



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



HSS is the oldest AMA chartered R/C Soaring Club
in the USA. Founded 1964
Silver Leader Club since 2009
Gold Leader Club since 2011

August 2012

Volume 49

THIS MONTH'S HEADLINES

Plane Rap Index

Check out the following articles:

- Minutes for July 3rd Steering Committee and General Meeting. P. 2-3.
- HSS Public Service. P. 4.
- Aug. 7th Meeting Announcement. P. 5.
- Seen Around the Field. P. 6-7.
- City Flying Permit for 2012. P. 8.
- SC2 Competition Schedule. P. 8.
- HSS Web Site Explanation. P. 9-11.
- Victor Valley Fun Fly. P. 11.
- Human Powered Helicopter. P. 12-13.
- For Sale and Classified Ads. P. 14-15.
- Sponsors. P. 15-16, & 19.
- HSS Membership Application. P. 17.
- Membership Survey. P. 18.

Coming Events and Soaring Competitions

August - September 2012

- Tuesday Aug 7th. HSS monthly meeting, Round Table Pizza, 11095 Warner Ave. General meeting, 7 PM. Exec meeting, 6:15. See P.5.
- Sunday Aug 19. Seventh SC-2 soaring competition. Hosted by ISS at ISS field, Riverside. Details on web site: www.glideiss.us or <http://site.sc2soaring.com>.
- Tuesday Sept 7th. HSS monthly meeting, Round Table Pizza, 11095 Warner Ave. General meeting, 7 PM. Exec meeting, 6:15. See P.5.
- Sunday Sept 23. Seventh SC-2 soaring competition. Hosted by TPG at Encenitas field, San Diego. Details on web site: www.torreypinesgulls.org or <http://site.sc2soaring.com>.



General and Business Meeting Minutes for 3 July 2012

I. Business Session: Meeting was held at Round Table Pizza in Fountain Valley, and was called to order at 6:03p.m. by General Director Henry Smith 3. Other Officers in attendance were Newsletter Editor Fred Hesse, and Secretary Ted Broberg. John Rittenhouse, John Anderson, Joni Whitsitt, Randy Wilbur, and Tim Johnson (AMA District X Associate Vice President) attended , also.

A. Blimp hangar discussion: John Rittenhouse, Tim Johnson of AMA, and John A. showed a document with suggestions to consider in regard to flying in the Lighter Than Air Base. John R. spoke with Larry Tougas, AMA Vice President for Area X. John has been looking into this for months. He spoke to the OCMA leaders about the blimp hangar access, which would no longer be available on the present basis, since November. He also contacted AMA, saying we could assist them in making it possible to use the hangar for indoor flying. "Hoot" Gibson seems interested, as are other AMA leaders. We, HSS, would be the local contacts. As we progress, they will take a greater part. Tim Johnson said OCMA, is showing some interest. John R. remarked, "We are at top dead center point right now." Interest is warming. Orange County Parks and Recreation meeting was postponed, but will be held July 20. We'll want some representation at this. Fred H. has been working on the Air Base project. Model Aviation has been involved there since the 1940's. Henry 3 was involved with the Tustin club back then. He and Fred can work on the history of our access to the facility. John A.: "We need to do our homework." This may be a long-term project development.

-- Joni, Randy, and Tim J., have a long history of modeling in this area, and know many contacts who can likely help us.

-- John A.: he knows contacts. The "buzz word" is using it "on a non-exclusive basis." He suggests that we think about the entire facility, not merely the indoor hangar, meaning consider outdoor model flying as well.

-- Henry 3: General Lyon, of Lyon Air Museum, may have some interest in our hobby and our people.

-- Tim Johnson, AMA: This is interesting; it'll be a big endeavor. The blimp hangar is his greater interest.

-- John R.: We should emphasize that there is no better use of the hangar than the educational aspect which we represent. The AMA is the most natural agency to achieve this. But we are "the boots on the ground" in the area. We should get things going so that the AMA will stay interested.

-- Tim J.: For some time the AMA has been considering a west coast facility for modelers.

-- John R.: There is a Concept Plan (developed for the Orange County Parks Dept.) of some 300 pages. Nowhere in it is there a mention of model aviation. At the July 20 meeting, it would be well if we could be added to that plan. Fred has worked up a document, and John A. and he could work the bugs out of this and make a presentation.

-- Henry 3: Let them know that we'd like to be added to the list of approved activities for this site.

-- Fred: John A. and I will prepare a one-page summary of our intent. At the July 20 meeting, we will want to find whether Mark Denny is interested in supporting our wishes. The Free-Flight Society will be good friends to us.

-- John A.: The modeling commercial entities (Hobby People, etc.) may give us a boost: education, industry all may lend us support.

-- John R.: Any of you who have historic information, photos, contacts: Send to Fred H.

-- Fred: Shall we include electric outdoor in our plans? (All: Yes. It's a bigger group.) Tim J.: Remember the Boy Scouts.

II. General Session: Called to order at 7:14 p.m. by President Walt Cloer. In addition to those named above, in attendance were Jim Sonnenmeier, James H. Jones, Ross Thomas, Bob Voss, Mike Fox, Art Tinsley, Jesse and Mary Lou Calleros, Karl V. Hawley, Sylvestra Whittington, and Gytis Tamulaitis.

A. Orange County Fair. Reminder that the Fair is coming up July 20, 21, 22. Anyone who works gets two free tickets. There are several 4 hour shifts, free parking; 2 or 3 people are needed for each shift. Put on your shirt and badge and talk to people about planes. More news to come.



General and Business Meeting Minutes for 3 July 2012 (Continued)

B. Karl: He's working on a charging station, to be put at the kiosk near the benches at the field. Henry 3 says it will be in a steel box, with a key lock. Some fliers have said that they would join if we got it.

C. Walt said the paved walkway will be replaced with cement.

D. Joni W.: Orange County Fair, Scale Squadron and AMA booth: She's asking our support to staff the booth. We can talk about our club, aviation, and planes. She'll have tickets for entry and parking for those who volunteer. The booth is in the Home and Arts Building. There will be a 48" TV screen, showing the Real Flight Simulator. Our people would be showing that while they are there, as well as handing out our information for the club.

-- John A.: Could we hand out, say, paper gliders with our Logo on them, for the kids to cut out and fly at home (not at the Fair)? Joni: Yes. Anything you want to distribute.

-- She will send a packet to all who sign up, with maps, information, tickets. She has arranged with AMA for the additional event insurance for this.

E. Henry 3: Several years ago, we were given the opportunity to fly indoor at the Tustin Lighter Than Air Base blimp hangar. We have flown there several times. Our contact who gets us in is no longer in charge. Now the County is taking over the hangar, and we are starting to make overtures to arrange to be included in the plans for the future use of the base. We are putting together a small *ad hoc* committee to work on this. The free-flight people are AMAZING! We need to help them keep this opportunity.

F. Jim Sonnenmeier: Recent glider contests recap: Our RES and WOODY contest: 12 contestants, good weather that day. Riverside event: Gene Hayes Memorial contest: 18 people, four rounds, with a "light show": a 14-foot AVA landed on a high tension line, and was VAPORIZED.

G. PROGRAM: Gytis Tamulaitis: He showed his second C N C machine. It's a table-top model, which he bought off e-Bay. It's driven by an old-fashioned computer, through the printer cable. It has a resolution of 0.03". Software needed includes Turbo-Cad. He uses Rhinoceros software to get a 3-D shape. There is a big learning curve to getting a grasp on this, but user help is freely available on the internet. What can be cut? He's cut dense Styrofoam, balsa, and 1/2" aluminum, The spindle is a die-grinder, turning an end mill made of carbide, up to 1/4". With balsa, he uses double-sided tape to hold it to a "waste board" of Medium-Density Fiberboard, to keep from scarring his platform surface. He makes molds for casting fiberglass and mylar with precision. Matching parts made separately engage perfectly! He has made parts by "drawing" them on the computer, and cutting them without doing any pencil work. (He spent more on the software than he did on the machine.)

-- It cuts about 800 mm per minute. "You can crank it up, and go get some coffee or some dinner while it does the work." QUESTION: Do you have to try a sample cut while you're watching it, to make sure it doesn't eat itself? ANSWER: Yes; I watch it do a sample in Styrofoam. After that, I can leave it running.

H. Show and Tell: Fred Hesse showed his new HERO II HD video camera: it's about the size of a pack of cigarettes. 2.5 hours on one charge; 32 GB card hold 4.5 hours. On the internet, you'll see footage taken by motorcyclists, skiers, others with this type of camera. It's good for snorkeling, and aerial videos. It is high resolution. Model # GO-PRO HD HERO II. Two cameras can be paired for stereo-3-D.

I. John A. showed an article on an RC blimp that can carry a camera.

J. John also told us about the AMA's Walk of Fame; He moved that we purchase a brick in the Walk of Fame for \$100 in Muncie, IN, to show HSS's support of AMA. Seconded and carried. Ross suggests that we remind them that we are the AMA's first and oldest Soaring club, Treasurer Dennis Anderson will cut a check for this.

III. Raffle: Tonight's winners are: E-FAIR powered glider from Alberto Doña: Joni Whitsitt; ACE RC Smartest capacity tester: Jim Sonnenmeier; Smartest Charger: Ted Broberg.

-- Meeting adjourned at 8:35 p.m. Respectfully submitted, Ted Broberg, Secretary



HSS Web Site Administrator

Don Knight has been our web site administrator for nearly a year, and has done the best job of any in the position. Unfortunately, Don is leaving the area, and will no longer be able to fill the position. Therefore, we are looking for someone to take over. We have gone to extra effort to set up our site so that it can be managed by most anyone. That means experience in Hyper Text Markup Language (HTML) is not required. We have a simple seven page procedures manual for the site, and a separate two page manual for managing all the photos. Anyone that would like to entertain the idea will be provided with the manuals so as they can see how simple the task is, before taking on the position. All guidance and training will be provided. Contact Fred Hesse at a meeting, or fhesse@socal.rr.com , or 714-963-5838.

Show Time

Last Thursday, June 20, two of our fliers, Dave Maze and Ted Broberg, did a flight demonstration at Kindred Community Church of Anaheim Hills. The children had been learning all week about "AMAZING WONDERS: AVIATION" -- and the planes fit in with the theme. Photo at right shows the indoor decorations Ted helped put up, and the RC models hanging over the stage. Below are the planes we flew in their parking lot, and the kids waiting patiently in the background for the demonstration.

Public service activities like this count towards our Gold Leader Club status.

Pictures and report courtesy of Ted Broberg. Thanks, Ed.



2012 HSS Membership

Our 2012 HSS membership enrollment season is in full swing. A membership application and optional member survey is included in the last pages of this newsletter. These can be mailed in to our post office box shown on the last page, or given to a club officer. Alternately, HSS and AMA membership applications can be obtained from any club officer, or available on our club web site at www.1hss.org. Applicants must be members of the AMA prior to joining HSS. **AMA and HSS applications received during October – December 2012 are good for all of 2013 as well.** AMA Membership applications can also be obtained at the AMA web site www.modelaircraft.org, download document No. 902 from the publications page. Or you can apply on line. If you renew your AMA membership online, be sure to print the receipt that they provide as proof that you paid. And, don't forget your City of Costa Mesa Flying Permit. Details are shown on pages 8 of this newsletter.

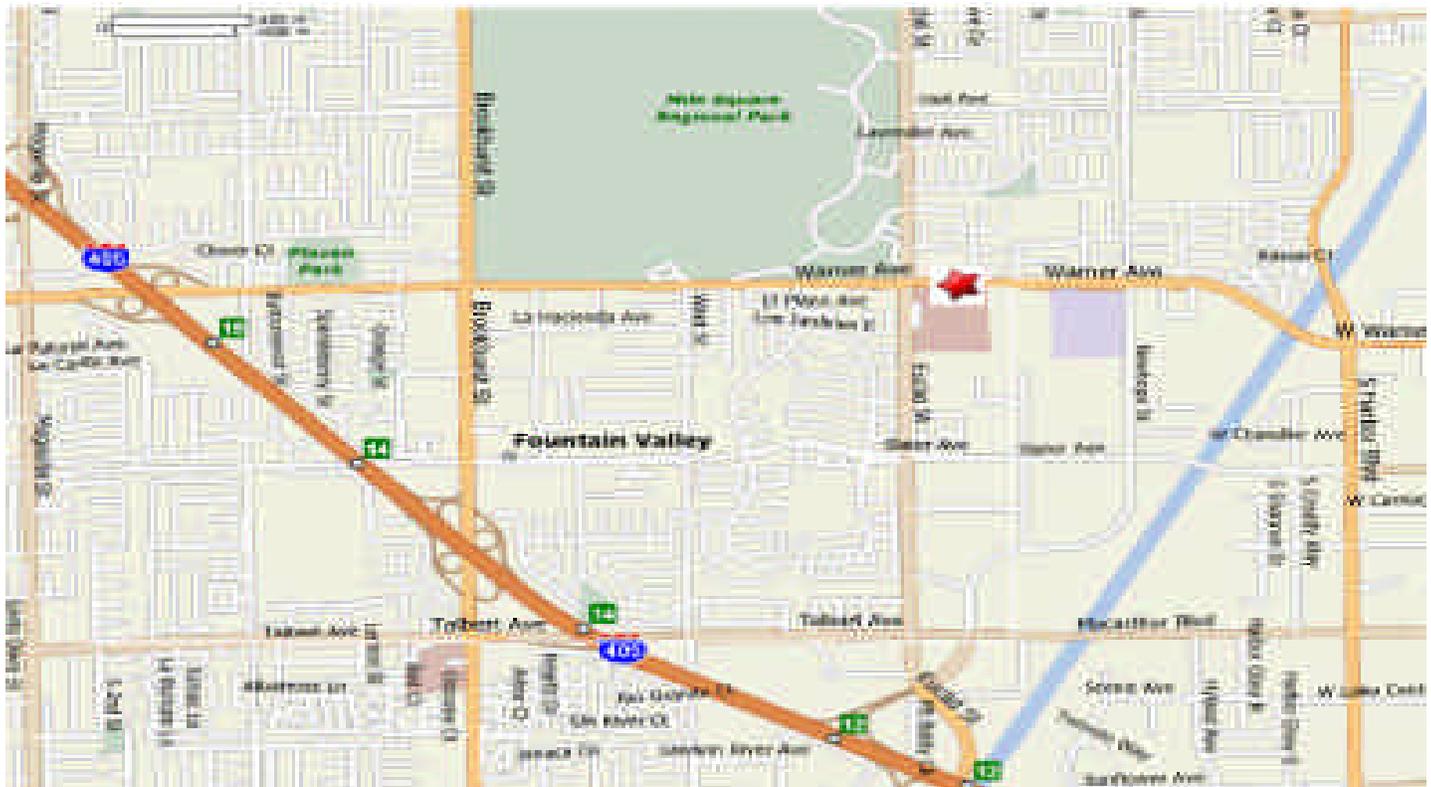
AMA District X Website

The following is taken from the July 2011 edition of "AMA Today", the electronic membership newsletter.

AMA District X Vice President Lawrence Tougas wants to invite AMA members from all districts to enjoy District X's new website. "We have a lot of great articles in our blog, plenty of pictures in our photo albums, and a spot where you can learn more about our associate vice presidents and myself," says Lawrence, District VP. All of the information is at www.ama10.org. Why not consider helping your district with its website?

General Meeting Announcement For August 7th, 2012

The next club meeting is Tuesday August 7th, 2012, at ROUND TABLE PIZZA, 11095 Warner Ave. & Euclid (North-east corner) in Fountain Valley. Phone number is (714) 839-0276. The Family Night rate is all-you can-eat pizza, plus one salad bar, for \$6.99. Fountain drinks are an additional \$1.99, self-service, or \$2.99 per liter. Beer and wine are available. Bring your wife, family, friends, etc. Bring your favorite plane for show-and-tell. There will not be a raffle, due to a shortage of donations. The location is shown in the map below. The executive/steering committee meeting begins at 6:15 PM.



Seen Around the Field

Here is a great photo of frosty enthusiasts. Hey guys, this is July in Southern California.

Below is Bob Shourt's Flybaby.

At the bottom is the modified Sig Kaydet Seniorita belonging to Kenny Blasius. The original Tricycle landing gear has been converted to a conventional tail dragger. The wingspan is 66", and it has a KMS motor, three cell 2200 lipo battery 10-7 prop, and pull-pull rudder cables.

Photos and text courtesy of Rob Askegaard.



Seen Around the Field (Continued)

Immediately below is another very neat photo of Kenny Blasius's Seniorita. To the right is Ted Broberg's big Telemaster, and at the bottom may be an Avro Vulcan, but your editor lost his notes and is making a wild guess.

Photos again courtesy of Rob Askegaard.



2012 Park Permits Available Now

Robert Staples has sent us the announcement (below) stating that City Flying Permits for 2012 are available now for \$20 per year. Remember to bring your new AMA license. Note that renewal by mail is now allowed. Submit application (available on line), copy of AMA license, and payment.

RENEWAL NOTICE:

The City of Costa Mesa will be accepting renewals for the 2012 Flying Permits beginning Monday, October 24, 2011, at the following locations:

Costa Mesa City Hall (77 Fair Drive, Costa Mesa 92626) – 3rd floor Recreation Counter, during regular business hours from 8:00am – 4:30pm (excluding City observed holidays). Call 714-754-5300 for details.

Temporary permits are issued at the Downtown Recreation Center (1869 Anaheim Avenue, Costa Mesa 92627) between the hours of 10:00am – 1:00pm on Saturdays. For information, call 714-327-7560.

Joyce M. Santos Administrative Secretary - City of Costa Mesa - Recreation Division
77 Fair Drive, Costa Mesa 92626 Phone: 714-754-5009 Fax: 714-754-5166

Note that to fly at Fairview Park you need the above permit, liability insurance (preferably AMA), and you need to follow City of Costa Mesa Ordinance No. 07-01, City Regulations for Issuance, Suspension and Revocation of Permits to Fly at Fairview Park, Academy of Model Aeronautics Safety Code, and the Fairview Park Flying Field Rules which are all posted at Fairview Park and on our web site at www.1hss.org. You do not need to be a Harbor Soaring Society member (but it is good to have you join us).

Some of This Year's Soaring Events

The following is a preliminary alert to coming soaring competitions. Further details will be posted as soon as possible.

- Nats Muncie Indiana July 28- Aug 7
- Wilson Cup CVRC Sept 9
- Soaring Masters Sept 21-23
- Visalia Fall Fest Oct 6 & 7

SC2 Competition Schedule for 2012

Here is the schedule for your Southern California Soaring Clubs (SC2) monthly contests for 2012. Check the SC2 web site at <http://site.sc2soaring.com> for further details and competition results. Check individual club web sites for directions to their flying field.

- February 26, 2012 hosted by SWSA
- March 18, 2012 Hosted by VVRC (Cancelled)
- April 22, 2012 Hosted by SWSA
- May 20, 2012 Hosted by HSS AT SWSA
- June 17, 2012 Hosted by SULA
- July 22, 2012 Hosted by DSH AT ISS
- August 19, 2012 Hosted by ISS
- September 23, 2012 Hosted by TPG
- October 21, 2012 Hosted by TOSS
- November 18, 2012 (Rain Day) Hosted by VVRC?
- December 2, 9, 16, 2012 (No points)
Hosted by SULA & DSH AT SULA

SWSA - Silent Wings Soaring Association - West Covina – www.silent-wings.org

VVRC – Victor Valley RC Flyers – Victorville – <http://www.vvrcf.org>

ISS - Inland Soaring Society - Riverside – www.glideiss.us

TPG - Torrey Pines Gulls - Torrey Pines, San Diego – www.torreypinesgulls.org

TOSS - Thousand Oaks Soaring Society - Thousand Oaks – www.toss.freesevers.com

SULA - Soaring Union of Los Angeles - San Pedro – www.sulaclub.org

HSS – Harbor Soaring Society – Cost Mesa – www.1hss.org

DSH – Downey Soar Heads – Downey

The year end final results for 2011 are available at web sites: <http://sc2soaring.com> and www.1hss.org.



Explanation of Guest, Member, and Officer Access to HSS Web Site Pages

Our web site, www.1hss.org, is set up to provide information about HSS to guests as well as HSS members and officers. We have three levels of access, depending on who is calling up our site.

Public/Guest Level

Guests are invited to peruse nearly all of the site, beginning with the home page, calendar of events and activities, competition results, beginner and technical assistance, links to other clubs, photos, newsletters, and forms for joining HSS, AMA, and obtaining city flying permits. None of the material on the site is copyrighted, and everyone is free to download and copy all material.

Of the Technical Articles sub-page (under Home page), we present the following, and anyone is invited to add to this list by contacting our web administrator.

Soaring Techniques	Dave Thornburg classic thesis on thermal soaring.
Everything About Electric Flight	49 page instruction document.
Glider Aero Tow	Article on set up and procedures for glider aero tow.
Electric Powered Aero Tow	By Don Bailey contributor to Quiet Flyer Magazine.
Glider Aero Towing Primer	Article by John Derstine.
Tow Line Construction	Components of an aero tow line.
Tow Releases	Tow line releases for tugs and sailplanes.

Links to over a dozen local clubs are included, followed by Activities. This list is made up of a number of fun fly contest ideas, and a complete description of the requirements to attain League of Silent Flight pilot performance standards.

The Tools sub-page (under Home page) contains links to a large number of sources of theory and products, and several "How To" videos on soldering. Again, added subjects are solicited.

The Rules page contains all rules applicable to flying at Fairview Park. Links to maps and rules sources such as the City of Costa Mesa and Academy of Model Aeronautics are included. Every attempt is made to keep these rules current.

The Flying Sites page shows a map to Fairview Park, and over a dozen links to other local flying sites.

The Beginners page attempts to provide articles intended to guide the beginner RC pilot. The following articles are offered:

- Tips for Newcomers from the Academy of Model Aeronautics
- RC Planes - A Guide to Getting Started
- Beginner's Guide to the RC Flying Hobby
- RC Airplane Controls
- RC Airplane Radio Systems
- Beginners Guidelines For Radio Controlled Model Aircraft and Helicopters

The remaining pages available to guests and members are self-explanatory.

Member Level

The page intended for members is not visible to guests or members who do not log in. The intent of the Members Level is to give members access to club information and documents that are "Club Proprietary". For a current member to access this information, they must have executed the log in procedure, consisting of providing a user name and password. The first time this is done, the web site administrator confirms the active membership from the club roster, then, enables the member's access to the member information. This will normally take about 24 hours. Subsequently, the member will see the Members page and have immediate



Explanation of Guest, Member, and Officer Access to HSS Web Site Pages (Continued)

access after logging on. A procedure is included that provides forgotten passwords. Continuing members do not need to re-apply each year. The following itemizes the material available to club members on the Documents sub-page under Members page.

Documents and Forms:

[Insurance for non-AMA members](#)

AMA Policy covering Introductory Pilots.

[Member Survey](#)

Detailed survey accompanying Membership Application.

[Phone Survey](#)

Guideline for telephone survey of members.

[2012 HSS Ballot](#)

Annual ballot for officer election. To be updated each year.

[2012 HSS Membership Application](#)

Form to be updated each year.

[Hobby Shop Introduction](#)

Flyer to be distributed at hobby shops.

Club Rules:

[2011 AMA Safety Code](#)

Updated annually.

[Costa Mesa City Code 07-01](#)

Fairview Park code for model aircraft.

[City Flying Permit](#)

Procedures for obtaining a flying permit for Fairview Park.

[HSS Field Rules](#)

Revised 11 Mar 2009.

[FAA Altitude Limit](#)

AMA Document PDF540C.

Club Operation:

[HSS Bylaws](#)

Current club bylaws dated 1999.

[AMA Club Charter](#)

Note that HSS was first chartered in 1964.

[Use Agreement for Fairview Park](#)

5 year agreement with Costa Mesa. Renew in 2011.

[HSS Officer Descriptions](#)

Similar to information in Bylaws.

[HSS Inventory](#)

Club property. Last updated (TBS).

AMA Information:

[AMA Membership](#)

AMA form 902.pdf. To be updated each year.

[Safety Officer and Field Marshall](#)

AMA descriptions. Not included in bylaws.

Officer Level:

This page is intended for club officers, and is not visible to anyone that has not logged on and been authorized for access to officer level documentation. This documentation provides officers with the information and forms to conduct club business. For the authorized club officer, the following documents and forms are available.

Officer's Documents and Forms:

[Letter head form](#)

Club letter form with color logo.

[Letter head form](#)

Club letter head form with black/white logo.

[HSS Logo](#)

High resolution color logo with "Costa Mesa".

[Club Release](#)

Release for injury to student.

[Photo Consent](#)

Parent's consent to photograph children in flying class.

[Leader Club Certification](#)

AMA notification of HSS qualifying for 2010 Leader Club.

[Flight Instructor Application](#)

AMA form 917 to become an Introductory pilot.



Explanation of Guest, Member, and Officer Access to HSS Web Site Pages (Continued)[Flight Instructor Test](#)

AMA Form 921 test to become an Introductory Pilot.

[Fairview Park Use Agreement](#)

Permit from City of Costa Mesa. Renew every 5 years.

[Event Sanction Form](#)

Application for AMA sanction of club event (AMA-301 pdf).

[Event Participation List](#)

AMA form required for sanctioned events AMA-315 pdf.

[Field Safety Officer](#)

AMA definition and task description of Field Safety Officer.

Newsletter Forms:

[Newsletter flagstaff](#)

This is jpg image of Plane Rap sailplane.

[Newsletter content suggestions](#)

Proposed ideas for newsletter.

[Newsletter Sample](#)

This is a pdf sample of newsletter front page.

[Newsletter Archiving Forms](#)

Index for 2 years of newsletters in 3 ring binder.

Web Site Information:

[Web site photo administration procedures](#)

Latest Web site photo administration procedures.

[Web site administration procedures](#)

Latest Web site administration procedures.

[Domain Name Registration Procedures](#)

Domain name recording procedures including cost and due date.

Community Service:

[Doggy Bag Donation](#)

Thank you letter from Costa Mesa Community Foundation

Projects:

September Fun Fly at Victor Valley RC Flyers

VVRCF is planning to host a fun fly in September covering the 14th, 15th and 16th. Here are their details.

This would coincide with "Hesperia Days" which is a celebration the town holds every year on the 15th with fireworks at Hesperia Lakes and a parade down through the middle of town. Because of our flying field location we can really enjoy the fireworks from our field.

This fun fly will include full access to our facilities including the Soaring area, a 550 foot paved RC runway and helicopter area. We encourage all types of aircraft except rockets and fuel burning jets (turbines). Ducted fans are OK. Detail on the facilities can be found at the Websites; vvrcef.org and nomotorflyer.com

Ronnie Espolt and myself will be staying at the field Friday and Saturday nights and we plan to have a barbeque available if people wish to bring things to cook. We have room for all sorts of self contained RV's and Andy-Gump's are on site. No potable water is available however.

We can make the Soaring facilities open to any level of operation we wish to pursue.

Rick Pearson, AMA# 9369, phone: 951-240-9704

Downers Grove, IL



University of Maryland Human Powered Helicopter

The A. James Clark School of Engineering at the University of Maryland is having some success with a human powered helicopter. The American Helicopter Society offers the Sikorsky prize of \$250,000 for a human powered helicopter that can sustain flight for 60 seconds, and achieve an altitude of three meters. Details are shown below, and several videos can be seen at www.agrc.umd.edu.

THE A. JAMES CLARK SCHOOL of ENGINEERING

The Gamera Project

BUILDING A HUMAN-POWERED HELICOPTER AT THE CLARK SCHOOL OF ENGINEERING



UNIVERSITY OF MARYLAND



A PARTIAL PORTRAIT OF THE GAMERA II TEAM.

After setting flight duration world records in 2011 with *Gamera I*, our team of 40 graduate and undergraduate students from the University of Maryland's A. James Clark School of Engineering has returned to build and fly *Gamera II*. A lighter and more efficient refinement of the original design, *Gamera II* may take the team closer still to the American Helicopter Society's Sikorsky Prize.



TESTING GAMERA II ROTOR BLADES.



TESTING ARM AND LEG POWER OUTPUT.



JOINING GAMERA II TRUSS MEMBERS TOGETHER.



GAMERA I SET WORLD FLIGHT DURATION RECORDS IN 2011.



University of Maryland Human Powered Helicopter (Continued)

THE SIKORSKY PRIZE

The American Helicopter Society created the Sikorsky Prize, named in honor of helicopter pioneer Igor Sikorsky, in 1980. To win the \$250,000 prize, a team must build a vehicle that:

- Obtains all of its power from a human pilot
- Achieves a 60-second hover while remaining within a 10-meter square and momentarily reaching a three-meter altitude.

Many attempts have been made to meet these requirements, but no team has ever fully succeeded.

SIGNIFICANT TECHNICAL CHALLENGES

Why is it so hard to fly a human-powered helicopter? Among the many technical challenges, the most significant are:

- Humans have very low power output for their weight, so the pilot must be extremely strong and fit, yet light
- Helicopters require much more power than airplanes, so the structure must be light, yet strong enough to withstand stress, and highly efficient aerodynamically, especially in rotor design.

THE GAMERA DESIGN

Gamera has a rotor at each of the four ends of its X-shaped frame, with the pilot's module suspended at the middle. Each crossbar of the frame is 60 feet long, and each rotor is 42.6 feet in diameter. Yet, through the use of balsa, foam, mylar, carbon fiber and other lightweight materials, the entire vehicle weighs only 71 pounds, including the student pilot. All power comes from a combination of hand and foot pedaling, transmitted through chains, gears, and lightweight string to the rotors.

ROTORCRAFT EXPERTISE AT THE CLARK SCHOOL

The Clark School's Department of Aerospace Engineering, chaired by Professor Norman Wereley, is one of the nation's top rotorcraft research institutions. Key to the department's strength is its Alfred Gessow Rotorcraft Center, directed by Professor Inderjit Chopra. Alumni have played leading roles in advancing rotorcraft design, including Ashish Bagai, Ph.D. '95, designer of the rotor for the 2011 Collier Prize-winning Sikorsky X2TD. Student teams have won the American Helicopter Society Design Competition 11 times in the last 14 years. The *Gamera* team is advised by Senior Research Scientist V.T. Nagaraj, Professor Chopra, Professor Gordon Leishman, and Clark School Dean Darryll Pines.

GAMERA DESIGN FEATURES

QUAD ROTOR CONFIGURATION AND GROUND EFFECT:

The four-rotor *Gamera I* configuration, retained in *Gamera II*, increases vehicle stability while positioning the rotors as close to the ground as possible. This allows an increase in a phenomenon known as ground effect, a "free" increase in lift experienced by wings and rotor blades operating near the ground. The team spent more than a year designing and building a ground effect test rig and developed empirical models to optimize *Gamera's* rotor design to exploit ground effect.

ULTRA-EFFICIENT COMPOSITE STRUCTURES:

Carbon fiber composite trusses are the main structural elements in *Gamera I* and *II*. The team developed a novel truss construction method that allows for highly optimized composite trusses to be built very quickly. The team also created a truss-of-trusses design wherein the most critically loaded members in the airframe truss have been replaced with "micro trusses." These provide unmatched buckling resistance with significant weight savings.

AERODYNAMIC AND STRUCTURAL OPTIMIZATION:

During testing of *Gamera I* the team learned that the structural stiffness of the rotor blades (how much they flex upwards during flight) has a large impact on ground effect. For *Gamera II*, the team developed computer code to optimize the rotor blade aerodynamically and structurally, minimizing the power required from the pilot. Once built, all rotor blades were spun on a custom-built rotating test stand to measure actual flight performance.

MAXIMIZING HUMAN POWER OUTPUT:

To extract every watt of power from the human engine during a 60-second flight, the *Gamera I* team explored using hand cranks in addition to the typical leg-crank bicycle mechanism. In testing *Gamera* pilots on a machine that measures both arm and leg power output, the team found an increase of up to 20% when using arms and legs versus legs alone, an advantage retained in *Gamera II*.

KEY CHANGES FROM GAMERA I:

Gamera II leverages knowledge gained from *Gamera I*. While increasing the overall size of *Gamera II* might have improved efficiency, this was not an option because of indoor testing space limitations. However, while maintaining the *Gamera I* size, the team reduced *Gamera II* weight by 35 lbs, from 106 lbs to 71 lbs! This enormous reduction, combined with increased rotor blade aerodynamic efficiency, requires 44% less power from the pilot, crucial to achieving a 60-second flight duration.

FOR MORE INFORMATION PLEASE VISIT US AT WWW.AGRC.UMD.EDU



Plane Rap Classified Ads and Services - For Sale

This area of the newsletter is free to club members to sell planes, related equipment, and services. Contact Fred Hesse at fhesse@socal.rr.com with any material that you wish to insert here.

For Sale: Sig Rascal 110 ARF



Astro 60 with super gear box
 Astro 204 Speed Control (12 lipo cells max)
 Prop 24x12 – 31 Amps, 1300 watts
 4- HS475HB Servos
 Spectrum AR6200 receiver

\$300 with receiver, \$200 without receiver

Free Website For Model Classified Ads

Hi I'm Tyler with TheRCSwap.com, and was wondering if anyone in your club owns a small RC business or just has some RC stuff to sell?

TheRCSwap.com is a new free, RC only classifieds site that was made by RC'ers for RC'ers just to help people buy and sell their RC stuff, and help small RC businesses advertise their products/business for free to help drive traffic/sales to their stores.

You can post any amount of ads for free or upgrade your ads to be seen more easily.
 If you own a website, or a store you can link from our site to yours for free.

Clubs can advertise their Clubs or Events for free as well, just another way to get the word out about your club!
 If you'd like to know more, just come check us out! Thanks.



Uses 2- 6 cell lipo motor batteries (not included)
 Wingspan 110", Area 1522 square inches
 Length 75.75"
 Weight (including motor batteries) 15.43 lb
 1100 mah receiver battery

Dennis B. Anderson (714) 531-1320



Plane Rap Classified Ads and Services - For Sale (continued)

Custom laser cutting services are now provided by GDH Planes, in addition to manufacturing kits. With the currently weak Canadian dollar (we are a Canadian company), it is a great time to use our services and take advantage of the exchange rates, adding to our already reasonable rates (US\$1 is currently equal to about \$1.157 Canadian). Should any of your members require this service, please have them visit our web site at www.gdhplanes.com or email us at LaserCutting@gdhconsulting.ca.

Regards, Glen Harbottle President GDH Consulting Corp. Tel: 905-668-2326 glenh@gdhconsulting.ca

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.

ROB'S R/C HOBBIES

Sales / Parts / Repair

Radio Control Airplanes, Helicopters, and Cars.
15071 Goldenwest St. Huntington Beach
S.W. Corner of Goldenwest & Bolsa Ave
(714) 372-3777

All HSS Club members with proof of club membership, will get a 7&3/4% discount on most parts and accessories. Discount does not apply to plane kits, helicopter kits, radios, and other already marked down products. Please ask staff if you have any further questions.

Robsrchobbies.com
 robsrchobbies@earthlink.net



ADChobbystore.com
ADC **ADC**
Signature Series
ARF Kits *Vinyl*
 Free Shipping on All Orders totaling \$100.00 or more to the lower 48 States in the USA (Oversize Orders Excluded)
<http://www.adchobbystore.com/> Phone 949-285-9849



HSS Sponsors (continued)



HOBBY CLUB

“Only the best from around the World”

Alberto Dona

Director *www.HobbyClub.com*

P.O. Box 6004

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

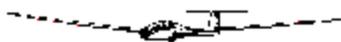
Competitive Prices!

GYRO HOBBIES

23052 LAKE FOREST DRIVE, UNIT 2-C
(Lake Forest Drive and Moulton Parkway, by the 5 Freeway)
LAGUNA HILLS, CA 92653

Phone: 888-748-7697

www.gyrohobbies.com



MEMBERSHIP APPLICATION FOR 2012

Harbor Soaring Society
P.O. Box 1673
Costa Mesa, CA 92626
AMA Chartered Club # 128

AMA's Oldest Chartered Soaring Club Gold Leader Club, 2012; Silver Leader Club Since 2009

I understand that by applying for membership in the Harbor Soaring Society, I must be a current member of the AMA. Please Print

NAME Home Ph.#

ADDRESS Work Ph. #

CITY STATE Zip E-MAIL

AMA # (PROOF OF STATUS REQUIRED, Xerox copy OK)

DATE OF BIRTH Frequency channels used

- NEW APPLICANTS (Without Name Tag)--(17 years and older) = \$20.00
SENIOR MEMBER (Renewal W/O Name Tag)(17 years and older) = \$20.00
JUNIOR MEMBER -----(16 years and under), = \$10.00
Optional or Extra HSS Name tag----- = \$15.00; including mailing
I hereby give my permission to publish my [NAME], [ADDRESS], [PHONE], [E-MAIL ADDRESS] in the monthly newsletter.
I request E-mail delivery of the monthly newsletter.
I request printed copy of the monthly newsletter by U.S. Mail.

My interests in radio control flying include (Check all that apply including future interests):

- Thermal Duration Gliders Slope Soaring Gliders RES Gliders
Large Scale Gliders Hand Launched Gliders Electric Motor Gliders
Park Flyer Electric Planes Acrobatic Electric Planes Scale Electric Planes
Electric Pylon Racing Indoor Electric Planes Electric Helicopters

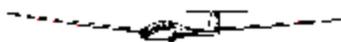
Applicants making application for senior membership between July 1st and October 31st pay a reduced rate of \$10.00 (Name tag extra). New applicants making application between November 1st and December 31st will pay the annual rate indicated above and such dues will make the new member paid in full from November 1st through the following year.

The undersigned attests that: I will operate my model using only radio control frequencies currently allowed by the FCC. Further, any transmitter that I use at any designated HSS flying field must be manufactured to meet the AMA/FCC specifications for model aviation.

SIGNATURE: DATE

Total dues owed and attached: \$

SIGNATURE OF CLUB OFFICER RECEIVING APPLICATION



HSS MEMBERSHIP SURVEY – 2011 - 2012

Please take a few minutes to share your flying-related information with the HSS board so that we can better maintain and enhance the enjoyment of flight for you and all Fairview flyers. Thanks!

Name _____ Date _____

1. What kind of RC flying/planes do you enjoy? (1=favorite, 2=next, etc):

Glider: Winch launch__ Hi-start__ Slope__ Hand-launch__ Other _____

E-power: Powered Sailplanes__ Scale__ Sport__ Acrobatic__ 3D__ Speed__ Helicopter/autogyro __

Other-such as _____

2. Where do you prefer to fly at Fairview? (1, 2, 3, etc) Sailplane area __ Slope __ Runway __ Other __

3. Which days do you usually fly? Weekday__ Saturday__ Sunday__

4. When is your usual time? Early AM__ Mid-late AM__ Noon__ Early PM__ Late PM__

5. How often do you usually fly? Almost Daily__ Two-three days/week __ Every week or so__ Less__

6. At the field what do you prefer to do? Mostly fly__ Mostly socialize__ Both equally__

7. What kind of activities would you best enjoy at the field? (1=favorite, 2=next, etc):

Contests__ Which kind? _____

Fun flies__ Swap meets__ Displays__ Airshows__ Social activities__ breakfasts__ BQ lunches/dinners__

Other-such as _____

8. Do you often fly at some other site(s)? __ **9. Where?** _____

10. Do you belong to any other RC club(s)? __ **11. Which?** _____

12. Do you read the HSS Plane Rap __ Comments? Suggestions _____

13. Do you visit/use the HSS web site? __ Comments? Suggestions? _____

14. Do you attend HSS meetings? Usually__ Sometimes__ Seldom__ Never__

Comments? Suggestions? Speaker/Subject Ideas? _____

15. Are you retired? __ **16. Do you have any special skill, expertise, experience or time which you might share?** __ What? _____

17. Would you help out occasionally with small simple club projects (one-two hours)? __

18. Would you consider donating planes, equipment, funds or other for club purposes? __

Comments? Suggestions? _____

19. What can the club do better as to the field, membership services, etc? Comment? Suggestions? _____

20. Would you consider serving as a HSS board member? __ **Contest Director?**__ **Trainer?**__

Committee member? __ **Special Projects helper?**__ **Meeting speaker?** __ **Other?** _____

Thanks for your info! Please: respond as instructed in the on-screen survey; or email via: www.1hss.org;

Or mail to: Harbor Soaring Society . P.O. Box 1673 . Costa Mesa, CA 92626





CLUB MEMBER NEWS

AUGUST 2012

★ New Products ★ Deals ★ Events ★ Coupons ★

SEEING IS BELIEVING!

NEW!

UBSAN



FPV First Person View

FPV Spy Hawk Deluxe With Autopilot & Recording

Real FPV technology puts you in the cockpit! A 5-megapixel camera feeds live, realtime video to the monitor that's built into the 4-channel, 2.4GHz transmitter. This deluxe package even includes recording capability so you can review your flight or post it to social media! Spy Hawk is a 33+ inch span, featherweight park flyer with high-and-safe, pylon mounted brushless motor and pusher prop.

No. 193103
List \$666.60

Now Only 399⁹⁹

Hobby People Servos

NEW!

HP-D11M High Power Metal Gear Digital Micro Servo



- Micro size that's perfect for many small or lightweight applications
- Hi-power: 42in-oz (3cm-Kg) @ 4.8v
- Metal gears for durability
- Weighs just 0.39oz (11g)
- Measures just 0.92 x 0.48 x 0.98in

Item No. 119011, List \$24.90

Now Only 19⁹⁹

Hobby People CLUB COUPON

Hobby People Lights - Aircraft - LED
No. 118821, Regularly \$23.99



40% OFF! **Coupon Price 14³⁹**
Price Expires Aug. 31, 2012



Bright, long-life LEDs are controlled by a small, lightweight control board

- To be on our mailing list, please fill out the form below.
- I am already on your mailing list. You have my information.

Name: _____

Address: _____

City: _____

State: _____ Zip: _____

E-mail Address: _____

All information will be held strictly confidential.
We will not sell or share this information outside Hobby People.

Find A Store: 1-866-HOBBY4U

hobbypeople.net



HARBOR SOARING SOCIETY OFFICERS FOR 2012

President	Walt Cloer	714-865-6411	waltcloer@gmail.com
Vice President	Erv Szego	714-235-9052	ervszego@msn.com
Treasurer	Dennis Anderson	714-531-1320	dba999@pacbell.net
Secretary	Ted Broberg	714-235-6430	tbroberg@earthlink.net
General Director	Henry Smith III	714-322-6537	henry.smith.3@earthlink.net
Contest Coordinator	Henry Smith III	714-322-6537	henry.smith.3@earthlink.net
Safety Officer	Open		
Editor	Fred Hesse	714-963-5838	fhesse@socal.rr.com
Publisher	Mike Gaczowski	949-582-9390	mgaczowski@cox.net
Club Photographer	Rob Askegaard	714-968-1973	rmaskegrd@juno.com
Web Site Administrator	Don Knight	714-362-5913	knightdg@ocvhost.com
Flight Instructor	Ted Broberg	714-235-6430	tbroberg@earthlink.net

See our web site at www.1hss.org, our photo site at <http://picasaweb.google.com/rc.goat> ,
and our YouTube site at <http://www.youtube.com/user/hssletsfly> .

NEXT CLUB MEETING WILL BE:

**TUESDAY AUGUST 7TH 2012, AT ROUND TABLE PIZZA, 11075 WARNER AVE.
FOUNTAIN VALLEY, 7 – 9 PM. ALL YOU CAN EAT \$6.99.**

BRING YOUR WIFE, FAMILY, AND FRIENDS FOR DINNER.

BRING YOUR LATEST PLANE FOR SHOW AND TELL.

**NO RAFFLE THIS MONTH. SEE DETAILS AND MAP TO LOCATION ON PAGE 5.
SEE THE COLOR NEWSLETTER SENT BY E-MAIL AND AVAILABLE ON OUR WEB SITE.**

