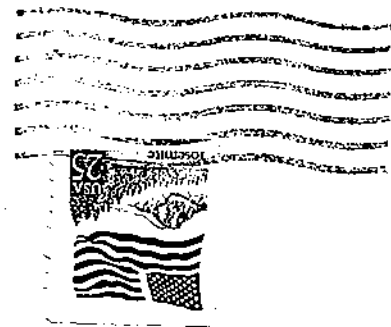


Harbor Soaring Society
P.O. Box 1673
Costa Mesa, CA 92626



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:	John Lasater	(714) 645-2805
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"
Chapter # 128

April 1990

Volume 27 Number 4

April Club Meeting: The March club meeting will be held on Wednesday, April 4, 1990, 7:30 pm at the Consolidated Water District Office, 1965 Placentia Ave., Costa Mesa, Ca. The Monthly club contest will be on April 8th, field conditions permitting.

At this month's meeting, Felix may present slides on his scuba expedition.

May Club Meeting: The May club meeting will be held on Wednesday, May 2nd, 1990 at 7:30 pm at the Water District Office.

At May's club meeting Airtronics will be doing a presentation.

HSS MAR 90 MEETING MINUTES

***New Faces:** William Ludlam, Louis Fisher, Clem DeRocco, and Dwayne Mahlberg were all introduced to the club.

*The Treasurer's report was read and accepted.

*The February minutes were accepted as printed. (NOTE: Rich Garner does not have the video library.)

***We are looking for a new secretary!**

*Brian Germane was thanked for setting up Mike Taibi's program.

Old Business:

1. The F3E contest wasn't held when scheduled (as stated in the newsletter), but was held the following weekend. The board apologized for not informing the contestants. There was some discussion as to what should have been done to notify the contestants about the rescheduling. The contestants were not pre-registered, so it was difficult to notify them. Those who showed called the CD to find out when it was rescheduled for. The situation will be discussed at the next board meeting.

2. Tom Pastore discussed the happenings with the Explorer Scouts. Tom and Will C. have set the first meeting for Wed., Mar 14th at Estancia H.S. around 7:00 p.m. Forms were handed out at this meeting.

3. Field Conditions - Phase II. Grass, restrooms, and storage will eventually be installed for us at the field. No time frame was known. Frank C. suggested that we still get a temporary storage container for time boards, etc.

New Business:

1. Bob Sliff briefly discussed the March contest.

2. Tony Martin talked about the Hughes Hill Slope Race.

3. A Ham Radio club wants the field for June 22-23-24. There will be no flying those days.

a. Will Conrad motioned that we reserve the field for all of our contests for the rest of the year. This is just to be sure that we aren't pushed out of any of our contests by other happenings. The motion was approved.

4. John Lupperger mentioned the upcoming Astro Champs to be held May 19-20. He would like everyone to come and help run the contest. Pylon racing will be held Sunday after the contest on.

5. Field and Impound Rules were published in the March newsletter. Bill Morrey motioned that any comments regarding these rules be submitted to the board in writing.

a. Will motioned that these rules be adopted as club policy. Changes will be made by the board. Bill suggested these be attached to the by-laws. There will eventually be a sign with these rules posted at the field.

6. Will Conrad relinquished his life membership and suggested that life memberships no longer be granted by the club. This will be discussed by the board.

7. Felix Vivas will be doing a program in April or May on his scuba diving adventure.

The meeting adjourned at 8:40 for program.

Tony Martin

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.)

HSS 1990 CONTEST SCHEDULE

APR 8	HSS CLUB CONTEST*
APR 8 & 9	FSS FRESNO CLASSIC
APR 22	ISS SC2 CONTEST
MAY 6	HSS CLUB CONTEST*
MAY 19-20	ASTRO FLIGHT ELEC. CHAMPS
MAY 27	SULA SC2 CONTEST
JUNE 1-3	F3E TEAM SELECTION FINALS
JUNE 10	HSS CLUB CONTEST*
JUNE 17	PSS SC2 CONTEST
JULY 1	SC2 LEE RENAUD CONTEST
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*

APRIL CONTEST

CD- STEVE FINK

The contest will consist of a standard 3 - 5 - 7 ,pilots choice. (This is the same as the Default SC2 format.)

Editors notes:

1. I have had unofficial confirmation that HSS will host the USA F3E Team Selection Finals. The vote of the AMA committee is still to be completed, but we were the only bid. Thus, we expect to hold the team finals on the 1st and 2nd of June (with the third as a possible make up day.) George Joy will be the CD with Frank Chasteler assisting. Any help in officiating will be greatly appreciated.
2. As you will note elsewhere in this issue, the Astro Flight Electric Champs are coming up also. So, get your electrics our and tuned up. Or, just come and help out and watch. This is where many of us learn some of the secrets of success.
3. The subject of a Club Policy was opened at the last board meeting. It will be covered at this month's meeting, but if you have any inputs in this regard, please submit them to the Board of Directors in writing.

ATTENTION!

Name badges are ready for the following club members: See Frank Chasteler to pick them up.

Don Atchinson	Harry Miller
Cris Capp	Chuck Peterson
Tracy Day	Dave Spawn
Jeff Feld	Brian Tinkler
George Klinefelter	Ken Tolan
Dan Lair	Ken Tolan
Rick Meredith	Henri & Pete Brownell

LEE RENAUD MEMORIAL (SC)2 CONTEST

HARBOR SOARING SOCIETY & AIRTRONICS - SPONSORS

Date: July 1, 1990

Place: Mack Freed Memorial Field (Fairview Park)

Registration @ 8:00 am; Pilots Meeting @ 8:45 am.

THREE CLASSES OF PILOTS:

Youth, Sportsman, and Expert

Classes are defined as follows: Youth is any flyer with Youth AMA membership; Sportsman is any flyer who has not place twice in any SC2 contest; Expert is any flyer who doesn't fit in the other two classes.

MEDALLIONS will be awarded thru third place in each class.

THREE ROUNDS OF SOARING

Rounds 1, 2, & 3 -- contestant may fly his choice of:

3 min: 700 flight points, 300 landing points OR

5 min: 800 flight points, 200 landing points OR

7 min: 900 flight points, 100 landing points.

Standard landing circle.

CONTEST DIRECTOR: FRANK CHASTELER (714) 545-2185

H.S.S. PRESIDENT: GEORGE JOY (714) 566-6385

ENTRY FEE: \$6.00. Raffle prizes to contestants include a CUMIC+.

100% OF PROCEEDS GO TO THE A.M.A. LIBRARY FUND IN LEE'S NAME.

The following AMA rules will be waived:

5d - two contestants may fly the same model.

7.2a - no relaunch due to collision in flight.

7.2c - relaunch due to launch system malfunction must be declared within 10 sec.

COMPOSITE MOLDING TECHNIQUES FOR SAILPLANE FUSELAGES AND CONTROL SURFACE ACCESSORIES

by E.S. Popko & J.G. Smith

Extracted from Soar Tech No.5, Jan 1986

Part 3

STEP 2 - BUILDING THE MOLD

FORMING THE SEPARATOR DAM.

Start your mold by building a separator dam around your plug. To build the dam, knead about two pounds of non-hardening modeling clay. It may help to put it under a warm light or in the sun for a few minutes. When it's soft, roll it out like a 1/2" thick pie crust. From the "crust", cut 1" strips and lay them along the longitudinal center line of the plug. Continue cutting and joining strips end-on-end until a dam has been built along the entire centerline of the plug. Small pieces of clay can be used to shore up the strips if needed. Use a hard balsa paddle to smooth them out and to retouch the edge (metal tools will scratch the plug). Remember, the clay dam must fit tightly against the plug to be effective. The molding face must also be tangent to the centerline.

When the dam is complete, apply a very thin coat of Poly-Vinyl Alcohol (PVA) mold release to the exposed half of the plug. The PVA will act like a raincoat and keep the molding resins from contacting and damaging the plug. Apply the PVA with a soft brush or cotton ball. Spraying it on is even better but, either way, try to prevent it from puddling when you apply it. If it does, let it dry the way it is. If you attempt to soak them up with a dry brush or cotton, you are likely to remove some of the wax undercoating (the PVA alcohol tends to dissolve the wax undercoat) thus exposing the plug to direct contact with the molding resins.

Be sure that the plug and the clay dam are completely PVA'd. If in doubt, PVA it! Re-check to be sure that the dam has not pulled away, and that the PVA is completely dry. You can accelerate the drying with a heat gun but be careful. PVA is alcohol based and it's very flammable. Keep the gun moving and far enough away to avoid melting the clay. Clean your brush as soon as you are done. PVA is water soluble and a little Ivory soap helps revive the bristles. When you finish this step, the plug will have a dull film over the entire surface. Some PVA is dyed green to help this inspection.

APPLYING GEL-COAT.

Gel-coat is a resin for making molds. It is like thick paint and is pigmented grey, red, orange, or black. Its chemistry is similar to polyester resin but it will replicate finer detail and it forms a more durable surface. Some mold makers claim that standard polyester is enough for making molds but we have found that Gel-coat can be polished to a higher luster, thus imparting a mirror-like finish to any lay up made against it.

Gel-coat is "air-inhibited". This means that exposed surfaces will not completely cure but those surfaces that come into contact with PVA will thoroughly harden (there is no air there). The air-inhibited surface increases the bond strength when additional coats of Gel-coat or resin are applied.

Gel-coat is mixed just like polyester resin. Pour about 3 ounces into a paper cup. Add about 10 drops of MEK (assuming 70°F working temperature). Stir it in thoroughly. Load a 1" soft brush with the catalyzed Gel-coat and coat the entire PVA'd surface. Be sure to cover everything. Move your brush in such a way that you do not paint in air bubbles. The Gel-coat should cover the upper lip of the clay dam too. Be sure that the right angle corner formed between the clay dam and the plug is completely coated. Recoat any areas where the Gel-coat runs off.

If you have catalyzed properly, you will have about 15 minutes before it begins setting up. Once this happens, wash your brush in acetone solvent. Do no attempt to use congealed Gel-coat; mix a fresh batch if you need more.

Gel-coat will cure in about 4 hours although it will still feel tacky. Once cured, it is extremely brittle and will spall off if you attempt to flex it. The clay dam areas are particularly susceptible to damage because the clay gives only minimal support so be careful. Now that you have copied the surface detail of your plug, your next step is to create a protective structural backing for the Gel-coat.

GEL-COAT BACKING.

The best backing is five or six layers of 6 ounce fiberglass cloth and resin. Just like a plaster cast on a broken leg, you are going to build up a structural shell on the back of the Gel-coat to protect it. Your craftsmanship in this step determines the life of your mold. The fiberglass cloth you use should have minimum sizing or stiffness because it must follow the surface contours of the Gel-coat as closely as possible. If the cloth is too stiff, it will bridge the high spots rather than lay flat. Voids under these bridges tend to fill with resin - which is not very strong by itself or, worst yet, fill up with air bubbles leaving the Gel-coat without any backing at all.

Two backing procedures help: 1) gently sand down small protrusions of Gel-coat; 2) fill in any sharp angled corners with chopped strands of fiberglass. Even if you were careful in brushing the Gel-coat, you are still likely to have introduced small peaks and scale-like textures. Lightly sand them out. Be careful not to oversand. The coating is very thin, especially where it may have flowed off sharp edges during the cure. If you sand through, add more Gel-coat.

Sharp angles present another problem. For example, the inside right corner formed between the plug and the clay dam, or abrupt changes in geometry around the stabilizer or nose, must be filled-in to decrease the turns the cloth must make. The best solution for these cases are to use a combination of chopped fiberglass strands and resin.

Chopped strands are nothing more than 1/4" to 1/2" long fragments of fiberglass. You can buy chopped strand or make it yourself. Make parallel cuts at a 45° angle to the weave of some scraps of cloth and you will have all you will need in a few minutes.

Pour about one ounce of resin into two shallow mixing cups. Catalyze both and slowly drop small pinches of strand into one while mixing it in. As you add more strand to the resin, the mix will begin to look like wet cotton. Put on a disposable glove and use your fingers to apply the mixture to all sharp inside corners. With the other hand brush on resin from the second cup and flair out the strand edges. The brush will sculpt the mixture nicely. Be careful though, the mixture may tend to absorb more resin so try to add as little resin as possible. As soon as the mixture begins to congeal, clean your brush and start applying the backing layers.

Keep in mind that the objective is to adhere a series of fiberglass layers to the Gel-coat to protect and stiffen it. For the first layer, cut three or four strips of six ounce glass cloth about three inches wider than your model and long enough that the entire length of the fuselage will be covered. Catalyze about four ounces of resin and apply a coat over the Gel-coat. Take sections of cloth and lay them over the surface being sure to lap the cloth down and over the clay dam. As you lay on the cloth, squeegee it against the Gel-coat with your brush. Back fill the cloth with resin-strand mix if the cloth doesn't lay flat. Brush a light coat of resin over the first layer and start putting on the second. This one will lay on better than the first because the first covers all the minor imperfections leaving a smoother surface to work with.

Repeat the resin-catalyzing and layer-brushing till there are five or six layers. Keep an eye open for air pockets and be sure to press them out or back fill them with strand mix.

ATTACH A BACKING RIB.

For most applications, five or six layers of cloth is enough but long-thin fuselages (particularly pod-and-boom or F3B designs) should have a rib. To apply a rib, cut a piece of 3/4" plywood 5" wide and 1" longer than the plug. Trace its contour onto the plywood and cut the section out with a coping saw. Test fit the rib to be sure it fits against the backing. Bond the rib to the backing with resin and Cab-O-Sil and seal the joint with fiberglass tape. Add a plywood base to the rib and the backing will act like a bench support.

Allow everything to cure for at least 24 hours. Now remove your plug from the mold by digging out the clay dam. Use hard balsa sticks - not metal tools! Balsa will not dig into the plug or chip the Gel-coat if you slip. Remove as much of the clay as possible. Rock the plug to free it from the mold. Be gentle and keep working around the plug. If one area is stuck, move to another and keep rocking it until it is free.

Once the plug is out, wash off the PVA with water and then inspect the molding surface. With a single-edged razor blade, cut off any loose cloth. Use a coarse sanding disk on an electric drill and grind down the edge leaving a 3/4" lip overhang where the clay dam was. Sand the edge and the mold backing to get rid of any sharp corners and resin drips. Now lightly block sand the face to the lip. There is no need to make it look like a machined surface but try to level it up a bit.

Half of the mold is now complete. Remove any remaining PVA and clean the plug too. Rewax and polish the inside of the mold and the outside of the plug. Refit the plug and the PVA all exposed surfaces, plus the lip. Be sure the joint between the lip and the plug is completely sealed. If gaps have developed, fill them with modeling clay and PVA.

The process of forming the second mold half is exactly the same as the first with one exception - you do not have to make a second clay dam, the lip from the first half now serves this purpose. When the second mold is complete, you will have to grind back the lip a little to break the bond between the two halves. Use a grinding wheel to even-up the lip and remove excess resin that may have dripped down onto the first half's back. You should grind enough of the lip off so that you can see a thin crack between the two molds. Be sure to leave at least a 1/2" lip all around. Separate the two halves by gently rapping the lip with a block of wood or a rubber mallet. Rap every few inches around the entire parting line. Gently rock the halves apart until the plug is completely free. Attach a backing rib and base as before.

To be continued next month!

**** (Next month--Refining the mold, Basic lay up.) ****

ASTRO FLIGHT CHAMPIONSHIPS

THE HARBOR SOARING SOCIETY WOULD LIKE TO INVITE YOU TO THE ...

16TH ANNUAL ELECTRIC FLIGHT R/C CHAMPIONSHIPS

The 16th Annual Astro Flight Electric Champs will be held on Saturday and Sunday, May the 19th and 20th at Fairview Regional Park, Costa Mesa CA. The events will be 7-cell Sailplane and Old Timer, Unlimited Sailplane and Old Timer, and 7 Cell Pylon.

SAILPLANE and OLD TIMER rounds one, two and three will be limited motor run with thermal duration and landings, and will be scored man-on-man. The motor run, duration, and landings will be as follows:

ROUND 1 7-Cell Sailplane 7-Cell Old Timer . Unlimited Sailplane .. Unlimited Old Timer
 Motor run 20 seconds 30 seconds 10 seconds 20 seconds
 Duration 3 minutes 3 minutes 3 minutes 3 minutes
 Landing 100 points 25 point in/out 100 points 25 point in/out

ROUND 2
 Motor run 40 seconds 50 seconds 20 seconds 30 seconds
 Duration 7 minutes 7 minutes 7 minutes 7 minutes
 Landing 100 points 25 point in/out 100 points 25 point in/out

ROUND 3
 Motor run 30 seconds 40 seconds 15 seconds 25 seconds
 Duration 5 minutes 5 minutes 5 minutes 5 minutes
 Landing 100 points 25 point in/out 100 points 25 point in/out

ROUND 4
 Round four will be a 5 minute penalty-duration with the same landings as the previous rounds. Time will start when the model becomes airborne. A second timer will keep track of the motor run which will be subtracted from the total flight time. Motor run is unlimited and at the discretion of the pilot, but is restricted to the initial run. Scoring will be straight points per second with all classes flying the same task.

PYLON RACING: Sunday Only. (TWO HEATS/ 10 LAPS) (Contestants must have two battery packs for continuous flying--You must be ready to fly whenever called.) Course and rules will be per the 1990 AMA rule book. (Additional heats will be flown if time permits.)

YES! I WANT TO ENTER!

NAME _____
 ADDRESS _____
 CITY _____ STATE _____ ZIP _____
 PHONE# _____
 AMA# _____

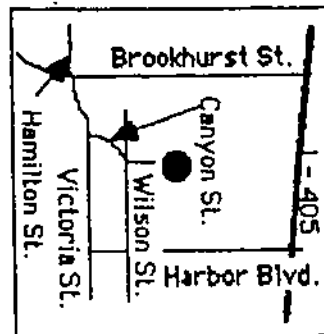
- .. 7 CELL SAILPLANE
- .. 7 CELL OLDTIMER
- .. UNLIMITED SAILPLANE
- .. UNLIMITED OLD TIMER
- .. 7 CELL PYLON

\$5.00 PER EVENT

For information, call John Lupperger
 AFTER 6 PM Pacific Time. (714) 646-5316

AMA SANCTIONED
 AMA LICENSE REQD.
 MAY 19th and 20th, 1990
 Fairview Regional Park
 Registration 8:00 AM
 First Round 9:00 AM

Trophies will be awarded to third place in each class. There will be a pilots drawing for valuable merchandise prizes donated by Astro Flight and several other manufacturers.



INLAND SOARING SOCIETY

HOSTS

SOUTHERN CALIFORNIA SOARING CLUBS

APRIL 22, 1990-CONTEST

ROUNDS 1, 2, & 3 - Contestants fly choice of:
3 min: 700 flight points and 300 landing points OR
5 min: 800 flight points and 200 landing points OR
7 min: 900 flight points and 100 landing points.
LANDING target will be a 25' half circle.

Flight score will be a straight line with 0 flight points at 0 seconds.
Grass field, 12V winches, 600'-plus winch line.

CONTEST DIRECTOR:

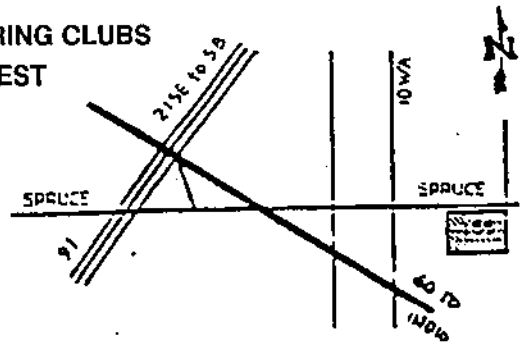
Mark Higginbotham
(714) 882-7384

CONTEST COORDINATOR:

Harvey Jenkins
(714) 980-5732

PRESIDENT:

Rich Shelby
(714) 924-3501



UNIVERSITY MIDDLE SCHOOL
RIVERSIDE, CA

The SOARING UNION of LOS ANGELES

Hosts the second SC2 Contest for 1990

May 27, 1990

In accordance with SC2 Contest Rules:

- a) CD: Steve Addis (213) 835-7631
Pres: Jerry Fedelleck (213) 632-0108
Rep: Don Vickers (818) 792-5612
- b) SULA The SOARING UNION of LOS ANGELES
- c) SULA FIELD: University of California, Dominguez Hills, Carson, Ca. Corner: Victoria Blvd and Avallon Blvd
- d) EVENTS: 3 ROUNDS: 20 minute Add-em-Up.
No flight over 8 minutes.
A working time of 10 min will be allotted for each group of flyers.
Groups will be set up by frequency.
All groups will be called up.
All flight points stop at the end of the Working time. Zero landing points, if the Landing is made after the Working ends.
LANDINGS: Standard 25' radius circle.
- e) May 27, 1990
- f) SCORING: 2700 Flight points possible.
2.25 pts/sec on flights under 8 min.
5.00 pts/sec penalty when over 8 min.
Landing: Standard 100 point tape.
- g) Standard 12V SULA-RAHM Winches w/ retrievers
- h) 850-900 ft to Turn-Around, depending on direction of the launching set up.
- i) Landing Areas: dirt, stubble, or grass depending on the location of the circles.
- j) Special Rules: SULA Field Rules will be covered at the Pilots Meeting.

--Plaques will be awarded to 1st thru 5th overall, and to 1st thru 3rd for the next Sportsman class flyers in order.

Other information: FEE: \$6.00

Sign-In: 8:00-9:00 am.; Pilots Meeting: 9:00 am.; First flight group launches at 9:15 am.