

**Newsletter  
of the  
Harbor Soaring Society**

**April, 1994  
VOL. 31 NO. 4**



**H.S.S. BOARD MEMBERS**

President: Steven Fink	(714) 645-0459
Vice President: Sean Monahan	(714) 631-0719
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Treasurer: Del Marcussen	(714) 730-7998
Contest Coord: Mike Aguirre	(714) 645-6419
General Dir: Andy Sanders	(714) 751-9235
Ross Thomas	(714) 638-0705
Newsletter Ed: Pete Young	(714) 892-3473

**NEWSLETTER SUBMISSIONS**

The Harbor Soaring Society newsletter is published monthly. Editorial comments and articles are welcomed. Please provide all material for consideration by the 15th. of the month prior to publication. Wordprocessed material is appreciated (any major IBM compatible disk format and program). Handwritten material must be clear and legible. The editor reserves the right to edit all material. Submissions should be made to Pete Young in person or by mail to: 6592 Belgrave Ave., Garden Grove, CA 92645.

**MEETING LOCATION**

The Hobby Shack Retail Store is located on Bandilier Circle, Fountain Valley, on Ellis and between Brookhurst and Euclid. The meeting will be held in the conference room at the rear of the store.

**PRESIDENT'S MESSAGE**

by Steven Fink

Thanks to John Lupperger for securing a new meeting room for HSS! Next month we will be meeting at the Hobby Shack store on Bandilier Circle in Fountain Valley, so we'll see you all there.

The 1994 SC2 competition season is open now with the first contest at Inland Soaring Society, UC Riverside campus, March 27. HSS has done well the last few years and consistently takes club honors as well as individual trophies. Come one and all to these events. There's nothing quite like a full day of flying and camaraderie with RC soaring pilots.

It is with regret that I mention the passing of Jim White. Jim was an HSS member from way, way back. At retirement some years ago, he and wife Jane moved to Sequim, Washington. Jim continued to stay in touch, occasionally came into town to fly with us, and produced some of the best winch chutes around. Jane is continuing that endeavor and sent a recent note saying she could use as much business as possible. Please see the order form elsewhere in Plane Rap. Jim was a fine man, good  
(continued, page 2)

PRESIDENT'S MESSAGE, cont.  
pilot, and strong competitor.  
He will be missed.

"Lake Estancia" is with us again. The recent rains have saturated our field with mud and standing water. This creates several problems:

1) There is danger of slipping while walking the field. Please be extra careful.

2) Winches are bunched tighter together in the launch area to avoid the wet areas on the field.

3) The winch lines ~~rest~~ over the walking path towards the slopes.

Please use caution when launching to avoid fellow pilots, strolling pedestrians, and other sailplanes in the air. Safety is our first concern!

That's it for now - see you in lift!

#### HSS MARCH MONTHLY MEETING

- The March meeting was called to order by Steve Fink. The April meeting will be held in Hobby Shack's retail store on Bandilier Circle. Thanks to John Lupperger for arranging these meeting locations.

- The Minutes and Treasurer's reports were accepted as read.

- Contest Coordinator Mike Aguirre announced upcoming events - see the calendar.

#### OLD BUSINESS:

- The HSS Electric Contest has been rescheduled for Labor Day Weekend (Sept 3 and 4). John Lupperger will contact potential sponsors.

- The new club winch, which had been down for repair, is back in action, working

perfectly.

#### NEW BUSINESS:

- February's RC Soaring Digest announced that Prof Michael Selig is planning a new airfoil testing program and is looking for funding and help in building airfoil test sections.

- Ideas were presented for making contests run more smoothly, including running each round in a precise time block, allowing for more of a man-on-man competition.

- John Lupperger volunteered to run a trial electric contest.

- A suggestion was made to provide a warning device at the winch turnaround. It was agreed that common sense and courtesy should rule on the field.

- Steve brought up a story in the LA Times highlighting the ongoing feud between the AMA and the SFA (Sport Fliers Association) and offered to write a letter representing the club in support of the AMA and its programs and its policies. Will Conrad suggested getting widespread club support. Motion passed for Steve Fink to write rebuttal letter.

- Guest speaker Al Heinrich brought in free flight models with some designs dating back 60 years. He prefers the challenge of hands off, no correction flight. He also kits planes through his company, Aerodyne. He carries modeling supplies and is looking to pick up an R/C glider kit company. He displayed some truly beautiful models.

Erik Marcussen, Secretary

FYI

... new planes seen at the field: Ross Thomas' Shadow 2M, Steve Fink's Agnew Banshee ... congrats to Tom Vincent for moving up to Expert in HSS standings... new thermal machines on the market for 1994: Dodgson's 100" V-gilante, Airtronics' Legend SE and Peregrine ... HSSers in the news: George Siposs with several articles in recent R/C Soaring Digests ... check out Hydrimax nickel metal hydride batteries, advertised in Tower Hobbies spring catalog, twice the capacity of nickel-cadmium batteries, rechargeable with normal chargers, may be the solution for power-hungry transmitters ... Bob Sliff and the F5B electric team are developing new technologies for the upcoming World Championships, look for exciting performance breakthroughs...

## TECHNOLOGY UPDATE

Editor's note - here's some mail received recently...

Dear Pete,

It was good to hear from you again and in response to your inquiry, I can provide limited status on my Department's research and development of micro-electro-mechanical subsystems (MEMS). The broad program objectives outlined in recent publications are essentially correct, at least for the unclassified portions. MIT is one of eight university research centers developing miniaturized electrical and

mechanical devices for Department of Defense weapons systems applications. References to "microscopic" high speed motors and actuators are correct and the proposed DoD weapons applications should revolutionize our nation's deterrence capabilities and, should deterrence fail, allow the United States to terminate conflict on terms favorable to our national security objectives.

In my Department, the emphasis is to develop MEMS technology for aeronautical applications. MEMS has stimulated exciting synergisms between high speed computational fluid dynamics, aerodynamics, and composite materials. We are collaborating with the Advanced Research Project Agency and with the Flight Dynamics Laboratory at Wright-Patterson AFB to develop Unmanned Aeronautical Vehicles (UAVs) that have already established exciting performance breakthroughs. I can divulge unclassified details of two of our preliminary R&D developments only - more details are heavily shrouded in closely held security compartments.

Our research has succeeded in developing optimally adaptive wing structures which incorporate several hundred MEMS sensors and actuators in composite wing structures. The technology goal is to develop wing structures and on-board computing algorithms to tailor airfoil contours in-flight for best performance over wide

(continued, page 4)

TECHNOLOGY UPDATE, cont.  
ranges of flight conditions.  
In a nutshell, the airfoils  
precisely recontour themselves  
to provide minimum skin  
friction drag with tailored  
lift coefficients, very  
similar to the hydrodynamic  
characteristics of a dolphin's  
skin. Two-dimensional airfoil  
shaping research and testing  
is complete, and work is  
underway to develop three  
dimensional shaping algorithms  
to compensate for discrete  
discontinuities caused by  
weapons pods and engine  
nacelles.

We have applied MEMS  
technology to develop  
revolutionary wing structures  
for low Reynolds Number  
applications. As you are  
aware, the military's  
demanding UAV requirements  
have caused us to challenge  
theoretical limits of  
conventional wing technologies  
which are merely refinements  
of aeronautical research  
developed almost 100 years ago  
by the Wright brothers,  
Lilienthal, and others. MEMS  
has provided true technology  
breakthroughs by developing  
multiple segmented,  
independently actuated,  
laminar flow devices for  
optimum flight performance. No  
longer restricted to the  
inherent constraints of  
"rigid" wings, "static"  
airfoils, and "fixed" wing  
layouts, the next generation  
of UAVs will bear scant  
resemblance to the primitive  
aeronautical designs seen to  
date. Rather than conventional  
"spar and rib" construction,  
MEMS has developed structures  
closely resembling "feathers"  
with wide ranges of three-

dimensional motion for laminar  
flow control. In a  
coincidental affirmation of  
Darwinian evolution, intensive  
analyses and testing have  
finalized optimum wing  
structures closely resembling  
the complex wings of nature's  
true "high performance" flying  
machines - the California  
condor and the Oregon spotted  
owl. I am not permitted to  
divulge more information at  
this time but the implications  
are obviously profound and  
exciting. I will provide more  
details at an appropriate  
time. Best wishes to the  
Harbor Soaring Society.

(signed)  
Dr. Loof Lirpa, PhD  
Department of Aeronautics and  
Astronautics  
Massachusetts Institute of  
Technology

Editor's note: This is  
exciting news indeed! It  
appears that MEMS technology  
will redefine the limits of  
"mini" and "micro" radio  
control systems! Stay tuned!

#### HSS APRIL MONTHLY

DATE: April 10  
CD: Andy Sanders  
FORMAT: 3 rounds precision  
duration; 1st round, 3"  
(900/100); 2nd and 3rd rounds,  
4" (800/200) or 8" (900/100),  
pilot's choice; 25' runway.  
EVENTS: 2M, Open, Classics.  
Classics to fly first, 2M and  
open to fly concurrently.  
PILOTS' MEETING: 8:45AM

WHAT A DAY - F3J!  
by Mike Aguirre

What do you get with a cancelled club contest, 13 pilots, and some monofilament line? An F3J contest! Yes, with the weather looking marginal, CD Roger Lackey called off the monthly contest, which put into play an impromptu F3J contest for those who showed up and wished to give it a try. Ben Clerx and Roger each had a hand winch and with Manny Tau connecting with Dan Wilson (EDSF) on GliderNet, Dan showed up with a third hand winch to make a perfect setup for the day.

Flying was set for three rounds of man-on-man flying seven minute maxes instead of the ten minutes used in FAI rules. An out of pocket draw was used to set the fliers for each round; scoring was set with the winner of each round getting 1 point, 2nd getting 2 points, and 3rd receiving 3 points. After three rounds, the fliers with the lowest scores flew off for the first three places.

Past club member Keith McClellan (Las Vegas Soaring Club) happened to be in town and also joined in the action. Several rounds went to 7 minutes and some sink rounds were also encountered, but the fliers had a great time. Although fun fliers were also flying, using the new club electric winch, frequency problems were nil!

Plenty of cheering was in order for the runners with colorful nicknames showing up towards the end. It was great to see everyone giving it a

shot with plenty of help in the running department from all. It took little more than three hours for 3 rounds with no less than 4 heats per round, and we only flew 1 heat at a time.

The finale was set between Ben Clerx, Jim Parsons, and Jerry Bridgeman with Jerry taking first, Jim second, and Ben placing third. This final round was tough with second and third place finishers not making their times!

Everyone had a great time and we have interest sparked for more in the future, so be prepared - F3J is back!

1st Jerry Bridgeman  
2nd Jim Parsons  
3rd Ben Clerx  
4th Manny Tau  
5th Keith McClellan, Bob Sliff, Mike Aguirre  
6th Dan Wilson  
7th Tom Vincent, Roger Lackey  
8th Nick Buzolich, Norm Kutch, Ross Thomas

WANTED: VOLUNTEERS TO KEEP AND  
MAINTAIN THE CLUB WINCH, RETRIEVER,  
AND BATTERIES FOR WEDNESDAY  
FUN-FLYING AT THE FIELD. PLEASE  
CONTACT STEVE FINK.

## CLASSICS UPDATE

by Pete Young

With HSS' March Monthly washed out by seasonal rains, here is an update on HSS' Classics event. The rules are straightforward: designs are restricted to rudder and elevator control, spoilers optional, no wingspan limitations; flaps and ailerons are not allowed.

In late January, HSS sent out requests for support from the hobby industry, and response has been positive and overwhelming. To date, we have received merchandise, vouchers, and other items from Airtronics, Futaba, Satellite City, Sig, Hobby Lobby, Ace R/C, Pierce Aero, Buzz Waltz, and Omni Models. We are planning to dispense these items at future club meetings and at the Monthlies, so plan

on attending - there's plenty to go around!

Several respondents took the time to write short personal notes encouraging the HSS to continue the Classics' event. The general consensus is that R/C soaring should develop both ends of the user spectrum - high-tech for performance and technology, and a Classics-type format for continuing growth and affordability. There's room for both, and R/C soaring benefits as a result.

As more Classics contests are completed, statistical trends should develop. To date, Bob Sliff won in January with a 3M Gnome and Steve Fink topped the February field with a SULA-Bird. Several new aircraft are being built for Classics competition, and that's an encouraging trend.

## UPCOMING EVENTS CALENDAR

Apr 9	EDSF Open Monthly
Apr 10	HSS Monthly
<del>Apr 10</del> July 10	TOSS Two-Meter "Top Gun", Thousand Oaks
Apr 17	SULA Monthly
Apr 23-24	1st Annual DUST Scale Soaring Fiesta, Palm Springs
Apr 24	SC2/TOSS, Thousand Oaks
Apr 30-1May	Pasadena Rose Bowl/PSS (Unlimited/2M)
May 21-22	North/South Challenge, Visalia
May 28-June 5	World Soaring Jamboree, Washington State
May 29	SC2/North Country Clouds, San Marcos

future SC2: June/TPG, July/HSS, Aug/SWSA, Sept/EDSF, Oct/PSS, Nov/SULA

For more information, call Mike Aguirre at (714) 645-6419

## FOR SALE

- Harbor Soaring Society hats, shirts, and vinyl patches - contact Andy Sanders at (714) 751-9235.

- Top Flite Phasoar, cobalt 035, 4 ch Futaba, micro-servos, reduced to \$150. Michael Morjoseph, (714) 960-2835.

- P-51 Penetrator high performance slope ship, NIB, \$65. Kyosho scale Zero, ARF electric with 05 motor, battery, props, etc, still in box, \$130. Pat Stoker, (310) 598-9020.

- "Tango 3," modified straight wing Falcon 880, SD3021 airfoil, 4 wing servos mounted in Ziegelmeier servo mounts; flaps and ailerons use aluminum tubing full length Ziegelmeier gapless hinges. Rudder and elevator servos are Airtronic 102 servos in a glassed-in tray. Rudder is tube hinged, not taped. Fuse recently refinished with automotive lacquer, highly visible at altitude. Includes battery pack and switch harness. Includes custom carrying box and spare stabs, ~~\$575~~ <sup>\$600</sup> firm. Steve Fink @ (h) 714 645-0459, (w) 714 261-2825, ext 229

- Handlaunch/slope Vertigo, T-tail, complete with all servos, RX, and Airtronics 6 channel Vanguard radio, reduced to \$150. Goblin slope kit, NIB, reduced to \$40. Falcon 550E, Astro FAI cobalt, 2 1000 mah motor packs, 3 micro servos, AC/DC charger, \$275. 2 Meter DCU Windstar, 6 servos, fast and responsive, \$250. John Ostrowski @ (714) 847-4871.

- LJMP Meteor, NIB, glass fuse, 120" span, \$140.

Airtronics Legend, NIB, \$180. Ridge Rat, glass fuse, RTF, \$75. Midwest Silent Squire, foam wing, NIB, \$30. Aquila Grande NIB, \$125. Call Dave Nemecek at (714) 775-7196.

- 2M Whisper, RTF less radio, \$125. 2M Gnome, 4 channel Airtronics PCM, RTF, \$225. Bill Duncan, (714) 892-8665.

- Sealy Laser: S-3021 airfoil, glass fuse, balsa/foam wing, 124" span, slip-on nosecone, kit NIB, \$140. Call Mike Aguirre at (714) 645-6419

- Airtronics Vanguard TX & RX (CH 28), make offer. Curt Nehring @ (909) 592-2105.

- Uplifter 2M glider (prototype), R/E, \$60. 2M Gnome-electric for direct drive, \$100. Astro Challenger, \$30 bare, \$100 with Astro 05 geared motor and prop. 2M Gnome with two wings (poly and flat), \$100. Sensoar 2M glider, \$40. Sensoar electric, \$40. Slope Squire (electric or slope), \$40. Das Slupen Thing glider, \$25. 3 Electric Playboy fuselages (no wings included), \$50. Bob Sliff (714) 893-8311

- Glass bagged V-tail stabs ready for installation for Thermal Eagle, Falcon, Shadow, Mako, or Legend. Shadows, Falcons, and Makos fly with no nose weight required. Thermal Eagles fly with less than 1 oz, Legends fly with less than 2. Total weight reduction on above planes is 10 to 12 oz! Installation takes about one hour. Handling qualities are equal to or better than stock configuration. Price \$35. Fred Sage, 17232 Cuvee Ct, Poway 92064-1214, (619) 485-6239

# 1ST ANNUAL

# D.U.S.T.

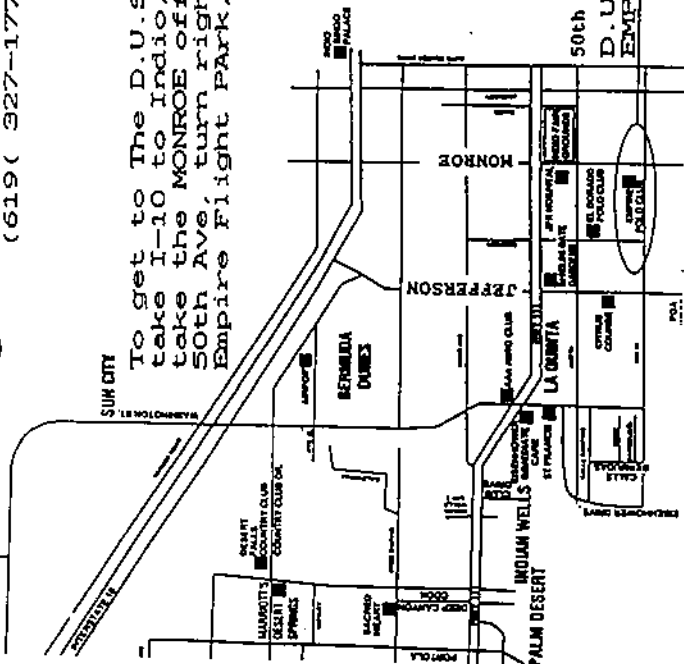
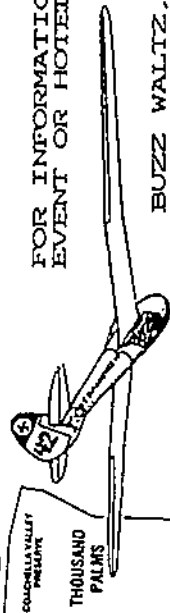
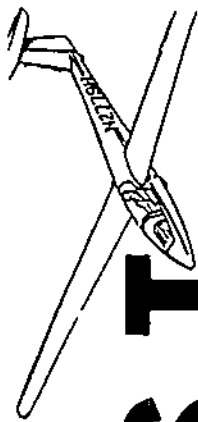
## SCALE SOARING FIESTA

## APRIL 23RD & 24TH

THE SOARING EVENT OF 1994!

FOR INFORMATION ON OUR 2 DAY  
EVENT OR HOTELS NEAR BY CONTACT:

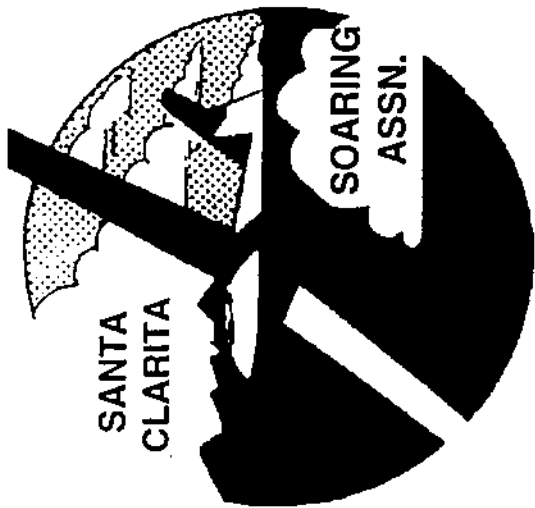
BUZZ WALTZ, PRESIDENT D.U.S.T.  
(619) 327-1775



To get to The D.U.S.T. Flying Field take I-10 to Indio, California then take the MONROE off ramp left to 50th Ave, turn right, go 1/4 mi to Empire Flight Park, I.U.S.I. Field



50th AVE  
D.U.S.T. FIELD,  
EMPIRE FLIGHT PARK



Announcing the  
First Annual

## SCSA California Double-Cross

June 11,12 - 1994  
California Valley

For information contact  
Keven Anderson  
(805) 296-5126  
P.O. Box 2254  
Santa Clarita, CA 91351

Guaranteed to be one of the years ten best cross country races.





## Southern California Soaring Clubs

Thousand Oaks Soaring Society  
invites you to the second SC2 contest in 1994.

**CONTEST DATE:** April 24, 1994

**LOCATION:** the TOSS field in Thousand Oaks, CA

Contest Director: Mike Reagan

**WHERE:** Redwood School on Gainsborough Drive  
between Moorpark Road and Lynn Road

**SIGN UP:** 8:00 AM

**PILOTS BRIEFING:** 8:45 AM

**TYPE:** 3/5/7 with at least one 7 minute flight

**CONTEST STARTS:** 9:00 AM

### TASKS:

- 3 Min Scored 700 flight / 300 landing points.
- 5 Min Scored 800 flight / 200 landing points.
- 7 Min Scored 900 flight / 100 landing points.

**LANDINGS:** Measured from center of 25 foot circle.  
On grass.

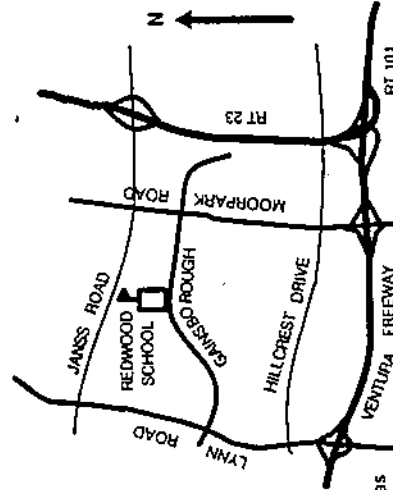
**LAUNCH EQUIPMENT:** 12 Volt winches with retrievers,  
approximately 650 feet to turn around.

### RULES:

Standard SC2 rules apply in addition to AMA rules.  
10 seconds to accept relaunch or to fly it out.  
Midairs on landing approach - time will count,  
relaunch for landing points only  
Transmitters and receivers must meet 1991 AMA rules

**CONTACTS:**  
Mike Reagan (805) 529-5513  
Edgar Weisman (805) 498-8878

**FIELD:**  
Redwood Intermediate School,  
Thousand Oaks, CA  
On the North East corner of  
Gainsborough and Camino Manazanas



FRESNO SOARING SOCIETY

13TH ANNUAL FRESNO CLASSIC

THIS IS AN AMA SANCTIONED EVENT AND ALL AMA RULES APPLY:  
RADIO EQUIPMENT MUST COMPLY TO 1991 SPECIFICATIONS

**LOCATION:** Fresno Soaring Society Avenue 10 Flying Site

**DATES:** April 9 & 10, 1994

**EVENT:** Both UNLIMITED CLASS, and TWO METER CLASS (both days)

**PILOT CHECKIN:** Saturday - 6:30 AM to 8:00 AM (AMA card required)

**PILOTS MEETING:** 8:00 both days First Flight 8:30 AM

**SATURDAY:** 4 flights, 3, 5, 7, and 5 minutes precision duration, 1 point per second scoring

**SUNDAY:** 3 flights, 3, 5, and 8 minutes, 1 point per second scoring

**SAIPLANES:** Must conform to AMA specs for overall size limits for 2-meter and unlimited. Back-up on same frequency only if OD determines primary unflyable. One plane, one pilot rule applies.

**LANDINGS:** Landings will be detailed at pilot's meeting.

**AWARDS:** Unlimited - 1st thru 7th Expert, 1st thru 3th Sportsman  
2 Meter - 1st thru 5th  
**TEAM - unlimited class -** Highest total score of 4 contestants from a chartered AMA club. You must have declared flying club on registration form.

**RAFFLE:** Tickets will be sold at contest.

**FOOD:** Food will be provided by professional vendors.

**REGISTRATION:** Registration form is on back. To insure confirmation, please register by March 21, 1994. Acceptance subject to available frequencies. Entry fee is non-refundable

**MEMORABILIA:** T-shirts are available thru pre-registration only.

**HOTELS:** The best and closest motel is the Traveler's Inn, The prices are for two persons per room, motels are on Blackstone Ave.  
Traveler's Inn 209-431-3557 \$37.95 + tax  
Golden Penny Inn 209-439-6500 \$30.00 + tax  
Motel Six 209-221-0800 \$35.83 incl tax  
Water Tree Inn 209-222-4445 \$58.00 + tax  
Prices as of 1-78-94  
We recommend early motel reservations.

THIRTEENTH ANNUAL ROUSE ROUPEL SOARING FESTIVAL AND TRADE SHOW  
 APRIL 30TH, MAY 1ST, 1994  
 SPONSORED BY THE PASADENA SOARING SOCIETY

THIS IS AN AMA SANCTIONED EVENT: ALL AMA RULES APPLY

LOCATION: PASADENA'S BROOKSIDE PARK, ROSE BOWL SOARING FIELD- SEVENTEEN LINES OF BRASS  
 CLASSER: UNLIMITED AND TWO METER

TASKS: SATURDAY APRIL 30TH SUNDAY MAY 1ST  
 ROUND 1 - 15 MINUTE PRECISION DURATION ROUND 8 - 8 MINUTE PRECISION DURATION  
 ROUND 2 - 15 MINUTE PRECISION DURATION ROUND 9 - 15 MINUTE PRECISION DURATION  
 ROUND 3 - 15 MINUTE PRECISION DURATION ROUND 10 - 15 MINUTE PRECISION DURATION  
 ROUND 4 - 15 MINUTE PRECISION DURATION ROUND 11 - 15 MINUTE PRECISION DURATION  
 ROUND 5 - 15 MINUTE PRECISION DURATION ROUND 12 - 15 MINUTE PRECISION DURATION  
 ROUND 6 - 15 MINUTE PRECISION DURATION ROUND 13 - 15 MINUTE PRECISION DURATION  
 ROUND 7 - 8 MINUTE PRECISION DURATION

The add-on rounds will consist of four flights to make 24 minutes, with no round over 8 minutes.  
 On Sunday, pilots will have the option to fly round 8 before round 6. The landing area will be near the  
 center of the field and available for inspection prior to the contest. Scoring emphasis will be on thermal  
 duration, penalty for flight time over will be 10 points per second.

TROPHIES: Unmanned - 1st thru 10th Place Two Meter - 1st thru 1st Place  
 Free Pass Team - Top 4 Clubs paying members of a sanctioned club.

TIME: Free meeting 8:45 a.m. each day 7:15 night 8:00 a.m. each day

RAFFLE: Grand rights drawing last round

TRADE SHOW: SELECTED MANUFACTURERS WILL DISPLAY WHAT'S NEW IN THE HOBBY ON SUNDAY MAY 1ST

INFORMATION: C.D. TRADE SHOW COORDINATOR SCORING  
 RICHARD BURNS MIKE RATHNER AL ZIMMERMAN  
 (818) 812-0481 (818) 781-8881 (818) 800-8018

ENTRY FEE: \$22.00 FOR 1ST ENTRY. \$11.00 EXTRA TO FLY BOTH CLASSES

NOTE: AS IN ANY MAJOR CONTEST, ENTRY FEES ARE NON REFUNDABLE

RV PARKING: OVERNIGHT PARKING FREE - FRIDAY APRIL 29TH, SATURDAY, APRIL 30TH.  
 No hook-up

ENTRY FORMS WILL BE ACCEPTED ON A FIRST COME, FIRST SERVED BASIS. THE EARLIEST ACCEPTABLE POSTMARK IS  
 MARCH 1ST, 1994. No entries will be accepted at the fest. The fest are going to purchase for individual entertainment and team  
 honor. If you wish to be counted among the fest, it's imperative you get your entry to be submitted early.

Entry Form: Please make checks payable to "Pasadena Soaring Society"

Name: \_\_\_\_\_ Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ Phone ( ) \_\_\_\_\_  
 AMA Number: \_\_\_\_\_ Times Declared: \_\_\_\_\_ RV Parking? Yes \_\_\_ No \_\_\_

Frequency Classes: Unlimited 1st \_\_\_ 2nd \_\_\_ 3rd \_\_\_  
 Two Meter 1st \_\_\_ 2nd \_\_\_ 3rd \_\_\_  
 T-Shirts @ \$11.00 ea  
 M \_\_\_ \$ \_\_\_  
 L \_\_\_ \$ \_\_\_  
 XL \_\_\_ \$ \_\_\_  
 XXL \_\_\_ \$ \_\_\_  
 Entry Fee \$ \_\_\_  
 Total Enclosed \$ \_\_\_

NOTICE: CHANNEL 12 IS NOT USABLE AT THIS FIELD

MAIL ENTRY TO: Pasadena Soaring Society, c/o Al Zimmerman  
 1328 Brent Dr., Channahon, IL 61208

The WHITE COMPANY price list and order form. 2/16/93

THE WHITE COMPANY manufactures parachutes for use in launching R/C sailplanes. Our parachutes are  
 from the best materials available and the product is specifically designed for R/C soaring.  
 We have been serving you since 1975.

ITEM	DESCRIPTION	COLOR	QTY	UNIT PRICE	TOTAL PRICE
MINI - PARACHUTE	62 Square inch canopy, 8 lines and 8 panels.			\$15.00	
MINI - PARACHUTE +	62 Square inch canopy, 8 lines, 8 panels and anti-tangle net.			\$18.50	
CHAMPION MINI - PARACHUTE	62 Square inch canopy, 8 panels, 16 lines & anti-tangle net.			\$22.00	
COMPETITION PARACHUTE	82 Square inch canopy, 8 lines and 8 panels.			\$15.00	
COMPETITION PARACHUTE +	82 Square inch canopy, 8 lines, 8 panels and anti-tangle net.			\$18.50	
CHAMPION COMPETITION PARACHUTE + AT 16	82 Square inch canopy, 8 panels, 16 lines & anti-tangle net.			\$22.00	
STANDARD PARACHUTE	126 Square inch canopy, 8 lines and 8 panels.			\$15.00	
STANDARD PARACHUTE +	126 Square inch canopy, 8 lines, 8 panels and anti-tangle net.			\$18.50	
CHAMPION STANDARD + AT 16	126 Square inch canopy, 8 panels, 16 lines & anti-tangle net.			\$22.00	
		ADD	7.80 %		
					TOTAL

WA STATE RESIDENTS

Please send my order to:

Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_  
 STATE \_\_\_\_\_ Zip \_\_\_\_\_

Make the check or money order payable to:

THE WHITE COMPANY  
 280 SPRING VIEW PLACE  
 SEQUIM, WA 98382-9645  
 PHONE (206) 683-2893

NOTE:  
 THE 16 LINES OF THE  
 "CHAMPION" PARACHUTE  
 GREATLY REDUCE THE  
 APPARENT BULK OF THE  
 PARACHUTE SO THAT THE  
 AIR RESISTANCE IS  
 AT A MINIMUM DURING  
 THE TOW. The tension on  
 the lines squeeze the  
 canopy into a slim non-  
 fluttering bundle.

All prices include shipping and handling. No tow rings or swivels are included.  
 COLORS: Red, white, blue, green, black, orange, yellow, purple, neon orange, hot pink,  
 hot yellow may be selected for your chute. You may have any combination of colors you want  
 as long as there are no more than one color per panel. No extra charge for this.

\*\*\*\*\*More notes\*\*\*\*\*  
 ALL THE WHITE COMPANY parachutes are  
 designed for use on winches or high-starts,  
 however, the 62 sq. " seems to be the one  
 to use for hand towing.  
 The 82 sq. " has long been the choice of the  
 F3B pilots and now with the "low bulk" 16  
 line version, its popularity is sure to  
 continue.  
 The 126 sq. " parachute is still the best  
 seller, its larger canopy size makes it  
 easy to spot and if you choose the 16 line  
 version the drag is even less than before.

**AIRTRONICS**  
SPECIALTY DIVISION

**LEGEND SC**  
ASDI01 \$299.95

Based on our highly successful Legend sailplane, the Legend SC has been completely re-engineered to include all of the suggested improvements we have received from pilots out in the field. The wings are now foam cores pre-sheeted with obecht in place of the original's built up wings. The wing planform has been refined to incorporate a higher aspect ratio, for a better L/D and more flap area for even lower landing speeds. And the nose moment has been stretched 3 inches to eliminate the need for excessive nose weight. While making all of the improvements we were careful not to change the design elements that made the original Legend such a sweet flying machine. The three piece wing still has a slight amount of dihedral for exceptional stability while launching, thermalling and landing. The center section has a robust composite spar for zoom launches, and is now secured to the fuselage with two steel bolts to better survive dark landings. The airfoil is still the S3021 with its excellent speed range and gentle stall characteristics. And of course the trademark T tail and graceful lines make the Legend SC a sailplane you'll fall in love with and just have to have.

**SPECIFICATIONS:**

WING SPAN: 113 In.  
WING AREA: 950 Sq. In.  
AIRFOIL: S3021  
ASPECT RATIO: 13.4 to 1  
WING LOADING: 10.9 Oz.  
FLYING WEIGHT: 72 Oz.

**CONTROLS:**

AILERONS, ELEVATOR, FLAPS AND RUDDER

**SERVO REQUIREMENTS:**

Four 94141 servos or their equivalent mounted in the wing and two 94102 servos or their equivalent mounted in the fuselage.

**ORDER DIRECT! VISA AND MASTERCARD ACCEPTED**  
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**AIRTRONICS**  
SPECIALTY DIVISION

**PEREGRINE**  
ASDI07 \$369.95

The Peregrine is our newest design for thermal duration, and this one is sure to be a winner! The Peregrine was designed around the popular SD7037 airfoil, ensuring it would have excellent thermalling capabilities. In laying out the wing planform, the tip chord was increased slightly to prevent tip stalling and add wing area, while the 117" span keeps the aspect ratio above 14 to 1. A great deal of time was spent in developing the Peregrine's fuselage to get it just right. In talking with people who have flown the 7037 extensively we learned that the airfoil works best with a longer tail moment, so the Peregrine sports a long fuselage that makes the plane an exceptionally smooth flyer. The sleek fuselage has plenty of room inside for radio gear, and the unique slide on canopy allows easy access for making adjustments or adding ballast. And to top it all off the fuselage looks great! If you've been wanting Airtronics to bring out a sailplane with the 7037 airfoil, your wait is over. Call now and be the first in your club to have a Peregrine!

**SPECIFICATIONS:**

WING SPAN: 117 In.  
WING AREA: 964 Sq. In.  
AIRFOIL: SD7037  
ASPECT RATIO: 14.2 to 1  
WING LOADING: 10.75 Oz.  
FLYING WEIGHT: 72 Oz.

**CONTROLS:**

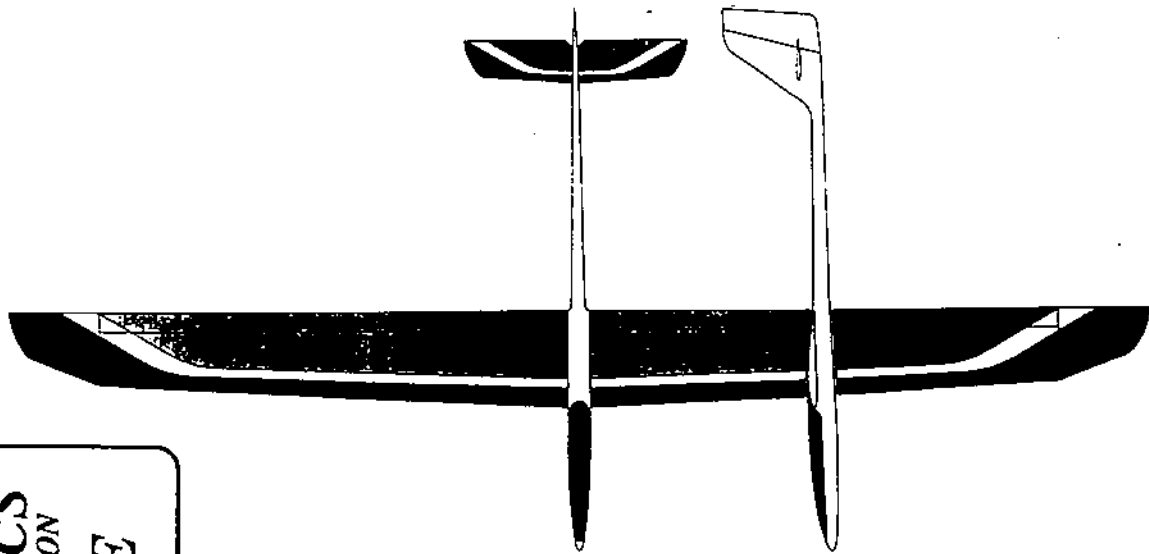
AILERONS, ELEVATOR, FLAPS AND RUDDER

**SERVO REQUIREMENTS:**

Four 94141 servos or their equivalent mounted in the wing and two 94102 servos or their equivalent mounted in the fuselage.

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Charter # 128

**APRIL HSS MEETING**

**DATE: Wednesday, April 6,  
7:30PM**

**MEETING LOCATION HAS BEEN  
CHANGED!**

**- Hobby Shack Retail  
Store, Bandilier Circle,  
Fountain Valley**

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