Harbor Soaring Society
P.O. Box 1673
Costa Mesa, CA 92626

FIRST CLASS MAIL

WILL CONRAD
9359 SHRIKE AVE
FOUNTAIN VALLEY , CA 92708

(The Soaring) Society Column

President:	George Joy	(714) 556-6385
Vice Pres:	Rich Garner	(714) 526-6734
Secretary:	Dave Nemecek	(714) 839-4317
Treasurer:	Frank Chasteler	(714) 545-2185
Contest Coord:	Ross Thomas	(714) 638-0705
General Dir:	Jared Stalls	(714) 722-1846
News Letter Ed:	Bob Sliff	(714) 895-1203

"The Oldest Chartered Soaring Club In the AMA"
Charter # 128

July 1990 Volume 27 Number 7

July Club Meeting: The July club meeting will be held on Wednesday, July 11, 1990, 7:30 pm at the Consolidated Water District Office, 1965 Placentia Ave., Costa Mesa, Ca. Program for the meeting will be a video on full scale soaring from the Soaring Society of America, courtesy of Duane Gibbs. The Monthly club contest will be on July 8th, field conditions permitting.

August Club Meeting: The August club meeting will be held on Wednesday, August 1, 1990 at 7:30 pm at the Water District Office.

MINUTES HSS JUNE 90 MEETING

1) The meeting was called to order by Pres. George Joy.
2) The May minutes were read as approved by members present.
3) Frank Chasteler gave the Treasurer's report.
4) **C.C. Ross Thomas stated a need for CDs for the July, August, and December contests.**

New Faces: Don Edberg was introduced to the club. Ric Magrath was also introduced to the club; he is the owner of the just purchased generator.

We apologize to Curt Nehring, whose name was misspelled in last month's newsletter.

Old Business:

1) George Joy provided an update on the flying field. He mentioned that the carpet was left at the field since Thursday, but it has to be removed when we leave each day.

2) *Notice!* The field will be closed June 22, 23, & 24 for an Amateur Radio function.

3) Will Conrad stated that there was nothing new happening with the Boy Scout program. It was suggested that we approach the high school without the Boy Scouts involved.

4) The Astro Champs was a good contest. George Joy said fun was had by all.

5) The F3E Team was announced: Jerry Bridgeman was first, Jason Perrin placed second, Steve Neu took third, and Bob Sliff will go as Team Manager. Congratulations!

6) The Sportsman F3B contest was passed over until next month. No one had given much thought to a specific date.

7) The Board has come up with a list of new policies. A motion was made and seconded to accept the new club policies.

New Business:

1) **The July 4th meeting will be changed to July 11th, if we are able to get the meeting room. The July contest will still be held on July 8th -- before the club meeting.**

2) The Lee Renaud Memorial contest, to be held July 1st, will be CD'd by Bob Sliff. Tony Martin will do the scoring. Morry Smith & Gordon Ritschke will assist.

3) Frank Chasteler had a discussion with Dave Brown. Non-AMA members CANNOT use our equipment or we could lose our insurance. ONLY Frank Chasteler can give non-members ONE flight on the club plane.

4) Roger Lowery proposed that the club buy a generator being offered to the club for the price of two AMA memberships and two years of HSS club membership. The motion was made and seconded to buy the generator outright. Authorization was also given for Roger Lowery to build a power cord with four (4) outlets to power four winches. A max cost of $100.00 was put on the power cord. The club will buy the first year AMA and Club memberships. The remaining money will be given to the owner of the generator, Ric Magrath.

5) Art Wahlstedt misplaced a Sony radio, possibly at the field. Please call him if you find it. (646-7069)

Dave Nemecek
Secretary

The JULY CLUB CONTEST

It will be the standard 3/5/7, pilots choice. Landings will be the normal taped circle with landings counting 300/200/100 points respectively.

C.D. will be Ross Thomas.

INJECTING FOAM INTO FIBERGLASS TAIL BOOMS

by Frank Deis
Extracted from CASL, May Newsletter

Fiberglass fuselages get their great strength from the "monocot" nature of their construction. More simply stated, they are strong for the same reason an egg shell is strong -- because of the combination of shape and material. It turns out that a sailplane fuselage is not nearly as ideal a shape as an egg, from a strength standpoint. Hence they are a lot easier to break than most people realize. The most vulnerable part of the fuselage to one of these shape related failures is the tail boom. If a bending lead is applied to the tail boom -- say you try to break it over your knee, for example -- the boom initially appears to be very strong, then deforms slightly (flattens a little), and abruptly fails totally after suddenly losing all of its strength. This is sometimes called an "oil can" failure or, simply, "oil canning." For a vivid and cheap demonstration of this try to bend an empty soft drink can and you will quickly understand the term "oil canning." In case you have any doubt that this is a shape distortion related failure, get a can of that rigid, expanding, insulating foam and fill another soft drink can with it. After a few days try to bend the foam filled can -- lots of luck! It won't fail unless you dent it first, then it is a piece of cake. If you want a demonstration that is more tail-boom-like try the cardboard roll from a paper towel roll. The bottom line is your fiberglass fuselage boom will take a lot tougher landing if you can keep it from "oil canning."

Most people who use fiberglass fuselages are aware of the problem and aware that a can of that rigid foam, in place of insulating foam, is a good solution. The problem is how to do it. I just foamed the fuselages on both my Falcon 880 and ICON. I had some problems and found some fixes, so I thought I would pass along my approach in the hope that someone will be able to improve on it. The procedure is as follows:

1) Put in all of the pushrods and control linkages, tack them in place with 5 minute epoxy and make sure they work. I am using 1/16 music wire inside of the yellow part of a NYROD. I also put in a piece of the outer blue tube to serve as a tube for the antenna.

2) Plug the tail boom on the inside as far back toward the vertical fin as possible. (Remember, they often break at the weak spot just forward of the fin so you want to be sure you can get some FOAM in that area to maintain the shape as well.) I used a balsa plug on the Falcon that supported the rudder, horizontal stabilizer, and antenna tubes. On the ICON I just packed styrofoam packing beads (worms) in from the opening in the tail. Both seem to have worked fine.

3) Locate a strong, bright light that will penetrate the fuselage (like candling an egg), and put a band of masking tape around the fuselage at the trailing edge of the wing. You should be able to see a shadow from the plug in the tail boom when you hold the fuselage up to the light. The masking tape will TELL you what the upper fill limit is. I have found that the foam continues to expand very slowly as it cures -- about another 10% -- so when you are done the foam will extend forward an additional 3 inches. This is OK because the other place the fuselage likes to break is right at the trailing edge of the wing and this extra foam extent helps maintain the shape there also.

4) Now that the fuselage is ready it is time to talk about the foam. A principle of high strength design is to avoid sudden changes in the strength or stiffness. I know these changes as "stress discontinuities." They are why your wing spar breaks right at the end of the spar doubler unless you taper the doubler down very slowly. A similar effect occurs when you join spruce and balsa to one another. If you feather one into the other the overall structure will be much stronger. Another example is the use of fillets in place of sharp corners when machining metal parts. The point of all this is that you want to avoid stress discontinuities in your tail boom if you are going maximize its strength and that means NO HOLES IN THE FOAM! Don't just foam a couple spots down the boom, it will help very little. Try this on a cardboard tube if you think I am fooling. The problem is how to get the foam smoothly and continuously injected into the boom.

The can of foam comes with about a foot of tubing to use as an extension to reach into small pieces. Hardly enough to reach down the tail boom of the ICON. The solution of using a longer piece of tubing sounds straight forward but there is a problem. The foam is very viscous (thick and sticky) as it comes from the can. Trying to squirt this stuff down a 30 inch long, 1/8 inch diameter tube resulted in one of two situations:

a) it clogged the tube and stopped, or

b) it blew the tube off the nozzle and made a real mess.

The solution I stumbled on is shown in the diagram, I got an ice maker plumbing kit from the hardware store which included 25 ft of teflon tubing. It is larger in diameter than the tube that comes with the foam and that helps a lot by itself. Cut the end of the tubing that comes with the foam at a very shallow angle -- see the diagram -- and shove it into the ice maker tubing. It is a very tight fit so you really have to force it. It should go in an inch or more. Then cut off the part sticking out of the ice maker tubing flush with the end. You can now force this over the end of the nozzle that comes with the foam. This made it a tight enough fit that the tubing did not pop off the nozzle -- (I have plenty of extra tubing if anyone needs some). I cut the teflon tubing sufficiently long to reach easily to the plug at the end of the tail boom when inserted from the canopy area.

Now insert the tube down the fuselage to the plug, hold the fuselage up to the light so you can see the depth of the foam, and start injecting, slowly withdrawing the tube as you go until you come to the masking tape marker and stop.

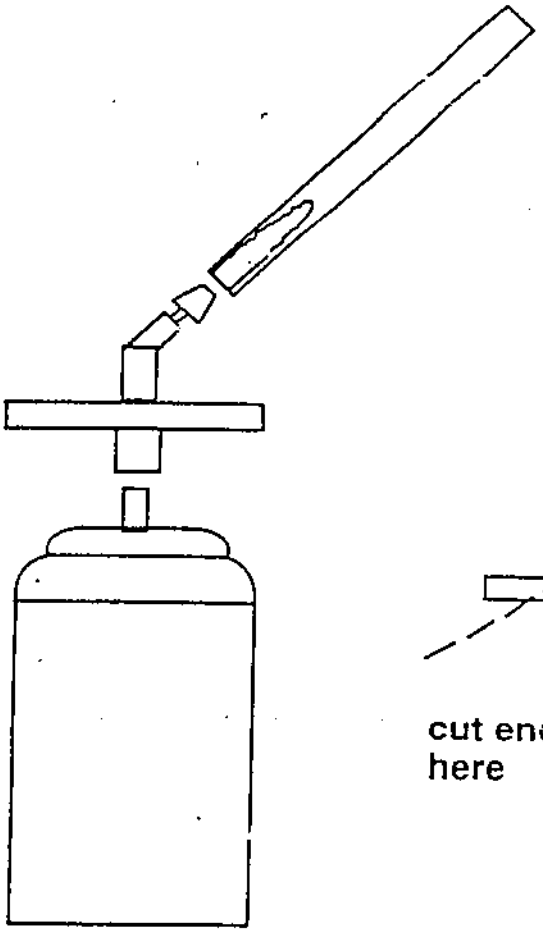
!!!! CAUTION !!!!

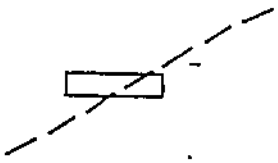
The foam is messy beyond belief!!! Don't touch it or play with it in any way or you will rapidly get into unbelievable trouble!!! (the comment "making love to a tar baby" conjures up the appropriate picture). Fortunately the stuff is real easy to work with once it sets up. If anything goes wrong or if the foam gets some place you don't want it (like in the forward fuselage area when you withdraw the tube) just wait until it hardens and then break it off. You will be surprised how easily it cleans up. Be sure to read the cautions on the can to get the full story on working with this stuff.

5) Let the fuselage stand for a day or so while the foam sets. Initially, you will notice that the tail boom feels cool and heavy and as it cures it seems to lighten up. I did not have the foresight to weight the fuselages before and after, so I don't know the weight gain. It doesn't feel significant. The foam seems to cure by an evaporation-like process; you will notice that the middle of the tail boom will feel squishy when the ends are firm. This goes away slowly as the foam cures -- very slowly! As I recall, it took several weeks to finish when I did this to my Maestro last summer. The fuselage is not up to full strength until the foam is rigid the full length of the boom. I don't think you have to wait to fly it, however. It is no weaker than an untreated fuselage and there are no stress discontinuities so it is air worthy. You may see some CG shift as the foam cures but it shifts forward so you should not get any nasty surprises.

6) After a day or so of curing you can clean up any mess that might have occurred and continue building as though none of this ever happened.

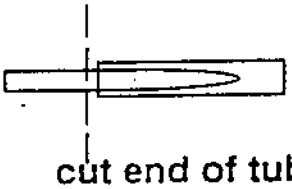
The finished fuselage will be almost immune to those silly landings where a wing hits a clump of grass and snaps the tail boom -- it will take a surprising crash. If it does break, the presence of the foam does not seem to complicate the normal repair techniques.



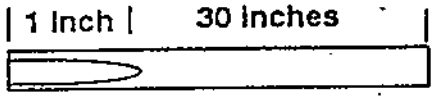


cut end of tube here

insert end in teflon tube



cut end of tube here



this is what you are looking for

Electric Flight TEAM SELECTION FINALS

F3E 1990

HARBOR SOARING SOCIETY

JUNE 1 & 2

BY BOB SLIFF

After much preparation and practice on the part of some of us local flyers, the time finally came to compete for places on the 1990 USA F3E team to go to Fristadt, Austria in August this year.

There were 8 entrants to compete for the three places on the team. All had well prepared models that were capable of equaling some of the better European flyers.

C.D.s at the contest were George Joy and Frank Chasteler, who did a whale of a job dealing with the few problems (we had very few problems because of the great work of our officials) and keeping the actions going. We planned to fly eight rounds, and right on schedule we completed the 8 rounds with hardly a hitch.

The F3E task is a very exacting program, requiring the very highest quality of equipment and flying skills. For those of you who are not familiar with the event I will give a brief summary.

A. When you are called to fly, you have 5 minutes to get out to fly. At the end of the five minutes, you then have a two minute launch window to get into the air. And to overcome any possible equipment problems, you take both (you are allowed two airplanes to use at your discretion) of your models out to the ready area, which if one has a problem before launch, you can go to the other model before your two minute launch window is up.

B. At launch, you climb off of the course to get altitude to enter the course passing base "A" with the motor now turned off. You then glide back and forth from one end of the course to the other (180 meters each way) to get as many "Laps" (i.e., one way legs) as you can or want. Then, coming off the course past base "A" you again turn you motor on and climb and repeat the process. The object is simply to get as many (gliding) laps as possible in exactly three minutes. For this you get 15 points for each Lap completed.

C. Upon completion of the course, you then do a "Limbo" pass to begin your duration portion of the flight. The "Limbo" is such that you must pass below 3 meters at a point just opposite base "A". If you miss, you go around and try again-- you have one minute to complete this.

D. Upon passing the limbo successfully, you now begin the "duration" portion of the flight. Here the task is a five minute flight, whereby you can use your motor whenever you wish, but the time that you use your motor is deducted from the duration time. And for the duration you are given 1 point for each second of flight up to 300 seconds (5 minutes), while any over time is deducted. By the way, the timer stops the duration watch when the model come to a full stop, not a touch down. So you can't do any touch and goes.

E. At the end of this "Duration" period, you must land inside a circle for landing points. Actually, there are two circles, one inside the other. The inner one is 15 meters in diameter, and it is worth 30 points if you stop within it. The outer one is 30 meters in diameter and is worth 15 points. Outside either of these, you get no points for landing.

Put all of this together, and you get the total points for each flight. After you do this eight times (with you lowest score dropped) you get the final total for the contest.

So, how did we do? Obviously, some better than others. But, to end the suspense, finishing was in this order. (The point total is after the lowest round is dropped leaving 7 rounds to count.)

1st. Jerry Bridgeman -- 4756 total points

2nd. Jason Perrin -- 4654 total points

3rd. Steve Neu -- 4520 total points

4th. Bob Sliff -- 4372 total points

5th. Grant Messinger -- 4310 total points

6th. Kieth Finkenbiner – 4246 total points

7th. Brian Chan – 3459 total ponnts (6 rounds only)

8th. Felix Vivas -- 2131 total points (4 rounds only)

The US team is the first three, with yours truly as the Manager. In addition, Grant, Keith, and Brian will accompany the team as supporters/helpers.

Scoring is interesting if you have something to compare with. And as laps are a big part of the event, that is easiest to compare. So, for comparison, take the 1988 World Champs at St Louis, Mo. There the highest number of laps was 23 achieved once by the World Champion Rudolf Freudenthaler, and once by the second place finisher, Urs Leodolter.

Now, let us look at the lay out of scores:

Rounds	1.	2.	3.	4.	5.	6.	7.	8.
Bridgeman	688/24	661/23	702/25	675/24	670/23	685/24	670/24	668/24
Perrin	666/23	629/23	641/22	681/24	650/22	675/24	663/23	678/24
Neu	634/22	613/20	529/16	648/22	665/23	657/23	647/22	656/23
Sliff	580/19	614/20	593/20	643/22	613/20	613/21	644/22	652/22
Messinger	607/20	615/22	620/20	619/21	611/20	598/20	617/21	621/20
Finkenbiner	609/21	586/20	583/20	595/20	622/21	633/22	599/19	602/20
Chan	618/20	528/18	544/18	560/17	610/21	599/21	0/0	0/0
Vivas	607/20	572/18	550/18	402/14	0/0	0/0	0/0	0/0

Some other interesting data can be gleaned from the score cards.

A. Average motor run for the duration portion, Bridgeman – 6.25 seconds (on one flight he used no motor run at all, and on another used only one second.), Perrin – 10.125 seconds, Neu – 11.8 seconds, Sliff -- 10.5 seconds, Messenger – 9.875 seconds, Finkenbiner – 9.625 seconds, Chan -- 12.83 seconds, Vivas – 15.5 seconds

B. Landing points for eight flights where you get 30 points for the inner circle and 15 outside circle and 0 outside either circle (possible 240 points.)

Bridgeman -- 225 pts, Perrin – 220 pts, Neu -- 225 pts, Sliff – 165 pts, Messinger – 195pts, Finkenbiner -- 90 pts, Chan – 60 pts, Vivas -- 45 pts.

C. Duration time was always close to the 5 minutes, so there is little to be seen there.

D. Equipment used for the most part were Astro Flight FAI 60's and Airtronics Vision radios. Props and throttles were mostly home grown, while spinners came from Tru-Turn

Therefore, you can probably see from the above that the most important part of the event is the Laps. If you get more laps, you will have an advantage. Next important is landing points. That is, don't miss if you hope to be in the final running. And last, but of much lesser importance is the duration motor time. It doesn't count for much, but in a close finish it can be important.

If you are planning to compete, pay attention to the more important aspects. Success depends heavily on them.

E. Finally, the models themselves yield some information. But, While there was some variations, model weight ranged from ninety two ounces to one hundred and five ounces. Light weight and climb vary directly.

Now that the Selection finals are over, we are hurriedly getting ready for Austria. New, hopefully better, models are in the cooker. And practice is the order of the day. While 25 laps is a good improvement from the last World Championships, it will not likely be good enough. It looks like 26 will be the standard, with 27 and 28 from time to time especially of the thermals on the course are booming. So, wish the team luck. We will carry the Banner for the USA to the best of our abilities.

USA F3E, CHARGE!!!!

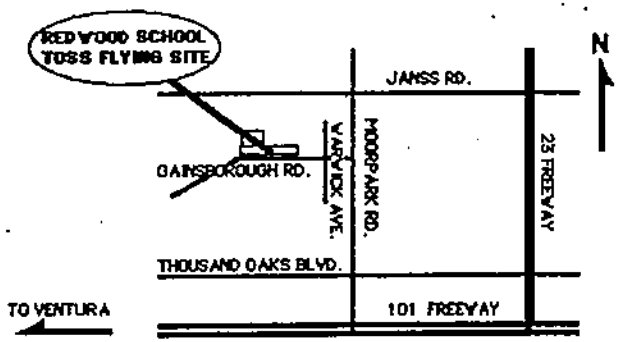
THOUSAND OAKS SOARING SOCIETY PRESENTS SC 2 R/C SOARING CONTEST ON OUR NEW GRASS FIELD

DATE: Sunday JULY 29th, 1990

C/D: Eric Hendrickson (805) 493 - 4210

TOSS PRESIDENT: Edgar Weisman (805) 496 - 0611

LOCATION: T.O.S.S. Flying field. Redwood School Gainsboro Rd. Thousand Oaks, Ca. (Map included.)



EVENTS: Three Rounds precision duration. Must fly one of each type.

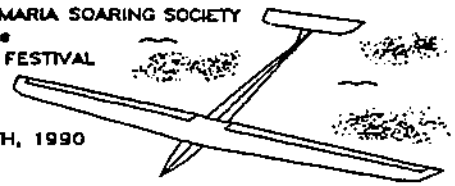
3Min. Scored 700 flight / 300 landing points
5Min. Scored 800 flight / 200 landing points
7Min. Scored 900 flight / 100 landing points

LANDINGS: Carrier Style, Scored one point / inch.

SURFACE: Grass.

WINCHES: 12 volt. Approximately 900 feet to turn around. Mechanical retrievals will be provided.\

SLO FLYERS And The SANTA MARIA SOARING SOCIETY
Present the
SUMMER SOARING FESTIVAL



JULY 7TH AND 8TH, 1990

CLASS: Open

EVENTS: Saturday - 1st Round: 3 minute precision - duration with penalty points for time under/over.

2nd Round: T6 Triathalon with landing points four times that shown in the landing description below.

3rd Round: To be announced.

Sunday - 1st Round: 3 minute precision - duration with penalty points for time under/over.

2nd Round: 15 minute T4 with no flight over 6 minutes.

LANDING: Graduated triangle with 10, 20, 30, 40, 50 percent of flight score, except for T4 and T6 where point value is added to score.

Note: Our field now has a GRASS landing area.

SITE: SLO Flyers Field. Located behind Cuesta Community College on Highway 1, San Luis Obispo, CA. Map and list of accomodations provided with confirmation.

EQUIPMENT: 12 Volt Winches and Retrievers

AMA: AMA cards or dues required at registration. Radios must display frequency flags and AMA # must be on right wing in 1" or higher letters per AMA rules.

BACKUP: One backup sailplane per entrant on same frequency. CD must determine flyability of primary sailplane.

AWARDS: 1st through 10th, with first place team trophy.

ENTRY FEE: 20$, non-refundable and non-transferable. Make payable to: SLO FLYERS INC.

RAFFLE: Sunday after the contest.

CD: Gordon Jennings (805) 528-8960 Asst. CD: Jim Sneed (805) 481-0775

MAIL TO: Summer Soaring Festival
c/o Gordon Jennings
1578 7th Street
Los Osos, CA 93402

SLO FLYERS SUMMER SOARING FESTIVAL - JULY 7TH AND 8TH, 1990

NAME:_____ AMA#:_____

ADDRESS:_____ PHONE:_____

CITY:_____ STATE:_____ ZIP:_____

FIRST FREQ. CHOICE:_____ SECOND FREQ. CHOICE:_____

TEAM:_____

SOUTHERN CALIFORNIA SOARING CLUBS
RESULTS OF PSS (SC)2 CONTEST OF 06/17/90
CONTEST DIRECTOR - BEN MATSUMOTO

PL	NAME	CLUB	CLASS	SCORE	NORMAL	TROPHY
1	WURTS, JOE	TOSS	EXPERT	2974.8	1000.0	E-1
2	PERKINS, DARYL	PSS	EXPERT	2945.2	990.0	E-2
3	ROBERTS, GARY	PSS	EXPERT	2915.3	980.0	E-3
4	EDBERG, DON	SULA	EXPERT	2912.5	979.1	E-4
5	CHASTAIN, BLAIN	PSS	SPORTS	2881.9	968.8	S-1
6	MORAN, MILES	TOSS	EXPERT	2876.9	967.1	E-5
7	BRATRUD, RANDY	HSS	EXPERT	2868.8	964.4	
8	SHELBY, RICH	ISS	EXPERT	2864.7	963.0	
9	KINDRICK, KEITH	PSS	EXPERT	2851.2	958.5	
10	STALLS, JARED	HSS	EXPERT	2843.4	955.8	
11	FINK, DAN	SULA	EXPERT	2838.5	954.2	
12	MARTIN, TONY	HSS	EXPERT	2816.3	946.7	
13	PETTEN, MICHAEL	ISS	SPORTS	2809.9	944.6	S-2
14	PROVIN, KURT	SULA	SPORTS	2787.9	937.2	S-3
15	HENDRICKSON, ERIC	TOSS	EXPERT	2779.9	934.5	
16	SANDRONI, HUGO	SULA	SPORTS	2764.2	929.2	
17	WEISMAN, EDGAR	TOSS	SPORTS	2762.5	928.6	
18	ANDERSON, GARY	TPG	SPORTS	2741.9	921.7	
19	BITZBERGER, JOHN	SWSA	SPORTS	2734.4	919.2	
20	MEIENBERG, KEN	NONE	EXPERT	2714.7	912.6	
21	ZINK, DAN	HSS	EXPERT	2702.3	908.4	
22	VICKERS, DON	SULA	EXPERT	2701.3	908.1	
23	DREWRY, BILL	PSS	SPORTS	2693.3	905.4	
24	CHASTELER, FRANK	HSS	EXPERT	2670.1	897.6	
25	GRISWOLD, CHUCK	TOSS	EXPERT	2661.8	894.8	
26	STARK, TONI	PSS	EXPERT	2639.9	887.4	
27	GLASS, ROBERT	PSS	SPORTS	2636.8	886.4	
28	SIREN, JAY	PSS	EXPERT	2623.8	882.0	
29	MATSUMOTO, BEN	PSS	EXPERT	2617.1	879.8	
30	LONG, DICK	SULA	SPORTS	2578.1	866.6	
31	FOXGORD, CRAIG	PSS	EXPERT	2549.1	856.9	
32	BUTOVICH, DAVID	PSS	SPORTS	2516.4	845.9	
33	CLIFTON, GLENN	SWSA	SPORTS	2494.8	838.6	
34	RODRIGUEZ, JOE	ISS	SPORTS	2483.74	834.9	
35	DeGREVE, PATRICK	PSS	SPORTS	2473.0	831.3	
36	FARLESS, DAVID	PSS	EXPERT	2443.8	821.5	
37	HENDRY, STEVE	HSS	EXPERT	2417.5	812.7	
38	BLEDSOE, RICH	TPG	SPORTS	2375.0	798.4	
39	DOUGLAS, IAN	SWSA	EXPERT	2350.9	790.3	
40	OLSON, PETE	SWSA	EXPERT	2343.5	787.8	
41	LEPPLE, FRANK	PSS	EXPERT	2326.5	782.1	
42	WALDEN, WILLIAM	PSS	SPORTS	2309.5	776.4	
43	INGEBRITSON, G.	SWSA	SPORTS	2268.1	762.4	
44	LARSEN, ORLA	DUST	SPORTS	2264.8	761.3	
45	BONANNO, TONY	SULA	EXPERT	2264.0	761.1	
46	SHELBY, CLAUDETTE	ISS	SPORTS	2262.5	760.6	
47	SPITZER, GEORGE	PSS	SPORTS	2245.3	754.8	
48	LEVOE, MARK	PSS	SPORTS	2244.9	754.6	
49	SADORF, STAN	ISS	SPORTS	2209.4	742.7	
50	JENKINS, HARVEY	ISS	EXPERT	2169.8	729.4	
51	RICHARDSON, PETE	HSS	EXPERT	2143.0	720.4	
52	OLSEN, ROBIN	SWSA	SPORTS	2118.5	712.1	
53	RATNER, MIKE	PSS	EXPERT	2058.6	692.0	
54	HOLLEY, MARY	SWSA	EXPERT	2055.5	691.0	
55	MILLS, ARCHIE	SULA	SPORTS	2039.0	685.4	
56	BROWN, GARY	ISS	SPORTS	1984.3	667.0	
57	HATCH, JOEY	DUST	SPORTS	1908.6	641.6	
58	WILKENS, DAVE	ISS	SPORTS	1895.5	637.2	
59	SHORT, HOWARD	SULA	EXPERT	1892.5	636.2	
60	OTHON, MIKE	ISS	SPORTS	1870.8	628.9	
61	HALLFORD, PHILIP	PSS	SPORTS	1849.3	621.7	
62	HARTIGUN, RICH	PSS	SPORTS	1805.3	606.9	
63	COOK, JIM	ISS	SPORTS	1620.2	544.6	
64	KENNER, JESSE	PSS	SPORTS	1594.3	535.9	
65	STEPHEN, JUDD	PSS	SPORTS	1510.9	507.9	
66	TILLMAN, NORM	NCC	EXPERT	1505.0	505.9	
67	HALL, DAVID	DUST	SPORTS	808.2	271.7	
68	LOWERY, RODGER	HSS	EXPERT	342.3	115.1	
69	KOSHPOULOS, G.	PSS	SPORTS	0.0	0.0	

TEAM SCORES

PSS 23	TOSS 5	SULA 9	HSS 8	ISS 10	SWSA 7	DUST 3	TPG 2	NCC 1	EDSF 0	MRCSS 0
990.0	1000.0	979.1	964.4	963.0	919.2	761.3	921.7	505.9	0.0	0.0
980.0	967.1	945.2	955.8	944.6	838.6	641.6	798.4			
968.8	934.5	937.2	946.7	834.9	790.3	271.7				
958.5	928.6	929.2	908.4	760.6	787.8					
3897.3	3830.2	3799.7	3775.3	3503.1	3335.9	1674.6	1720.1	505.9	0.0	0.0

HARBOR SOARING SOCIETY

JUNE OPEN CLASS CONTEST RESULTS

PLACE	NAME	WINS	CLASS	SCORE	NORM	TROPHY
1.	MARTIN, TONY		EXP	2928.0	1000.0	E-1
2.	GARNER, RICH		EXP	2893.0	988.0	E-2
3.	WHITE, LARRY		EXP	2864.0	978.1	E-3
4.	JOY, GEORGE		EXP	2851.0	973.7	
5.	THOMAS, ROSS		EXP	2801.0	956.6	
6.	STALLS, JARED	TWO	ADV	2758.0	941.9	A-1
7.	KUTCH, NORM	ONE	ADV	2739.0	935.5	A-2
8.	SANDRONI, HUGO	ONE	ADV	2733.0	933.4	
9.	CHASTELER, FRANK		EXP	2705.0	923.8	
10.	STOKER, PAT		EXP	2681.0	915.6	
11.	RICHARDSON, PETE		EXP	2597.0	887.0	
12.	NEVECEK, DAVE		EXP	2490.0	850.4	
13.	FINK, STEVE	NONE	SPT	2454.0	838.1	
14.	COLLINS, TAYLOR		GST	2408.0	822.4	
15.	CRON, AL	TWO	ADV	2393.0	817.3	
16.	RITSCHKE, GORDON		EXP	2349.0	802.3	
17.	STOVALL, LEE	NONE	SPT	2348.0	801.9	1-S
18.	ROGERS, TONY		GST	2339.0	798.8	
19.	LONG, DICK	NONE	ADV	2302.0	786.2	
20.	BUZOLICH, NICK	NONE	SPT	2275.0	777.0	2-S
21.	MILLS, ARCHI	NONE	SPT	2174.0	742.5	
22.	ANDERSON, VAN	NONE	SPT	2158.0	737.0	
23.	PARSONS, JIM	TWO	SPT	2096.0	715.8	
24.	BONANNO, TONY	ONE	ADV	1981.0	676.6	
25.	LOWREY, RODGER	TWO	ADV	1960.0	669.4	
26.	GERMANE, BRIAN	ONE	SPT	1933.0	660.2	
27.	DE ROCCO, CLEM	NONE	SPT	1536.0	524.6	
28.	NEHRING, CURT	NONE	SPT	1286.0	439.2	
29.	DURHAM, JACK		EXP	797.0	272.2	
30.	SOWELL, DEVON		GST	628.0	214.5	

[JARED STALLS MOVES TO EXPERT]

YEARLY STANDINGS OPEN CLASS THROUGH JUNE 1990

PLACE	NAME	CLASS	SCORE	CONTESTS
1.	WHITE, L	EXP	4773.9	5
2.	NEMECEK, D	EXP	4643.4	5
3.	STALLS, J	EXP	4627.0	5
4.	THOMAS, R	EXP	4535.3	5
5.	JOY, G	EXP	199.0	5
6.	KUTCH, N	ADV	4185.4	5
7.	GARNER, R	EXP	3901.3	4
8.	ZINK, D	EXP	3856.5	4
9.	SANDRONI, H	ADV	3787.2	4
10.	FINK, S	EXP	3664.5	4
11.	BUZOLICH, N	SPT	3654.6	5
12.	MARTIN, T	EXP	3648.5	4
13.	CRON, A	ADV	3601.1	4
14.	GERMANE, B	SPT	3590.1	5
15.	CHALTELER, F	EXP	3583.4	4
16.	HENDRY, S	ADV	3547.2	4
17.	STOVALL, L	SPT	3507.0	5
18.	PARSONS, J	SPT	3490.9	5
19.	GIBBS, D	ADV	3395.6	4
20.	DURHAM, J	EXP	2928.3	4
21.	SLIFF, B	EXP	2837.2	3
22.	RICHARDSON, P	EXP	2732.7	3
23.	HENDRY, M	ADV	2692.5	3
24.	RITSCHKE, G	EXP	2591.6	3
25.	PANTZAR, D	EXP	2589.4	3
26.	ANDERSON, V	SPT	2133.8	3
27.	LUPPERGER, J	EXP	1920.8	2
28.	LOWREY, R	ADV	1817.8	3
29.	AIMES, J	ADV	1802.5	2
30.	COLLETT, M	SPT	1706.6	2
31.	BONANNO, T	ADV	1659.4	2
32.	JOY, B	SPT	1631.3	2
33.	LONG, D	ADV	1611.3	2
34.	BRATRUD, R	EXP	1419.1	2
35.	LAMPRECHT, D	EXP	993.2	1
36.	GERBIN, B	EXP	984.3	1
37.	BRANDT, D	EXP	939.6	1
38.	STOKER, P	EXP	915.6	1
39.	MAHER, M	SPT	909.7	1
40.	LAWHEAD, G	SPT	856.3	2
41.	DE ROCCO, C	SPT	853.2	3
42.	ANDERSON, J	ADV	824.8	1
43.	MILLS, A	SPT	742.5	1
44.	NEHRING, C	SPT	439.2	1
45.	CONRAD, W	ADV	0.1	1

JUNE 1990 2 METER CONTEST RESULTS

PLACE	NAME	SCORE	NORM	TROPHY
1.	MARTIN, TONY	2896.0	1000.0	1
2.	WHITE, LARRY	2847.0	983.0	2
3.	JOY, GEORGE	2765.0	954.8	3
4.	RICHARDSON, PETE	2645.0	913.3	
5.	THOMAS, ROSS	2633.0	909.2	
6.	LONG, DICK	2541.0	877.4	
7.	ROGERS, TONY	2463.0	850.5	
8.	CONRAD, WILL	2321.0	801.5	
9.	STOKER, PAT	2246.0	775.6	
10.	FINK, STEVE	2225.0	786.3	
11.	ANDERSON, VAN	2176.0	751.4	
12.	STOVALL, LEE	2120.0	732.0	
13.	KUTCH, NORM	2059.0	711.0	
14.	PARSONS, JIM	1885.0	650.9	
15.	DUNCAN, BILL	1673.0	577.7	
16.	BUZOLICH, NICK	1664.0	574.6	
17.	BONANNO, TONY	1616.0	558.0	
18.	SOWELL, DEVON	1304.0	450.3	
19.	DURHAM, JACK	931.0	321.5	
20.	ANKENBAUER, STEVE	544.0	187.8	

ANNUAL STANDING THROUGH JUNE 1990 2 METER CLASS

PLACE	NAME	SCORE	CONTESTS
1.	WHITE, L	4402.4	5
2.	THOMAS, R	4358.4	5
3.	JOY, G	4166.2	5
4.	STOVALL, L	3996.4	5
5.	PARSONS, J	3871.7	5
6.	MARTIN, T	3721.7	4
7.	KUTCH, N	3578.3	5
8.	HENDRY, S	3551.7	4
9.	FINK, S	3430.3	4
10.	BUZOLICH, N	3275.7	5
11.	ANDERSON, V	2911.2	4
12.	RICHARDSON, P	2778.8	3
13.	SLIFF, B	2578.0	3
14.	DURHAM, J	2321.5	3
15.	STALLS, J	1947.0	2
16.	LUPPERGER, J	1889.8	2
17.	HALL, H	1856.7	2
18.	COLLETT, M	1738.1	2
19.	BONANNO, T	1539.6	2
20.	LONG, D	1489.2	2
21.	JOY, B	1485.3	2
22.	LAMPRECHT, D	954.3	1
23.	CONRAD, W	801.5	1
24.	STOKER, P	775.6	1
25.	DUNCAN, B	577.7	1
26.	SANDRONI, H	239.2	1
27.	ANKENBAUER, S	187.8	1
28.	ZINK, D	0.1	1

HSS 1990 CONTEST SCHEDULE

JULY 1	SC2 LEE RENAUD CONTEST
JULY 7 & 8	DAVENPORT SLOPE RACE
JULY 8	HSS CLUB CONTEST*
JULY 29	TOSS SC2 CONTEST
AUG 5	HSS CLUB CONTEST*
AUG 26	NCC SC2 CONTEST
SEP 9	HSS CLUB CONTEST*
SEP 30	HSS SC2 CONTEST
OCT 14	HSS CLUB CONTEST*
OCT 28	SWSA SC2 CONTEST
NOV 11	HSS CLUB CONTEST*
NOV 18	DUST SC2 CONTEST
DEC 2	TORREY PINES SC2 CONTEST
DEC 9	HSS CLUB CONTEST*

Jared Stalls requests that the person who stepped on his transmitter at the last Club contest please "fess-up" and help him pay for the repairs to the same. Broken were the two switches (elevator preset and dual rate) at the upper right hand corner of his Airtronics/ATRCS transmitter. If embarassment is the problem, an anonymous contrubution of $25.00 would likely cover repair costs. Send to Jared Stalls, 2453 Orange Ave--Unit C, Costa Mesa, Ca. 92627.

FOR SALE:

100" Legionaire, $50.00 or Best Offer
Call Pete -- 557-4782 (evenings) or (213) 922-0779 (days--work)

BGXL (Built by Larry Enger) has spoilers and flaps.
$125.00 -- no servos

CONTACT BOB SLIFF (714) 893-8311

THE HSS VIDEO LIBRARY

The following club owned videos are available for viewing.

Name	Comment	Rating (0-5)
Saber Jet	F-86 History/shoot-em-ups	4
Striking Back		4
Foam, Fiberglass, Flight		4
First Flight		0
Monokote 1 & 2	Interesting	3
MIG Killers		3
Hook Down, Wheels Down	NAVY Aviation Hist	4
F3E USA Team Selection 1988	Elect flight	none
Dawn Patrol	WWI Movie	4
Thunderbolt, Flight For The Skys	WWI Air Combat	5

More tapes are being added all the time. All tapes are in VHS format. For information about the tapes ask at the next meeting. (ed.)