob's test pilot throughout the Tomcat project, and I handed the transmitter to him next. As he explored the plane's performance envelope, the grin that spread across his face revealed that his efforts had been worthwhile.

Too soon, we had to land it. Bob had minimized weight by using a 100-mah battery pack, and we'd been swinging the wing quite a bit. I guided Carl across the street to the landing field as he flew the Kitty Kat, and then he handed me the box as we climbed the hill. There's a vicious rotor at Point Fermin, so we decided to land on top of the hill where the airflow is more laminar instead of in the usual landing field behind the hill.

I noticed as I climbed the hill and sear-

ched for altitude that the plane wouldn't gain quite enough altitude to make a textbook approach. So, once we reached the top, I brought it across, up against the bluff carved by the four-lane street below to get a little bump up just before drifting it in behind us. The landing was gentle. Only one of the balsa strakes on the underside broke loose on impact, an easy fix with a few drops of glue.

After a round of back-slapping, hand-shaking and photo-taking we hiked back down the hill. For Carl and me, it had been a very exciting experience, a perfect addition to an already great day. For Bob, it must have been even more spectacular. He'd flown in Point Fermin's big lift for the first time, and he'd proven that his swing-wing design does work. I'm sure he learned a lot about how to set up the Super Tomcat. He'd taken several major steps forward in his slope soaring experience.

Now, flying at Long Beach will never be the same.

MOVING?

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