

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

MARCH 2005 VOLUME 42

Soaring Society of America 2005 Convention

The 2005 annual convention of the SSA was held at the Ontario Convention Center on February 10 - 12. On display was a grand collection of the most beautiful sailplanes available (except Eta wasn't there). HSS member Bill Eckles was accompanied by your editor for a most enjoyable day. The accompanying photos do not do justice to the grace, beauty and workmanship of these planes. The individual planes and features were too numerous to list, but a few of the high points are included here.

It was astonishing to see the number of high performance planes that had auxiliary power (sometimes referred to as "Up and Go" engines). An example is the ASH-26E shown below. This is belt driven, with the engine buried in the fuselage. You might be able to spot the solar cells on the hatch doors for charging the battery. This plane had a spectacular ripple free finish.



HARBOR SOARING SOCIETY

PLANE RAP NEWSLETTER

The big surprise is the twin jet glider by Alisport shown in the next two photos. These are 45 lb thrust (each) engines that look just like the model jets seen at El Toro. They fold back into the fuselage when not in use.





All the fun European gliders were on display including the Ventus 2AX and 2CX, the Duo Discus-T, and the new American entry into high performance gliders, the Sparrow Hawk which is a standard 15 meter glider that only weighs 155 lbs. (The European gliders are two to three times that weight). Bill Eckles was so taken by the convention that he signed up for his first glider lesson. He will fly out of Warner Springs, near San Diego.

February 1st, 2005 Harbor Soaring Society Meeting Minutes

Our president, Karl Hawley, opened the meeting at 7:30 PM. 3 Officers and 9 members were present.

Mike Gaczkowski who is our publisher, has found a new printing service. They charged \$100 for our February issue. This is only \$5 more than what Mike used to pay, and the printing quality is equal. Nice work, Mike. Thank you for your diligence. Mike also had 200 copies of our tri-fold brochure printed on green paper. Bill Eckles has volunteered to revise our brochure to include more up to date information about the club. Bill should have this ready in the next month or two. Thanks Bill.

Karl wants a reminder letter sent out to members who have not paid their 2005 dues. As he did last year, Mike Gaczkowski will send out post cards to the approximately 60 members who have not yet submitted membership forms. This information is needed since we submit a membership roster as part of the club charter application.

Karl says that the club will pay for the installation of lawn sprinklers that will irrigate the new landing area being graded by the city.

Jim Hanson initiated a discussion about the proposed charging stations to be installed beside our storage shed. Jim has approached HSS member Mark Gunn for the electrical design concept. Mark has extensive experience in marine electrical systems, and has proposed an approach using extra batteries maintained with a trickle charger, and protected with 12V circuit breakers. His initial concept would be a cluster of 2 to 4 shelves along the side of the shed, each with 3 or 4 outlets for charging stations. Jim Parsons will assemble a lockable enclosure for the stations. Jim Hanson will obtain the required permit from the city.

Jim Hanson gave a monthly financial report, and then brought up the fact that the club is presently paying \$20 per month for checking services. He proposed moving the account to the bank that he deals with personally, since they charge a \$15 set up charge, but no monthly service charge. This subject had been brought up at the Steering Committee Meeting of January 20th and given preliminary approval. It was then put to a vote of the membership, and unanimously approved to move the checking account.

Larry Reed will provide a barbeque and will roast hot dogs for the SCSC competition to be held Sunday March 20th at Fairview Park.

Ralph Caputo has become a new member of HSS by joining at the meeting. Ralph is recently retired, and now has a little time to follow his interests in electric powered models. Welcome to the club, Ralph.

The Meeting was closed at 8:05 PM.

Subsequently, Dennis Anderson brought in his recently finished House of Balsa scale AT-6 electric powered model. Dennis did a masterful job of construction and finishing of this model. It was beautiful.

Jim Hanson gave an indoor demonstration of his new electric helicopter. Very Impressive.

Submitted by Fred Hesse, secretary.

Earth Day at Fairview Park

The City of Costa Mesa and the Fairview Park Friends Committee are having their third annual Earth Day in the Park on Saturday, April 16, 2005 from 9 AM to 12 PM. This is an opportunity for community service, and HSS will participate in park clean up and RC plane demonstrations. There will be free train rides, games, arts and crafts, and food for sale. Free coffee and doughnuts are provided to all participants. We expect to have a booth with static display of aircraft, and need members to greet and inform visitors about our club. Contact www.CMFairviewPark.org or call 714-754-5698 for more information.

Near By Radio Interference

The AMA is concerned about the proliferation of park flyer radio controlled activity, and feels that in the interest of safety, each club needs to recognize this likely problem. Here are their recommendations recently published on the AMA web site.

RECOMMENDATIONS FOR AMA CHARTERED CLUBS IN PARTNERING WITH PARK FLYERS

- Be aware: Determine potential flying sites for park flyers within a 3-mile radius of your club's flying site.
 Examples might be parks, parking lots, play-grounds, farm fields, ball fields, etc. Keep in mind that the greatest threat comes from those flying who have no prior experience with Radio Control models. Knowing this may help in qualifying potential sites.
- Be pro-active: Establish a "committee" of club members to keep track of activities taking place at the locations determined to be likely park flyer sites. These committee members must be willing to devote the time and effort necessary. They must be members who exhibit good people skills; i.e., diplomatic, polite, courteous, and understanding.
- Be a source of assistance: Your introduction of yourself should be followed with an offer of free assistance
 for the new flier. This assistance should take the form of an offer to check the aircraft for airworthiness,
 getting the aircraft into the air successfully, and distributing information pertinent to flying Radio Control
 aircraft—all in a safe environment. Encourage questions and be prepared to give clear, concise, and
 easily understood answers. Do not treat park flyer pilots as anything but equal.
- Be a partner: Contact the hobby shops and offer the printed information provided by the AMA to hand out to each person purchasing a park flyer. Also provide them with printed information about the club, which includes an invitation to the club field and the offer of assistance in learning to enjoy a new park flyer. A clearly drawn map to the club field is a necessary part of this handout.

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@yahoogroups.com.

If you do not wish to belong to CostMesaSoaring, you may unsubscribe by sending an email to CostaMesaSoaring-unsubscribe@yahoogroups.com.

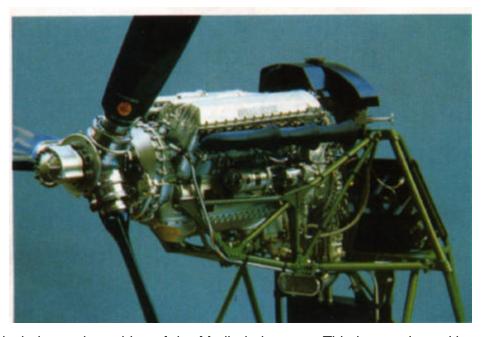
AMA Recommendation For Flying Site Safety

At the April 24 and October 30, 2004 board meetings, the AMA Executive Council approved a general sign chartered clubs are encouraged to display at their flying sites to advise its modelers, visitors, and/or spectators of injury potential. A copy of the sign is posted on AMA's website at www.modelaircraft.org under *Membership Services*. Select *AMA Documents (PDF)* from the drop menu and access document 535-1. If your club is interested in posting the sign, merely follow the "How To" Instructions on the second page of the website posting. (Copy in Feb 2005 folder).

Remarkable Model Engines

The March issue of Fly RC Magazine had a brief letter describing scale model aircraft engines. For some outstanding photos of a 1/5 scale 24-cylinder Eagle Flat H replica (below), and a 12-cylinder Merlin engine, try www.enginehistory.org. This is an interesting web site about full size engines, but at the bottom of their index on the left side of the home page, is a tab for model engines.

These have got to be some of the most complex works of art, as all parts including cast housings, contrarotating propellers, valve drive mechanisms, and every other little detail are executed with astonishing



workmanship. To finish it off, the site includes a short video of the Merlin being run. This is complete with sound. Wow!

Hints & Tips

An inexpensive locator for models, from the Rockland County RC Club, by Greg Lee.

The sound generator of a musical greeting card has some specifications that make it a good locator for lost aircraft—especially electric models. It has the following characteristics:

- 1. It only weights .2 oz or six grams.
- 2. It only requires .15 mA at 1.5 VDC. This allows a theoretical use of 2.2 years from a receiver pack.
- 3. The sound level is 55 dB at one meter—audible to the undead at 100-feet.
- 4. It is only 1 1/8-inch in diameter and 1/4-inch thick.
- 5. They only cost \$0.10 per resistor, \$0.35 per capacitor, and one servo plug.
- 6. It's simple—if it has power, it has music. That means if you have turned on your receiver, it plays.

Most greeting card sound boards are powered by 1.5 VDC, but some might use three-volt-batteries. By adding a resistor you can step the voltage down for your receiver pack.

You will also need a .1 F capacitor to smooth out the pulsation from the different tones.

To calculate the values for the resistor just follow this formula below where: V1= receiver pack voltage, V2= sound board voltage, I avg= is the average current (amps).

R = (V1 - V2)/I avg

Example: R = (4.8 - 1.5)/.00015 therefore R = 22,000 Ohms or the closest standard value.

Member E-Mail on The New Club Web Site

Hello to all members of HSS!

For those who don't know me, my Name is Tuan Le and I have volunteered to Help Steve Hendry maintain a new website with some enhanced features.

One of the features of the new site, harborsoaringsociety.org extension. (Need explanation of advantages – Ed.)

So, for those that wish to have an email with that extension, will you kindly make up a username and password (if you haven't already) and email me with the info (make sure to reply only to me) so I can add you to the user database so you can log in to certain parts of the site, also that username will become your email address. You can change the password of the email part, but not the member's access part. I would just keep both the same.

Also you can configure the email program you are using with this with username and password as below:

Outgoing mail server (SMTP) is: smtp.harborsoaringsociety.org Incoming mail server (POP) is: mail.harborsoaringsociety.org

(Can you clarify the above configuring process? What is the end result? How do you go about making it work? Does this screw up my regular E-mail? - The Ed and other members are easily confused on this stuff.)

Or you can log on to the mail server from anywhere in the world that has an internet connection via this email link www.harborsoaringsociety.org/webmail/ you can go on this link to setup a forwarding message if you want to use your existing email address also. (Again, clarify the setup steps? – Ed.)

Username will be: <what you give me>@harborsoaringsociety.org Password will be what you give me.

I will not be storing passwords any where except in the secured web server, but it will be encrypted so I will never be able to retrieve a password for you but I can reset passwords at anytime so if you do forget, just call or email me with a new one. Make up something unique, but that you can remember.

Please e-mail me if anyone has any comments or questions.... Thanks...

Tuan Le

A Report on SpaceShipOne

The following are edited notes passed on by Herman Hall. They came from Mike Melvill, the pilot of SpaceShipOne's first two flights above the Karman line of 100 km.MSL. He gave a 45 minute presentation to the Aircraft Owners and Pilots Association conference in Long Beach recently, and got a several-minute standing ovation.

Melvill spent almost half of his time going over the flight controls and the entire cockpit layout inside of SpaceShipOne, explaining how it is flown. There are actually four separate flight regimes, and each is flown differently. Just after launch, it flies like a Piper Cub, using a joystick and rudder pedals with mechanical linkages to the controls (no hydraulic assists).

When it goes supersonic, the aerodynamic forces are too high to be able to move the stick, and the controls are subject to flutter. So they use an electrically powered trim system, flown using the "top hat" switch on the joystick and a couple of grips on the armrest of the pilot's seat. (There are backup switches to the left of the

instrument panel, which had to be used on one flight.) This moves the entire horizontal stabilizers, not just the elevons on the trailing edges.

Eventually, they get high enough and the air gets thin enough that they can again use manual controls, although the response is totally different than lower down. But that goes away as they exit the atmosphere; the Reaction Control System nozzles are then used for maneuvering in space. Coming back down, the pilot has to reverse the sequence. There is no automated switchover of control systems; the pilot has to remember to move from one system to the next at the right times.

The rudder pedals are not linked. Each controls one of the two vertical stabilizer rudders separately. You can push both rudder pedals at the same time, and get a fairly effective speed brake, with both rudders canted outward. Push both fully forward and they engage the wheel brakes. But these are not very effective and are only really useful for steering input during rollout. The real brake is on the nose skid: a piece of maple wood, with the grain aligned down the centerline of the airplane. He said it was the most effective braking material they could find.

The pilot says that he gets hit with about 3Gs kicking him backwards as soon as he lights the rocket motor. He's supersonic within about 9 seconds later. But he immediately starts to pull up into an almost vertical climb. So he also gets over 4.3Gs pushing him down into his seat just from that maneuver. The combined force is "very stressful" and Mike says it's "important not to black out" at that point. He's going 1880 knots straight up within 70 seconds. On re-entry, the aircraft goes from being absolutely silent while in space to generating a deafening roar as it hits the atmosphere again. He's going about Mach 3.2 by that time, and has to survive about 5.5Gs for over 30 seconds, and lesser G forces for longer than that, as it slows back down. It sounds really intense, both as he explains it and on the radio.

A couple of interesting side notes: SpaceShipOne has a standard "N" registration number; but it is licensed as an experimental "glider". Apparently there was a huge bureaucratic hassle trying to license it as a rocket powered spacecraft, which they just sidestepped by calling it a glider. By the way, the registration number is N328KF, where 328K is the number of Feet in 100km. (White Knight is N318SL - Burt Rutan's 318th design.)

Mike says that the flight director system (called a TINU) was developed completely in-house by a couple of 28-year-old programmers, and is absolutely fantastic to fly. He says that during re-entry, the TINU loses its GPS lock. So it keeps trying to go back to catch up, re-interpolate and compensate for the missing data, and this keeps it a little behind in its actual position calculations. The pilot has no straight-ahead vision at all, so they have a real issue landing: they can't see the runway! The way they do it is to fly directly down the runway at 9000 feet; then they do a (military style) break and fly a full 360 degree pattern right to the landing. The TINU gives the pilot a "blue line" to follow and a target airspeed (which produces a given rate of descent). If the pilot follows the blue line, right to the break point and through the two 180 degree turns, it will put him right onto the runway at what ever touchdown point he selects. But the TINU has to be absolutely current when this is going on. So at something above 15,000 feet they reboot the TINU and get it re-synched with the GPS satellites again before setting up for the landing!

He also talked in detail about the rocket motor, and had photos of its insides after firing. The nozzle throat actually ablates as the motor burns, enlarging the interior throat diameter as the burn progresses. He described the problem they had on the June 21 flight: The rocket motor nozzle was skewed by about ½degree to one side. This generated a surprisingly high lateral torque trying to turn the aircraft. If it had been up or down pitch rather than lateral, the controls could have handled it; but the lateral yawing forces were too great for Mike to compensate as the atmosphere thinned. The result was that (after 29 high speed rolls) he was pretty far off course. Mike says he reached apogee, rolled the spacecraft over, and was surprised to see the Palmdale VOR directly beneath him. That was 30 miles away from Mojave and a long glide home. He says its amazing how fast a relatively small deviation can produce large distances when you're going Mach 3!

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.

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 May 21 - 22, again at the Anaheim Convention Center.

Membership Renewal for 2005

It's getting to be that time of the year 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 Page 11 of this newsletter. 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.

Coming Events For 2005

Tuesday	March 1	HSS monthly meeting, 7:30 PM, at the Irvine Water District offices. Address is 16500 Sand Canyon Avenue, in Irvine.
Sunday	March 6	Second HSS monthly club thermal duration competitions at Fairview Park.
Sunday	March 20	Second SCSC thermal duration contest at HSS at Fairview Park.
Sunday	April 3	Third HSS monthly club thermal duration competitions at Fairview Park.
Tuesday	April 5	HSS monthly meeting, 7:30 PM, at the Irvine Water District offices.
rucsuay	дрііі 3	Address is 16500 Sand Canyon Avenue, in Irvine.
Fri-Sun	April 15-17	CVRC Spring Aero tow, giant scale gliders. Russell Pond club field, Visalia CA.
Saturday	April 16	Fairview Park Earth Day, 9 AM to Noon. HSS R/C demos, and park clean-up.
Sunday	April 24	Third SCSC thermal duration contest at SWSA.
Sat-Sun	May 7-8	CVRC Spring Bent Wing glider contest. Russell Pond club field, Visalia CA.
Sunday	May 15	HSS 2 nd Annual Electric Fun Fly. Fairview Park, Costa Mesa. See new web site
	,	at www.harborsoaringsociety.org for details and application.
Sat-Sun	May 21-22	RCX 2005 Radio Control Expo, Anaheim Convention Center. Info: www.rcx.com
Sunday	May 22	Fourth SCSC thermal duration contest run by EDSF at HSS Fairview Park.
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 17	Inland Soaring Society's (ISS) 3 rd Annual RES Challenge. Reid Park Community
	,	Center, on Orange St. between Chase Rd. and Center St. Riverside, CA.
Sunday	August 28	Seventh SCSC thermal duration contest at TOSS,
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 30	Ninth SCSC thermal duration contest at TPG, San Diego, CA.
Sat-Sun	Nov. 12-13	Superfly 4, Las Vegas Soaring, gliders, helicopters, electrics, demos and fun
		competitions at Bennet Field. www.lasvegassoaring.org for information.
Sunday	November 20	Tentative tenth SCSC thermal duration contest by SULA at (TBS).

HARBOR SOARING SOCIETY

March 1st Meeting Notice

The next meeting will be Tuesday March 1st 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.

The business meeting starts at 7:30 PM. Come meet our new club officers, and find out how you can support our club.

Message From Your President

As I've said for some time, Harbor Soaring Society is YOUR club and it needs your help to keep it a viable club. A few members have stepped up and helped. They are: Mike Geers (our new Safety Officer) and Jim Parsons (who made professional looking wooden bases for our trophies).

We still need volunteers through out the year for HSS events, for example the upcoming SC² event. If you are not an active participant it the event, we could use you help in the check-in and impound area.

Next time you are at our flying site, it's important to fill out the City of Costa Mesa Planning Survey.

Fly high, keep it up and, if not, remember to pick up all the pieces.

Karl Hawley.....Your President

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.

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MARCH 2005

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MEMBERSHIP APPLICATION 2005

Harbor Soaring Society AMA Chartered Club # 128 P.O. Box 1673 Costa Mesa, CA 92628

AMA's Oldest Chartered Soaring Club

NAME		Home	Ph.#
ADDRESS		Work Ph. #	
CITY	STATE Zip	E-MAIL	
AMA #	(PROOF OF STATUS	REQUIRED, Xerox	сору ОК)
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See our NEW web site at www.HarborSoaringSociety.org for a bright new club image. Our other web site can still be viewed at 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, 1 MARCH, 2005.

DON'T FORGET TO RENEW YOUR MEMBERSHIP. APPLICATION ON PAGE 11.

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