

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

SEPTEMBER 2004 VOLUME 41

Big Time Competition Results

The best news is that HSS member Casey Adamczyk helped the American team take second place over all in the Junior Division of the F3J World competition at Calgary Canada. Good going, Casey! The final results are shown in the table below. Details of the competition in both junior and senior classes can be found at www.f3j.ca and www.f3x.no. Sorry we don't have pictures or more details, but we expect a full report from Chris Adamczyk in the near future.

Team	Total Score						
GER	23532,0	Braune	7982,3	Fischer	7977,2	Feigl	7572,5
USA	22167,2	Newcomb	7815,3	Griebenow	7533,5	Adamczyk	6818,4
SVK	20833,0	Duchovny	7377,4	Zaborsky	7265,6	Debnar	6190
ITA	19420,4	Generali	6937,2	Gallizia	6697,1	Truffo	5786,1
SLO	15279,4	Kranjc	7873,3	Bozic	7406,1		
CZE	14732,8	Votoupal	7408,2	Tuma	7324,6		
FRA	7964,5	Bocquet	7964,5				
CRO	7203,1	Lehkee	7203,1				
BRA	6897,2	Fracao	6897,2				
UKR	6885,4	Gavrylko	6885,4				
NOR	6877,4	Svenning	6877,4				

Our president, Troy Peterson, has also returned from his participation in the 2004 World Championships for F5D electric pylon racing, held in York, England. We don't have results, but we hope for more details in the near future.

Harbor Soaring Society hosted the Southern California Soaring Clubs (SCSC) competition held on July 25th. Well over 40 of the best local pilots attended. No results were available from the SCSC web site which has not updated their competition results since April. The editor electronically lost the competition results graciously provided by Tom Copp. Apologies. Look for it next month. Following is a rather humorous excerpt, found in the July SCSC newsletter.

"What did we see at Harbor that was unique? Well, besides some nice items for sale in the parking lot, we saw an RES model virtually explode on the launch. Apparently, the aerodynamic stress of launch exceeded the coefficient of the compiled component structure, which was assembled and integrated into a unibody type form to compose the wing module. In other words, it went BOOM! And it did rain parts for about 4 minutes! Lots of parts! Probably more parts than what the original kit had. The fuselage made for the proverbial smoking hole in the ground, and the Harbor club guys had to call the INS to help keep the Chinese guys from jumping out of the hole drilled through to China by the model. It was a mess, but the INS got things under control." (Courtesy of Mike Lee, President of SCSC)

August 3rd, 2004 Harbor Soaring Society Meeting Minutes

Meeting called to order at 7:40 P.M. with two board members and 13 regular members in attendance.

New members Jeff Danaho and Pete Rissman were in attendance.

A motion was made and approved to have an additional committee meeting to be held August 19th at Dominico's Pizza concerning the adoption of rules and guidelines to be presented to the City of Costa Mesa concerning the expanding use of Fairview Park by unregulated and often unlicensed (AMA) fliers.

Karl Hawley asked for volunteers to attend and help out at the upcoming "Parkorama" to be held on August 8th. Karl also expressed his thanks to the volunteers who helped out at the recent SC Square event. In addition, Karl also gave a report on a City Council meeting he attended concerning the expansion of the park wetlands. He also asked the Council about the possibility of having a water line so that we might "green up" the weeds in our flying / landing area. The matter was taken under advisement.

Karl reminded the members about the upcoming "Bent Wing" contest to be held at Thousand Oaks on August 29th.

Mike Gaczkowski (newsletter publisher) asked the members to submit articles for publication in the newsletter whenever possible.

Meeting adjourned at 8:05 P.M.

After the meeting during the time allotted for "show and tell", Jim Parsons gave a talk and demonstration on the techniques used to strengthen a molded fuselage.

Respectfully submitted,

Don Ramsay Secretary

Minutes of Special Committee meeting held on August 19th, 2004

The meeting on 19 Aug 2004 was held to discuss field safety, club responsibility, and our relationship with the City of Costa Mesa. Twelve members and guests attended, made up of the full executive council (except Don Ramsey who was ill), the steering committee, and several members and guests.

The highlight of the meeting was special guest Mike Lance of Orange County Modeling Association and Laguna Niguel Soaring Club. He had been instrumental in resolving the problems at Lilly Shapelle Park (a neighbor attempting to stop slope soaring by shooting at the planes) and establishing flying site rules by promoting the passage of city ordinances that ensured capable pilot proficiency.

Mike began by giving some history on the flying site, and the resulting difficulty when homes were built adjacent to the flying site. He went on to describe the concerns held by the club, which are very similar to those of HSS. The solution that allowed continued flying at the park was reached after months of meetings with the Park Department officials and the city attorneys who drafted ordinances enforcing the requirements to fly at Lilly Shapelle Park.

The following lists the problems and concerns the club addressed, and the principal requirements that solved these problems.

Concerns:

- The club did not want to lose the right to fly at the field.
- The city was liable for anyone flying at this public park.
- The city did not want to mandate membership in the Academy of Model Aeronautics (AMA).
- The city wanted safe flying, but did not have the means to recognize qualified pilots.
- The club had no authority to control maverick or incompetent pilots.

Minutes of Special Committee meeting held on August 19th, 2004 (Continued)

Solution summary:

- The city (Department of Parks and Recreation specifically) was totally willing to let gliders fly in the park.
- The club demonstrated to the city that gliders could be flown safely by qualified pilots.
- The club proposed a plan in which a set of field rules would be established, a pilot qualification plan would be developed, and the club would provide the pilot certification assessment. The club also took the responsibility to ensure that the rules were followed.
- The club formed a team of three members that sat down with the city lawyers, and over a number of months a new city ordinance was established.
- The ordinance stated that any one wishing to fly must have a city permit (no cost to applicant) which is issued by the Director of Parks and Recreation.
- To get a city permit, an applicant must either be a member of the AMA (thus insured) or post a \$1,000,000 bond with the city. The applicant must pass a pilot qualification test administered by a committee made up of qualified club pilots. The applicant must follow the field rules at all times.
- Anyone observed by a committee member not following the rules will be asked to leave the field. If that person does not leave, the sheriff is called and ensures that the person leaves.

At the conclusion of his presentation, Mike distributed copies of their procedures for flying permits, and the city ordinance adopted by the City of Laguna Niguel. This effort gives us and many clubs throughout the U.S. a ground breaking procedure that can solve the problems of safety while providing a flexible means of allowing everyone to fly at a given site. For anyone wishing to read the details of City Ordinance No. 2002-123 and the Procedures and Requirements document (part of the Municipal Code), the HSS executive committee has copies.

Bill Eckles presented information he had obtained from the AMA. Their suggestions included:

- Advise Costa Mesa that AMA insurance covers AMA members and clubs but this insurance does not extend to other pilots who are not members.
- Advise Costa Mesa that neither AMA, Harbor Soaring Society nor any individual member will be liable for non-members flying at the site.
- Advise Costa Mesa that the consequence of non-discriminatory use of the field by AMA non-members exposes the city to potentially uninsured risk.

They suggest two significant operation modifications:

- A permit system mandating personal insurance of at least \$1,000,000 Comprehensive Liability be required.
- Posted rules should say at the top:

Model Flying Site Rules
City of Costa Mesa
Department of Parks and Recreation

A committee was established to begin collecting further information, to compose a presentation of our concerns and suggestions for the City of Costa Mesa, and to work with the city towards a solution hopefully similar to what Mike Lance has done. The committee includes Troy Peterson, Karl Hawley, Jim Hanson, and Bill Eckles.

The above minutes are a summary of both verbal and written communications. Further details are available to anyone interested. Contact the executive council or the steering committee.

Respectfully submitted for Don Ramsey (Secretary), by Fred Hesse

Coming Events For 2004

Sunday	August 29	6 th SCSC thermal duration competition, Thousand Oaks Soaring Society.
Sunday	Sept 5	Ninth HSS thermal duration contest for 2004. Fairview Park, Costa Mesa.
Tuesday	Sept 7	HSS monthly meeting, 7:30 PM, at the Irvine Water District offices.
		Address is 16500 Sand Canyon Avenue, in Irvine.
Sunday	September 12	CVRC Wilson Cup, Russell Pond club field, Visalia CA.
Saturday	September 18	Scale Radio Control Air Show, El Toro OCMA Field 9AM-4 PM, get invitation at
,	·	www.flyocma.com , Warbirds, Giant Gliders, Turbine Jets. Free + \$3 to park
Sunday	September 26	7 th SCSC thermal duration competition, Inland Soaring Society, Riverside.
Sat-Sun	October 2-3	CVRC Fall Glider Festival, Russell Pond club field, Visalia CA.
Tuesday	October 5	HSS monthly meeting, 7:30 PM, at the Irvine Water District offices.
		Address is 16500 Sand Canyon Avenue, in Irvine.
Sunday	October 10	Tenth HSS thermal duration contest for 2004. Fairview Park, Costa Mesa.
Thurs-Sun	October 7-10	Hobby Vision Show, Sands Expo and Convention Center, Las Vegas NV.
Sat-Sun	October 16-17	CVRC 3 rd Fall Aero Tow (Giant scale), Russell Pond club field, Visalia CA.
Sunday	October 24	8 th SCSC thermal duration competition, Torry Pines Gulls, Poway.
Tuesday	November 2	HSS monthly meeting, 7:30 PM, at the Irvine Water District offices.
•		Address is 16500 Sand Canyon Avenue, in Irvine. (Election Day).
Saturday	November 6	Model Hobbies Swap Meet, El Toro OCMA Field 7AM-2 PM, get invitation at
•		www.flyocma.com . This is the big swap meet because its just before Xmas.
Sunday	November 7	Eleventh HSS thermal duration contest for 2004. Fairview Park, Costa Mesa.
Sunday	December 5	Twelfth HSS thermal duration contest for 2004. Fairview Park, Costa Mesa.
Tuesday	December 7	HSS monthly meeting, 7:30 PM, at the Irvine Water District offices.
•		Address is 16500 Sand Canyon Avenue, in Irvine.

September 7th Meeting Notice

The next meeting will be Tuesday September 7, 2004 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. We had 15 members present at the last meeting.

There are lots of things being planned, and we need your help.

The September meeting entertainment will be provided by Jim Parsons who will demonstrate a molded fuselage lay-up of one of his Spectra 123" high performance gliders. He will be looking for volunteers to help dabble on the epoxy



and work the material into the mold. Gloves and brushes will be provided. Due to time constraints, only one half of the fuselage will be molded. The majority of the material will already be pre-cut. This will be a wet lay-up using MSG Epoxy. The Spectra 123's fuselage has a rather complex but strong lay-up utilizing multiple layers of 2 and 6 oz E-glass, 2 and 5.5 oz Kevlar, 5.4 oz bi-directional carbon, and uni-directional carbon tow.

For those members and guests not familiar with this plane, the Spectra 123" is an open class all composite T-tail sailplane. More information is available on his web site at http://members.aol.com/jpspectra/.

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 have a polo collar and a front pocket, and are available to all members for \$12. Contact Karl and get yours before they are all sold out.

Dynamic Soaring Explained

Here is a web site that is really worth checking into. It is www.californiasailplanes.com. They are primarily interested in slope soaring gliders, and import both foam and composite models. They handle Canterbury (brand) designed by David Griffin of New Zealand, Tuffplanes (US), and Dezzanet from Australia. Lots of interesting articles, but the most spectacular is their feature on Dynamic Soaring. From their home page, look at the left hand column and click on "Tips and Hints". Go to the bottom of that page and select "5) Dynamic soaring explained with animation". The resulting page will have five airplane figures across the bottom. Click the first one for an excellent step by step explanation of dynamic soaring. It is a very clear description. Also click on the right hand figure for a short video of Kyle Paulson and his 232 MPH record flight. WOW!

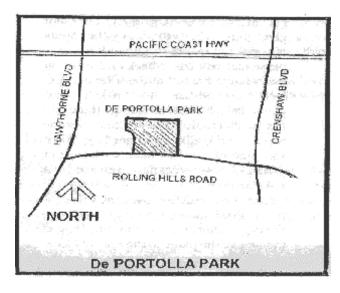
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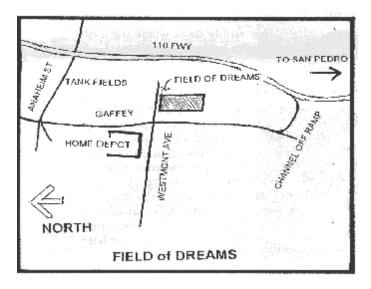
Visit RCezine at http://www.rcezine.com and read the latest material on RC Aviation. RCEzine is a monthly online magazine featuring in-depth content, tutorials, event coverage, and reviews on all aspects of RC Aviation. Also visit Torqueroll at http://www.torqueroll.com for forums, and to buy and sell RC related items with others! The Torqueroll site has some good humor.

Long time HSS member Herman Hall provided this tip on the spectacular web site that shows a slide show of Burt Rutan's SpaceShipOne making that 100 Km flight in June of this year. Go to: http://www.rokits.org/gallery/slideshow.php?set_albumName=x-prize

Good Fortune for SULA

Last year, the Soaring Union of Los Angeles (SULA) had lost their flying site in Domingues Hills. It became a multi-field soccer complex. They have now solved their problems to some degree by working out a time share arrangement at two different fields. Mondays through Fridays from 9 AM to noon they have permission to use De Portolla Park near the intersection of Hawthorne Blvd. and Rolling Hills Road. On Sundays they use a place called Field of Dreams from 9 AM to 1 PM. This field is located near Gaffey and Westmont Ave. in San Pedro. Maps of the two facilities are shown below. Don't get confused. Check the direction of North arrow.





Flying hours are M-F 9:00 to noon

Sunday flying hours are 9 AM to 1 PM

September 2004 Page 5

Supra - Dr. Mark Drela's Latest

Regardless of club opinion, Dr. Mark Drela of MIT stands as one of the truly great model aerodynamicists of our time. Along with Dr. Michael Selig of University of Illinois, these two have contributed brilliant advancements in airfoil and model aircraft design. The most gracious aspect of their work is that they place it in public domain on the internet with no restrictions and no effort to make a buck. About two years ago, Mark offered his plans for the Bubble Dancer, which has become a major contender in RES competition. A number of variants have been put on the market, and a number of these have been "planted" at Fairview Park. The message that eludes the dissatisfied owners is that Dr. Drela spent an inordinate amount of time in the structural analysis and assembly details of his design, the results of which were either ignored by the manufacturer or considered too difficult for production.

Now, Dr. Drela has created a new design aimed at the F3J and thermal duration classes. This is the 3.4 meter Supra which uses molded and vacuum bagged construction, with 1052 in² wing area, giving 6.6 oz/ ft² wing loading. Further details can be obtained from the Yahoo web site http://groups.yahoo.com/group/Allegro-Lite/. In the mean time, here is the plan form, and his initial comments on the design. It is educational to read about his concepts and how he implements them.

Notes on the Supra from Dr. Mark Drela:

I created a new Supra folder in the Files section (of the Alegro Lite Yahoo bulletin board). This has PDF drawings of my new 3.4m Supra TD/F3J ship. Preliminary photos and some videos are at Jeff Newcum's site: www.charlesriverrepictures.org. Click on "DBSF Contest".

The Supra wing is a slight modification of the Aegea wing. The sweep has been eliminated, mainly to reduce the flaps-down launch torsional loads by a factor of 3. This greatly reduces the amount of washout twist during launch, giving a better spanwise load distribution. The wing will still bend mightily, but this has relatively little effect, since the twist is almost nil. The 2.4 oz CF carbon in the wing layup could be replaced with 1.7 oz Kevlar for TD flying, since this is somewhat less violent than F3J.

Tom Kiesling will be flying nearly the same gliders at the F3J World Cup, the main difference being that his ships are stronger and heavier, in order to withstand monster 2-man tows without too much bending.

Besides the unswept planform, I've tried a number of additional new ideas on this ship. Following the SuperGee philosophy, the fuselage pod is minimal, and the wing is on a pylon mount. I think it works, because the glider (Tom's also) is amazingly quiet in a fast flyby. Surely a good sign. I may have overdone it on the pod size – the radio installation was rather difficult. A 5% larger pod would be much more practical.

The Supra's Effective Dihedral Angle (EDA) of 6 degrees is typical on DLGs, but is quite large for this type of glider. The idea was to give it approximately neutral spiral stability at moderate glide speeds. This makes it extremely easy to fly precise thermal circles with little pilot workload. Once a moderate-bank circle was established, and I fed in the usual up-elevator trim, I could take my hands off the TX for almost a minute with the glider holding the circle nicely. Like with a DLG, using mainly the rudder for thermal circle adjustments works very well. It remains to be seen whether the large dihedral impairs landing precision in gusts.

I also tried hard to get the extremities light. I tapered the tip spars in width and used 1.0 oz Kevlar on the tails and wingtips. Seems plenty sturdy on the Hi-load core.

I also have RDS drive (rotating shaft bent at 45 degrees) on all four wing servos. I used large-diameter hypo tubing for the shafts rather than the commercial solid wire shafts. The linkage is amazingly tight -- tighter than is possible with horns and pushrods I think. It also eliminates the need for electrical connectors across the outer wing joint. The drawback is that it's considerably more work than a horn setup, but not too bad I think.

Les Horvath of www.compufoamcore.com generously provided the cores for this glider. They were flawless as usual.

The drawings I posted already have a few modifications which I think are appropriate. Specifically, I've enlarged the rudder area by about 25%, for better yaw damping to reduce ruddering workload in rough thermals. I also made a few simplifications to the wing layup.

One other new thing I tried and forgot to mention is the integral-bagged hinges. This is an adaptation of a hinge technique that Ib Jensen posted on Ezone a while back. The cores have the hinge lines cut, faced, and wrapped with light glass before bagging. The main advantage is that the hinge is incredibly strong, since it no longer relies on the poor peel strength of the skin on the foam. Instead, the skin at the hinge ends up bonded to the light glass wrap after bagging. See the hinges.pdf sheet for details. If you want to try this technique, I suggest practicing on the vertical tail first.

In response to a recent E-mail concerning Tom Kiesling winning 3rd place in the Canada Cup, Mark had this to say:

Yes, Tom flew home-built Supras. His are nearly the same as the one on the web page, except for a few details:

Wing spar is about 1.5x stiffer
Wing skin is about 1.5x stiffer (2.0oz carbon/kevlar hybrid)
Less dihedral (flat center panel)
Built-up rectangular wing joiners instead of carbon rods
Tip planforms are squarish rather than rounded for simplicity
Ballast goes in the wing

I don't think that a molded model is an advantage in F3J. In fact, a bagged model may be better because it can be built lighter. Tom's lighter Supra is under 60 oz I think. Launches faster and lands slower. For F3B it's another story.

Mark Drela.

Editor's Comments on the Supra

The following two pages show the plan form for the Supra, with details of the airfoils, controls, and approximate weight. Don't be confused by the servo linkages. These are the rotating type control rods (RDS). Where else are you going to find a plane with the various flap angles labeled Winch, Crawl, Float, Run, and Brake?

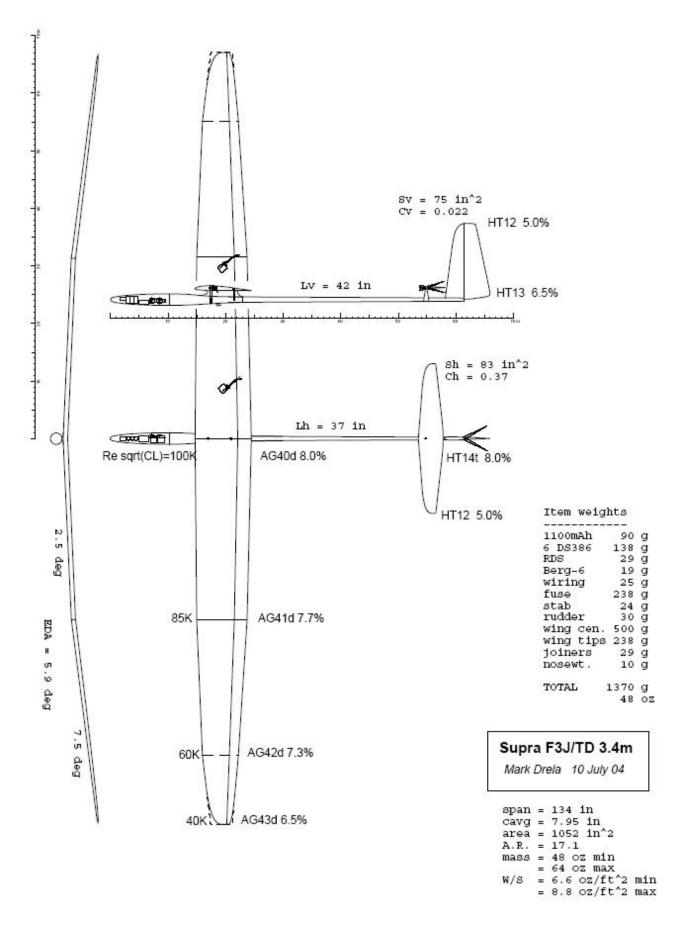
HSS Group on Yahoo

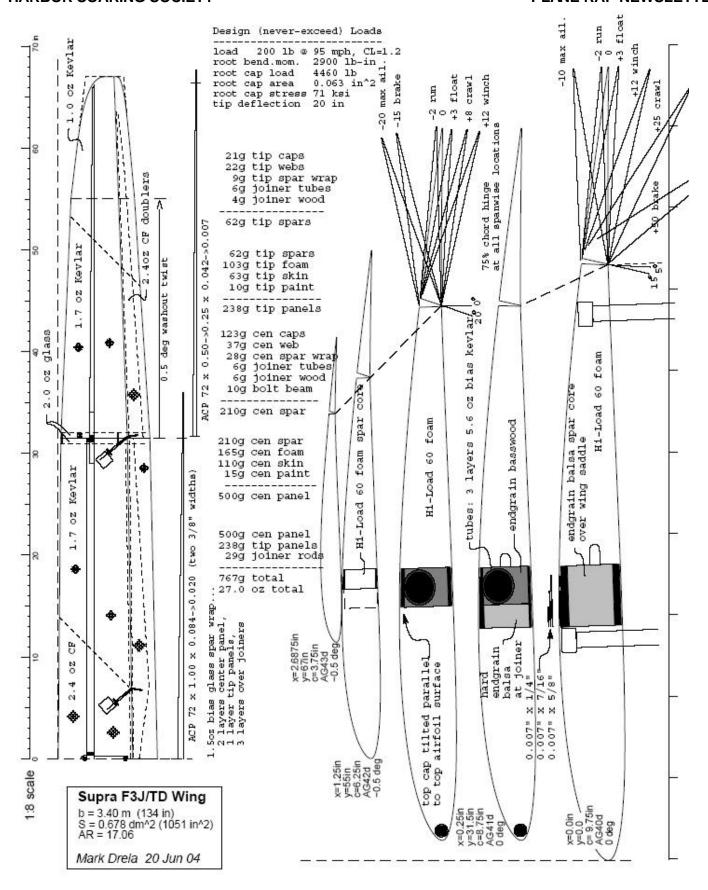
A new E-mail/bulletin board for HSS has been opened, called the CostaMesaSoaring group at Yahoo! Groups, a free, easy-to-use email group service. (This group was moderated by an unknown someone who turned out to be Jeff Gortatowski - Ed).

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 CostaMesaSoaring, you may unsubscribe by sending an email to CostaMesaSoaring-unsubscribe@yahoogroups.com .





Adopt-A-School Program Recent Donations

George Stivers donated a magnificent 94" full house high performance glider that he said he would never use. Watch for this red and white beauty at the field and if you know the model type, let us know what it is. Also an unknown benefactor donated a nearly new battery charger. It is a Hitec CG-325 peak detecting model. Many thanks to everyone.

Used Equipment for Adopt-A-School

Anyone wishing to sell used radio or aircraft that are too valuable to give away should contact Fred Hesse (Adopt-A-School instructor). We have a steady market of young students that would appreciate purchasing used planes and equipment for a reasonable price.

Adopt-A-School Status Report

The Adopt-A-School program has been continuing as before, but due to complaints about excessive wasted space in the newsletter, the status report has been minimized.

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.

Wireless Video Cameras.com is a recent sponsor who has some neat airborne video systems designed specifically for radio controlled planes. Check out their products at www.wirelessvideocameras.com.

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Let's be a "Good Neighbor!!"

Our Neighbor, The Orange County Model Engineers that operate the Railroad Station at the eastern end of the park, is having an event on the third weekend of this month (September 17, 18, 19). Let's be especially courteous and cautious.



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See our web site at www.1hss.org for news, the color issue of Plane Rap, activities, pictures, and more. Now nearly 117,000 visitors.

NEXT MEETING AT IRVINE WATER DISTRICT, TUESDAY, 7 SEPTEMBER, 2004