



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



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

APRIL 2006

VOLUME 43

**NOTICE! THE MONTHLY GENERAL MEETING DAY HAS BEEN CHANGED TO THE FIRST THURSDAY OF EACH MONTH. THE NEXT MEETING WILL BE THURSDAY APRIL 6, 2006 AT THE NEWPORT SEA BASE, 1931 WEST COAST HIGHWAY, NEWPORT BEACH.**

### Plane of the Month

This month we have some beautiful photos of a P-39Q Aerocobra belonging to George Peters. This model is a Top Flight kit that has unfortunately been discontinued. George calls it a "Kenny Special" from whom he acquired the plane. We don't have a last name for Kenny, but he sure did an excellent job with a very scale paint job, panel outlines, and rivets.

George says that it has a 63" wing span, and is powered by an AXI 4220-18 brushless motor running on 6 lithium cells in series. This gives 22 volts and 740 watts input. That's one horsepower! Ready to fly weight is 9 lbs 1 oz which gives 82.2 watts/lb, and a wing loading of 27.6 oz/sq ft. Prop speed with a Master Airscrew 13X8.5 electric propeller is 62.8mph, and flying time is about 12 to 15 minutes.

The plane has a number of extra features which include split flaps, air retracts, and lighted instrument panel. George uses an Airtronics Sirius 8 channel radio and Hitec servos.



APRIL 2006



PAGE 1

**Plane of the Month (Continued)**

Many thanks to staff photographer Rob Askegaard for his beautiful and very realistic photos. Rob has recently converted to digital format which makes his photos easier to publish. However, the quality of his photos remains superb.

**HSS Steering Committee Meeting Minutes For March 2<sup>nd</sup> 2006**

Walt Cloer opened the meeting at 7:00 PM. Walt (President), Tom Burgess (Vice President), Jim Hanson (Treasurer), John Anderson (General Director), Fred Hesse (Secretary), and Karl Hawley (Past President) were present.

The first order of business was to determine who had and who needed keys to the shed. Approximately 12 keys are in circulation. The following have keys:

Walt Cloer	Jim Hanson	Fred Hesse
Ross Thomas	Bruce Schaffer	Tom Copp
Karl Hawley	Phil Caricoff	

All other members who have keys or need keys should let Fred Hesse know.

Next, the budget for 2006 was discussed. The basic operating costs are shown in the table on the next page. Additional purchased items such as a fire extinguisher, first aid kit, and replacement plastic for the kiosk were proposed and approved. Members feel that HSS has not provided adequate trophies for the various events. A line item for trophies is shown, but it is assumed that event entry fees will be sufficient to cover their cost.

Karl felt that \$1,000 should be set aside for safety. Karl will provide details of these expenditures to the council for review and approval.

Karl has established Saturday June 17<sup>th</sup> 2006 as the firm date for the HSS Bent Wing competition.

Jim Hanson will provide Walt with a survey sheet to determine what activities members would like to see in the three electric fun fly events that are to be scheduled.

The meeting was adjourned at 7:30. Respectfully submitted, Fred Hesse, Secretary.



**HSS PLANNED  
EXPENDITURES FOR  
2006**

Item	Description	Quantity	Unit Cost	Total Cost	Comments
1	Newsletter printing costs: 65 copies per month, 12 months	780	\$0.65	\$507	
2	Newsletter mailing costs: 60 copies per month, 12 months	720	\$0.39	\$281	
3	Tri-fold brochures. 200 per order, 3 orders per year.	600	\$0.10	\$60	
4	Event permits, 3 glider, 3 electric. Cost: \$20 AMA, \$25 city (each).	6	\$45	\$270	
5	Trophies: 6 events, approx. 5 classes each, 3 trophies/class (=90 total)	90	\$18	\$1,620	Paid for from event entry charges.
6	Event advertisement. 4 events, 300 flyers per event.	1200	\$0.04	\$48	
7	ABC Fire extinguisher for shed.	1	\$30	\$30	
8	First Aid Kit for shed.	1	\$30	\$30	
9	Lexan sheets for kiosk.	2	\$100	\$200	
10	Roller for runway. \$305/day plus \$100 delivery and pick-up.	1	\$405	\$405	
11	Temporary safety fencing. \$150 first estimate.	1	\$150	\$150	
12	Completion of charging station.	1	\$200	\$200	
13	Annual 1hss web site costs.	1	\$65	\$65	
14	Annual harborsoaring web site costs. Site \$72, name \$15.	1	\$87	\$87	
15	Annual Post Office box rent.	1	\$28	\$28	
16	Annual AMA club charter costs. Charter \$45, insurance \$80, pilot certs. \$20.	1	\$145	\$145	
17	Annual incorporation charges? Maybe none!				
			<b>Total</b>	<b>\$4,126</b>	
		<b>Total less trophies</b>		<b>\$2,506</b>	

Editor's Note: We tend to have about 100 to 120 members join each year. That provides roughly \$2,200 of available funds. Events bring in several hundred each, but as noted above, trophies consume a good part of that income. Two solutions have been proposed. For one time major expenses like rolling the runway, we might try passing the hat among users. The alternative is to raise club dues which requires a majority of membership approval. For reference, read the article below about flying costs at Torrey Pines and the Torrey Pines Gulls facilities in Poway.



**General Meeting Minutes for Thursday March 2<sup>nd</sup> 2006**

Walt Cloer opened the meeting at 7:35 PM. Five officers plus 12 members were in attendance.

Walt acknowledged our new Use Agreement that was approved by the Costa Mesa City Council. Walt and John Anderson will now contact the city so that the document can be signed and become official.

The next important step is to finalize our Flying Field Rules. The major part of the meeting was spent reviewing these rules and incorporating modifications as recommended by the membership that was present. These revised rules will be distributed by E-mail to as many members as possible, and posted on our web sites. All members are urged to read and critique these rules since they become part of the ordinance that the city is preparing.

Jim Hanson will take over the responsibility of inventorying club property. This is needed for our annual IRS submittal.

Walt and George Peters will review the status of the charge station that Tuan Le had constructed.

Editors Note: This was done on Saturday March 4<sup>th</sup>. Walt feels that this really neat charging station can be put on a pair of wheels. He has a good long extension cord which will allow the station to be rolled out to the electric runway pits. This will keep the station from getting vandalized.

Members were concerned about the late delivery of the E-mailed newsletter. Tuan Le had just installed a new computer, and unfortunately had problems with the distribution. Hopefully, this has been rectified.

Berkeley Green outlined a beginning rowing class that is offered at the Newport Sea Base. This is open to anyone, for boys and girls, age 6 to 11 along with their parents. Contact Berkeley at 949-642-5031.

Jim Hanson demonstrated his electric helicopter in the meeting room.

Walt Cloer provided delicious chocolate chip cookies as a great little snack.

The meeting was concluded at 9:00 PM. Respectfully submitted by Fred Hesse, HSS Secretary.

**You Think HSS Charges a Lot?**

When Bill Eckles moved to San Diego, he joined the Torrey Pines Gulls. They assist in the management of three sites. The well known Torrey Pines Glider Port, a large thermal duration area, and a slope site in the vicinity of Poway, just north of San Diego on the 15 freeway. Here is an E-Mail from Bill that describes the cost of having fun in San Diego.

The money here is a bit steep. For calendar years, the club charges \$35 for membership including access to the Poway sites (slope and TD) including management (?) of the Torrey Pines slope. For the calendar year, again, the city of San Diego, through the Torrey Pines Glider Port charges \$150 for use of the slope and its administration. San Diego finalizes the rules, but with the consultation of the TP Gulls. I spoke with the guy at the desk who said that before this action, they had probably 4 times as many fliers. They also had about 6 incidents per WEEK of complaints and damages...planes flying into windshields, crashing onto Black's Beach, etc. The guy describes it as a filter that seems to be working. Next January I get to work my way through the increasingly fine mesh again! He said most of the problems were from losing battery power, flying "one more" on the charge. And this is without any power planes! They do allow guest flights, but I'm not sure of the rates.

Just be glad we don't have a \$150 per year filter. And, have you tried to get a permit to fly at Torrey Pines? It is not easy. We are trying to reduce incidents with more freedom and less cost. Be glad that the City of Costa Mesa is willing to work with us. Appreciate the fact that a pilot's exam is not required. This encourages beginners who are the new life of our sport. Tolerate and assist them whenever you can.





**HSS Aviation Class at the Scout Sea Base**

The agreement for our new meeting facility at the Newport Sea Base involved offering radio controlled model aviation classes to Boy Scouts and the public. Our program follows the Adopt-A-School guidelines suggested by the AMA. These classes began March 1<sup>st</sup>. The first series will conclude March 29<sup>th</sup>, however subsequent classes are planned and the students are invited to our field indefinitely. We have 14 students enrolled. The first several weeks are ground school where model aviation, aerodynamics, radio operation, and safety are introduced. We also have a flight simulator for students to practice on. As part of the activities, the students become AMA members and are then invited to Fairview Park to participate in flying lessons offered by HSS members. HSS has a small collection of electric powered trainers and gliders as part of our Adopt-A-School inventory. We provide the radios and buddy-boxes and one-on-one flight training.

Anyone interested in assisting in the classroom (typically one day a week from 4 to 6:30 PM), or helping with flight instruction at Fairview Park on Saturday mornings (from 9 to 1 PM) is urged to contact Fred Hesse by phone at 714-963-5838, or E-mail at [fhesse@socal.rr.com](mailto:fhesse@socal.rr.com). All equipment is provided. Also, anyone who has used RC aircraft and/or radio equipment that they would like to donate should also contact Fred Hesse.

**Late Breaking News** - On Saturday March 25, five of our students came to the field. Don Hofeldt had a great time instructing with our electric trainers, Karl Hawley taught several students on his winch launched 3 meter Gnome, and Fred Hesse worked with several students using a SULA Bird glider and a high start. The kids got in a lot of flying with this many instructors, and surprisingly all of the trainer planes survived without a scratch.

Also, Curt Nehring donated two beautiful gliders to our Adopt-A-School program. One, a Segeeta (spelling?) with two sets of wings, for RES and also full house flaps and ailerons. The other, a slick 2 meter full house glider of unknown type. Many thanks to Curt, our instructors, and all the club members who support this effort.

**HSS Meeting Agenda for Thursday 6 April 06**

Our executive council and Steering Committee will meet at 7 PM on Thursday 6 April 06. This will be followed by the General Meeting at 7:30 PM. The following are action items that need to be addressed.

**Old Action Items -**

- Prepare our non-profit corporation annual IRS tax submittals. Tuan Le has all inventories. He may need some assistance.
- Status of our 5 year User Agreement.
- John Anderson to check with city about wording on "Additional Insured" application.
- The Activities Committee to determine electric Fun Fly events for our Coming Events Calendar.
- The steering committee needs to plan educational activities to be undertaken, and the public service projects that we should participate in.
- Need a report on Friends of the Park activities. Report to be provided by John Anderson.
- Discuss status of FAA altitude limits and what can be done. Fred Hesse still needs to contact the FAA concerning NOTAMS.

**New Action Items -**

- Discuss next steps to support City of Costa Mesa permit program and field rules.
- Review Intro Pilot Procedures (splinter group?).
- Address the charging station that Tuan Le had assembled.
- Determine who will replace plastic windows on kiosk.
- Who is to purchase a fire extinguisher for the shed.
- Who is to purchase a first aid kit for the shed.
- Discuss what to do for meeting information presentations, entertainment, raffles.
- Discuss moving start time for Steering Committee meeting to 6:30 PM.

Come to the General Meeting and bring your ideas for action items, events, and on how to make Harbor Soaring Society a more exciting club.



**HSS Monthly Competition Results**

The following are the results of the February and March Thermal Duration competitions put on by HSS. Many thanks to Jim Hanson who provides these records.

HSS CONTEST FEB. 2006						
	#	CLASS	NAME	TOTALS	NORM	NORM BY CLASS
	1	3F	JOHN KRUG	3805	996	1000
	2	3F	LARRY JOLLY	3805	996	1000
	3	3f	DAN FINK	3540	927	930
	4	3F	ROSS THOMAS	2715	711	714
	5	3F	JIM SNEED	900	236	237
	6	E	LARRY JOLLY	3820	1000	1000
	7	E	JIM SNEED	3690	966	966
	8	E	JIM TRASI	3685	965	965
	9	E	TOM COPP	3535	925	925
	10	E	DON	3075	805	805

HSS CONTEST MARCH 2006						
	#	CLASS	NAME	TOTALS	NORM	NORM BY CLASS
	1	3F	MIKE MORJOSEPH	3812	983	1000
	2	3F	JOHN KRUG	3221	831	845
	3	3F	ROSS THOMAS	3208	827	842
	4	3F	TUAN LE	3158	814	828
	5	E	BEN CLERX	3878	1000	1000
	6	E	TOM COPP	3830	988	988
	7	E	MARK BROWNING	3720	959	959
	8	E	JOE RODRIGUEZ	3680	949	949
	9	E	TUAN LE	3580	923	923
	10	E	ARTHER MARKIEWICZ	3571	921	921
	11	E	MIKE MORJOSEPH	3258	840	840
	12	S	PAUL NURSE	3328	858	1000

**Southern San Joaquin Soaring Society 8th Annual Bent Wing Contest**

LOCATION: Rosedale Bible Church, 16000 Rosedale Hwy, Bakersfield.

DATE: April 15, 2006 (Saturday)

EVENT: Precision duration thermal contest, for polyhedral sailplanes. RES only.

SANCTION: This is an AMA sanctioned contest. AMA membership is required. Contest Director, Jerry Tonnelli, at (661) 832 - 6048 (evenings). Work: (661) 327 - 4778 or [jobpdi@aol.com](mailto:jobpdi@aol.com)

AWARDS: First Place - \$50.00; Second Place - \$25.00; Third Place - \$15.00 and Fourth Place - \$10.00



**Coming Events For 2006 (Updated with SC-2 schedule)**

Sunday	April 2	Fourth HSS monthly club thermal duration competitions at Fairview Park.
Thursday	April 6	HSS monthly meeting, 7:30 PM, at the Newport Sea Base. Steering Committee at 7:00 PM. Address is 1931 West Coast Highway, Newport Beach.
Fri-Sun	April 14-16	Tentative CVRC Spring Aero Tow. Giant scale gliders, Russell Pond, Visalia CA.
Saturday	April 15	Southern San Jauquin Soaring Society, Bakersfield. RES competition. See ad.
Saturday	April 15?	Tentative Fairview Park Earth Day, 9 AM to Noon. HSS demos and clean-up.
Sunday	April 23	First SC-2 Thermal Duration Competition at SWSA Fish Canyon Field. See announcement at <a href="http://silent-wings.org">http://silent-wings.org</a> .
Thursday	May 4	HSS monthly meeting, 7:30 PM, at the Newport Sea Base. Steering Committee at 7:00 PM. Address is 1931 West Coast Highway, Newport Beach.
Fri-Sun	May 5-7	Mid Winter Electric Fun Fly. Silent Electric Flyers of San Diego. At field by Sea World. Check <a href="http://www.sefsd.org">www.sefsd.org</a> .
Sat-Sun	May 6-7	CVRC Bent Wing Soaring Festival, Russell Pond, Visalia CA.
Sat-Sun	May 6-7	RCX 2006 Radio Control Expo, Anaheim Convention Center. Info: <a href="http://www.rcx.com">www.rcx.com</a>
Sunday	May 7	Fifth (tentative) HSS monthly club TD competitions at Fairview Park.
Sunday	May 21	Second SC-2 Thermal Duration Competition conducted by EDSF at SWSA.
Thursday	June 1	HSS monthly meeting, 7:30 PM, at the Newport Sea Base. Steering Committee at 7:00 PM. Address is 1931 West Coast Highway, Newport Beach.
Sunday	June 4	Sixth HSS monthly club thermal duration competitions at Fairview Park.
Saturday	June 17	Annual HSS Bent Wing Soaring Competition. Fairview Park. Jim Hanson CD, Karl Hawley contest manager.
Sunday	June 25	Third SC-2 Thermal Duration Competition at HSS Fairview Park Costa Mesa.
Sunday	July 2	Seventh HSS monthly club thermal duration competitions at Fairview Park.
Thursday	July 6	HSS monthly meeting, 7:30 PM, at the Newport Sea Base. Steering Committee at 7:00 PM. Address is 1931 West Coast Highway, Newport Beach.
Sunday	July 16	Fourth SC-2 Thermal Duration Competition hosted by Santa Clarita Soaring Association. See SCSA web site for location.
Thursday	August 3	HSS monthly meeting, 7:30 PM, at the Newport Sea Base. Steering Committee at 7:00 PM. Address is 1931 West Coast Highway, Newport Beach.
Sunday	August 6	Eighth HSS monthly club thermal duration competitions at Fairview Park.
Sunday	August 20	Fifth SC-2 Thermal Duration Competition hosted by Thousand Oaks Soaring Society (TOSS). See web site for location.
Sunday	September 3	Ninth HSS monthly club thermal duration competitions at Fairview Park.
Thursday	September 7	HSS monthly meeting, 7:30 PM, at the Newport Sea Base. Steering Committee at 7:00 PM. Address is 1931 West Coast Highway, Newport Beach.
Sunday	September 24	Sixth SC-2 Thermal Duration Competition hosted by Inland Soaring Society (ISS). See web site for location.
Sunday	October 1	Tenth HSS monthly club thermal duration competitions at Fairview Park.
Thursday	October 5	HSS monthly meeting, 7:30 PM, at the Newport Sea Base. Steering Committee at 7:00 PM. Address is 1931 West Coast Highway, Newport Beach.
Sunday	October 22	Seventh SC-2 Thermal Duration Competition hosted by Torrey Pines Gulls. Held at TPG site in Poway.
Thursday	November 2	HSS monthly meeting, 7:30 PM, at the Newport Sea Base. Steering Committee at 7:00 PM. Address is 1931 West Coast Highway, Newport Beach.
Sunday	November 5	Eleventh HSS monthly club thermal duration competitions at Fairview Park.

**New Club T-Shirts**

Karl Hawley has 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.



**April 6th 2006 Meeting Notice - NEW LOCATION AND NEW DAY**

We have obtained a new meeting facility for our monthly HSS general meetings. Our next meeting is the 6th of April 2006 which is the first Thursday of the month, a new day, starting at 7:30 PM. Our new location is the Newport Sea Base at 1931 West Coast Highway, in Newport Beach. We will be meeting upstairs in the "Yacht Room". Berkeley Green, our alternate web master and Program Director at the Sea Base, has made these no cost arrangements for us in exchange for HSS providing model aviation instruction for the Boy Scout Aviation merit badge. This facility is large, new, and magnificent. It is right on the water, and overlooks a number of the sailboats that Berkeley uses for youth instruction. There is a parking lot in front of the building, and an additional public parking lot a short block up from the corner of Coast Highway and Tustin Avenue (City of Newport not City of Tustin). Some metered parking is also available on Coast Highway. This is much closer to our flying field, and is easy to reach from the freeways. We have included a nice large map to assist everyone, but it is easy to find. Take anything to Coast Highway, then go East on Coast Highway several blocks East of Newport Blvd. It is adjacent to the UC Irvine/Orange Coast College sailing facility. Warning, do not park in business lots such as Ardels or Taco Bell. They have observers to prevent improper parking.

**And For a Lighter Side**

Thanks to Herman Hall for sending a number of actual conversations between aircraft pilots and ATC towers!

Tower: "Delta 351, you have traffic at 10 o'clock, 6 miles!"

Delta 351: "Give us another hint! We have digital watches!"

Tower: "TWA 2341, for noise abatement turn right 45 Degrees."

TWA 2341: "Center, we are at 35,000 feet. How much noise can we make up here?"

Tower: "Sir, have you ever heard the noise a 747 makes when it hits a 727?"





**Plane Rap Classified Ads**

Any member with planes or equipment that they wish to sell may advertise for free in this newsletter. Contact Fred Hesse by phone at 714-963-5838, or E-mail at [fhesse@socal.rr.com](mailto:fhesse@socal.rr.com).

**For Sale****RTF XANTIPA F3J CARBON/GLASS MOLDED 130" SAILPLANE/SD7037 AIRFOIL/White**

3-piece wing. Last flown at 2005 Visalia Fall Soaring Festival. Price includes 6 servos, Airtronics Vision with manual, XMTR case, wall charger & quilted V-Tail covers. Can be seen at GYRO Hobbies in Lake Forest. Buy & fly the same day. **\$875 FIRM.**

Also: Hitec Eclipse transmitter with Spectra synthesized frequencies. Includes charger, manual, \$180.

Contact Curt Nehring, work: 714-259-2111, or home 949-389-9900.

**Lithium Battery Technology**

George Peters has provided two especially interesting articles on Lithium battery technology. The first is a set of suggestions on how to prolong your Lithium battery life. This is condensed version of an article featured on the Jersey Coast RC Club internet site at [www.jerseycoastrcclub.com](http://www.jerseycoastrcclub.com). While the emphasis is on Lithium-ion cells for lap top computers, there are some significant points that apply to Lithium Polymer cells. The second article is a users guide to Lithium Polymer batteries, also from the Jersey Coast RC Club.

**How to Prolong Lithium-Based Batteries**

Battery research is focusing heavily on Lithium chemistries, so much so that one could presume that all portable devices will be powered with Lithium-ion batteries in the future. In many ways, Lithium-ion is superior to nickel and lead-based chemistries and the applications for Lithium-ion batteries are growing as a result.

Lithium-ion has not yet fully matured and is being improved continuously. New metal and chemical combinations are being tried every six months to increase energy density and prolong service life. The improvements in longevity after each change will not be known for a few years.

A Lithium-ion battery provides 300-500 discharge/charge cycles. The battery prefers a partial rather than a full discharge. Frequent full discharges should be avoided when possible. Instead, charge the battery more often or use a larger battery. There is no concern of memory when applying unscheduled charges. Although Lithium-ion is memory-free in terms of performance deterioration, batteries with fuel gauges exhibit what engineers refer to as "digital memory". Here is the reason: Short discharges with subsequent recharges do not provide the periodic calibration needed to synchronize the fuel gauge with the battery's state-of-charge. A deliberate full discharge and recharge every 30 charges corrects this problem. Letting the battery run down to the cut-off point in the equipment will do this. If ignored, the fuel gauge will become increasingly less accurate.

Aging of Lithium-ion is an issue that is often ignored. Lithium-based batteries have a lifetime of 2-3 years. The clock starts ticking as soon as the battery comes off the manufacturing line. The speed by which Lithium-ion ages is governed by temperature and state-of-charge. The capacity loss manifests itself as increased internal resistance caused by oxidation. Eventually, the cell resistance will reach a point where the pack can no longer deliver the stored energy, although the battery may still contain ample charge. Increasing internal resistance is common to cobalt-based Lithium-ion, a chemistry that is found in laptops and cell phones. The lower energy dense manganese-based Lithium-ion, also known as spinel, maintains the internal resistance through its life but loses capacity due to chemical decompositions.



## Lithium Polymer Battery Users Guide

**It is very important to remember that Lithium Polymer batteries can be EXTREMELY dangerous if mishandled/abused. Please take a moment to go over the precautions below.**

1 - Always use an approved Li-polymer charger!

2 - **Fire and/or explosion** may occur on improperly charged Li-poly batteries. You must realize that this is always a possibility when using high energy density batteries of this type. Always charge Li-poly packs & cells in a non-flammable container. There are many non-conductive & low cost cooking containers that are perfect for this and readily available. One important thing to remember in choosing a container is to look for one with high walls (4 inches or more). If the container has a lid or top, ensure that it is loose fitting and can easily let gasses escape should the worst happen.

3 - NEVER leave Lithium Polymer batteries on charge unattended! **DO NOT** charge overnight or leave the area when charging. Always remain close by & alert so that you may respond should something go wrong. It is very important to remember that these are not simple NiCad or NiMH cells & have an extremely high energy density. Greater responsibility must go along with the high amount of energy stored in this cell type. You MUST take extra precautions when using Lithium Polymer batteries & chargers.

4 - Always ensure that you have the correct voltage/cell count selected before starting the charging process. Do not get confused with series/parallel packs. For example, a 2s2p pack will contain 4 cells but it is **NOT** charged at the 4-cell voltage level. It is charged at the 2 cell voltage level as it contains only a 2s connection, not a 4s. 2s simply means 2 cells in series. Only use the amount of cells connected in series rating when choosing the correct voltage for charging you packs. This rating is usually stated in 2s, 3s, 4s, etc terms. (1 cell = 3.7v, 2cells=7.4v, 3cells=11.1v, 4cells= 14.8v)

5 - In general you will want to charge your packs at the 1 C (1 x the capacity) current level. For example, a 1200ma pack will be charged at 1200mah or 1.2amps. A 7800ma pack will be charged at 7800ma or 7.8amps. Charging at a higher rate will not significantly shorten the charge time for most Li-polymer packs & cells & over time can shorten cycle life. You will find that most li-poly batteries take between 1-2 hours to fully charge.

6 - Lithium Polymer batteries NEVER become warm/hot during the charging process, if they do become hot or warm to the touch something is wrong & stop charging immediately.

7 - Always dispose of damaged lithium Polymer batteries. Do not take a chance on packs that have become damaged from crashes or that were improperly charged. Fully Discharge packs/cells & secure terminals before disposing of.

8 - Li-poly batteries are not to be discharged under 3volts per cell (6volts for a 2s pack and 9volts for a 3 cell pack) Discharging beyond the 3v per cell level will damage the battery & shorten its life considerably. Use a speed control with a selective voltage cut-off or time your flights and land before over-discharging the battery. There are also several devices on the market that will sound an alarm or light to indicate when it is time to land.

8 - Lithium Polymer batteries do not need to be cycled like Nicad or NiMH batteries.

9 - When storing Lithium Polymer batteries for long periods of time (3months or more), they must be charged to a 50% level before placing in long-term storage. Take the necessary precautions to secure the terminals & leads to prevent possible shorting of the packs & cells while in storage. A vented non-flammable container is always recommended for safely storing lithium polymer packs & cells.



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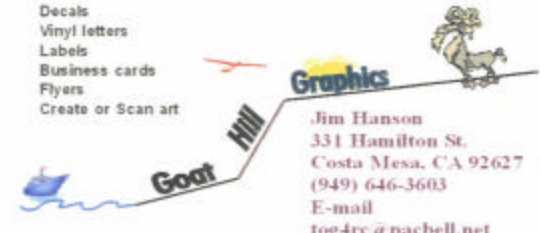
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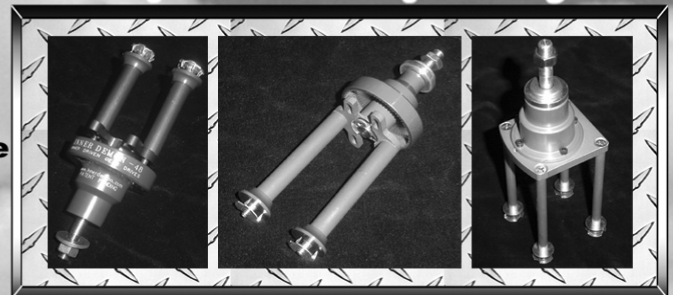
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Balboa at Burbank  
818-995-1162**ORANGE**311 E. Katella Ave.  
Near Glassell St.  
714-288-8170**LAWDALE**16725 Hawthorne  
Hawthorne & 168th  
310-214-0244**FOUNTAIN VALLEY**18475 Pacific Street  
405 Fwy, Euclid exit  
714-964-8846**LAKEWOOD**5449 South Street  
South at Bellflower  
562-804-2515**CAMARILLO**1775 E. Daily Drive, H  
near Carmen Drive  
805-445-1305**SANTA CLARITA**20655 Soledad Can.#41  
Between I-5 & I-14  
661-298-3300**CHINO HILLS**2971 Chino Ave.  
In Rolling Ridge Plaza  
909-364-0167**RIVERSIDE**10128 Indiana Ave.  
Tyler Village Center  
951-785-6773**RANCHO CUCAMONGA**12459 Foothill Blvd.  
Foothill at 15 Fwy.  
909-463-0557**MURRIETA**26755 Jefferson Ave.  
Between Murrieta &  
Winchester  
951-677-5816**REDLANDS**835 Tri City Center Drive  
I-10 at Alabama  
909-307-1185**NEVADA****LAS VEGAS #1**2610 S. Decatur Blvd.  
Decatur at W. Sahara  
702-871-6191**LAS VEGAS #2**5466 Boulder Highway  
At E. Tropicana Ave.  
702-547-2204**LAKE FOREST**23788 Mercury Road  
In Rockfield Showplace  
Corner of Rockfield & Mercury  
(949) 809-1135

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



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

**NEXT CLUB MEETING WILL BE AT OUR NEW LOCATION! 7:30 PM, THURSDAY APRIL 6, 2006 AT THE NEWPORT SEA BASE AT 1931 WEST COAST HIGHWAY, NEWPORT BEACH. SEE MAP ON PAGE 8 OF THIS ISSUE FOR DIRECTIONS AND PARKING INSTRUCTIONS. SEE THE COLOR VERSION SENT BY E-MAIL AND AVAILABLE ON OUR WEB SITES.**