

The Harbor Soaring Society Newsletter

AUGUST 1993, VOL. 30 NO. 8



FROM THE PREZ

During the last couple of contests I've noticed an interesting phenomenon that might interest today's physicists. It seems that when my plane hits lift, time speeds up and in sink, time slows down noticeably. I'm curious if anyone else has noticed this time warp effect. The implications of this effect could be profound. If we only flew in sinking air, our lifespans would be extended by decades, perhaps even centuries. Imagine, a hundred years of launch and land, launch and land ... we would never have to worry about running out of battery power. The risks, however, should be obvious. One day of "hat sucker lift" could turn each of us into dottering old farts with pureed meals and laxatives as our only excitement.

Consider yourselves warned. I've done my duty as president to caution each of you that flying in lift could take years off your life. This is particularly true during contests. To accurately test the "Thermal/Time" warp effect, I'm willing to make the ultimate sacrifice. During the next few contests I will find

lift and fly max times. The rest of you can fly in sink and score minimal flight points. I know this is a magnanimous gesture on my part but it's the least I can do for our club. Honestly, there is no need to thank me for this huge sacrifice. After several contests like this, we should have a pretty good idea of how the "Thermal/Time" effect works.

In my next article, I'll discuss the benefits of using symmetrical airfoils with very high wing loadings for thermal duration contest flying.

-- Andy Sanders

H.S.S. BOARD MEMBERS

President: Andy Sanders	(714)751-9235
Vice President: Pat Scheer	(714)744-3375
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Contest Coord: Curt Nehring	(714)592-2105
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Newsletter Ed: Pete Young	(714)892-3473

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

Lakes at Seabridge Condos. On Adams Ave. in Huntington Beach. Turn right at the first traffic light heading East from Beach Boulevard. You will need to check in at the gate. Tell the guard you are there for the HSS meeting. If there are any problems, call 969-1524

JULY MEETING MINUTES

The July meeting came to order at 7:45PM with club president Andy Sanders as host. The minutes from the June meeting were accepted as written. Three new members were introduced to the meeting. Terry Lore is flying a Falcon 880, Steve Williams is just getting started in gliders, and Greg Lawhead is flying a 2M Gnome. All three thanked the club members for help received at the field.

Frank Chasteler gave a Treasurer's report which covered checking balance, income, and expenditures for trophies, name badges, and club hats. The Treasurer's report was accepted as read.

Ross Thomas reported that the North/South Challenge at Visalia went very well with lots of exciting downwind flying and the South team winning overall. Belly dancing was not available this year.

Pete Young asked about getting VCR tapes for the library covering various construction techniques - vacuum bagging, use of composites, etc. More details and final choices will be provided later.

It was reported that George Sparr of Aerospace Composites will be moving to northern California in the near future. George will continue his mail order business and, in addition, his products will be sold through a retail outlet in the Costa Mesa/Irvine vicinity.

Dennis Brandt brought in an extremely attractive and well-built original RC HLG, V-tail, which was built in less than 15 hours! He reported that at 12 ounces all-up, it launches and glides extremely well.

Pete Young introduced the guest speakers, Bob and Kim Reynolds of K&BR Model Products. Bob and Kim have designed and are producing a line

of original slope gliders. All their planes are lightweight and strong, and extremely maneuverable.

Bob started in the hobby in 1957 but got sidetracked for a while by service obligations, aerospace industry work etc. He is a commercial aircraft pilot and a professional wind tunnel model maker. Bob and Kim both work their business and are planning to introduce new aircraft into their product line. They briefed many insights into the details of producing model kits; they figure that roughly 3 days a week can be spent producing and packaging kits, the remainder of the week is spent on marketing, gathering raw materials and packaging, etc. The kits were first sold in plastic bags, but hobby shops required boxed kits with a color picture label. Some of the Reynolds' past and future projects were described, including a swing wing F-14 based on Jet Hangar Hobby's ducted fan all-glass product; this will be the second big F-14 sloper that Bob has constructed.

With the help of their son, the Reynolds showed four of their planes: the Baby-Bobber, a 37" 8 oz micro-sloper; the Baby Mustang, a 37" span semi-scale P-51; the Akro-Bobber, a 50" span 22 oz sloper; and the Baby-Lightning, a 38" span, 14 oz RG-15 wingeron controlled semi-scale P-38. A picture of Bob and the Baby-Lightning appears in the "I Spy" column of the current issue of Model Airplane News. Bob had a photo album of recent flying activity and handouts describing their current product line. The Reynolds donated a set of blue foam wing cores, Legend planform, for the club's use.

Woody Grosvenor, Secretary

-- for more information on Bob and Kim Reynolds' products, contact K&BR Model Products, PO Box 537, Lakewood, CA 90714; (310) 866-2104

FYI

... congrats to Mike Aguirre and Roger Lackey who helped the South team trounce the North at the North/South Challenge hosted by CVRC at Visalia... both Mike and Roger flew Mako's and scored in the South's top 12 ... rack up a "save" for Ben Clerx for landing Mike Aguirre's sailplane without damage at the June SC2, hosted by SULA, when Mike's ship shed both horizontals after a too vigorous zoom launch... score a "save" also for Dick Pantzar at the July HSS Monthly when the RX pack fell out after a zoom launch - his Gemini slipped into a stable inverted spin and landed with minimum damage ... the entry form for CVRC's fabulous Fall Soaring Festival can be found in this newsletter, note that entries cannot be postmarked prior to 1 August... new planes at the field: Don Zink's 15 ft RnR cross country machine, Roger Lackey's NSP-Satterlee Monarch HLG, Jerry Briggs' modified Olympic II ... two contenders for the "Lighten Up and Check Your Attitude" award: #1, contestant spot lands, detachable nose cone slips off, contestant insists on measuring distance to the pin from the nose cone (!) ... #2, contestant lands, flips over inverted, he scores himself landing points. His explanation: "No one told me that I couldn't do this at today's pilots meeting." (!!!)

THE NORTH/SOUTH CHALLENGE

by Mike Aguirre

The revived North/South Challenge was held June 19-20 at CVRC's flying field in Visalia. The 35th parallel is the dividing line (Santa Maria, CA to Kitty Hawk NC) so where you live in relation to this line dictates which

team you will fly for. Over 100 pilots competed for the chance to have their score finish in the top 12 of their team so they could fly off for a Thermal Eagle kit.

Saturday's format was set for 7 rounds of flying with no round starting after 4:00 PM - six rounds were completed. The tasks consisted of 3", 5", 8", 6", 4", and 3" precision duration with LSF circles as the landing targets. The 1.5 meter circle scored 20% of your flight time, the 3 meter circle scored 10%, and anything south of the foul line scored 5%.

HSS members making the trip included Jim Parsons, Ross Thomas, Curt Nehring, Steve Hendry, Tom Vincent, Bob Sliff, and Roger Lackey. Despite downwind launches and landings and noontime temperatures 100 deg plus, Saturday was a day full of great flying and thermal activity. Many pilots made all their times with some landings being quite interesting. Throughout the day, HSS pit entertainment was supplied by Roger with some wild and funny antics (hopefully more in store at the October Fall Festival). By the close of Saturday's flying, HSS had 2 members in the top 12 for the South team; Mike Aguirre was 9th and Roger Lackey was holding the 12th spot. The South led the North by approximately 350 points at day's end.

Sunday's flying consisted of 4 rounds, 2", 7", 7", and 3" precision duration with the same landing format as Saturday. Downwind launches and landing prevailed again. Problems started to develop for many pilots in the 7 minute rounds. You had to do some heavy searching to find the lift which seemed to be spotty and not always consistent in its cycling. An unfortunate and spectacular accident occurred to Philip Hallford's (PSS) Super V when it

contacted 2 power lines: the plane literally melted and vaporized, sending blue/green fireballs down the power lines and blowing out power for the contest and the surrounding residents! For myself, it was quite nerve-racking since I was in the air trying to fly a 7 minute flight with not the best of air!!!

When the flying was finished and the scores tallied, the South had prevailed, beating the North by over 800 points! 1st place for the South was a tie between Steve Condon and Joe Wurts, other top 12 members for the South included Mike Reagan (TOSS), Randy Spencer (USA F3B team), B. J. Weisman (TOSS), Joe Rodriguez (ISS), Tim Renaud (Airtronics), and others whose names I don't recall - sorry guys!

For the flyoff for the Thermal Eagle, it was decided that the flyoff round format would be drawn from a hat with the 12th place finisher having the honors, and as it turned out the round selected was an 8" flight with landing tape (0-100 pts). The planes were launched by finishing order with 11 out of the top 12 making the 8 minute flight (I didn't, but wait till next year!). The final outcome was a great flight and landing by Joe Wurts to take the Thermal Eagle kit home after 2 great days of flying.

Overall the weekend was a complete success with great friends, great flying, and a laugh a minute. I would like to thank all the HSS members who made the trip and hope next year to see more HSSers up there. Also a special thanks to Roger Lackey for helping me place 11th with his expertise in timing and helping me find lift.

Have a soaring headache? TRY MAKO-MYCIN!!!

The Sagitta 600 - Built to last

by Steve Fink/HSS

My love affair with the Sagitta 600s and 900s began about ten years ago. Jim White, a long time HSS member, now retired and living in Washington, put his transmitter in my hands while his 900 was thermalling about 500 feet up. Having been away from the hobby for about four years at that time, I had a bad case of butterflies until Jim convinced me that flight and stall characteristics were exceptional with this design. Built as a poly ship per the original plans, the 900 with its E205 airfoil was a docile flier and could climb quite well as well as move out across the sky. It was considered "state of the art" in those days and rightfully so. A fine Lee Renaud design.

Since 1986 I have built, rebuilt, or helped others build seven Sagitta 600s. Through this process the "weak spots" have been identified and strengthened. Several variations of servo configuration and controls have been tried. The bottom line is that the 600 is contest worthy against most 2M ships as attested to by trophies that Sean Monahan and I have earned. In addition, with strengthening and control modifications, the 600 flies well on the slope, proving to be fairly fast and maneuverable while moderately aerobatic.

One word of caution ... this model is a builder's project! I love to build and if you do too, good ... but be forewarned: sanding this ship takes more time than framing it up! Sean and I estimate about 60 hours of construction time are required, which includes the modifications described below.

WING: First off, the plans contain a small error. The right panel root at the

leading edge must be straightened slightly. Measure inward towards the fuselage 3/16" at the LE and draw a straight line back to the TE/root rib intersection. This will help insure a flush root-to-fuse fit, as this new line marks the proper location for the balsa root rib. This correction needs to be made on the right panel only.

We remade the root ribs out of medium density 1/4" thick balsa rather than the 1/8" balsa provided. This does two things. First, some sanding is required to complete the flush root to fuse joint and the extra "meat" facilitates this sanding. Secondly, we use a brass insert with coarse outer threads and 1--32 inner threads, along with a 1/2" x 10-32 bolt to secure the wing panels to the fuselage. Once a pilot hole is drilled in the 1/4" root rib and the insert installed and glued with thin c/a, a very positive lock is achieved when the bolt is passed through its hole in the fuselage and tightened in the insert. The location for this is 1/2" aft of the wing rod/wing tube. When flying the slopes in a strong breeze and heavy turbulence, both wing panels flex and shudder, especially when carrying 4 to 6 oz of ballast in the fuse, and the panels may creep away from the fuse. This creeping may also occur on winch tows and will cause the spoilers to open slightly, disturbing the airflow over the wing. The bolt/insert modification stops these slippages.

We use 1/4" vertical grain balsa for shear webs in all wing bays from the root out to the spoiler box. From the spoiler box out to the poly break area, we use 3/16" vertical grain webs, and from there on out, 1/8" vertical webs out to the tip. This creates a very strong spar - so strong that the wing rod will take a permanent set on a strong tow before the wing spar will fail.

Build the wing flat with ailerons, as it outperforms the poly wing version even with the ailerons' slightly extra weight. The ailerons can be actuated by a single servo in the fuse or with individual servos mounted in the wing panels. The servo in the fuse will require cable pushrods installed through the ribs to the aileron. Caution: exit the rods out the top of the wing to the aileron horn. This will help accommodate aileron differential which is controlled by the servo output arm.

With individual wing-mounted servos, a wiring harness will have to be installed with a male plug and 2" of extra wire hanging out the root so that the ailerons can be plugged into the RX. In addition, a tray of 1/8" hard balsa sheet will need to be fitted in the first bay of the aileron area. We use a Futaba S133 servo mounted on its side with the output arm extending through a slot in the tray out the bottom of the wing. With a programmable radio, this gives complete control of aileron adjustments. A female plug is on the outboard end of the harness at the servo, instead of a hard-wired solder connection, so changing a damaged servo is easy.

Lastly we use 2 oz glass cloth and epoxy resin on the bottom LE sheeting. No cloth or lighter cloth will not resist punctures and hard scrapes from pebbles, rocks, and hard scrub brush in the landing area. As the 600 is a "shoulder wing" configuration, the wing is low to the ground on landings and will take its lumps. We lap the cloth all the way from the aft bottom edge of the sheeting forward to the LE, around the LE, and 1" aft on the top sheeting. Use two coats of epoxy resin, wet sanded after the second coat, for a smooth and strong finish. Cover the wing D-tube in this fashion with glass cloth from root to

tip.

FUSELAGE: The fuse has a weak spot just aft of the wing TE. Without strengthening during initial construction, the fuse will break on every hard landing at this spot. There is a ply/balsa joint on the bottom fuse sheeting aft of the TE. Apply a 1 1/2" long by 1" wide piece of 4 oz glass cloth over this joint, using epoxy resin. This cloth is added when the fuse is final shaped but not final sanded.

Next, glass the entire fuselage! Use 4 oz cloth from the nose aft to 1" behind the wing tube. Use 2 oz cloth from the aft edge of the canopy all the way back to the fin. This will create a "lapped" area of cloth in the wing root area at the wing rod tube area that will be very strong. Without this cloth, the fuse area around the tube will develop cracks and will ultimately fail. Always use two coats of resin and sand smooth with #500 used wet. Surprisingly the lapped areas will sand smooth and will not show through the paint. We prime one or two coats, sanded dry with #400 between coats, and paint 2 or 3 coats, sanded between coats with #600 wet. This finish is very durable, easily refinished or spot repaired, and this fuselage has too many compound curves to allow a good film covering job.

When installing the wing tube in the fuse, before the tube is epoxied to the bulkhead, epoxy a piece of 1/4" triangle stock under the tube and across the bulkhead. Use 2-Ton epoxy. This keeps the fuse sides from pulling away from the tube bulkhead.

TAIL SURFACES: The 600 with ailerons is more maneuverable so a large rudder is not necessary. Build the rudder without the balanced surface ahead of the hingeline that is shown on the plans. Instead glue the precut balance piece to

the top of the fuselage fin. The balance piece is narrower wood than the fuse fin so putty both sides and fair in with sandpaper working a little at a time.

When the stab is completely built but not yet separated into two halves, apply 2 oz cloth and resin top and bottom over the joiner tube area only. This reinforces the wood so the stab won't break on a strong tow and cause a nasty crash.

FLYING: Al Cron once said to me, "You have to build a Sagitta to learn how to build a Sagitta." Hopefully if one follows the kit directions plus incorporates these modifications, the first Sagitta should be good, no second ship required.

Obviously we have added some weight. However we feel our 600s at about 42 to 44 oz outflies the 36 oz three channel versions. Our ships will keep pace in all except the lightest conditions. Remember that the E205 likes a little speed and goes "on step" when flown fast. We are running 5 servos and a 7 channel RX with a 600 mah 4 cell pack good for about 150 minutes before charging is required.

Ailerons should have about 2 to 1 differential ratio, up to down, and about 3/16" side to side rudder coupled in for the best turning performance, either thermal or slope.

Good luck and we'll see you in a gaggle of 600's!

FOR SALE

"Soartoons" illustrated notecards and envelope
- the perfect gift for the soaring enthusiast!
- set of 12 for only \$10

Contact Curt Nehring
1265 N. Van Buren, 210D
Anaheim, CA 92807-1633
(714) 592-2105

FOR SALE

- For Soaring Society hats, shirts, and vinyl patches - contact Frank Chasteler at (714) 545-2185

- 2 Agnew Banshees, 78" span, complete. Available with servos installed; or airframe only - @ \$300. 2 Airtronics Module 7SP radios, TX and RX only - @ \$150. Call Don, (805) 526-3145.

- 2M Whisper, less radio, \$125. 2M Gnome, 4 channel Airtronics PCM, ready to fly, \$225. Call Bill, (714) 892-8665.

- Sealy Laser - kit new-in-box. For price, call Mike at (310) 439-4173

- HL Gnome, \$25, needs radio. 2M Gnome, \$125 with servos, \$100 without, includes wing bag. 2M Vortex, NIB, \$30. 2M Sealy Lumina, SD7032 polyhedral with flaps, \$125, needs radio and wing bag. LJMP Pantera, \$150 with servos, \$135 without, includes wing bag. LJMP Cheetah, \$200 with 7 servos, \$150 without, includes wing bag. Sealy Pulsar, \$225 with servos, \$165 without, includes wing bag. Electric motor system: Astro FAI geared 05 (new), folding prop, flight battery, spinner, Ballasch motor controller with brake, Astro AC/DC peak charger, \$225 firm. Contact Curt @ (714) 592-2105.

- Airtronics Adante, new-in-box, glass fuse, Quabeck airfoil, \$75. Foam-lined carrying case for TXs, holds two, \$15. Call Pete @ (714) 892-3473.

TORREY PINES GULLS SC2

AUGUST 29, 1993

CD GEORGE JOY

PLACE: POWAY FLIGHT CENTER

TASKS: ROUND 1 = 2 MIN. PRECISION BELL CURVE

ROUNDS 2 & 3 = 3/5/7 PILOTS CHOICE

LANDINGS: 25 ft. TAPE

ALL ROUNDS WILL BE CALLED FLIGHT ORDER

ALL STANDARD SC2 RULES APPLY

WINCHES ARE 12 VOLT, LINE LENGTH APPROX 850 F

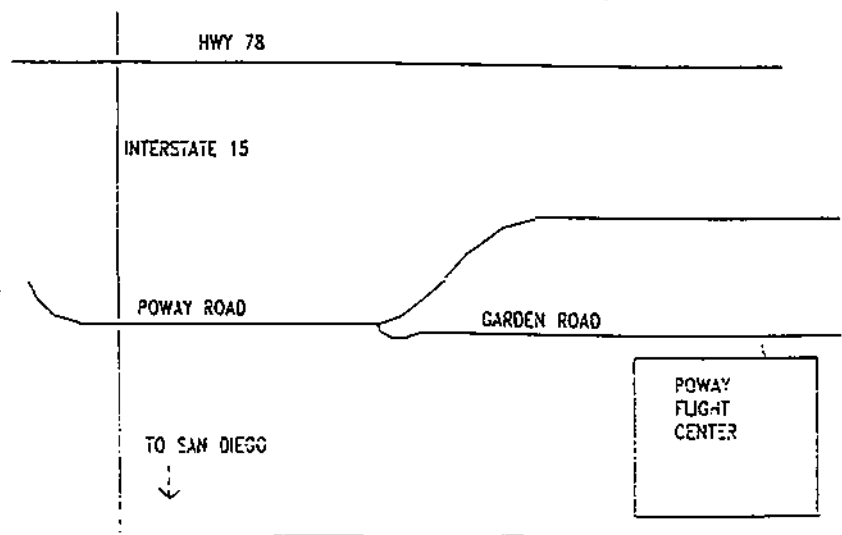
PILOTS MEETING: 08:45

FIRST FLIGHT 09:00 SHARP

NO SIGN UPS AFTER FIRST ROUND

(900/100)

FEE = \$6.00



AUGUST HSS MONTHLY

DATE: Sunday, August 8

LOCATION: Fairview Park

CONTEST DIRECTOR: Curt Nehring

EVENTS: Unlimited, 2 Meter

FORMAT: 3 rounds --

first round: 4 minute precision.

second and third rounds: 4 and 8 minute precision, one of each, pilot's choice.

LANDINGS: carrier style landing, "on or off"

SCORING: one point per second up to target time, 5 points per second penalty over target time. Landings are fixed percentage of flight score: 5% per 8 minute round, 10% per 4 minute round.

START TIME: Registration at 8:30AM, first round starts at 8:45AM. Starting

CVRC SPONSORED

FALL SOARING FESTIVAL

DATE: OCTOBER 2 & 3, 1993

Name: _____

City: _____ State: _____ Zip: _____

Phone Number: _____

AMA Number: _____ Frequency: 1st _____ 2nd _____ 3rd _____

Entry Fee @ \$30.00 \$ _____

BBQ Dinner: \$9.00 each served on the field Saturday after the flying.
Number of dinners _____ @ \$9.00 each \$ _____

Fall Festival T-Shirt: High Quality 50/50 with pocket \$13.00 each
Number of Shirts _____ @ \$13.00 each \$ _____
Size/Number: XXL _____ XL _____ L _____ M _____ S _____

Make Check to: CVRC - FSF Return to: CVRC - FSF Total \$ _____

1944 East Paradise
VISALIA, CA 93277

CVRC SPONSORED FALL SOARING FESTIVAL

October 2 & 3, 1993
Welcome to the 20th Annual CVRC Fall Soaring Festival in Visalia, CA October 2 & 3, 1993
This is an AMA sanctioned event and all AMA rules apply; radio equipment must comply to 1991 specifications. AMA Membership required. Pilots must show AMA card.

CD: Larry Taylor 209-627-8808 1944 E. Paradise, Visalia, CA 93277
Assistant CD: Phill Hill 209-686-8867 1966 Plymouth, Tulare, CA 93274

DATE: October 2 & 3, 1993
TIME: CHECK IN: 7:00AM, PILOT MEETING: 7:45AM, 1st LAUNCH: 8:00AM EACH DAY
LOCATION: CVRC FLYING FIELD, VISALIA CA - 1/2 MILE EAST OF PLAZA DRIVE
ON FERGUSON

ENTRY FEE: \$30.00 (Non Refundable, Non Transferable). Please don't ask. No entry postmarked before 8/1/93 will be accepted. Use only stamps, no metered mail will be accepted. Mail entry to the CD's address.

ENTRY LIMITS: Two hundred and twenty five (225) pilots will be accepted with no more than eight (8) pilots per frequency. First come, first served. Return post mark starting 8/1/93 determines the order. Having more than one frequency to choose from increases your chances for acceptance. If your frequency fills up, and you do not offer a second or third choice, then you are unfortunately out even though you may have an early post mark on your entry return.

TEAMS: You must declare your AMA Charter Club affiliation on your entry form, no changes will be allowed after entry is received.

EVENT: UNLIMITED CLASS

TASK: SATURDAY - OCTOBER 2 SUNDAY - OCTOBER 3
Round 1 - 3 minute PD Round 1 - 3 minute PD
Round 2 - 5 minute PD Round 2 - 6 minute PD
Round 3 - 7 minute PD Round 3 - 8 minute PD
Round 4 - 5 minute PD

FLIGHT TIME SCORING: One point per second over and under target time

LANDINGS: Three Concentric Circles. That is a 0.75 meter radius circle inside a 1.5 meter radius circle inside a 3 meter radius circle. The 0.75 meter circle will be worth 20% of the maximum target flight points for each flight. The 1.5 meter circle will be worth 10% of the maximum target flight points for each flight. The 3 meter circle will be worth 5% of the maximum target flight points for each flight.

INDIVIDUAL AWARD: 1st thru 10th Place.
TEAM AWARD: 1st Place. Top Four Pilots from each charter club count for team points.

TEE Shirts: \$13.00 each. Place your order on the Entry Form.

FOOD: Lunch Truck All day both days. Saturday BBQ by the Fall Caterers \$9.00 each

RAFFLE: The raffle will be big again this year. Be sure and thank our generous donors.

RV CAMPING: OK - On the field, but NO hook ups and NO water

The Soaring Union of Los Angeles And California State University Dominguez Hills

Host

The First Annual Summer Soaring Festival

A two-day R/C Soaring event in Carson, CA, to establish a Scholarship Program with the California State University Dominguez Hills School of Science, Mathematics and Technology.

Contest Dates: August 14 & 15, 1993

Entry: \$30.00

AMA Sanctioned Contest, All AMA rules apply. Event #444.

Awards: 1st through 10th, Top Club/Team, Youngest Pilot, Oldest Pilot

Raffle, R/C Manufacturers Booths, Catered Barbeque, Saturday Night Fun-Fly, T-Shirts.

Pilots Check In: Fri. 12:00 to 7:00 PM, Sat. 7:00 to 8:30 AM

Pilots Meeting: Saturday & Sunday, 8:30AM. First Flight, 9:00 AM

Called up order by groups	3 flight points per second (+ or -)	40 Max landing points
Saturday: Round 1 = 4 min. 720 + 40		
2 = 7 min. 1260 + 40		
3 = 3 min. 540 + 40		
4 = 5 min. 900 + 40		
5 = 4 min. 720 + 40		

Landing taps = Circle	40	30	20	10
Sunday: Round 1 = 4 min. 720 + 40	5 ft.	10 ft.	15 ft.	20 ft.
2 = 5 min. 900 + 40				
3 = 3 min. 540 + 40				

Rahm Winches & Retrievers, 900ft.

On-Site Free RV Parking Available.

Motel Information and Map to be sent with confirmation.

Chairman: Ed Kennedy (310) 519-7628

Contest Director: Steve Addis (310) 320-2708

Auto Parking: Sat. \$1.50, Sun. Free

SULA SUMMER SOARING FESTIVAL ENTRY FORM

Frequency #1 Frequency #2 Frequency #3 Age: _____

Name: _____ Phone No: (____) _____

Address: _____ AMA #: _____

City, State, Zip: _____ Club: _____

Entry: \$30.00 Make checks payable to "SULA" T-Shirt Order (M,L,XL) _____
(\$12.50 ea.)

Mail to: SULA Sat. Nite BBQ
P.O. Box 5010 (\$10.00 ea.)
Torrance, CA 90510

THE PERIOD OF THIS Flier IS 1 JULY TO 31 JULY 1993

HOBBY HORN

15173 MORAN ST. // P.O. BOX 2212

WESTMINSTER, CA 92683

(714) 893-8311 PHONE // (714) 895-6629 FAX

MONTHLY SPECIALS ON RADIOS, PARTS AND ACCESSORIES

(Specials listed below are only good for the month of this special flyer.)

JULY, 1993

JR RADIOS

	LIST PRICE	HH PRICE
X-347 FM W4-507 SERVO	\$329.95	\$344.99
X-347 FM W4-517 SERVO	\$399.95	\$384.99
X-347 FM GLIDER W2-341 SERVO	\$514.95	\$389.99
X-347 PCM W4-507 SERVO	\$599.95	\$384.99
X-347 PCM W4-517 SERVO	\$599.95	\$424.99
X-3885* FM AC W4-507 SERVO	\$449.95	\$414.99
X-3885* FM AC W4-517 SERVO	\$719.95	\$454.99
X-3885* PCM AC W4-517 SERVO	\$789.95	\$484.99
X-3885* PCM AC W4-4131 SERVO	\$779.95	\$604.99
X-3885* FM GLIDER W2-341 SERVO	\$799.95	\$604.99
X-3885* PCM GLIDER W2-341 SERVO	\$799.95	\$504.99
MAX 4 AM W3 507 SERVO	\$199.95	\$124.99
MAX 4 AM GLIDER W2-341S + 270 PK	\$249.95	\$164.99
MAX 4 FM W3-507 SERVO/228RX**	\$249.95	\$149.99
MAX 4 FM W4-507 SERVO/228RX**	\$319.95	\$189.99

* New increased capability radio based upon the X347. Now features 8 modal memory and more glide features. (** The "9228" is the "Credit Card" RX)

JR SERVOS

507 Standard servo	\$29.95	\$19.99
517 Standard W/RB	\$39.95	\$22.99
4131 Ultra precision/coolless	\$89.95	\$64.99
4721 Ultra torque/coolless	\$99.95	\$69.99
4735 Ultra speed/coolless	\$99.95	\$69.99
5021 Mid size/coolless	\$79.95	\$41.99
321 Mini	\$59.95	\$41.99
341 Micro	\$59.95	\$34.99
3021 Mini/coolless	\$79.95	\$49.99
3025 Mini highspeed/coolless	\$79.95	\$51.99
3031 Glider wing/coolless	\$89.95	\$69.99
605 FEI high power	\$109.95	\$69.99
7005 Low profile/coolless	\$109.95	\$69.99

JR ACCESSORIES

001 DELUXE SWITCH HARNESS, GOLD	\$14.95	\$12.99
003 SMALL SW HARNESS	\$8.95	\$9.00
004 CHARGE SWITCH HARNESS	\$19.95	\$18.75
023 JR NECK STRAP	\$13.95	\$11.99
100 ALERON EXTENSION 12" GOLD	\$7.95	\$7.05
270 RX 270 MAH PACK	\$19.95	\$17.99
5001 RX 550 MAH SO PACK	\$19.95	\$17.99
FM RX PACK/357 RX AND TX MODULE	\$189.95	\$124.99
PCM RF PACK/910 RX AND TX MOD.	\$239.95	\$174.99
S-PCM RF PACK/849 RX	\$279.95	\$189.99
S-PCM RF PACK/340 RX	\$289.95	\$189.99

JR RECEIVERS

328 FM RX, 6 CH CREDIT CARD 72MHZ	\$149.95	\$94.99
328 FM RX, 9 CH 50/53/72 MHZ	\$144.95	\$89.99

JR RECEIVERS (CONT)

226 PCM RX, 6 CH CREDIT CARD 72	\$194.95	\$124.99
910 PCM RX, 10 CH 50/53/72 MHZ	\$199.95	\$134.99
940 PCM DUAL CONV, 10 CH 50/53/72	\$229.95	\$154.99
JR SERVO GUIDE (28 PAGE GUIDE TO ALL JR SERVOS, GIVES FULL DETAILS ON ALL JR SERVOS, WITH MANY PICTURES AND ALL DATA) FREE WITH ORDER IF YOU REQUEST ONE, OR SEND \$3.50 TO COVER POSTAGE		

AIRTRONICS:

VGAR VANGUARD FM 4 CH W3 102a	\$249.95	\$132.99
VGAR VANGUARD FM 4 CH W2 501 MICRO & MICRO RX	\$299.95	\$189.99
VG6DR VANGUARD FM 6 CH W4 102a	\$319.95	\$189.99
150P INFINITY 600 PCM W4 102a	\$249.95	\$189.99
160P INFINITY 600 PCM W4 102a	\$279.95	\$189.99
160P INFINITY 600 PCM W4 102a	\$279.95	\$189.99
VS3SP VISION PK. 72 MHZ	\$699.95	\$604.99
VS3SP VISION PCM, 72 MHZ	\$1049.95	\$634.99
102 STANDARD SERVO	\$34.95	\$19.99
831 MINI SERVO	\$49.95	\$39.99
301 MICRO UTE	\$79.95	\$49.99
765 FM STD 6 CH RECEIVER	\$89.95	\$69.99

FUTABA

4HLB AM 4 CH W3 148 SERVOS	\$244.95	\$119.99
4HLB AM 4 CH ELECTRIC	\$299.95	\$184.99
S-148 STD SERVO	\$39.95	\$17.99
S-133 MICRO SERVO	\$59.95	\$31.99
S-5102 MICRO METAL GEAR SERVO	\$79.95	\$43.99

GENERAL

SERVO SAVERS (FOR YOUR FLAPS)		
FOR FUTABA SERVOS	\$3.00	\$2.35
FOR AIRTRONICS OR JR SERVOS	\$3.00	\$2.35
HOBBY HORN SUPER DUTY TOW HOOK		\$2.50
HOBBY HORN WING SERVO FAIRINGS (4)	\$19.95	\$14.95
H0 EXPANDED SCALE VOLT METER	\$74.95	\$47.99
H0 TRANSMITTER CASE (DOUBLE)	\$74.95	\$47.99
FEATHER CUT MACHINE		\$149.95

NOTE: WHILE CARRYING SOME OF THE ITEMS LISTED IN STOCK, MANY SPECIALS BY THE PREVIOUSLY MENTIONED ITEMS MAY BE AVAILABLE AND PRICES MAY VARY. PLEASE CHECK OUR WEBSITE FOR THE LATEST INFORMATION. WE STRIVE TO CARRY ALL POSSIBLE ITEMS. WE ARE NOT RESPONSIBLE FOR DELIVERY DELAYS OR STOCKS AT OUR SUPPLIER'S. WE WILL MAKE OUR BEST EFFORTS TO DELIVER YOUR ORDER AS SOON AS POSSIBLE. PLEASE CALL US AT 714-893-8311 FOR DELIVERY AND WE WILL CHECK AND CALL YOU BACK WITH AVAILABILITY AND DELIVERY TIME. WE APPRECIATE YOUR BUSINESS AND YOUR FEEDBACK. PLEASE LET US KNOW HOW WE CAN IMPROVE OUR SERVICE. THANKS, BOB SLUFF, 8/2/93

ANY SPECIAL REQUESTS? GIVE ME A CALL FOR A QUOTE!

**Harbor Soaring Society
July Contest, 1993
Open Division**

PLACE	NAME	CLASS	SCORE	NORMALIZED	TROPHY
1	LACKEY ROGER	EXPERT	1890.0	1000.0	1ST. EXP.
2	EDBERG DON	EXPERT	1890.0	1000.0	2ND. EXP.
3	KUTCH NORM	EXPERT	1886.0	997.9	3RD. EXP.
4	CLERX BEN	EXPERT	1880.0	984.1	
5	FINK STEVE	EXPERT	1854.0	981.0	
6	AGUIRRE MIKE	ADVANCED	1804.0	854.5	1ST. ADV.
7	RICHARDSON PETE	EXPERT	1800.0	952.4	
8	BRANDT DENNIS	EXPERT	1751.0	928.5	
9	POULSEN GORDON	EXPERT	1741.0	921.2	
10	CHASTELER FRANK	EXPERT	1735.0	918.0	
11	THOMAS ROSS	EXPERT	1732.0	916.4	
12	TAU MANNY	ADVANCED	1696.0	897.4	2ND. ADV.
13	CARRICO MIKE	SPORTSMAN	1685.0	891.5	1ST. SPTS.
14	HENDRY STEVE	EXPERT	1682.0	888.9	
15	CRON AL	EXPERT	1668.0	882.5	
18	SMITH MORRY	ADVANCED	1550.0	820.1	
17	NEHRING CURT	ADVANCED	1458.0	770.4	
18	PANTZAR DICK	EXPERT	1390.0	735.4	
19	SANDERS ANDY	ADVANCED	1337.0	707.4	
20	YOUNG PETE	ADVANCED	1127.0	596.3	
21	RITSCHKE GORDON	EXPERT	1101.0	582.5	
22	YOUNG BRETT	EXPERT	798.0	422.2	
23	NEMECEK DAVID	EXPERT	745.0	394.2	
24	VINCENT TOM	ADVANCED	718.0	379.9	

***MIKE AGUIRRE MOVES TO EXPERT**

**Year-to-Date Standings Open Division
Best 5 of 6 Contests**

PLACE	NAME	STATUS	SCORE	CONTESTS
42	STUBB PAUL	SPORTSMAN	254.5	1
41	CONRAD WILL	ADVANCED	505.4	1
40	KIELTYKA MAC	SPORTSMAN	611.0	1
38	MEARS BUD	SPORTSMAN	632.8	1
38	LONG DICK	ADVANCED	699.9	1
37	BOESE JIM	EXPERT	775.8	1
36	ATWELL BLAIR	EXPERT	1000.0	1
35	YOUNG BRETT	EXPERT	1008.6	2
34	BIDDLE FRED	EXPERT	1138.4	2
33	BUZOLICH NICK	SPORTSMAN	1218.2	2
32	HAWLEY ED	SPORTSMAN	1459.6	2
31	MONAHAN SEAN	ADVANCED	1705.9	2
30	Bikle JOHN	ADVANCED	1781.0	2
29	CARRICO MIKE	SPORTSMAN	1824.7	2
28	BRATRUD RANDY	EXPERT	1884.3	2
27	PARSONS JIM	ADVANCED	2543.4	3
28	BRANDT DENNIS	EXPERT	2670.9	3
25	SMITH MORRY	ADVANCED	2892.9	3
24	RICHARDSON PETE	EXPERT	2733.5	3
23	GIBBS DUANE	EXPERT	2825.6	3
22	WHITE LARRY	EXPERT	2874.3	3
21	NEMECEK DAVID	EXPERT	3025.1	4
20	DUNCAN BILL	EXPERT	3562.4	4
19	RITSCHKE GORDON	EXPERT	3762.4	5
18	EDBERG DON	EXPERT	3794.7	4
17	YOUNG PETE	ADVANCED	3862.4	5
16	CLERX BEN	EXPERT	3928.0	4
15	SANDERS ANDY	ADVANCED	4044.8	5
14	TAU MANNY	ADVANCED	4069.2	5
13	NEHRING CURT	ADVANCED	4072.4	5
12	VINCENT TOM	ADVANCED	4286.3	5
11	CRON AL	EXPERT	4332.3	5
10	THOMAS ROSS	EXPERT	4346.7	5
9	PANTZAR DICK	EXPERT	4380.7	5
8	SLIFF BOB	EXPERT	4392.7	5
7	HENDRY STEVE	EXPERT	4411.4	5
6	CHASTELER FRANK	EXPERT	4539.8	5
5	AGUIRRE MIKE	EXPERT	4581.2	5
4	FINK STEVE	EXPERT	4626.1	5
3	KUTCH NORM	EXPERT	4638.7	5
2	POULSEN GORDON	EXPERT	4690.4	5
1	LACKEY ROGER	EXPERT	4888.9	5

Two-Meter Division

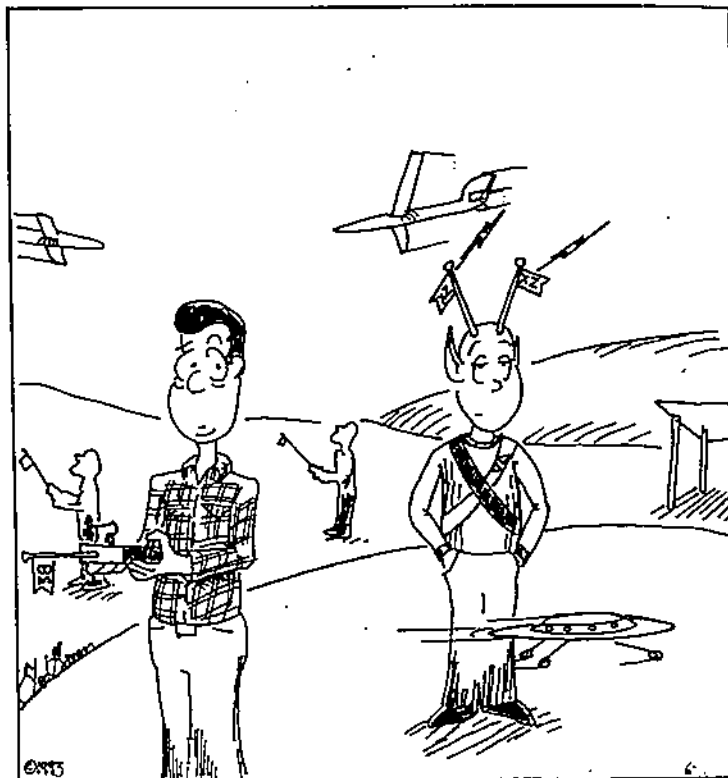
PLACE	NAME	SCORE	NORMALIZED	TROPHY
1	EDBERG DON	1889.0	1000.0	1ST.
2	MONAHAN SEAN	1816.0	971.8	2ND
3	KUTCH NORM	1705.0	912.3	3RD.
4	LACKEY ROGER	1689.0	903.7	
5	CHASTELER FRANK	1681.0	899.4	
6	THOMAS ROSS	1651.0	883.4	
7	AGUIRRE MIKE	1280.0	684.9	
8	VINCENT TOM	968.0	517.9	

Year-to-Date Best 5 of 6 Contests

PLACE	NAME	SCORE	CONTESTS
22	STUBB PAUL	263.2	1
21	CRON AL	582.2	1
20	MEARS BUD	565.5	1
19	NEHRING CURT	888.2	1
18	CLERX BEN	928.6	1
17	CONRAD WILL	1098.8	2
18	RICHARDSON PETE	1303.1	2
15	BUZOLICH NICK	1536.4	2
14	DUNCAN BILL	2297.5	3
13	FINK STEVE	2478.0	3
12	WHITE LARRY	2519.7	3
11	PARSONS JIM	2624.9	3
10	EDBERG DON	2750.6	3
9	YOUNG PETER	2938.0	4
8	MONAHAN SEAN	3698.5	4
7	LACKEY ROGER	3734.7	4
8	SLIFF BOB	3910.5	5
5	AGUIRRE MIKE	3988.5	5
4	KUTCH NORM	4212.4	5
3	VINCENT TOM	4227.1	5
2	THOMAS ROSS	4309.3	5
1	CHASTELER FRANK	4679.2	5

ELECTRIC SHORTS

BY TED GREEN



Southern California Soaring Clubs
Results of S.U.L.A. Contest
June 27, 1993

Southern California Soaring Clubs
Year-to-Date Standings
Best 4 of 5 Contests

PLACE	NAME	CLUB	CLASS	SCORE	NORMALIZED	TROPHY
1	STOKER PAT	EDSF	EXPERT	2924.0	1000.0	1ST EXP.
2	WEISMAN** B J XX	TOSS	SPORTSMAN	2978.0	997.3	2ND EXP.
3	LACEY ROGER	HSS	EXPERT	2960.0	992.0	3RD EXP.
4	HALLFORD PHILIP	PSS	EXPERT	2868.0	981.3	4TH EXP.
5	AGUIRRE MIKE	HSS	EXPERT	2854.0	989.9	
**5	RODRIGUEZ JOE	ISS	EXPERT	2854.0	989.9	5TH EXP.
7	REAGAN MIKE	TOSS	EXPERT	2952.0	999.3	
8	PILLS THOMAS XX	NONE	SPORTSMAN	2950.0	988.6	1ST SPTS.
9	CLERX BEN	HSS	EXPERT	2948.0	987.9	
9	MORAN MYLES	TOSS	EXPERT	2948.0	987.9	
9	McNAMEE DON	TOSS	EXPERT	2948.0	987.9	
9	SAGE FRED	TPG	EXPERT	2948.0	987.9	
13	ADDIS STEVE	SULA	EXPERT	2948.0	987.9	
13	SADORF STAN	ISS	EXPERT	2948.0	987.3	
15	GATTI MARK	PSS	EXPERT	2944.0	986.6	
16	BRILE JOHN	EDSF	EXPERT	2934.0	983.2	
17	VALDES AARON	TPG	EXPERT	2930.0	981.9	
17	WEISMAN EDGAR	TOSS	EXPERT	2930.0	981.9	
19	FARMER MERRILL XX	SULA	SPORTSMAN	2929.0	980.6	2ND SPTS.
19	ENK DAN	SULA	EXPERT	2928.0	980.6	
21	MARBLE JIM	EDSF	EXPERT	2924.0	979.9	
21	VAN GUNDY DON	TPG	EXPERT	2924.0	979.9	
23	POPE BOB	EDSF	EXPERT	2918.0	977.2	
24	NORENBERG LOWELL	SEVF	EXPERT	2914.0	976.5	
25	FAULKENHAM RON	ISS	EXPERT	2910.0	975.2	
26	RATNER MIKE	PSS	EXPERT	2908.0	974.5	
28	SCHAT DAVID XX	SULA	SPORTSMAN	2908.0	974.5	3RD SPTS.
28	BRANDT DENNIS	HSS	EXPERT	2902.0	972.5	
29	THOMAS ROSS	HSS	EXPERT	2900.0	971.8	
30	JOY GEORGE	TPG	EXPERT	2892.0	969.2	
30	RICHARDSON PETE	HSS	EXPERT	2892.0	969.2	
32	STROBEL RICH	TPG	EXPERT	2890.0	968.5	
33	ANDERSEN KEVIN	SULA	SPORTSMAN	2888.0	967.8	
34	DEVLIN ED	PSS	SPORTSMAN	2884.0	966.5	
34	PARSONS JIM XX	HSS	SPORTSMAN	2884.0	966.5	
36	FINKENBINDER KEITH	NCC	EXPERT	2878.0	963.9	
37	NEHRING CURT	HSS	SPORTSMAN	2868.0	961.1	
37	THROOP TERRY	SULA	SPORTSMAN	2868.0	961.1	
39	SWANSON NORM	TPG	SPORTSMAN	2856.0	957.9	
40	VINCENT TOM	HSS	SPORTSMAN	2854.0	956.4	
41	MROSE KHAN	NONE	SPORTSMAN	2824.0	945.4	
42	SWET BOB	TOSS	EXPERT	2822.0	945.7	
43	DOIG AL	NCC	EXPERT	2808.0	941.0	
44	GALLAHAN JOHN	EDSF	SPORTSMAN	2778.0	930.3	
45	WILSON DAN	EDSF	EXPERT	2774.0	928.9	
46	MARKIEWICZ ARTHUR	TPG	EXPERT	2772.0	928.0	
46	NING DON	EDSF	EXPERT	2772.0	928.0	
48	BULZOUCH NICK	HSS	SPORTSMAN	2748.0	920.9	
49	BARON MCKEY	SULA	SPORTSMAN	2732.0	915.5	
50	MALOVIC NOEL	PSS	EXPERT	2704.0	908.2	
51	LEVOE MARK	PSS	EXPERT	2682.0	898.7	
52	RODGERS JOHN	PSS	EXPERT	2598.0	870.8	
53	MUNESATO ROBERT	SULA	SPORTSMAN	2580.0	866.6	
54	KARP BILL	SULA	SPORTSMAN	2542.0	851.9	
56	TAU MANNY	HSS	EXPERT	2500.0	837.8	
58	CRON AL	HSS	EXPERT	2490.0	834.5	
57	SLUFF BOB	HSS	EXPERT	2482.0	825.1	
58	SCHULTZ STEVEN	EDSF	SPORTSMAN	2448.0	820.4	
59	LEPPLA FRANK	PSS	EXPERT	2384.0	792.2	
60	GARRICO MIKE	HSS	SPORTSMAN	2356.0	789.5	
61	FAIRIS CHARLEY	SULA	SPORTSMAN	2304.0	772.1	
62	BONANNO TONY	SULA	EXPERT	2264.0	758.7	
63	MORTON RICHARD	TPG	EXPERT	2232.0	748.0	
64	SEITZER GEORGE	PSS	EXPERT	2222.0	744.8	
65	BAGGERLY GREG	ISS	EXPERT	2208.0	739.3	
66	EDBERG DON	HSS	EXPERT	2190.0	733.9	
67	STARK TONI	PSS	EXPERT	2184.0	731.9	
68	NEMECEK DAVID	HSS	EXPERT	2164.0	725.2	
69	McNAMEE ART	TOSS	EXPERT	2138.0	718.5	
70	SMITH STEVE	LVSC	SPORTSMAN	2038.0	683.0	
71	DOUGLAS IAN	SWSA	EXPERT	2036.0	682.3	
72	WILSON DENNIS	EDSF	SPORTSMAN	1998.0	658.8	
73	MARTIN RANDY	SULA	SPORTSMAN	1908.0	639.4	
74	MATSUMOTO BEN	PSS	EXPERT	1892.0	634.0	
75	WALDEN WILLIAM	PSS	SPORTSMAN	1852.0	620.6	
76	SKINNER JIM	EDSF	EXPERT	1784.0	591.2	
77	HARDY BOB	SULA	SPORTSMAN	1708.0	572.4	
78	LANE DWAYNE	SULA	SPORTSMAN	1544.0	517.4	
79	CHASTELER FRANK	HSS	EXPERT	1478.0	494.6	
80	PARIZEK VACLAV	NONE	SPORTSMAN	1436.0	481.2	
81	RIMICCI SANTO	NONE	SPORTSMAN	1400.0	469.2	
82	DILLON ROBERT	NONE	SPORTSMAN	1120.0	375.3	
83	PUCHALSKI MARK	SULA	EXPERT	1000.0	335.1	
84	KLATSKIN BILL	EDSF	SPORTSMAN	950.0	318.4	
85	ZINK DON	NONE	EXPERT	880.0	284.9	

** B.J. WEISMAN MOVES TO EXPERT
** RODRIGUEZ WON FLYOFF FOR 5TH. PLACE

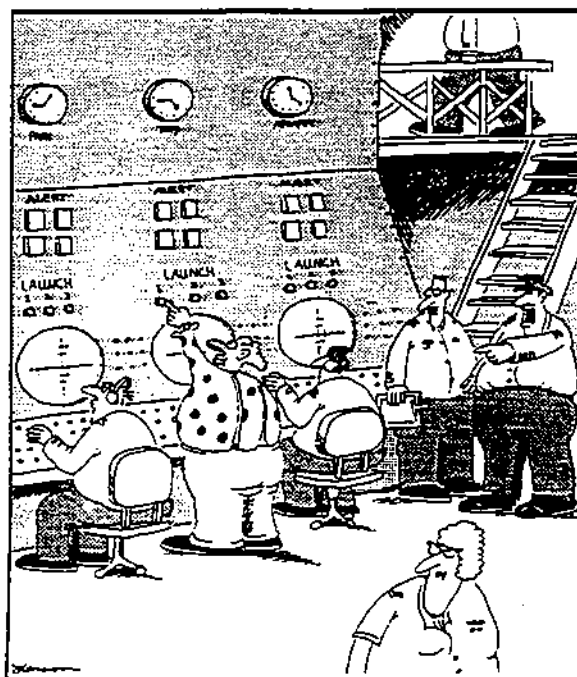
TEAM SCORES

TOSS 7	3862.4	ISS 4	3691.7
HSS 17	3942.3	NCC 2	1904.8
EDSF 11	3940.3	SEVF 1	976.5
SULA 15	3923.0	SWSA 1	882.3
PSS 12	3618.9	DUST 0	0.0
TPG 8	3918.9	MRCSS 0	0.0

PLACE	NAME	STATUS	SCORE	CONTESTS	CLUB
1	LACEY ROGER	EXPERT	3558.5	4	HSS
2	REAGAN MIKE	EXPERT	3046.8	4	TOSS
3	SAGE FRED	EXPERT	3043.5	4	TPG
4	SADORF STAN	EXPERT	3013.1	4	ISS
5	JOY GEORGE	EXPERT	3009.5	4	TPG
6	VALDES AARON	EXPERT	3007.4	4	TPG
7	CLERX BEN	EXPERT	3007.2	4	HSS
8	RODRIGUEZ JOE	EXPERT	3005.7	4	ISS
9	McNAMEE DON	EXPERT	3002.0	4	TOSS
10	SKINNER JIM	EXPERT	3022.8	4	EDSF
11	MARBLE JIM	EXPERT	3021.1	4	EDSF
12	MARKIEWICZ ARTHUR	EXPERT	3008.7	4	TPG
13	VAN GUNDY DON	EXPERT	3004.7	4	TPG
14	LEVOE MARK	EXPERT	3004.3	4	PSS
15	WEISMAN EDGAR	EXPERT	3007.8	4	TOSS
16	MORTON RICHARD	EXPERT	3008.1	4	TPG
17	EDBERG DON	EXPERT	3007.9	4	HSS
18	HALLFORD PHILIP	EXPERT	3002.7	4	PSS
19	AGUIRRE MIKE	EXPERT	3001.1	4	HSS
20	FINKENBINDER KEITH	EXPERT	3007.9	4	NCC
21	WEISMAN B J XX	SPORTSMAN	3003.8	4	TOSS
22	THOMAS ROSS	EXPERT	3054.8	4	HSS
23	BAGGERLY GREG	EXPERT	3054.7	4	ISS
24	POPE BOB	EXPERT	3023.6	4	EDSF
25	SWET BOB	EXPERT	3007.9	4	TOSS
26	SLUFF BOB	EXPERT	3001.2	4	HSS
30	NEHRING CURT	SPORTSMAN	3001.6	4	HSS
32	PARSONS JIM XX	SPORTSMAN	3007.4	4	HSS
35	TAU MANNY	EXPERT	3002.1	4	HSS
49	CHASTELER FRANK	EXPERT	2788.4	4	HSS
51	RICHARDSON PETE	EXPERT	2893.2	3	HSS
52	CRON AL	EXPERT	2520.2	3	HSS
54	VINCENT TOM	SPORTSMAN	2455.7	3	HSS
61	BULZOUCH NICK	SPORTSMAN	2078.8	4	HSS
62	KUTCH NORM	EXPERT	2077.4	3	HSS
67	ATWELL BLAIR	EXPERT	1895.0	2	HSS
69	GIBBS DUANE	EXPERT	1886.6	2	HSS
75	NENDRY STEVE	EXPERT	1732.3	2	HSS
83	FINK STEVEN	EXPERT	1621.3	2	HSS
85	BRANDT DENNIS	EXPERT	1510.5	2	HSS
108	SMITH MORRY	EXPERT	942.9	1	HSS
110	PANTZAR DICK	EXPERT	922.0	1	HSS
119	RITSCHKE GORDON XX	SPORTSMAN	851.5	1	HSS
120	ANDERSON VAN	SPORTSMAN	842.7	1	HSS
123	YOUNG PETER	SPORTSMAN	833.2	1	HSS
125	POULSEN GORDON	EXPERT	828.8	1	HSS
127	SANDERS ANDY	SPORTSMAN	822.8	1	HSS
128	HAWLEY ED	SPORTSMAN	821.4	1	HSS
134	CARRICO MIKE	SPORTSMAN	799.5	1	HSS
138	BRATRUD RANDY	EXPERT	706.3	1	HSS
142	NEMECEK DAVID	EXPERT	726.2	1	HSS
144	LONG DICK	SPORTSMAN	699.9	1	HSS

TEAM STANDINGS

HSS	16,548.5	NCC	15,542.4
TPG	19,515.3	SULA	10,581.7
HSS	19,499.0	SEVF	7,718.9
EDSF	19,026.2	SWSA	5,539.8
TOSS	18,995.1	DUST	909.4
ISS	18,699.3	MRCSS	0.0



"Hey! What's that clown think he's doing?"



**The Oldest Chartered
Soaring Club
in the
A.M.A.**



Charter # 128

HSS AUGUST MEETING

DATE: Wednesday, August 4, 1993,
7:30PM

LOCATION: Lakes at Seabridge
Condos. Refer to page 1 for
instructions.

SHOW AND TELL: Bring in your
latest projects!

GUEST SPEAKER: Brian McLean will
highlight his Zephyr, an all
composite high performance slope
soaring and slope racing machine.
The Zephyr is available in semi-
kit form in various stages.
Refer to R/C Soaring Digest,
June 1993 issue, page 46, for
more details.



P.O. Box 1673
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