



AMA Charter Club #128  
<http://www.1hss.org>

**HSS is the oldest AMA chartered R/C Soaring Club in the USA  
Founded 1964**

**MAY 2005**

**VOLUME 42**

### **Aerial Photography and Public Service**

John Anderson had inspired curiosity in the River Park organization about using aerial photography from model aircraft to assist them in collecting information about coastal wetland flooding from our exceptional winter rain storms. On the next page is a transcription of the letter he received requesting our assistance.

With the recent interest and development in aerial photography by Dennis Anderson (no relation to John), Jim Ward, and Jim Hanson, HSS responded with enthusiasm. These pilots have been out making photos, and have amassed about 400 photos most of which cover the area of interest. Below is a superb shot of the Newland power station, shot at about 6:30 AM one morning. This photo is of much higher resolution on our web site, where you can actually see Jim Ward and John Anderson standing in the parking lot.



**MAY 2005**



**PAGE 1**



**April 5th, 2005 Harbor Soaring Society Meeting Minutes**

Club president Karl Hawley, opened the meeting at 7:30 PM. Four officers and 10 members were present.

The club's checking account is now established at Wescom Savings Bank of Costa Mesa. This bank offers free check writing privileges. Karl closed the savings account at Downey Savings, and has now transferred the funds to the new Wescom Bank.

Bill Eckles reported on the activities of Friends of Fairview Park. He said that HSS supported the Easter egg hunt held on 26 Mar 05. Over 300 children participated. Bill emphasized the need to support Earth Day at the park on 16 Apr 05. Bill will not be able to attend. (See article on this activity below. Ed.) Mike Gaczkowski had talked with Robin at Gyro Hobby. They are willing to offer half off on Styrofoam gliders. Karl said to buy four.

Bill Eckles has completed a rough analysis of the Fairview Park Users Survey. He reported that about 80% are AMA members, 10% have alternate insurance, 51% are from HSS, 80% fly electric planes, 9% fly gliders only, 15% fly free flight, and 35% are opposed to requiring a permit. Bill suggested that an executive/steering committee meeting be held. Karl directed that this be held 6:30 PM Monday April 25<sup>th</sup> at Sweet Basil Restaurant on Bristol Blvd.

A discussion of the SCSC competition held last March 20<sup>th</sup> indicated that sales of hot dogs lost \$10, but \$490 was collected in entry fees.

Our newsletter publisher, Mike Gaczkowski, stated that we presently have 101 members. 28 members received the April issue by E-mail, and the remainder received hard copy at a total cost of \$104. This is a significant reduction as compared to the March distribution which cost \$165 to mail all issues. Our policy has been to limit the number of pages to 12 in order to keep the weight under one ounce (which requires one 37 cent stamp). However, a number of articles have been either omitted or shortened to meet this requirement. We are now planning to continue mailing only 12 pages, but will have issues with more than 12 pages E-mailed as before and also published on our web sites.

Jim Hanson had identified some conflicts with his plans for the Second Annual HSS Electric Fun Fly. It was finally decided to have the event on Sunday May 15<sup>th</sup>. See the announcement elsewhere in this issue, and further details including event rules on our web sites.

Jim Ward suggests reading the latest Presidents Letter in the most recent Model Aviation (AMA's magazine). It has some important information from the new Executive Director of AMA, Don Koranda.

John Anderson brought a binder with some of the over 350 photos taken by Jim Ward's camera carrying double Slow Stick. The photos were extremely good, and the River Park organization was very pleased. (See article about this public service effort elsewhere in this issue. Ed).

Jim Parsons announced that Larry Tuohino will give a presentation on full sized glider flying at the 3 May meeting.

Jim Parsons then introduced Brian Buhaas of Raptor Aerosport who displayed his Ukrainian and Russian import gliders. He discussed his Photon 2 discus launched glider, and his Charm RES glider, that he offers for sale. Contact Brian if you are interested in purchasing these magnificent planes.

The meeting was adjourned at 9 PM.

Submitted by Fred Hesse, Secretary



### Plans for the May 2005 Meeting Speaker

Larry Tuohino, Phil Caricof and John Greybell will be making a great presentation on the Crystal Squadron, cross-country soaring, and the opportunities for HSS members to share in these adventures.

Larry has provided the following brief announcement. Be sure to attend our HSS club meeting on May 3<sup>rd</sup>.

May's HSS Meeting Speakers will be representatives from the "Crystal Squadron". Who are they? They are a group of adventurous full-size glider pilots who spend their summer Saturday's flying "straightout", ie flying as far as they can go or at least diamond distance (318 miles). Starting at Great Western Soaring in Llano, CA they often make it into Nevada or Arizona, then gather with their crews for a dinner in an old Silver mining saloon, and finally after a night in a hotel drive back to the LA basin on Sunday. And, they are looking to share these adventures with HSS members. So let's have a big crowd for this one! For more info on the Crystal Squadron click thru: [www.greatwesternsoaring.com](http://www.greatwesternsoaring.com).

### May 3rd Meeting Notice

The next meeting will be Tuesday May 3rd 2005, at the Irvine Water District. The address is 15600 Sand Canyon Drive. There are exits for Sand Canyon Drive on both the 5 and 405 freeways.

This will be an exciting affair which features a presentation on full size glider soaring by the "Crystal Squadron" as described above.

The business meeting starts at 7:30 PM. Come find out how you can support our club.



### New Club T-Shirts

Karl Hawley has received the new shipment of HSS T-shirts. They have the club logo on the back in full color, and a small sailplane on the front. These high quality shirts are priced as follows: T-Shirt, no pocket, \$5; T-Shirt with pocket, \$7; Golf shirt with a polo collar and a front pocket, \$13. These are available to all members. Contact Karl and get yours before they are all sold out.

### Harbor Soaring Bulletin Board

A new E-mail/bulletin board for HSS has been opened, called the CostaMesaSoaring group at Yahoo! Groups, a free, easy-to-use email group service. (This group was moderated by an unknown someone who turned out to be Jeff Gortatowski - Ed).

To learn more about the CostaMesaSoaring group, please visit <http://groups.yahoo.com/group/CostaMesaSoaring> (where you may join the group if you wish - Ed).

To start sending messages to members of this group (after you have joined), simply send E-mail to [CostaMesaSoaring@yahogroups.com](mailto:CostaMesaSoaring@yahogroups.com).

If you do not wish to belong to CostMesaSoaring, you may unsubscribe by sending an email to [CostaMesaSoaring-unsubscribe@yahogroups.com](mailto:CostaMesaSoaring-unsubscribe@yahogroups.com).

### Second Annual HSS Electric Fun Fly

Our second Annual HSS Electric Fun Fly is scheduled for 9 AM Sunday May 15<sup>th</sup> at Fairview Park. With so many electric plane enthusiasts in the club, it is important for all to participate. This is your club making an event for you. Jim Hanson will be CD again, and needs all the support you can give. If possible, enter the events and also help put the show on. Visit our web sites for details and event rules.



Earth Day at Fairview Park

HSS supported the Earth Day activities at Fairview Park on Saturday April 16, Karl Hawley, Jim Hanson, and Jim Ward set up a booth and staffed it for visitors. A static display of planes were provided by Walt Cloer, Rob Askegaard, and the above staff. Photos below show visitors in front of our corral of planes. Thanks to Rob Askegaard for the photos.

Jim Ward flew his camera plane overhead, and captured a nice aerial shot which can be seen on our web site.





### Charge a Battery in Just Six Minutes

Author: Duncan Graham-Rowe (Courtesy of March 2005 New Scientist)

The following article is a reprint of some recent developments in battery technology.

A rechargeable battery that can be fully charged in just 6 minutes, lasts 10 times as long as today's rechargeables and can provide bursts of electricity up to three times more powerful is showing promise in a Nevada lab.

New types of battery are badly needed. Nokia's chief technologist Yrjö Neuvo warned last year that batteries are failing to keep up with the demands of the increasingly energy-draining features being crammed into mobile devices (**New Scientist** print edition, 28 February 2004).

The highest energy-per-weight ratio in today's batteries is provided by lithium-ion (Li-ion) batteries. They are also cheaper in terms of energy delivered per unit of weight than alternative types of battery such as nickel-metal-hydride (NiMH) and nickel-cadmium (Ni-Cd) types. But Li-ion cells have their drawbacks too. They eventually wear out, and they cannot discharge energy quickly enough for applications requiring power surges, such as camera flashguns and power tools.



They may soon be able to. Altair Technologies of Reno has created a new type of Li-ion cell in which the anode has an exceptionally high surface area. This allows electrons to enter and leave it quickly - making fast recharging possible and providing high currents when needed.

### ***Chemical Tricks***

Li-ion batteries work by forcing lithium ions from a lithium cobalt oxide cathode to migrate to a carbon anode via an electrolyte solution. Altair's patented modification is to make the anode surface out of lithium titanate nanocrystals, using chemical tricks to give it a surface area of about 100 square metres per gram, compared with 3 square metres per gram for carbon.

The firm is keeping the chemistry that allows it to do this pretty close to its chest for commercial reasons. But the patent (US 6689716) reveals that the increased surface area is achieved using a carefully controlled sequence of evaporative steps when making the lithium titanate crystals.

The high current that this modified electrode is able to carry means power-hungry devices can be installed in mobile phones, which until now have been denied them. For instance, camera phones might now have enough power to run a flashgun.

### ***Longer Lifespan***

Altair says the battery will have other advantages, too. The crystalline surface of a carbon anode is susceptible to damage by the repeated temperature changes that occur as the battery is used and recharged. This limits its life to around 400 charging cycles.

The more rugged lithium titanate anode should make it possible to recharge the battery as many as 20,000 times says Roy Graham, development director at Altair. A longer lifespan should also be better for the environment, he says. "The continual use of polluting cobalt oxides is questionable."

Altair plans to develop its batteries for power tools, which have till now required more expensive Ni-Cd or NiMH batteries to provide the large currents these devices need. The company hopes to license its technology to major battery-makers, who could have the device on the market in two years' time. Altair says it eventually wants to produce batteries for a broad range of devices, from phones to hybrid electric vehicles.

### **Return of Flight School**

One of the better web bulletin boards for model gliders is the Yahoo Allegro-Lite site run by the Charles River Radio Control Club. The URL is <http://groups.yahoo.com/group/Allegro-Lite/> . Major contributors include Dr. Mark Drela, Dr. Robert Parks (both of MIT) and some of the best designers and pilots across the nation. Discussions range from how to build the Bubble Dancer to how to turn in a thermal. These recent subjects are examples of the topics covered.

From: [upedkk@aol.com](mailto:upedkk@aol.com)

Subject: Re: Digest Number 937

Reynolds numbers are based on the air speed in the wind tunnel. The faster the airplane travels the higher the Reynolds number will be and the wing will generate more lift.

Dr. Bob Parks replies:

Reynolds Numbers are based on the airspeed (anywhere, not just in a wind tunnel), the chord of the wing and the kinematic viscosity of the air (or other fluid). Its not just speed.



Wing lift is based on the lift coefficient, the airspeed squared and the air density. This is the reason why a wing can make more lift if it's going faster. There is a weak variation in the maximum lift coefficient with Reynolds Number (once you get up to the RN where these types of airfoils are designed to work). Double the RN might give 10% more max lift, but it might not give any.. depends on the airfoil.

In normal, "level" gliding flight, lift will essentially equal weight. If the plane is heavier it will have to fly faster to make the extra lift. This means it will sink faster, but the increase in RN means that it won't sink QUITE as much faster as the increase in forward speed. As some ROUGH numbers, if you double the weight of the airplane, the forward speed increases about 40% for a given angle of attack, but the higher RN means the sink speed only goes up by about 25 to 35%.

Next topic:

>If you learn to fly fast in thermals your sailplane will climb better and will stay in the air longer.

Not at all true, particularly in small thermal bubbles near the ground, where low speed and tight turning are both big advantages.

* Bob Parks	Experience is what you	*
* <a href="mailto:bob@kidsource.com">bob@kidsource.com</a>	get when you don't get	*
* <a href="mailto:parky@alum.mit.edu">parky@alum.mit.edu</a>	what you thought you'd	*
* <a href="http://www.kidsource.com/">http://www.kidsource.com/</a>	get. - anon	*

Another topic was concerned with the need to fly light gliders, as follows:

I probably should ask you if thermals have a limit to the amount of weight that they can lift. Is this possible?

Think of a thermal as an up escalator. If you walk down an up escalator fast enough you can still go down it. Doesn't really care if you are a 20 pound kid or a 300 pound grown up. It is rising at X fpm. So goes a thermal. Your plane sinks at Y fpm and the thermal rises at X fpm. The sailplane is still falling through the air. The air it is falling through just happens to be rising faster than it is falling. So you go up at X-Y fpm.

If that argument is not enough, remember that thermals are fully capable of lifting man sized airplanes.

Lighter is not in and of itself necessarily better. There comes a point that the Reynolds Numbers get too low for normal aeronautics to apply. Remember when it was scientifically proven that Bumblebees cannot fly?

Dr. Drela has done a lot of work to make airfoils that will "work" at low Re, but you can blow the whole thing with a dinged or misshapen LE, covering seams, decals, gaps, dust, etc. Even with a perfect plane, there is a limit to how low the airspeed or how small the plane can be.

Mobility. Low drag and high mass create mobility. You need to be able to get to lift and get out of sink. If you launch a feather to 600 feet and cannot get to a thermal, it is improbable that you would get 10 minutes.

Why? Because if you are not in lift, you are probably in sink. The air is rarely neutral. If you can get to the lift, even a 5 mph wind will carry you and the thermal downwind a quarter mile in 3 minutes. You may want it to come back so you can fly it again. Model rockets are an example of why you need mass. A really light rocket takes off really fast, but soon slows because of the drag to mass ratio (read  $F/M = A$ ). Optimum altitude requires the optimum mass.

One last argument. Control. My old HOB 2x2 has a really neat characteristic - you can fly it so slowly that you cannot even make it turn. No air over the tail means no lift when the rudder is deflected.

It's a tradeoff.

**MAY 2005**



**PAGE 8**

BTW. If you really do get a plane that can hang like a dandelion seed and still scoot around the sky, let us know. I'll build or buy one.

Tom Koszuta  
Western New York Sailplane and Electric Flyers Buffalo, NY

### **Membership Renewal for 2005**

Please remember to renew your HSS membership. The cost is the same as always, just \$20 for the year which includes your monthly newsletter, and two really great web sites. Over the past year, your leaders have worked with the city and made major efforts to maintain the image of HSS as a civic minded and safety conscious organization. We are making significant progress in both gaining city approval of our flying activities, as well as to improve our flying site and reduce risk to other park users. We appreciate your support, and encourage everyone to participate in not only flying, but also contributing ideas to methods of making Fairview Park an outstanding and safe flying site. The 2005 Membership application is found on our web sites. Be sure to fill it out completely to assure the personal privacy that you wish, and to show what areas of interest that the club should focus on in the future

### **Jim Ward's Camera Plane**

The following is Jim Ward's description of his camera plane in which he has taken over 350 photos as a public service effort for the Orange County River Park organization.

March 28, 2005

James M. Ward,

The camera plane is a miniature aircraft, remotely controlled capable of carrying a camera aloft.

Statistics:

Wing Span 72" 2 Wing tip panels 22.5" Center wing panel 27"

Length 43"

Weight 32 oz, 44 oz with camera

Height 11" 14" include prop disc

Wing Area 816 sq in

Wing Load 7.7 oz/ sq ft

Power 2000 mah 3 S lithium polymer battery

Motor Himax 2015

Prop Gearing 6.6 to 1

Propeller 11"diameter 08"pitch

Flight time Excess of 10 minutes

Camera Canon Powershot A85

Design:

Monoplane with twin boom rudders. Tractor motor mounted on a center boom.

Materials:

I believe the wing is formed Depron and tail surfaces are 6 mil Depron sheet.

Fuselage and booms are 3/8 square aluminum stock.

Cross supports are two 1/4" carbon fiber tubes

Wire landing gear. I copied a clever reinforcement concept from someone at the field.



**Construction:**

Aircraft was constructed from 2 GWS Slow Stick kits. For the most part construction followed the plans as included in the kits. Double wing was constructed by cutting off approximately 8" of opposite wing panels. Overlapping approximately 3" and epoxy gluing the panels together. This created a flat center panel and dihedral end panels. Double horizontal stabilizer was constructed by squaring off the two stabilizers and elevators and butt joining them at the center. Surface was then fiber glassed and rolled with tp to remove excess. That was my 1st attempt at that technique and it came out poorly. Airframe was strengthened by the addition of 2 carbon fiber tubes between the booms. Forward rod was mounted about 2" from the front off the booms and the rear rod 4" behind that. A 5" x 6" x 1/16" plywood floor was secured between and at the center of the rods to hold battery, ESC, and receiver. The camera is suspended beneath this floor. The camera is mounted in a frame using the tripod bolt. The camera faces forward and the frame pivots on extensions from floor. Two 3/16" nylon bolts secure the frame to the extensions.

Boom material is the 3/8" aluminum square stock that make up the fuselage of the Slow Stick. The motor is mounted on a separate 3/8" square stock 12" long that came from a previous Slow Stick. This motor mount is secured to the carbon fiber tubes at the center line of the aircraft. Both sets of landing gear are used and plane travels on 6 wheels (4 in front and two tail wheels). Wings are held on booms with rubber bands. It is all pretty flimsy.

**Control surfaces:**

The Slow Stick kit does not have ailerons. However there is an outline for ailerons impressed in the wings. These were cut out and hinged in place with clear hockey tape. Each aileron is controlled by a 5.2 hi-tech servo. All servo leads were cut and extensions were soldered in place. The servo for the rudders is mounted at the center of the horizontal stabilizer with a control rod running to each rudder. A V bend was put on one side to allow for adjustments. The elevator servo was also mounted on the horizontal stabilizer near the center. HS 55 servos were used for rudder and elevator. Choice of servos was scientifically done by "what I had lying around".

A set of landing gear is mounted on each boom. Landing gear connection is part of wing brace. Tail wheels are mounted on each boom as per kit instructions.

Balance is achieved by moving carbon rod and platform forward or back as needed.

A servo controlled by channel 5 triggers the camera. The servo is mounted in the camera frame with the control arm above the camera trigger. Activation of the channel causes the arm to depress the button. Holding it for 5 sec allows the camera to auto adjust and take the picture.

**Flight:**

The plane has a lot of drag and is not overpowered. Liftoff is accomplished in about 15' due to the very low wing loading. Loops, rolls, and vertical hovering are not an option. But a graceful stable camera platform is. When altitude is reached, a straight course is chosen over the target. The camera is triggered for a count of 5 and off for a count of five. This is started before the target and continued until after the target. While the camera is forward and down about 30 degrees small movements of the plane are exaggerated in the photos. Flying a straight line for a filmstrip is more art than science.

The camera is capable of video but not at 4 mega pixel resolution. 4 mega pixel allows for great blow ups. The higher the aircraft, the more dramatic the photo. Based on landmarks I believe the altitude has been in excess of 500'. The aircraft is very slow and easy to fly. Wind is a factor and aircraft has been "parked" in the sky in a 4 - 8 knot breeze. Landings are short of majestic. Power on descent allows accurate placement and touch down is so slow wheels sometimes do not complete a revolution.



The camera plane has been a very satisfying project to develop and I look forward to continued, un-thought of uses. I want to thank Fred Hesse, John Anderson and Gary Gorman for directly and indirectly encouraging me in building the Sky Spy.

James M. Ward  
714-776-2141

**More Aerial Photography**

Last month, Dennis B. Anderson provided a detailed report on how to set up a camera for radio controlled aerial photography. He now reports:

“The latest Model Airplane News has an ad by [WWW.blip.com.au](http://WWW.blip.com.au) offering to sell a Pencam ready to plug into your receiver.  
Dennis B. Anderson”

**RC Expo 2005**

Be sure to catch RCX 2005, billed as “The World’s Ultimate Radio Control Expo”. You can see some of the hottest stuff in aircraft, cars, and boats, and the latest equipment from many manufacturers. This year’s exposition will be Saturday and Sunday May 21-22, again at the Anaheim Convention Center. Additional information is available at [www.rcx.com](http://www.rcx.com) .



**Competition Results For SCSC March 20<sup>th</sup> Event at HSS**

These are available at the Southern California Soaring Club web site [www.sc-2.org](http://www.sc-2.org) . Congratulations to Casey Adamczyk for a second place in expert class, ahead of Joe Wurtz. WOW!

**HSS Monthly Competition Results**

**HSS Year to Date Contest**

EXPERT	Jan	Feb	Mar	Apr	May	Jun	Jul*	Aug	Sep	Oct	Nov	Dec	TOTALS
Tom Copp	1000												1000
Tom Vincent	902												902
<b>RES</b>													
Ross Thomas	991	1000											1991
John Krug	1000	986											1986
Chris Adamczyk		956											956
Karl Hawley		800											800



**Coming Events For 2005**

Sunday	May 1	Fourth HSS monthly club thermal duration competitions at Fairview Park.
Tuesday	May 3	HSS monthly meeting, 7:30 PM, at the Irvine Water District offices. Address is 16500 Sand Canyon Avenue, in Irvine.
Sat-Sun	May 7-8	CVRC Spring Bent Wing glider contest. Russell Pond club field, Visalia CA.
Sunday	May 15	HSS 2 <sup>nd</sup> Annual Electric Fun Fly. Fairview Park, Costa Mesa. See new web site at <a href="http://www.harborsoaringsociety.org">www.harborsoaringsociety.org</a> for details and application.
Sat-Sun	May 21-22	RCX 2005 Radio Control Expo, Anaheim Convention Center. Info: <a href="http://www.rcx.com">www.rcx.com</a>
Sunday	May 22	Fourth SCSC thermal duration contest run by HSS at Fairview Park.
Sunday	June 5	Fifth HSS monthly club thermal duration competitions at Fairview Park.
Tuesday	June 7	HSS monthly meeting, 7:30 PM, at the Irvine Water District offices. Address is 16500 Sand Canyon Avenue, in Irvine.
Saturday	June 18	HSS Bent Wing glider competition. Fairview Park, Costa Mesa.
Sunday	June 26	Fifth SCSC thermal duration contest at ISS, Reid Park Community Center, on Orange St. between Chase Rd. and Center St. Riverside, CA.
Sunday	July 3	Sixth HSS monthly club thermal duration competitions at Fairview Park.
Tuesday	July 5	HSS monthly meeting, 7:30 PM, at the Irvine Water District offices. Address is 16500 Sand Canyon Avenue, in Irvine.
Sunday	July 17	Inland Soaring Society's (ISS) 3 <sup>rd</sup> Annual RES Challenge. Reid Park Community Center, on Orange St. between Chase Rd. and Center St. Riverside, CA.
Sunday	July 31?	Sixth SCSC thermal duration contest at ?
Tuesday	August 2	HSS monthly meeting, 7:30 PM, at the Irvine Water District offices. Address is 16500 Sand Canyon Avenue, in Irvine.
Sunday	August 7	Seventh HSS monthly club thermal duration competitions at Fairview Park.
Sunday	August 28	Seventh SCSC thermal duration contest at TOSS,
Sunday	September 4	Eighth HSS monthly club thermal duration competitions at Fairview Park.
Tuesday	September 6	HSS monthly meeting, 7:30 PM, at the Irvine Water District offices. Address is 16500 Sand Canyon Avenue, in Irvine.
Sunday	September 25	Eighth SCSC thermal duration contest at ISS, Reid Park Community Center, on Orange St. between Chase Rd. and Center St. Riverside, CA.
Sunday	October 2	Ninth HSS monthly club thermal duration competitions at Fairview Park.
Tuesday	October 4	HSS monthly meeting, 7:30 PM, at the Irvine Water District offices. Address is 16500 Sand Canyon Avenue, in Irvine.
Sunday	October 30	Ninth SCSC thermal duration contest at TPG, San Diego, CA.
Tuesday	November 1	HSS monthly meeting, 7:30 PM, at the Irvine Water District offices. Address is 16500 Sand Canyon Avenue, in Irvine.
Sunday	November 6	Tenth HSS monthly club thermal duration competitions at Fairview Park.
Sunday	November 20	Tentative tenth SCSC thermal duration contest by SULA at (TBS).
Sunday	December 4	Eleventh HSS monthly club thermal duration competitions at Fairview Park.

**SCSC MEET HELP NEEDED!!**

The fourth SC<sup>2</sup> thermal duration contest is being hosted by the Harbor Soaring Society (HSS) on May 22 at Fairview Park. Your help is needed to make this a successful event. Your assistance is needed in the impound area, with the wenchers, etc. Contact Karl Hawley.

**HSS FLYING FIELD CLOSED**

Now that I have your attention, there will be no open flying and the flying field will be closed the morning of May 15 until 4:30 and May 22 until 2:30 p.m. due contests being held on those dates.



# H.S.S. ELECTRIC FUN FLY



Easy Star



Purchase your **Multi-Plex Easy Star at Hobby People\*** and receive a \$20 Hobby People Gift Certificate on contest day when you sign in! (\*Purchase must be at regular \$59.99 store price, a \$10 Gift Certificate will be awarded for purchase made at \$49.99 during Hobby People April Sale event. Original Hobby People receipt is required, so save your receipt. Other restrictions may apply; contact Tuan Le at the number below for more details. Now lets get them built!)

**Brought to you by our proud Sponsors:**

<b>When:</b>	Sunday May 15 <sup>th</sup> , 2005 8:30am until 4:30pm	
<b>Where:</b>	HSS Flying Field at Fairview Park, Costa Mesa, CA Check website for complete details <a href="http://www.harborsoaringsociety.org">www.harborsoaringsociety.org</a>	
<b>Contact:</b>	Tuan Le 630-886-2845 <a href="mailto:webmaster@harborsoaringsociety.org">webmaster@harborsoaringsociety.org</a> Jim Hanson, CD 949-646-3603 <a href="mailto:oldgoat@harborsoaringsociety.org">oldgoat@harborsoaringsociety.org</a>	
<b>Fee</b>	\$5.00 for first event \$2.00 for every extra event or \$10.00 for all events.	
<b>AMA Membership required and will be verified. FREE Raffle Tickets to all Participants!!!!</b>		

**Events Include.**

**Open:** Any Electric Powered aircraft: 2 Minute Precision Flight w/ Spot Landing, Runway Landing, and Limbo.  
**Easy Star Pylon Race:** Motors must be stock, batteries Nimh or NiCad, 7cells max not to exceed 4.5oz in weight.  
**Slow Stick Streamer Combat.** Any foam "slow stick" style electric powered plane.  
**Also Scale, Aerobatic, 3D and Heli demos.**

**HSS Sponsors**

The following companies are the proud sponsors of Harbor Soaring Society. They give us special offers, and make contributions to our Adopt-A-School program. In return, please support them, and mention that you saw them advertised in the HSS Plane Rap newsletter.

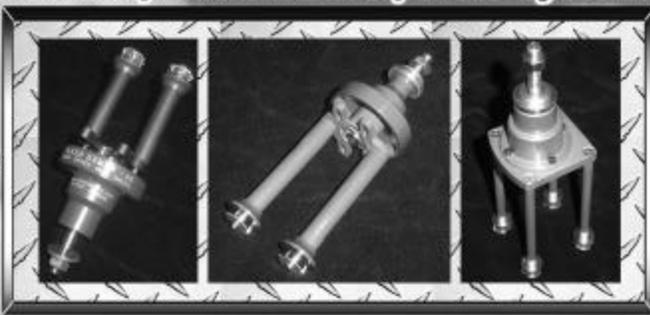
**COMPOSITE SPECIALTIES**  
**F3X.COM**  
 IMPORTERS OF WORLD CLASS  
 F3B/F3F/F3J COMPETITION  
 SOARING MACHINES  
 Tom Copp (949) 645-7032 tom@f3x.com

**(949) 631-2982**  
  
**www.innerdemon.com**

- 4 Types to choose from For 120 to 3000 watt systems, park flyers to 1/3 scale.
- No Prop adapters needed.
- All 4 gear drives come with our exclusive EZ mount system.
- New MMS gear drive for direct drive motors like the Jet Phasor & AXI outer runner type motors.
- Motors, Speed Controls and Batteries (nimh & Li-poly)
- Discounted prices on complete power systems.

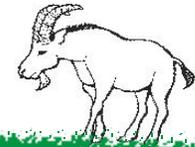
**Manufactured in the U.S.A. by Model Machining Service**  
**1816 Monrovia Ave. Costa Mesa, CA. 92627**

**Inner Demon**  
 and  
**Mini Demon**  
 Performance gear drives  
 and complete electric power systems




RC Electric Supplies  
 Motors, Batteries,  
 Propellers, etc.  
 Vinyl Lettering  
 Decals  
 Carbon Fiber  
 Landing Gear





**Goat Hill Hobbies & Graphics**  
 Jim Hanson  
 331 Hamilton St.  
 Costa Mesa, CA 92627  
 (949)294-8365  
 e-mail tog4rc@pacbell.net

*Competitive Prices!*



# Hobby People®

**DISCOUNT HOBBY STORES**

Come see us at  
  
 The Ultimate R/C Expo!  
**May 21-22**  
 Anaheim  
 Convention Center

  
**THE GREATEST**  
**RC**  
**SHOW ON**  
**EARTH**

**BUY YOUR SHOW TICKETS AT ANY HOBBY PEOPLE STORE AND SAVE \$2 ON ADMISSION!**

## Hobby People® SUPER STORE

Where we've gone completely **NUTS** with prices **SO LOW** that we can't even show you what they are, but **TRUST US**, you'll **kick yourself** if you miss out! And you've seen how we can **SLASH** and **CRASH** prices!!!

Full-throttle excitement will be everywhere you look at RCX 2005. See nitro-burning 1/8-buggies and monster trucks **blasting big-air on the humongous dirt track**. Watch RC airplanes and helicopters perform **jaw-dropping aerobatic demos**. And join in on the **nonstop racing mayhem** at the Hobby People "Try Me" track, where you can **take the controls yourself**.

The first two RCX events were spectacular, but this year's event promises to be **bigger, better and even more exciting**. So get ready to rock at RCX 2005, and **get your tickets early!**



**THE INTERNATIONAL Die Cast COLLECTORS EXPO**  
 Buying, Selling, Trading, Collecting. It's all here at the first-ever Die Cast X Collectors Expo featured at RCX!

**ALL-NEW!**  
  
**FLIGHT TRAINING CENTER**  
 Try out the flight simulators at the all-new Flight Training Center.

**Shop on line 24 hours a day, 7 days a week! Click on [www.hobbypeople.net](http://www.hobbypeople.net)!**

**NOW 21 STORES**  
 In So. Calif. & Nevada!  
**CALIFORNIA**

## Hobby People®

Nobody beats our prices. **NOBODY!**™

**DISCOUNT HOBBY STORES**

- |  |  |   |  |   |  |
|--|--|---|--|---|--|
| <b>ESCONDIDO</b><br>358 W. El Norte Parkway<br>760-739-5885            | <b>WEST LOS ANGELES</b><br>10815 W. Pico Blvd.<br>Pico at Westwood<br>310-234-2425   | <b>ENCINO</b><br>5541 Balboa<br>Balboa at Burbank<br>818-995-1162         | <b>FOUNTAIN VALLEY</b><br>18475 Pacific Street<br>405 Fwy, Euclid exit<br>714-964-8846 | <b>SANTA CLARITA</b><br>20655 Soledad Can.#41<br>Between I-5 & I-14<br>961-298-3300 | <b>RANCHO CUCAMONGA</b><br>12459 Foothill Blvd.<br>Foothill at 15 Fwy.<br>909-463-0557   |
| <b>SAN DIEGO</b><br>4344 Conroy St.<br>South of Balboa<br>619-268-7997 | <b>LA HABRA</b><br>1401 S. Beach Blvd.<br>Near Imperial<br>662-947-2574 714-994-5721 | <b>ORANGE</b><br>311 E. Katella Ave.<br>Near Glassell St.<br>714-298-8170 | <b>LAKELWOOD</b><br>5449 South Street<br>South at Bellflower<br>562-804-2515           | <b>CHINO HILLS</b><br>2971 Chino Ave.<br>In Rolling Ridge Plaza<br>909-364-0187     | <b>MURRIETA</b><br>26755 Jefferson Ave.<br>Between Murrieta & Winchester<br>951-877-5516 |
| <b>EL CAJON</b><br>469 Broadway<br>At Ballantyne<br>619-444-5135       | <b>PASADENA</b><br>270 North Hill Ave.<br>North Hill at Locust<br>626-588-0883       | <b>LAWDALE</b><br>16725 Hawthorne<br>Hawthorne & 168th<br>310-214-0244    | <b>CAMARILLO</b><br>1775 E. Dally Drive, H<br>near Carmen Drive<br>805-445-1305        | <b>RIVERSIDE</b><br>10128 Indiana Ave.<br>Tyler Village Center<br>951-785-6773      | <b>REDLANDS</b><br>835 Tri City Center Drive<br>I-10 at Alabama<br>909-307-1185          |

**NEVADA**  
**LAS VEGAS #1**  
 2610 S. Decatur Blvd.  
 Decatur at W. Sahara  
 702-871-8191  
**LAS VEGAS #2**  
 5466 Boulder Highway  
 At E. Tropicana Ave.  
 702-547-2204

**LAKE FOREST**  
 23788 Mercury Road  
 In Rockfield Showplace  
 Corner of Rockfield & Mercury  
 (949) 809-1135

**HOBBY PEOPLE STORE HOURS: Monday-Friday: 10a.m.-9p.m., Saturday: 10a.m.-6p.m., Sunday: 10a.m.-5p.m.**



## HARBOR SOARING SOCIETY OFFICERS FOR 2005

President	Karl Hawley	(949) 574-9379	<a href="http://www.1hss.org">www.1hss.org</a>
Vice President	Jim Parsons	(714) 636-9867	<a href="mailto:jpspectra@sbcglobal.net">jpspectra@sbcglobal.net</a>
Treasurer	Jim Hanson	(949) 646-3603	<a href="mailto:tog4rc@pacbell.net">tog4rc@pacbell.net</a>
Secretary	Fred Hesse	(714) 963-5838	<a href="mailto:fhesse@socal.rr.com">fhesse@socal.rr.com</a>
Contest Coordinator	Tom Copp	(949) 645-7032	<a href="mailto:tom@f3x.com">tom@f3x.com</a>
Assist. C/C	Jim Hanson	(949) 646-3603	<a href="mailto:tog4rc@pacbell.net">tog4rc@pacbell.net</a>
Editor	Fred Hesse	(714) 963-5838	<a href="mailto:fhesse@socal.rr.com">fhesse@socal.rr.com</a>
Publisher	Mike Gaczowski	(949) 582-9390	<a href="mailto:mgaczowski@cox.net">mgaczowski@cox.net</a>
Winch Engineer	Karl Hawley	(949) 574-9379	<a href="http://www.1hss.org">www.1hss.org</a>
Webmaster	Steve Hendry	(714) 996-6183	<a href="mailto:4hendry@adelphia.net">4hendry@adelphia.net</a>
Assist. Webmaster	Tuan Le	(630) 886-2845	<a href="mailto:fnnwizard@earthlink.net">fnnwizard@earthlink.net</a>
General Director	Bill Eckles	(949) 725-0050	<a href="mailto:tunabiker@cox.net">tunabiker@cox.net</a>
Field Marshal	George Azvedo	(714) 832-7819	No E-mail address

See our NEW web site at [www.HarborSoaringSociety.org](http://www.HarborSoaringSociety.org) for a bright new club image. Our other web site can still be viewed at [www.1hss.org](http://www.1hss.org) . Both will feature the latest news, the color issue of Plane Rap, activities, pictures, and more.

**MEETING AT IRVINE WATER DISTRICT, TUESDAY, 3 MAY, 2005.  
THIS PRINTED ISSUE IS LIMITED TO 12 PAGES TO REDUCE MAILING COSTS.  
VISIT OUR WEB SITES TO SEE THE EXPANDED VERSION OF THIS NEWSLETTER.**

**Harbor Soaring Society  
P.O. Box 1673  
Costa Mesa, CA 92626**