We're Talkin' HUGE!

Bob Reynolds Unveils his 8-Foot F-14B Super Tomcat at the Unofficial Long Beach Fun Fly!

Slope Soaring News

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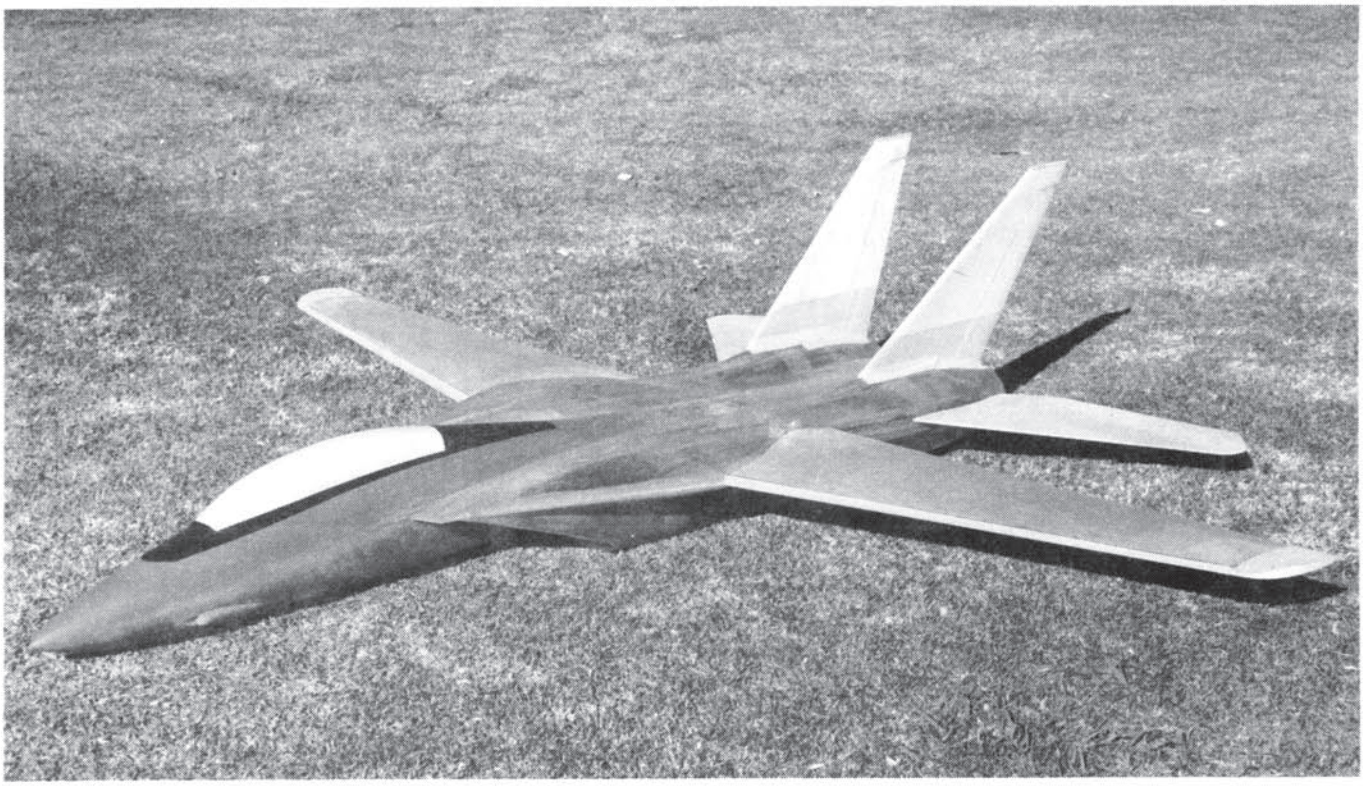
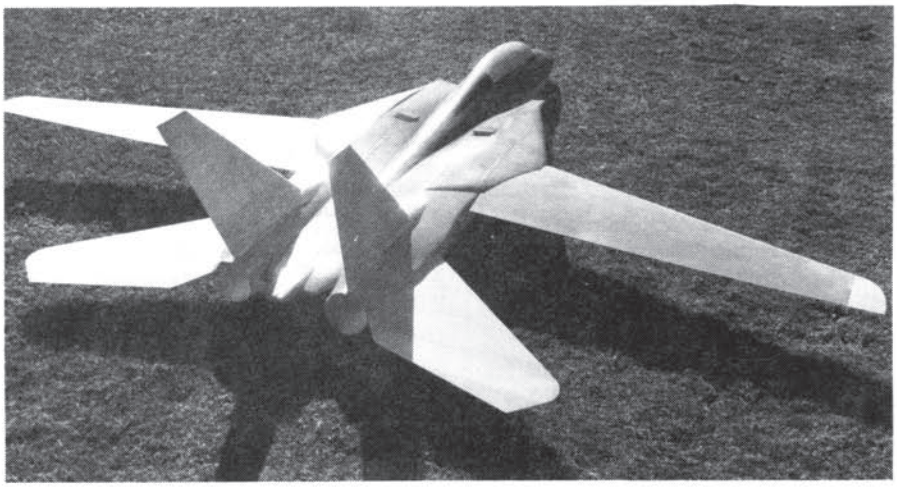


Bob Reynolds had warned us about his latest project—a Jet Hangar Models ducted-fan F-14 Tomcat kit that he's building as a slope glider. But it wasn't until we saw the partially completed behemoth at the Unofficial Long Beach Fun Fly that we fully realized the enormity of his ambitious task.

Why, you ask? Bob's probably begun to wonder about that, too. And his wife's now fully convinced of what she's always suspected (that he's certifiably nuts). Perhaps so. But the fully-operational swing-wing jet will be the first and only one of its kind. And that's exciting stuff!



• Stunt Vultures! Pacifica Aerobatic Contest • Ni-Cd Survival Tactics • Soaring in Saskatchewan! • First Feast: Richard Jarel's Composite Cookbook • An Easy "How To" For Sloping In Ensenada (see "Air Mail") •

Wingin' It

FLYING BUDDIES

There were two of them – Peregrine Falcons – darting and diving together over the oceanside cliff at Point Fermin. Only Bennie seemed to know much about them, and he said they must be mates since falcons of the same sex aren't particularly friendly toward one another.

These two seemed to enjoy flying as much as we do, and they were much better at it. They'd fly apart separately – going far out toward the distant horizon to roust some pigeons from a phone line or send a gull scurrying for cover to the beach below – then charge back over the ridge to cavort together in the lift.

Generally, they ignored the brightly-colored gliders sharing airspace with them. But a few "natural" colored planes got their attention, among them my gray Cliff Hanger Models F-20. Perhaps it looked like lunch, or a trespassing bird of prey that needed to be inspected and then sent on its way. The heavy little F-20 is no slouch, but I'll tell you right now that it was no match for the fastest bird in the world.

One of the Peregrines took an interest in it, cruised over to where I had just hammerheaded through a 100-foot stall turn, and "locked on" just about a foot above my tail. Okay, I thought, let's see what comes next!

I put the F-20 into a steep dive, and the bird held its distance exactly, tucking its wings only slightly to match my terminal velocity dive. Tracking a model jet was kid stuff to a predator who snatches its live, fast and highly-motivated-not-to-become meals out of the air every day.

At the bottom of the dive, I pulled up into a steep climb. No problem. The falcon extended its wingtips slightly and, as if drawn along by an invisible string, maintained its 12-inch distance.

Let's see if he can do a split-S, I thought, and rolled the F-20 inverted. The falcon backed off slightly, sizing up the situation, then as the plane screamed through its downward arc, he too rolled and reattached himself just behind my tail. This little hawk was *much* faster and quicker turning than my glider. If the F-20 had been tasty, it would have been lunch.

I heard Bennie chuckling behind me. "He's got a servo on every feather!" he said laughing.

I was anxious to see what the falcon would do next – hopefully short of snatching me out of the sky with those powerful talons – but he apparently had gotten bored with my pace.

One flick of those amazing wings and he was gone, in search of better sport, leaving me to play in the breeze with other earthbound amateurs.

– Charlie Morey

Think you're fast and totally in control?
Peregrines at Point Fermin. Going at it wingtip-to-wingtip with one of these guys will remind you that you're nothin' but a pigeon in *their* sky.

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"Falcons? No problem!"

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.

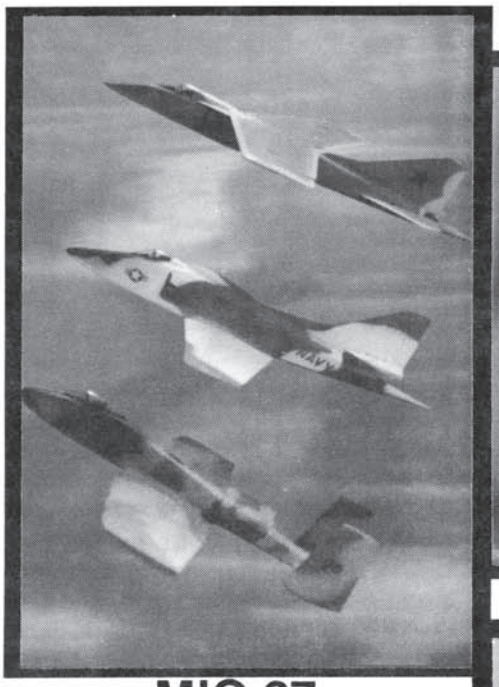
CLUB CONTRIBUTIONS are welcomed. Please keep us notified of your club's events and/or fun flying activities. Material printed will be selected at the discretion of the editors.

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

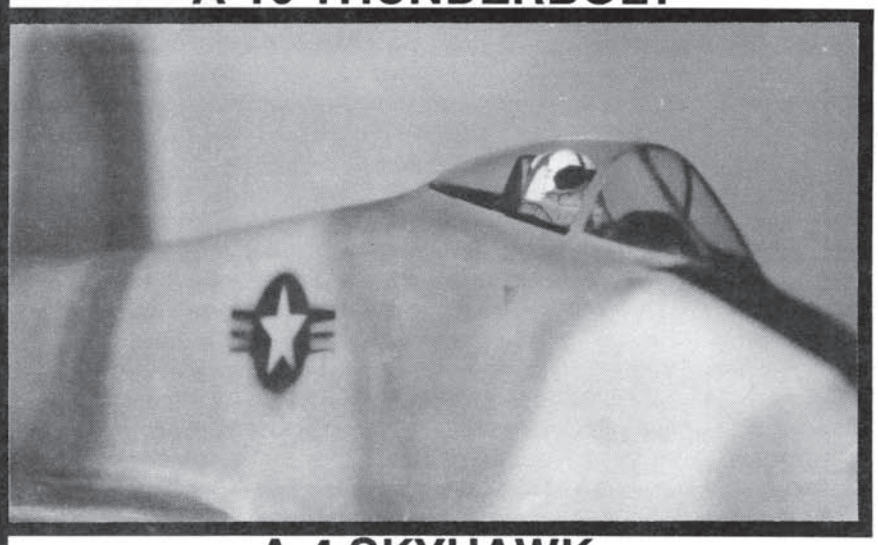
ADVERTISING inquiries should be addressed to SSN, c/o Charlie Morey, 2601 E. 19th St., #29, Signal Hill, CA 90804, 213/494-3712.

SUBSCRIPTIONS are $15.95 per year in the U.S.; $24 U.S. currency per year in Canada/Mexico; $32 U.S. per year in Europe/England; $40 U.S. per year in Asia/Pacific/Middle East.

COMBAT MODELS SLOPE SOARERS



A-10 THUNDERBOLT



A-4 SKYHAWK

MIG 27

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.

Combat Models has chosen the MiG 27 to act as an aggressor fighter against other Combat Models aircraft. Dressed up as a Soviet aggressor, the MiG 27 can hold its own against any hostile fighters.

- Wing Span - 45 in. Wing Area - 315 sq. in.
- Airfoil - Eppler 374 - 7%
- Wing Loading (Std. Radio Gear) - 13 oz./sq. ft. (Considerably less with mini gear and/or building techniques keeping weight in mind.)
- Wing Construction - 1/64 in. plywood over foam core.
- Fuselage Construction - Balsa/Plywood/Clear Canopy w/ Jet Pilot Figure.
- Fuselage Length - 31 in.
- Radio - Two-channel/Standard or Mini (aileron/elevator)
- Category - High-Speed Combat Aggressor Aircraft.
- Pilot Skill - Accomplished Intermediate to Advanced.

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.

Combat Models has chosen the A-4 to be an intermediate/advanced combat aircraft. Its high-speed capabilities and excellent flying characteristics make this fighter second to none.

- Airfoil - Eppler 374 - 7%
- Wing Loading (Std. Radio Gear) - 15 oz./sq. ft. (Considerably less with mini gear and/or building techniques keeping weight in mind.)
- Wing Construction - 1/64 in. plywood over foam core.
- Fuselage Construction - Balsa/Plywood/Clear Canopy w/ Jet Pilot Figure.
- Fuselage Length - 31 in.
- Radio - Two-channel/Standard or Mini (aileron/elevator with optional speed brake)
- Category - Highly-Maneuverable, High-Speed Combat Aggressor Aircraft.
- Pilot Skill - Accomplished Intermediate to Advanced.

About the A-10 Thunderbolt...

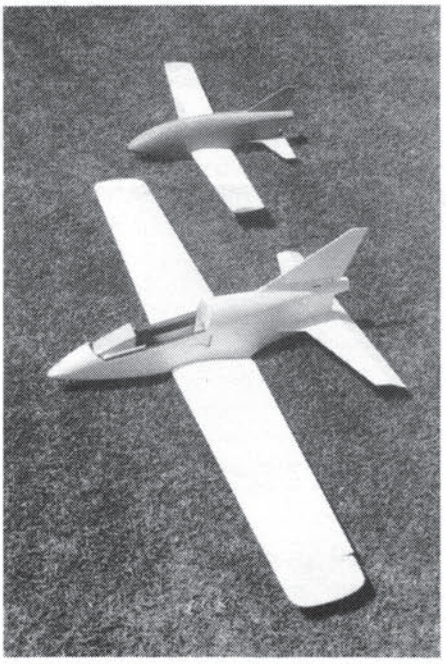
The U.S. Air Force planned the A-10's primary mission for sustained close air support and as a deterrent. It was designed to be the most effective aerial tank destroyer in history.

Combat Models has chosen the A-10 for its unique slow-flying characteristics. This lends to an excellent aileron trainer for pilots who have mastered rudder control and are ready for the world of ailerons.

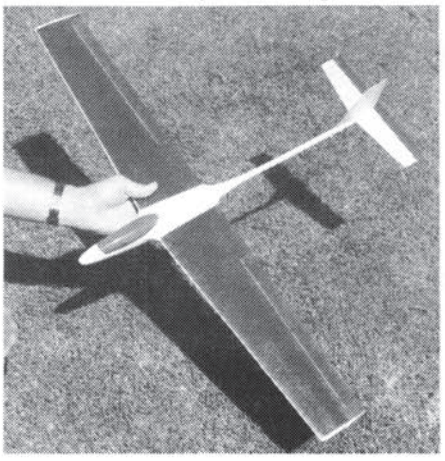
- Wing Span - 49 in. Wing Area - 361 sq. in.
- Airfoil - Eppler 374 - 7%
- Wing Loading (Std. Radio Gear) - 13 oz./sq. ft. (Considerably less with mini gear and/or building techniques keeping weight in mind.)
- Wing Construction - 1/64 in. ply/foam core.
- Fuselage Construction - Balsa/Plywood/Clear Canopy w/ Jet Pilot Figure.
- Fuselage Length - 30 in.
- Radio - Two-channel/Standard or Mini (aileron/elevator)
- Category - High-Speed Combat Aggressor Aircraft.
- Pilot Skill - Accomplished Beginner to Advanced.

COMBAT MODELS, INC., FIGHTERTOWN, U.S.A.
8535 ARJONS DRIVE, SUITE R, MIRAMAR, CA 92126

It's a plane picnic!
Here's a partial view of the scene at Bluff Park. In the lower left corner is the encampment of our "Entourage du Jour" winner, J.A.D.E. In the upper right, is Bob Reynolds' eight-foot F-14B Super Tomcat. Can you find your plane?



Sport jets.
Jim "BD-5" Antista brought out a Digicon version of his favorite jet (the larger one in the foreground) and his own 42" ScAILPLANES, Ltd. design, still in the development stage.



Armand's arm...
...and the latest in an ongoing series of tiny gliders. This vacuum-bagged baby weighs four ounces, w/o radio.

Unofficial Long Beach Fun Fly

Just Another Sunny Day...

By Charlie Morey

The concept was brilliant. No work, no headaches, no liability – just show up and fly. The most amazing thing about the Unofficial Long Beach Fun Fly is that the concept not only worked, it drew more than 100 people and gave them exactly what was promised – a remarkable mix of glider designs and designers, a delightful "family picnic" atmosphere and enough flying time to suit almost everyone.

Strafing the slot

Long Beach's Bluff Park is not a classic "big lift" SoCal slope mecca. It's a little 60-foot bluff that overlooks the public beach, and it's located right in the middle of town. Essentially, it's a good local slope, but it's hardly worth a long drive.

Like any other slope, it has its own unique characteristics. Being a public park, the bluff attracts a large number of dog walkers, joggers, cyclists, kids,

retirees and sun worshipers, and each of these seems to spend an equal amount of time wandering across the landing zone. Local pilots always ask spectators for a last-second confirmation of safe landing conditions before setting up for final approach.

The light lift keeps aileron ships right in the slot. Only rarely can we gain enough altitude to go more than 10-20 feet above eye level, and much of the tight, formation flying is done right on the deck looking down at the top of our gliders. The resulting close calls (and occasional mid-airs) keeps everyone on his toes. Floater pilots, on the other hand, can rise above it all and avoid the slot's air contamination. Their only problems arise when attempting to land on the narrow, cross-wind strip between the unforgiving steel railing and busy Ocean Avenue.

The challenges of flying at Long Beach are compensated by the "Sunday in the park" atmosphere. It's much more sociable than the remote, wind-whipped cliffs where hardcore slopers enjoy flying virtually alone. The landing area is covered with a soft, well-groomed lawn, the attitude is laid back and the girl watching borders on excellent.

Bob did it!

So, who's responsible for all this fun? From comments heard at the fun fly, it seems that a few people thought that *Slope Soaring News* had organized it, but that's not the case.

I heard about it from Bob Reynolds, and I'm not sure, but I'll bet he conceived the whole idea. Bob's a model maker at McDonnell-Douglas, and he's gotten involved in slope soaring with an enthusiasm level that's unmatched by anyone I know...and I've met some real fanatics! A quick look at his F-14B should confirm the level of his involvement and building expertise.

So what?

There's no need to pin down an official Contest Director, however. In fact, with the current attitudes about liability and lawsuits, it's probably best not to collar anyone with such unpleasant responsibilities. The beauty of the Long Beach event lies in its simplicity and spontaneity, and it's a concept that can work at your hill, too.

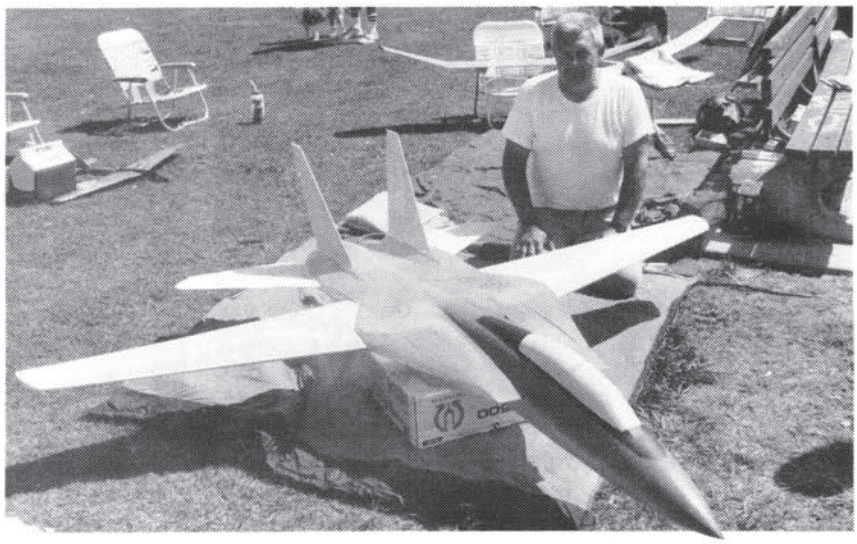
On the average weekend, most of us are out there flying anyway, right? But we arrive and leave at different times, often getting out only on one of the weekend days. Plus, we occasionally meet new people who have heard about our hill and have decided to take a Sunday drive over to have a look for themselves.

Your turn!

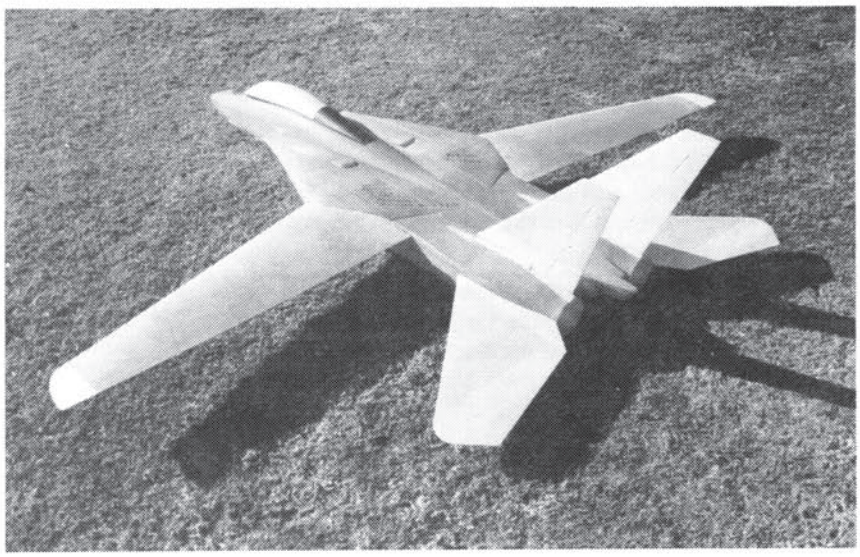
Arranging a non-event like the Unofficial Long Beach Fun Fly is simple. Just pick a good date and pass the word. There's no organization, no responsibility, nothing but a bunch of us gathering randomly (as we do every weekend) to fly our gliders. An unorganized fun fly is just an excuse for all of us to show up at the same time and bring out our best planes.

If you need any help spreading rumors of good days to fly at your hill, just let me know!

(More photos on next page!)



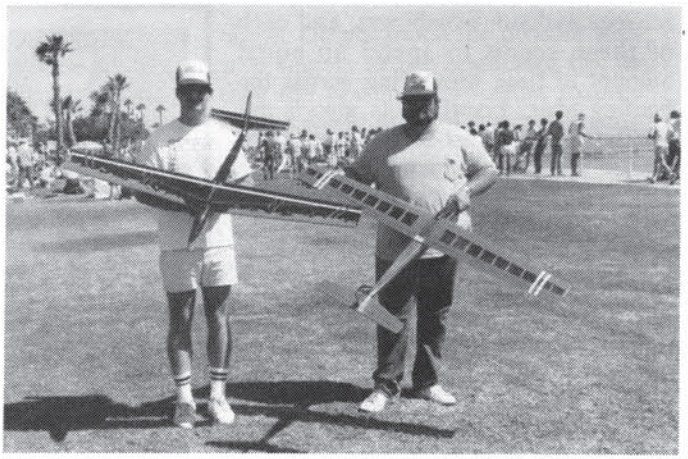
WANTED: STRONG BREEZE, HUGE SKY, STEADY THUMBS.
Bob Reynolds is a model maker by profession, and his latest masterpiece—the F-14B Super Tomcat—is awe-inspiring to say the least! He wanted to have it ready to toss at Long Beach, but the project's taking longer than originally anticipated. Now, he's looking forward to the Torrey Pines Scale Fun Fly on Thanksgiving Weekend and to next year's Tri-Cities Scale Fun Fly in Washington. Bob started with the Jet Hangar ducted-fan fuselage, then added slightly larger flying surfaces (the kit is 1/10-size; the surfaces are 1/8). Specs: 94-3/4 in. span, 80 in. length, 7.5 lb. projected finished weight, 15.7 oz./sq.ft. projected wing loading, $1,000 project budget. The airfoil is an Eppler 214 at the root and an Eppler 222 at the tip. The wing swings forward and back, just like the real one.



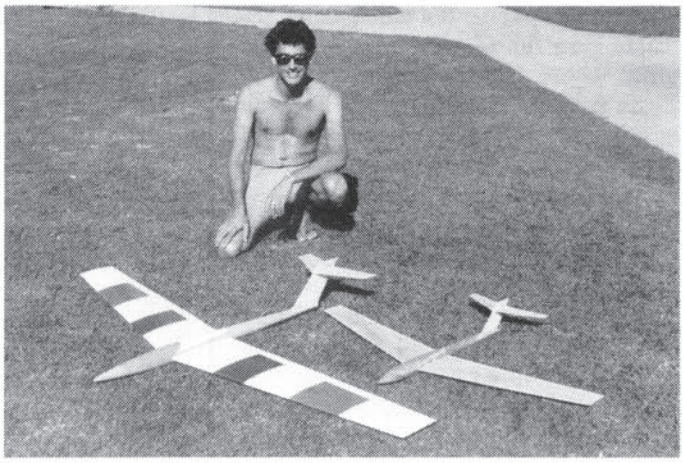
Steve Turnbull's almost-finished OV-10 Bronco.
This one's hot! Since the fun fly, Steve has completely detailed it with clear canopy, drab paint scheme, and lots of antennae, guns, bells and whistles. We'll have a complete exposé of the completed model next month.

Brian and Lesley Laird and their Slope Scale warbirds.
Brian brought several samples of his and Paul Masura's lightweight fighter planes and dazzled the troops with his flying skills all afternoon.

Dave Greenwood's vacuum-formed fuselage.
Originally, he and Bill Salek of the La Sierra Slope Soarers designed a replacement fuse for the Talon. Now they're working on a partial kit of their own. Vacuum-formed fuse, Selig 3021 or SD6060 foam cores, it'll cost around $35.



Carl Maas, Mike Reed and a pair of La Sierra LS-1s.
The La Sierra Slope Soarers club members responsed to a questionnaire, then these two wizards designed a club glider based on their input. Specs: 60-in. span, 24 oz., std. radio gear, built-up wing and fuse. It's a good aileron trainer, yet it's placed well in club slope races. Plans are available for $7; rib sets for $4.50. Interested? Order from Mike Reed, 1775 #B Dimitru Way, Corona, CA 91719.



Larry Berger's Sonic and Son of Sonic.
The 72-in. Sonic features servo-operated ballast dumping. Both have 'glass fuse, 1/64-in.-sheeted foam wings.

Bruce McAvinew, Bill Steinbach and F-4 Phantoms.
These beauties (the planes, that is) are scratch built, but there's talk of kitting them. Stay tuned...

Lift for miles...and a view to match! The San Francisco Vultures' site provided a perfect venue for their first event in more than 10 years.

Stunt Vultures!

Aerobatic Contest

By Jef Raskin

PACIFICA, CA, AUGUST 20

The San Francisco Vultures conducted their first sanctioned contest in more than a decade, and eight entrants arrived to do battle over Malagra Ridge. Jake Chichilitti drove up from San Mateo with his delightful semi-scale WWII ships. Steve Turnbull came all the way from Laguna Beach, where he is the well-known designer of the Pharaoh flying wing. Pacifica pilots Tony Carl, Rene Lefrancois and Al Nies represented the local contingent. Tony's flying of his very aerobatic Avenger must be seen to be believed, and Rene, while relatively new to slope soaring, has developed considerable skills with his Cheetah. Al's plane, a much-abused Cheetah, was the only entrant with landing gear. Geoff Willis brought his glider conversion of the aerobatic Electrostreak from Berkeley, and Brian Schoenly drove the 70 miles from Suisun City. I flew my aerodynamically clean "Grandson of Salvage" made from a Son of Savage wing cut down to one meter and a collection of scavenged part from here and there.

Rounds were flown one-on-one, so that no one could complain of changing wind conditions. The aerobatics were chosen by the fliers themselves. Some were difficult and often executed well enough to draw applause from the crowd. In the first pairing, Jake chose an inside loop with a four-point roll to the left, and Steve challenged with two outside loops from level flight.

Other maneuvers flown were horizontal inverted 8, figure M (hammerhead

(Continued on page 11.)

NI-CDs

Charging, Cycling and Other "Short" Subjects

By Hank Riviere

The battery is the heart of any RC system. Battery failure in either the transmitter or the airborne system leaves you with a lump of inert metal in your hand and an airplane on its last heading. Obviously, every flier must have some knowledge of how batteries work and how to take care of them.

BATTERIES OR CELLS

Batteries generate electrical energy from a chemical reaction. A primary battery, such as a normal flashlight battery, can only be completely discharged one time because it uses up its supply of chemicals. On the other hand, a secondary battery can be completely discharged many times because the chemical reaction can be reversed by the recharging process. Secondary batteries using a Nickel-Cadmium (Ni-Cd) chemical system are typically used for R/C.

A cell is the smallest part or "building-block" of a battery. Batteries are made up of enough cells to provide the required voltage or current capability needed. Since Nickel-Cadmium cells are rated at 1.2 volts per cell, it takes four cells to provide 4.8 volts for the receiver and servos in the airplane and eight cells to provide 9.6 volts for the transmitter (some transmitters use other voltages).

A cell is composed of three main components: (1) the negative electrode, (2) the positive electrode and (3) the electrolyte. In addition to these parts, a separator is required between the plates to keep them from shorting together, and a case is needed to hold the whole structure.

Cells come in two main types: (1) Sealed cells which do not normally vent gas to the atmosphere, and (2) Vented cells which vent gas during normal operation Sealed cells do have a vent that operates at high internal pressure, so if a cell is highly overcharged or accidentally shorted out, the cell will not blow up from internal gas pressure. Sealed cells also have a porous separator which permits the gas to pass through inside the cell at slow rates.

Vented cells have a non-porous separator. Overcharging or high rate discharging generates oxygen at the positive electrode and hydrogen at the negative electrode. The gases bubble up through the electrolyte and pass out through the vent. For most R/C applications sealed cells are used.

CHARGING

Receiver and transmitter batteries should be charged after a flying session to keep them in a nearly-full-charged state. However, the charging should be done in such a manner to avoid long periods of overcharging.

For example, if the batteries were fully charged, and only a couple of flights were made on Sunday afternoon, then charge for about two or three hours. Feel the battery pack with your hand. If it feels warm, stop charging. Heat generation shows full charge. If there is no warmth, go ahead and charge for another two hours. Then, charge for about four hours the night before going flying. If you put in several long flights that afternoon, better plan on doing a full 14-20 hour charge. That way you know the batteries are at full capacity.

Since batteries lose some of their charge capacity just sitting around, be sure to top them up for three or four hours the night before the next flying session unless the next session is more than seven days later. If so, better go for the overnight charge again since some older batteries develop a high self-discharge rate.

Heat is a battery's worst enemy. Try to keep the batteries cool (not cold) at all times. In the summer, put your gear in the shade when you're not flying to lower the ambient temperature. Don't store your gear in a hot attic or leave it in the car trunk in the summertime. However, the worst source of heat usually is caused by overcharging.

After a cell comes up to full charge, the charging energy begins to break down the electrolyte into hydrogen and oxygen. These gasses recombine inside the cell and produce heat, thus raising the internal temperature of the cell. At high temperatures, the free oxygen in the cell attacks the separator material which causes it to decompose and eventually leads to internal short circuits.

At a charge rate of C/10 (1/10 of the ampere-hour rating of the battery), the gas is able to recombine at the same rate it is being produced. The internal pressure will not increase but the temperature will increase somewhat. Thus high-rate overcharging should be avoided to keep the internal pressure low, and long periods of low-rate overcharging should be avoided to keep the internal

Battery Dimensions

Size	mAh	Diameter	Height	Weight
N	150	0.475 in.	1.135 in.	0.31 oz.
AAA	200	0.405 in.	1.730 in.	0.35 oz.
2/3 AA	270	0.560 in.	1.168 in.	0.50 oz.
2/3 Af	500	0.675 in.	1.120 in.	0.67 oz.
AA	600/700	0.560 in.	1.920 in.	0.85 oz.
1/2 SUB C	650	0.906 in.	1.044 in.	1.02 oz.
Af	800	0.640 in.	1.910 in.	1.27 oz.
2/3 SUB C	900/1000	1.020 in.	0.910 in.	1.37 oz.
Af	900	0.640 in.	1.910 in.	1.29 oz.
2/3 C	1200	1.000 in.	1.290 in.	1.55 oz.
SUB C	1200/1300/1700	0.875 in.	1.600 in.	1.82 oz.
C	2000	1.000 in.	1.840 in.	2.71 oz.
D	4400	1.289 in.	2.300 in.	5.36 oz.

The above list supplied by PERIPHEX, Inc., 149 Palmer Rd., Southbury, CT 06488; 1-800/634 8132. Their Sanyo cells and packs are all computer matched within 0.03%. Computer test results are furnished with all packs, and all battery packs carry a full one-year warranty.

temperature low. Long periods of very-low-rate overcharging (C/100) seems to be OK since the temperature doesn't rise very much.

Just as there is never any free lunch, charging must be paid for (in addition to what the local power company gets). The chemical process is only about 60% efficient. More energy must be put into the battery than can be taken out. That is why it takes 16 hours at C/10 to fully charge the battery. That is also why (since most chargers operate at C/10) you can't charge for the same length of time that you fly (not to mention the fact that you don't know what your current drain was).

"Battery failure in either the transmitter or the airborne system leaves you with a lump of inert metal in your hand and an airplane on its last heading"

Fast charging (about C/3) is possible but you must not overcharge at this rate. Therefore, special circuits must be used to measure the temperature rise in the battery and to shut down the charger when the battery is fully charged. Also, special batteries must be used that have carefully matched cells so they all arrive at full charge at the same time. You may be able to get away with high temperatures and high rates of overcharge for a time, but battery life will surely be shortened.

CYCLING

There is probably more controversy over cycling than any other aspect of Ni-

Cd use. Cycling involves discharging the batteries down to the end-of-life voltage of 1.1 volts per cell (some use 1 volt per cell), then recharging fully for 16 hours and discharging to end-of-life again. When recharged fully again, the battery should be ready to go. The discharge should be done at the C rate. That is, if the battery is rated at 500 milliampere-hours, then discharge at 500 milliamperes. Measure how long the fully charged battery takes to get down to end-of-life. If it is less than 40 minutes, do the whole charge-discharge cycle over again and measure again.

"Don't let a worn out battery catch you midflight."

If the time increases, cycle again and remeasure. Quite often a battery will build up a memory of light discharges and will go flat after a short while. This cycling will help to erase that memory. If your tests show that the time is less than 40 minutes and not increasing with more cycles, the battery has started to wear out and should be replaced. A life of less than 40 minutes after a full charge is certainly a warning of impending doom. Don't let a worn out battery catch you midflight.

For you scientific types, discharge current in milliamperes x time in hours equals the milliampere-hour rating of the battery. Batteries are usually tested at the C rate although some manufacturers use a lower rate to get a higher apparent rating. That is, a battery will deliver more energy at a lower current. If you are comparing different batteries, be sure you do the test the same way each time.

Ni-Cd batteries should be fully cycled about every 30 days and a log of the test results should be kept. That way a battery that starts to degrade can be watched more closely and in flight failures can be minimized.

PACKAGING AND PACKING

If you are using a commercial battery pack with a plastic cover, then all you have to do is wrap some foam-rubber loosely around the airborne pack and install it in the aircraft. Foam rubber is good but Ensolite rubber foam is better. It is a closed cell foam available from camping supply stores, that absorbs the energy from a crash rather than compressing and bouncing back, thus returning the crash energy to the battery. If you bang them around a lot, maybe Ensolite is for you.

When making a battery pack from a handful of cells, the first step is to get them connected together. Try to obtain cells with solder tabs attached. Then using a hot 45 to 50 watt iron, quickly solder each connection. (Remember the old heat problem.) Hook the cells negative to positive until enough cells have been connected in series to provide the required voltage.

To minimize the possibility of accidentally short circuiting your system as you assemble it, install your receiver connector on the wires before connecting them to the battery. Don't let them touch together!

If your batteries don't have solder tabs, the soldering action must be very quick (one to two seconds) to avoid heating the internal structure of the cell. Be very careful to get the polarity right.

The whole pack can be slipped into a plastic sandwich bag and wrapped tightly with black electrical tape to create a lightweight package. Battery suppliers use large size heatshrink tubing to encase the battery, but that seems to me like an expensive way to go.

INSPECTION

Battery packs should be inspected frequently to keep problems from occurring. Carefully check around the positive end for signs of leakage around the seal. If the area is clean, everything is great. If there are a few grains of white powder, no problem. However, if the white powder is very thick or if there are brown or black gummy deposits, the cell is leaking badly and should be replaced.

If the battery pack is reasonably new, (up to one year old) a leaky cell is probably evidence of a manufacturing defect and can be replaced without worry. If the pack is older than two years or has been used heavily, it may have been abused, so better replace the whole thing.

When replacing cells, unsolder the tabs quickly or cut the cell-to-cell straps if it is a welded construction. Leave most of the strap on the cells that you want to keep. Then quickly solder in the new cell and replace the covering.

I hope that you find this information useful. If it saves one airplane from a battery-caused crash, the effort has been worthwhile.

Happy flying!

("Vultures" continued from page 7.)

right, recover to vertical flight with an inverted pullup, hammerhead left), inverted Cuban 8, right and left hammerheads (similar to a figure M but recovery is an inside instead of an outside maneuver), three-turn spin, Cuban 8, three loops, forward humpty-bump with three rolls, aileron roll (vertically downward) to level followed by a four-point roll to the right, four rolls, four-point roll inverted to inverted, aileron roll to right followed by a roll to the right, double snap roll, split-S followed by roll, Immelman followed by half an outside loop downward and half a roll, hammerhead with half roll on downward leg, one-and-a-half roll left with right hammerhead from inverted entry; Cuban 8 with one-and-a-half rolls instead of the usual half rolls, two rolls, triple cobra roll, vertical upwards half roll to a forward humpty-bump and a roll left and a roll right, square loop.

After three rounds, there was a three-way tie for first between Jake, Tony and Rene. I was in fourth and Geoff was fifth. While the rules specified tie-breaking by measuring wingspans, the three finalists agreed to a flyoff.

Jake, Tony and Rene were all in the air at once with the C.D. specifying the maneuver, a hammerhead followed by an Immelman with half an outside loop downward and level inverted flight to exit.

Jake just couldn't make his plane do a hammerhead; Tony flew the maneuver cleanly; and Rene flew it somewhat less cleanly leaving the results as follows:

Results

1. Tony Carl; 2. Rene Lefrancois; 3. Jake Chichilitti; 4. Jef Raskin; 5. Geoff Willis; 6. Brian Schoenly; 7. Al Nies; 8. Steve Turnbull.

Too much fun?

You'd better believe it! (Standing, L to R) Brian Schoenly, Tony Carl, Jake Chichilitti and Geoff Willis. (Kneeling) Rene LeFrancois, Jef Raskin and Steve Turnbull.

Got your scale or power scale glider built, yet?

TORREY PINES SCALE FUN FLY • NOV. 24-26

Send your name, address and phone number to SSN to get on the mailing list!

COMPOSITE COOKBOOK

$NaHCO_3$, a.k.a. Sodium Bicarbonate or Baking Soda

Used in medicines, fire extinguishers and as a baking additive.

Yes, folks, that white powder you use to keep your refrigerator smelling fresh, your sink drain clean and your teeth bright is also a composite building material! (Will wonders never cease!)

When used with a fast-setting cyanoacrylate glue (like pink Zap), baking soda becomes an incredibly strong filler material. "Instant" fillets for reinforcing wood joints (balsa, ply and hardwoods) can, in most cases, replace heavy, time-consuming epoxy glued joints.

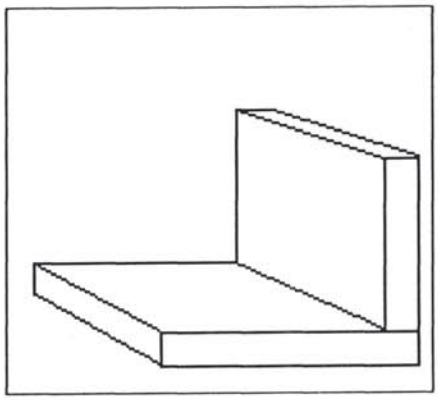
Before attempting to duplicate the following demonstration, read all safety/health warnings regarding the use of cyanoacrylates and their accelerators! Always use an appropriate respirator adequate to filter out the type of toxic gasses you are working in! Use safety goggles and gloves!

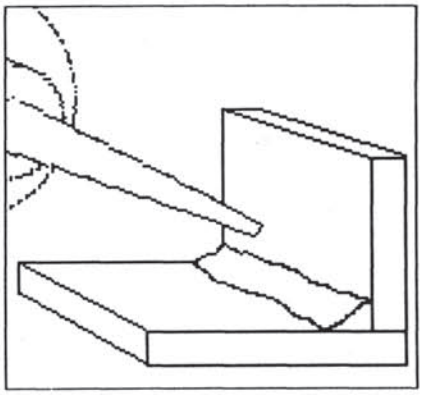
Warning: This procedure will produce much more "CA smoke" than usual. To begin, take two 2" x 2" x 1/8" pieces of balsa and using a fast CA adhesive, glue them as shown. Now, take a small amount of baking soda and create a powdery fillet along the seams. Keeping your face well away from your work, gently apply more fast CA saturating the baking soda without disturbing the shape of your powdered fillet.

Hint: Touch the tip of the glue bottle to the balsa approximately 1/4" above the fillet. The glue will flow directly into the powder without disturbing the shape. Do not touch the powder with your fingers or the applicator tip, or they will become permanent fixtures to your work! Most of you can already see where this process would be great for field repairs. If you forget to bring your baking soda, try dirt!

Next month we play with Dupont's 49 Aramid fibers and turn a pair of cheap ($2.00), scissors into a great pair of Kevlar shears!

Richard Jarel
J.A.D.E.
12136 Braddock
Culver City, CA 90230





SITE OF THE MONTH

Slope Soaring in Saskatchewan?

By Bob Welwood

So just what do we Canadian "prairie slopers" dream about during those dark and frigid January days? (No, no...*besides* that!) Why gettin' back to the Qu'Appelle Valley, of course! In the meantime, it's pleasant memories of easy hour-long flights, wild aerobatics, no-holds-barred combat, and most important – the fun and great fellowship. This valley, right in the midst of tabletop flat southern Saskatchewan, is considered to be one of the best inland slope sites available in Western Canada.

HISTORY & TOPOGRAPHY

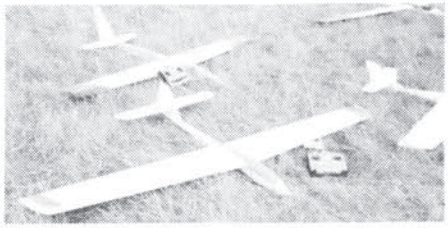
Slope soaring at Qu'Appelle started way back in 1974 and continues to draw 25 or so devotees from three provinces and states for combined fun flies and camp-outs during three weekends every year. Some drive up to 10 hours to get there. Original site fliers parked on the valley floor and hiked it up to the top of the ridge, but soon roads were found and it's now possible to park right at the sites.

The valley meanders, and this provides half-mile wide slopes of up to 350 feet in elevation that are suitable for

any wind direction, although the south facing one is by far the best. When the wind blows (which is almost always here on the prairies), there's plenty of low-turbulence, thermal-assisted lift from mid-morning to late afternoon. Nicads are usually the limiting factor. The updraft generally extends well out into the valley and to considerable altitudes, making plenty of flying room for everybody. Even so, mid-airs are not that uncommon. The landing areas are spacious, wide grassy fields with little rotor turbulence.

WHAT TO EXPECT

You'd find just about everything flying at Qu'Appelle – from mono'd-poly-gollywogs to aileron/elevator combat survivors to slick full-house glassed speedsters to graceful and detailed scale ships. Everything is strictly low key, undisciplined (except for frequency control), and enjoyment-oriented. Participants are free to fly for their slope duration tasks, practice fly bys, see how many loops their floater can do, or maybe try smokin' out that new go-fast ship built during the long winter. The spirit and atmosphere here is truly what slope flying should be... it's not unusual to be offered flights on someone else's ship, even after yours has piled-in.



Alex Reinhardt's Arcus.
A soon-to-be Astech Model?

LOOKIN' FOR MR. GOODLIFT

In case any of you *SSN* readers might be interested, here's how to get there: (You guys in California... hey, it's easy... head north to Seattle, hang a right, then drive straight east for 1200 miles.) From the Trans-Canada Highway 1, in the province of Saskatchewan about 50 miles east of Regina, take highway 47 North for 18 miles. When the flat prairie suddenly drops out from under your car, you're there. Drive along 247 and 201 until you find the ridge that's right for the wind. Don't forget to turn the radio on. Come fully charged and prepared to enjoy the great lift. See you there?

Air Mail

ALIVE IN BAKERSFIELD

Slope soaring is alive in Bakersfield, although not on a large scale. Three or four of us in the local sailplane club, Southern San Joaquin Soaring Society, fly some slope. There are probably another dozen or so on-and-off fliers. Four fliers at one time is a busy day.

We have quite a few Cheetahs and Super Cheetahs, a couple of Talons, one Vader pod-and-boom, plus the usual number of two-meter floaters.

There are two primary slope sites in the area. One is about 20 minutes out of town, probably 200 feet high and faces NNW. Generally afternoon to evening winds from 10-25mph with a mix of thermal lift. If a front is passing through, wind speed can exceed 50mph. The peak of the hill is a mound, and the rotor is bad. Landing is mostly in loose rocks, so tough fuselages are definite asset to longevity.

The other site is 40-50 minutes out of town in the Tehachapi Mountains, and there are several slopes there. The altitude is about 4,000 feet with wind off the valley like coming up a funnel. The wind direction can vary by 45°, and at the top of the hill, it's all up!

I'd also like to respond to your question on "battery-powered wind." I feel there might be a place in your publication if the plane/kit relates to possible slope use. I recently bought a Great Planes Electro Streak. About the same time, the president of the local RC power club (BARKS), Dick Mason, took on the task to do the construction article of the same kit for one of the monthly magazines.

I bought mine with the idea of using it on the slope; it looked right to me. After the newness of electric wore off, I simply rearranged a few things, added a fiberglass-covered foam chin block and an Airtronics sailplane skid. I can still change it back to electric, but Dick made his a permanent sloper called Slope Streak.

Mine came out at 12 oz./sq. ft. wingloading with room for ballast without the seven-cell motor pack. I feel comfortable with at least 12mph wind. It's more maneuverable than a Super Cheetah, and with its rudder, stall turns and snap rolls are a plus.

I personally don't think that *SSN* is the place for every electric kit on the market, but with a possibility of the plane being adaptable to future slope flying, it could be considered.

Keep up the good work with *SSN*. If anyone wants info on slope soaring around Bakersfield, they may contact me.

Austin R. Ball
B&F Hobbies
1424 Baker St.
Bakersfield, CA 93305
805/322-7955

Thanks, Austin! How about sending in a photo of that "Slope Streak?" – Charlie.

WIDOWMAKER SLOPE SITE

Please keep me posted on the Torrey Pines Thanksgiving Weekend Scale Fun Fly. I've only been soaring for about six months and have no previous RC experience. I'm looking forward to a great weekend of relaxation, observing scale ships and flying techniques.

We have a great slope up here in Salt Lake City known as Point of the Mountain. We share it with hang gliders, and it's also the site of the Widowmaker Motorcycle Hillclimb.

Look forward to meeting you in November!

John Salevurakis
Salt Lake City, UT

You're on the fun fly mailing list, John. You'll receive any info sheets the Torrey Pines Gulls send out to participants.

Through my motorcycling experience, I've seen lots of Widowmaker photos; in fact, one of my magazines (Dirt Rider) *has covered the event several times. And, of course, I've often daydreamed about soaring on that incredible slope and wondered if the "locals" did.*

Yes, I'll definitely be at Torrey Pines in November. See you then! – Charlie.

FLYING IN BAJA

Yearning for that ocean cliff, pumping up all that unrestricted lift with only you and your buddies' planes chasing each other matching move for move?

Well, come south to Baja where you'll find exciting flying, ocean camping, delicious food and great shopping. Our coast is a slope soarer's dream with numerous cliffs and steady wind.

I live in the city of Ensenada, about 65 miles south of San Diego, and I'd like to share my favorite local flying site with you. Located just north of town is the spot I call "Chapultepec." One can drive up and park right alongside the slope, so launching and landing is a breeze.

I especially enjoy this spot because one can soar immediately in front along with the curious gulls or turn 180 degrees and head for a large cliff right behind for some tremendous wave action (where I always speck out).

We also have our local resident thermal, and entering this boomer – even with a heavily-ballasted ship – is like stepping into an express elevator!

Flights are for as long as you have faith in your batteries, as the wind blows all day. Landings are fairly routine with the landing zone providing enough room for spot landing even my floater.

If you have an interest in coming to Baja for a real adventure, I have a booklet that gives the following information:

- Directions and descriptions of the best spots.
- Driving and travel tips.
- Restaurant and cantina recommendations.
- Hotel and camping guide.
- Phrase list.
- Much more.

Please send a $4.50 check or money order if you'd like a copy.

Phillip Garcia
Apartato Postal No. 1079
Ensenada, B.C.
MEXICO

Thanks, Phil! It's good to hear from you again.

Readers, for your information: Phil Garcia used to be one of the Long Beach regulars before he moved to Ensenada. He's a good guy and a gentleman. Although I haven't seen his booklet or found time (yet) to go flying with him in Ensenada, I have no qualms about recommending that you do so.

Perhaps we should organize another unofficial fun fly – like the Long Beach one – at your site, Phil. What do you think? – Charlie.

B^2 STREAMLINES UPDATE

Over the past month or so, we've obtained several plans for publication, including an RC-assist vintage glider, a beginner's slope racer, and F3B-capable flying wing and an unlimited class thermal duration sailplane.

We hoped at the outset to be able to gather plans internationally, providing

U.S. builders with plans to which they might not otherwise have access. In this regard, we have succeeded; each plan noted here is from a different country!

Bill and Bunny (B²) Kuhlman
P.O. Box 976
Olalla, WA 98359-0976

QUASI-AEROBATIC?

I'd like to ask *Slope Soaring News* to maintain truth in advertising. Please reserve the term "fully aerobatic" for models that have ailerons, elevator and rudder. To be fully aerobatic, a plane must also have a fully symmetrical airfoil. Anything less is merely aerobatic.

Please make sure your advertisers do the same. I have often gone to the store to buy a "fully aerobatic" kit only to discover that is has a semisymmetrical airfoil that won't do outside maneuvers as well as it will inside ones. No powered model would be sold as an aerobatic pattern ship without rudder and fully symmetrical airfoils. They would be laughed off the market.

I want to know from reading about a kit whether it is for beginners, intermediate fliers or if it's truly suitable for the advanced aerobatic flier.

Jef Raskin
Pacifica, CA

I don't know if I'm prepared to enforce such a radical new rule, Jef. In fact, I don't know of any kits that meet your standards. But if aerobatic competition becomes popular enough, your ideas may become necessary.

Tell you what I'll do. Let's ask our SSN readers for their thoughts on the subject, and I'll actively support any aerobatic competition and discussion. – Charlie.

Want Ads

WORLD'S LARGEST ASW-20!

Shown in June 1989 *Slope Soaring News*. 21-1/2 foot span, 27 lbs. RTF! Completely built, incl. (3) aileron/flap servos. $500. Call Gary at 619/575-5133.

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