PLANE RAP

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

HARBOR SOARING SOCIETY COSTA MESA

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

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The New HSS Runway Has Arrived!

The City of Costa Mesa has done a magnificent job of grading a large area north of the paved pedestrian path which will be the new takeoff and landing area for gliders and power planes. The photo below shows the work being done. This was started on Thursday August 18th, with grading being finished on the 19th. The area will be compacted shortly, after which members are invited to help rake up rocks and do minor cleanup.

The city graded an area 150' wide by 470' long, parallel to the pedestrian path which gives us a North East to South West runway nicely aligned with the prevailing winds. This provides significantly improved safety since we will no longer be flying across the paved pedestrian path. Bill Eckles and Tom Burgess will be working on a new set of field rules. They would appreciate any inputs from members and park users that would make these rules better for both electric and glider pilots. We have aerial photos in Plane Rap on our web sites.

Since the meeting with the City of Costa Mesa Parks Department in late October of 2004, Bill Eckles has been working with the Parks Department concerning the grading of the brush and mounds north of the pedestrian walkway so that a safer take-off and landing area can be provided to all park users involved with model aviation. Many thanks to Bill who has provided these latest reports.

Site Meeting with City of Costa Mesa 8/4/2005:

Karl Hawley, Bill Eckles and Walt Cloer joined members of the city of Costa Mesa to stake out the area to be graded on August 12, 2005 (Since moved to August 18-19 – Ed.). In attendance from the city were Bill Morris, Bruce Hartley, Bart Mejia and Robert Staples as well as several maintenance personnel who will do the actual grading.

As HSS has requested, an area 150' wide, parallel to the paved footpath and extending from the unpaved footpath on the southwest end to near the bathrooms on the northeast enc was marked by wood stakes. Karl provided plastic discs to mark the four corners of this area. The grading is to take place on August 12, 2005 (time not determined) and Karl, Bill and Walt are invited to attend. Bill Morris expressed his desire that members of the general population who ask questions of the procedures be informed that the city is executing another step in developing the Master Plan for Fairview Park as approved by the City Council. He briefed employees from the city in this response.

As well, Mr. Staples indicate the city was circulating a draft of a document to the appropriate departments within the city affecting HSS. This document effectively gives HSS the authority to manage and monitor the flying field area in all issues involving flying there. It will authorize HSS to establish a set of rules that will be eventually agreed to by the city which HSS can then enforce. It is important that this authority will be backed by the city of Costa Mesa should offenders take issue with the construct or enforcement of the rules.

This is precisely the goal to which we have aspired for the past year and it appears imminent. Thanks to all who have worked so hard to make this possible…we are making progress!

Another Bill Eckles report on the grading, dated 8/4/2005.

Today was good. The grading was "staked out" some 150' past the paved footpath and the entire length from effectively the restrooms to the place where we normally have the launching of the winch...about 470'. Plenty of space and even Karl is "smiling". The big thing, though, is that Robert Staples informed me that the city was drafting and now circulating a proposal to make HSS the administrators (both the design and execution) of a process to control the flyers at the park. They are drafting a document making us the artisans of the policy and enforcers of it...WITH the authorization of the city of Costa Mesa and the park rangers, etc. It sounds great to me! In other words, we'll make the rules and when we try to enforce them and someone says "who are you?" we can say..."The city, who owns the park says we will do this. Questions, let's call the park rangers!"

I sense that I'm going of a bit "half cocked", but the direction is great and we're in a good place to have it be whatever we feel is best. That is a good feeling!

Bill's Thank you note to the City:

Gentlemen:
I am very pleased with the staked definitions that were established this morning. The area is wonderful for the flying guys (Harbor Soaring Society and the remaining, non-member flyers) and will contribute to a safer flying environment. We applaud your actions to improve on an already good flying location. We are also eager to proceed on a permit system and establishment of new, improved rules and regulations.

Thank you again for a very productive morning. We all appreciate the energy you are putting into this project.

Bill Eckles
for the Harbor Soaring Society

Jim Ward happened to have his fabulous camera plane at the field on the first day of grading, and took these great photos of the developing runway.

This following photo begins to show the difference in runway space comparing the old location to the new area. The paved walkway can be seen, and the old location is clearly visible above the walk. The area below the walkway is significantly larger, and the photo does not include the area that extends to the restrooms. This is a very generous space that the city has carved out for us. This photo is also quite valuable for planning what should be set aside for electric aircraft, and where the glider landing area could be. Note that the prevailing wind approximately parallels the paved path, blowing from the south west (lower right corner of photo) towards the north west (upper left hand corner).

It is suggested that the glider winches continue to be placed about where they have always been (in the past 6-8 months). The winch location would be about 100 to 150 feet south west of the end of the new runway. A glider landing zone of about 200' (immediately down wind of the winches) could be reserved for gliders, while the remainder of the runway should comfortably accommodate electric aircraft.

For scale purposes, the width of the runway measured from, the paved walkway is 157'. Park Department supervisors were queried about cutting back brush from the north western side of the runway. They felt that HSS should try this new setup, and if there seemed to be a problem with the brush adjacent to the runway, they would consider further trimming. There is still one unpaved path that can be seen leading away from the south west end of the runway (Slightly to the right of bottom center in the photo). The city should consider closing this path completely, as this path leads directly through the middle of the largest vernal pool and continues out to the bluff.

Many thanks to Jim Ward for these excellent and very recent aerial photos.

Plane Rap Editor Eats Crow (Again!)

The E-mail received from John Rittenhouse, and published in the August Plane Rap is another example of your editor failing to completely research the reports he receives. Apologies to all involved. The problem involved radio interference and subsequent crash of John's new plane. Ross Thomas has provided the other side of the story.

According to Ross and other witnesses, John had simply taken someone else's clip (one with "George" written on it) and had failed to respond when a new pilot, wishing to fly, searched the area for "George on 50". The new pilot new George and did not see him, so assumed the clip had been abandoned. The results were two crashed aircraft. Two mistakes contributed to this unfortunate accident. We should remember to take our frequency clips home with us, rather than leave them where they can be misused. We should not double clip a frequency on the board, as this simply leads to confusion. Keep your clip until the channel is free for use.

Beyond 24 Hour Flight

In the July 2005 issue of Quiet Flyer, Steve Neu reported on a motor glider designed by Alan Cocconi in which he was attempting a 24 hour flight. Steve's article was about a first attempt on April 18 2005, and a second attempt with successful completion on April 21. The quiet Flyer article is quite detailed and has lots of pictures. Since that time, Alan achieved a 48 hour flight, assisted by Steve Neu, ex-HSS member Jerry Bridgeman, and others.

The following is a press release from Alan Coccono's company AC Propulsion.

AC Propulsion SoLong UAV Flies for 48 Hours on Sunlight
Two Nights Aloft Opens New Era of Sustainable Flight

An airplane that never needs to land might sound impossible, but it is closer to reality now that AC Propulsion's SoLong has completed a two-day flight fueled only by energy from the sun. SoLong took off at 4:08 PM, Wednesday, June 1 from the sun-baked runway at Desert Center Airport just east of Eagle Mountain in California's Colorado desert. It remained aloft until Friday when it skidded to a stop at 4:24 PM after 48 hours and 16 minutes in the air. During that time it had fully recharged its batteries during the day and then flown through the night on battery power. Twice. Nothing, save the flagging energy of its pilots on the ground, kept the SoLong from flying for another two days, or ten, or a whole month.

The SoLong is an electric-powered UAV (unmanned aerial vehicle) that collects solar energy from photo-voltaic arrays laminated into its wings. It uses energy so efficiently that it can gather enough energy during the day to keep flying all night. Remaining aloft for two nights is the milestone for sustainable flight. One night is possible just by discharging the batteries, but two or more nights means that the plane has to fully recoup and store the energy used at night while flying in the sunlight the following day. Once that is achieved, the cycle can repeat continually, and keep the plane airborne indefinitely.

"We flew 24 hours in April", said Alan Cocconi, SoLong's creator and chief pilot, "but we split the night in two, flying midnight to midnight. That was a warm up for this flight. It showed us that we were getting enough solar energy during the day but we didn't have quite enough battery to takes us through the night. Just last week I got new Sanyo high-capacity Li Ion cells. That made the difference" Cocconi is founder, Chairman, and Chief Engineer of AC Propulsion, Inc., a San Dimas, CA-based R&D shop that specializes in high-efficiency electric propulsion.

Efficiency is the key to SoLong's success. The power system includes a high efficiency electric motor driven by a patented split-phase power controller developed by AC Propulsion. The controller gives high power for takeoff and maintains high efficiency even at the low power levels used in steady flight. A variable pitch

Beyond 24 Hour Flight (Continued)

propeller allows tuning for maximum propulsion efficiency under varying flight conditions. Solar cells that convert solar energy to electricity with an efficiency of 20% are controlled by proprietary peak power tracking software that makes best use of the photovoltaic energy. Much of that energy goes to charge the Li-ion battery pack that powers the motor and a separate pack for the controls and communications. With a chargedischarge cycle efficiency over 95%, the Li-ion batteries do not squander the bounty from the solar cells, and at 220 Wh/kg, the Sanyo cells pack a lot of energy without much weight. Still, the battery makes up 44% of the aircraft's total weight because the air frame uses efficient structure and composite materials so it is light but still strong enough to withstand 30 mph winds. The 6 servos that move the control surfaces use special electronics that were developed for this mission by AC Propulsion to reduce power consumption and to extend durability. "Every system and part on the SoLong was designed to minimize weight and drag, and maximize efficiency" Cocconi stated.
He continued, "of course that is true of just about every airplane, but with the SoLong the entire mission depends on efficiency. We had to push everything to the limit."

That included the pilots who flew SoLong from the 5 ft x 8 ft trailer that serves as SoLong's ground station. Led by Cocconi, the team of crack radio-control and hang glider pilots took turns monitoring flight conditions from the twenty three channels of telemetry plus GPS navigation and video downlink data available in the ground station. The pilot's job is to find updrafts, avoid downdrafts, and make judicious use of the battery power to maintain altitude and find "good air" that will lift the plane. The energy budget requires riding thermals with the motor off as much as possible during the day. With the motor off, the entire output from the solar wings goes into the battery. The energy margins are so thin, and the weather so dauntingly capricious that the pilot must focus intently, always trying to bank energy, either as battery charge or altitude, that can be drawn upon to get the plane out of trouble when the air turns bad.

After 46 hours, with the critical achievement of two nights flown already in the bag, the air did turn bad. In bright clear skies, SoLong flew into an invisible but huge mass of downrushing air that seemed inescapable no matter which direction she flew. Sinking at 5 meters per second even full power was not sufficient to check the descent, SoLong's altitude reserve diminished rapidly. An abortive early landing seemed a possibility until Cocconi, drawing on 30 years of piloting experience, determination borne of exhaustion, and perhaps some good luck too, found less treacherous air at low altitude. The atmospheric disturbance lasted a total of 20 minutes, and the SoLong was restored on a course of energy equilibrium.

The first mission of any flight is to land the plane safely. This is no less true because the SoLong's pilots remain on the ground. SoLong represents 4 years of work by Alan Cocconi to develop light, strong, and efficient aircraft, control, and propulsion systems. SoLong herself took him the more than a year to build and test. The funding was his own. The consequences of pilot error or system failure would be devastating. But still there is no margin to make the plane stronger than it has to be, or easier to fly, or to add a few extra batteries. The balance points between strength and weight, between stability and drag, between energy and power make a very fine line. On one side of that line are airplanes that cannot fly through the night. On the other side are airplanes that fall from the sky. Many efforts, some extremely well-funded, have tried to find the balance that will keep a solar-powered airplane plane in the air for two consecutive nights. Until today, not one had found it.

By three o'clock with good air and full batteries, the 48th hour became a formality to make a numerical milestone – two full days in the air. The network film crew arrived to record SoLong's historic landing and the jubilation, showing through the fatigue, on the pilots' faces. Steve Bellknap, Jerry Bridgeman, David Fee, "RCDave" Freund, Chuck Grim and Steve Neu had all ably assisted Alan Cocconi in piloting the SoLong over its record setting flight. They had helped accomplish something never done before, and in doing it the first time, they made it easier to do the next time and then again, and again. Now, it is within the realm of reality that airplanes flying sustainably on rays from the sun may become commonplace, may become useful tools in the service of humans and their environment.

Beyond 24 Hour Flight (Continued)

SoLong Specifications

- Wingspan 4.75m
- Wing area 1.50 m2
- Mass 12.6 kg
- Power sources 120 Sanyo 18650 Li-Ion cells
- 76 Sunpower A300 solar cells
- Solar panel nom. power 225 W
- Battery mass 5.50 kg
- Max motor power 800W (Kontronic Tango)
- Min electrical power for level flight 95W
- Stored energy 1200Wh
- Speed range 27 to 50 mph
- Max. climb rate 2.5 m/s
- Control and telemetry range 8,000 m

For further information, please visit: www.acpropulsion.com
The above article was posted on www.skycontrol.net which is an international aviation news magazine available on the web. It features a large variety of articles including those on full scale aircraft, UAV's, and model aircraft.

Member Interest Analysis

You all must wonder what happens with the membership applications, and the information you provide. We will shortly provide a list of the frequencies people use so that when you purchase your next system, you might be able to pick a rarely used channel. This will be posted on the web site. In the mean time, here is an analysis of the types of flying our members are most interested in. Contemplating these results suggests the types of activities, competitions, and services the club should provide its members.

Our paid membership is approximately 115 members. The following are the types of models listed in the survey, and the percentage of pilots that express an interest in that form of model aviation. The percentages are not intended to add up to 100% as most members are interested in a number of model types.

Gliders:			
Thermal Duration Gliders	61%	Slope Soaring	46%
Three Function (RES) Gliders	36%	Large Scale *	16%
Hand Launched Gliders	30%		
Electric Power:			
Motor Gliders	45%	Park Flyers	54%
Aerobatic	33%	Scale	30%
Pylon Racing	10%	Indoor Electric	15%
Helicopters	14%		

* The group "Large Scale" accidentally mixed gliders and electric powered aircraft.

Other indicators may be extracted from the survey, such as the following points:

- Only 15% fly gliders, and 14% fly electrics exclusively.
- 85% of our membership flies electric powered models.
- 86% of our membership flies gliders.
- A total of 14 thermal duration/RES glider competitions are being conducted by HSS this year.
- One Electric Fun Fly was held this year.
- No hand launched glider competition was held for the 30% of interested members.

Minutes of HSS Meeting Held 2 August 2005

Since your secretary was out of town, Bill Eckles graciously provided recording services for the August 2, 2005 club meeting. Here are his notes.

The meeting was called to order at 7:35 by Karl Hawley with two executive committee members, one guest and three "rank and file" members attending. Two subjects were brought to the table

1. The need for a permit for HSS to fly at the Fairview Park facility
2. The desire to establish a licensing procedure to enhance safety at the facility.

No one was sure of the status of the Harbor Soaring Society in their permitted relationship with the city of Costa Mesa. Therefore, Bill Eckles offered to clarify the status through communication with Costa Mesa city personnel (specifically, approaching Bill Morris and Robert Staples). John Anderson volunteered to help with this issue to apply his experience in working with city planners in his previous employment.

Bill Eckles also offered that it was time to either act on creating a new HSS based set of rules for the flying area or to leave the situation as *status quo*. Following some discussion of the topic, Tom Burgess volunteered to work with Bill to draft a first set of rules for further development by the club membership at the next meeting.

John Rittenhouse related his version of a situation where an active club member interfered with his use of a flying channel, even though he had put a pin on the frequency board indicating his use. After more animated discussion, it was agreed that the club should at least reprimand the involved club member and request a formal apology to John.

Bill Eckles announced that the city of Costa Mesa would be at the flying field at 10:00 on August 4 to stake out the area of mounds and brush to be graded to a flying/launch/landing area on the north side of the paved path. Karl and Bill agreed to attend this meeting to assure the area met with HSS desires. This was described as a 100-150' swath paralleling the paved footpath beginning at a continuation of the parking area on Canyon and extending northeast to near the park's restroom facility.

After inspecting Jim Hanson's new slope glider, the meeting adjourned at about 8:30.

Respectfully submitted by Bill Eckles for Fred Hesse, Secretary.

September 6 Meeting Notice

The next meeting will be Tuesday September 6th 2005, at the Irvine Water District. The address is 15600 Sand Canyon Drive. There are exits for Sand Canyon Drive on both the 5 and 405 freeways.

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

Coming Events For 2005

Sunday	August 28	Seventh SCSC thermal duration contest at Thousand Oaks Soaring Society (TOSS), Redwood School, Thousand Oaks, CD Mike Reagan, 805-529-5513
Sunday	September 4	Eighth HSS monthly club thermal duration competitions at Fairview Park.
Tuesday	September 6	HSS monthly meeting, 7:30 PM, at the Irvine Water District offices. Address is 16500 Sand Canyon Avenue, in Irvine.
Sunday	September 25	Eighth SCSC thermal duration contest at ISS, Ben Lewis Sports Complex, 3700 Placentia Ave., Riverside, CA. See www.glideiss.freeservers.com .
Sunday	October 2	Ninth HSS monthly club thermal duration competitions at Fairview Park.
Tuesday	October 4	HSS monthly meeting, 7:30 PM, at the Irvine Water District offices. Address is 16500 Sand Canyon Avenue, in Irvine.
Sunday	October 30	Ninth SCSC thermal duration contest at TPG, San Diego, CA.
Tuesday	November 1	HSS monthly meeting, 7:30 PM, at the Irvine Water District offices. Address is 16500 Sand Canyon Avenue, in Irvine.
Sunday	November 6	Tenth HSS monthly club thermal duration competitions at Fairview Park.
Sunday	November 20	Tentative tenth SCSC thermal duration contest by SULA at (TBS).
Sunday	December 4	Eleventh HSS monthly club thermal duration competitions at Fairview Park.
Sunday	December 11	Flying Aces Squadron 70 World War II Flying Scale at Fairview Park, Costa Mesa, contact Clint Brooks (Contest Director) 310-350-3192.

New Brand of Lithium Polymer Batteries

We have just received information on a new brand of batteries from China. Robert Chang, President of Advanced Battery Factory (ABF) provided the following.

Advanced Battery Factory(Sino-America Joint Venture)
Address: JinXiu JiangNan, ShenZhen, Guang Dong Province, China.
Phone: (86)-133-5290-6882, (86)-755-2806-9247
FAX: 86-755-2806-9219
Website: www.splendidbattery.com
e-mail: allbattery@21cn.net

While Mr. Chang is sending out feelers for distributors, the following table shows the cell types they are offering. The claim is that these will discharge at 20 C. The prices seem pretty good. They also offer a large combination of battery packs made up of these cells. Check the web site.

Li-po battery	Battery Type	Weight	FOB China	Thick	Width	Length
3.7V/100mAh(401528)	Single cell 401528	2.9g	US$3.70/Pc.	4mm	15mm	28mm
3.7V/300mAh(552036)	Single cell 552036	6.3g	US$4.60/Pc.	5.5mm	20mm	36mm
3.7V/500mAh(403450)	Single cell (403450)	20g	US$4.80/Pc.	4mm	34mm	50mm
3.7V/1100mAh(803450)	Single cell 803450	32g	US$6.50/Pc.	8mm	34mm	50mm
3.7V/1500mAh(803562)	Single cell 853562	40g	US$7.30/Pc.	8mm	35mm	62mm
3.7V/1800mAh(804260)	Single cell 804260	45g	US$7.90/Pc.	8mm	42mm	60mm
3.7V/2000mAh(904260)	Single cell 904260	48g	US$8.00/Pc.	9mm	42mm	60mm
3.7V/2200mAh(904265)	Single cell 904265	50g	US$9.00/Pc.	9mm	42mm	65mm
3.7V/2500mAh(655085)	Single cell 655085	55g	US$9.50/Pc.	6.5mm	50mm	85mm
3.7V/3000mAh(5038125)	Single cell 5038125	60g	US$12.80/Pc.	5mm	38mm	125mm
3.7V/3300mAh(6038125)	Single cell 6038125	65g	US$13.80/Pc.	6mm	38mm	125mm
3.7V/3600mAh(9038125)	Single cell 9038125	70g	US$15.80/Pc.	9mm	38mm	125mm

August Competition Results

#	CLASS	NAME	TOTALS	NORM	NORM BY CLASS
1	E	MARK TAYLOR	3748	1000	1000
2	E	EDGER VERA	3678	981	981
3	E	JIM SNEED	3272	873	873
4	E	MARK BROWNING	3131	835	835
5	E	TOM COPP	2926	781	781
6	E	EBER GRAHAM	2906	775	775
7	E	TOM WATSON	2794	745	745
8	E	DAN FINK	2446	653	653
9	E	JOE RODRIGUEZ	0	0	0
10	E	BEN CLERX	0	0	0
11	E	TOM VINCENT	0	0	0
12	I	ANDY THONET	3230	862	1000
13	I	MIKE MORJOSEPH	2292	612	710
14	I	TAK TAKAYAMA	0	0	0
15	RES	MIKE MORJOSEPH	3659	976	1000
16	RES	ROSS THOMAS	2367	632	647
17	RES	ERV SZEGO	1658	442	453

HSS Club Competitions

HSS Year to Date Contest

EXPERT	Jan	Feb	Mar	Apr	May	Jun	Jul*	Aug	Sep	Oct	Nov	Dec	TOTALS
Tom Vincent	902		958			928							2788
Tom Copp	1000		450			935							2385
Mark Taylor			1000										1000
Jim Sneed			930										930
Ben Clerx						998							998
SPORTSMAN													
Tuan Le			1000										1000
RES													
John Krug	1000	986	1000		992	1000							4978
Ross Thomas	991	1000	992		804	785							4572
Karl Hawley		800	248		1000	592							2640
Jeff Donoho			915		940	611							2466
Chris Adamczyk		956	357										1313
Tuan Le					984								984
Erv Szego					630								630

Latest on El Toro

As of August 12, the El Toro flying field lease has been extended to the end of the year. After that point, the lease will not be renewed. In addition, the following new rules are now in effect.

- No organized events of any type.
- No turbines. This includes fixed wing and helicopter.
- No aircraft shall be over 40 pounds dry.

New Hobby Shop

The El Dorado Silent Flyer's newsletter (Winch Line) featured an article about a new hobby shop that is not too far away. The following was copied without permission.

Just RC – (By Tom Shinsato, Editor of Winch Line)
If you haven't already visited, drop by and say "Hello" to John Miller and Jim Mitchell, owners of their new store, Just RC, which opened in mid July. They're located at 855 E. Willow Street in Signal Hill between Long Beach Blvd and Orange Ave, just a few blocks south of the 405 Fwy. Their hours are Mon thru Sat 10:30 am to 8:00 pm, Sun 10:30 am to 2:30 pm. Ample parking is available at the rear of the store.

From The AMA Web Site - (More Flight School)

The Academy of Model Aeronautics offers a variety of articles that deserve sharing. In this case we have an article on soaring technique, from the Sacramento Soaring Society, Novato CA

Find that Thermal and Stay With It by Ed Granger

A thermal is basically rising air. To take advantage of this knowledge, you first need to have an airplane that flies reasonably well "hands off."

Good thermal recognition requires you to detect the slightest rise or fall in your Sailplane. Many thermals are missed because pilots go too heavy on the stick in search of a thermal. Airplanes with a tendency to fly in a shallow left or right bank also make thermal recognition more difficult.

I'm not talking about the ability to find a boomer thermal—anyone can find the boomers. I am talking about the ability to catch the slightest whiff of one. This can be the difference between first and third place in competition.

Thermals are easier to work with if you work them upwind. I have seen airplanes do several things when they encounter a thermal but will only mention a few of the important ones. A big thermal needs no explanation. Even if you're a new pilot, believe me, you'll know when you're in one.

- Watch the horizontal stabilizer. It rises when encountering a thermal, more so than the wing, and especially in weak or edge thermals.
- Watch the wing tips. They often will bobble. The airplane goes through a series of rapid, but small, left and right roll gyrations.
- Watch for an unexplained turn. Often a thermal will seem to pull an aircraft toward it. This is further evidence of the rotating nature of a thermal.

So when do you launch?
Don't launch when the wind is picking up. You probably just missed a thermal. Wait until the wind subsides a little and let the airplane go.

Be observant to subtle changes in air temperature. Sometimes, you'll notice a puff of cool air. This is thermal wind. When or if you feel a cool puff, launch the airplane. Be patient. I have a tendency to release my airplane as soon as possible, especially when using a hi-start. If you can, wait a minute, it can really pay off.

Look down field. If you're lucky, your field has trees at the far end. Optimally, a thermal will generate upwind of you (those that generate downwind are useless). The trees often will swirl. Straight-line wind is one thing, but when the trees swirl or move haphazardly, they are probably in the midst of a thermal. If that's the case, launch your airplane.

Recognition, entry, and establishment should take about 30 seconds to one minute depending on thermal strength.

Find that Thermal and Stay With It (Continued)

Entry
Entering a thermal is a multistage event. The early stages must be smooth and controlled. Once you establish the strength of the thermal, you can begin to work it.

This maneuver will look like a figure eight. You will also make efficient use of time and energy. Your first entry into a thermal should be smooth with the wings banked no more than 30°.

Here's what you do. Turn left and begin a nice large arc. If the airplane does not climb, one of two things has occurred: You missed it entirely or it's on the other side. Continue your turn, straighten it out after 270 degrees and begin a right turn.

The 270 degrees is important. If you complete the turn and then initiate the right turn, the thermal has probably blown past your airplane and is now behind it. This basic pattern is based on a wind of roughly 7-12 mph.

Escape
Sometimes, no matter how hard you try, you will have to escape a thermal. Don't panic and don't sweat it. Some veteran pilots feel that escaping from a dead thermal is more important than finding one.

Here's what you do. Decide when to get out. This is subjective. I've seen thermal recovery from as little as 20 feet off the ground. Turn the airplane into the wind and fly hands off, as though you were starting from the launch release. I determine a thermal is dead when I cannot gain altitude and have been losing it steadily for 30 seconds. Your mileage may vary.

There is no substitute for practice. Most Sailplane pilots require two to four seasons before they master these techniques. Don't get discouraged. I jokingly called this sport "The Hiking and Sailing Club." You do a lot of walking.

Stuff For Sale

Anyone with planes or equipment that they wish to sell may advertise for free in this newsletter. Contact Fred Hesse by phone or E-mail as shown on the last page of this newsletter. Larry Enger has the following items for sale. His E-mail and phone are shown below.

GWS fan system new in box with two new 10 cell 1100 NiMH battery packs. $50 is less than half price.

Flying Witch, "Witch Wilma" new in box. Her cape serves as the wing, radio and power mounted on her broomstick. Designed for .40 gas, I intended to use electric. $80 for this unique kit.

Slope Zagi, complete kit, $25 obo.

Electric Zagi, complete kit includes motor, speed control, and 8 cell 500 mah nicad battery pack. $80.00

Free Plans
1. Hunter Mk-5, scale British fighter, designed for a .61 gas engine, I got them to make a power scale slope glider. I also have the Profile Publication showing all of the colors and variations. That will cost you what I paid, $7.00.
2. C130 Hercules, 84" wingspan, again, visions of a slope glider.
3. Tupoleo TU-95 Bear, Russian bomber, 84" span.
4. B-25 Mitchell, 50" span Sanders plan for a slope glider but built up construction offers electric opportunities.
5. Pilot Citabria, 50" scale, built up construction, would make a very nice electric.
6. Hustler XD-7, 42" Delta wing from the Midwest kit, I even brought retract gear for the electric version I intended to make.

Contact Larry Enger at 951-245-2521 ljbenger@comcast.net

Additional Stuff For Sale

1Meter R/C Sailboat (sloop) with servos and radio. Designed and made by Swede Johnson. Competitive. Extra set of sails. Extra, faster balast/centerboard. Includes stand. The radio is an old Futaba AM and the boat has only two servos, a large main/jib combined and the rudder. Asking $300 OBO.

Bill had this to say about the designer: "The thing about Swede is that he's (at least was) the Mark Drela of model sailboats, both design wise and skill level."

Contact Bill Eckles at 949-725-0050 tunabiker@cox.net

Futaba 9ZAP. This is a Futaba 9ZAP (9 channel) Radio and SYNTHESIZER MODULE. Includes wall charger, transmitter battery, aluminum case and manual. Asking $450 OBO.

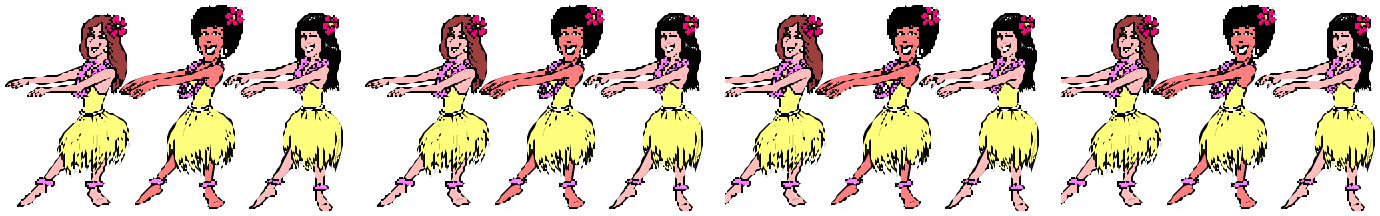
Futaba 8UAPs-PCM. This is a Futaba Super 8 channel Radio and channel xx module. Includes wall charger, transmitter battery, aluminum case and manual. Asking $150 OBO.

Futaba 9CAP-PCM. This is a Futaba 9CAP 9 channel Radio and channel xx module. Includes wall charger, transmitter battery, aluminum case and manual. Asking $250 OBO.

Contact Mike Gaczkowski at 949-632-1747 mgaczkowski@cox.net.

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.



HSS ROCK PARTY!

ACTUALLY, A ROCK RAKING PARTY FOR OUR NEW RUNWAY

SATURDAY SEPTEMBER 3, 2005

5:30 AM - 9:00 AM

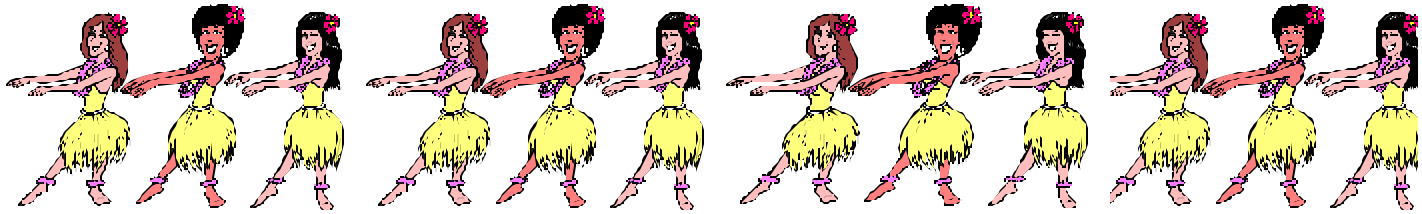
BRING TOOLS: RAKES, WHEELBARROWS, SHOVELS,

ETC.

NO FLYING UNTIL 9:00 AM

PARTY PLANNED BY WALT CLOER

HE PROMISES DANCING GIRLS FOR ENTERTAINMENT



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

NEXT CLUB MEETING AT IRVINE WATER DISTRICT, TUESDAY, 6 SEPTEMBER 2005. THIS PRINTED ISSUE IS LIMITED TO 12 PAGES TO REDUCE MAILING COSTS. VISIT OUR WEB SITES TO SEE THE EXPANDED VERSION OF THIS NEWSLETTER.

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