November 1994

TOSS - UP

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NEWSLETTER

EDITOR / PUBLISHER: Bob Swet, 2600 E. Ponderosa Drive #15, Camarillo, CA 93010 -4737, (805) 388 - 9619

UPCOMING EVENTS

MONTHLY MEETING: Wednesday, November 30th, 7:30 PM, Cameron Center, Thousand Oaks, CA
Topics: 1) Possible increase in dues for 1995, 2) Nominations / Elections of new club officers.

DELTA CUB WORKSHOP: December 3rd, 9:00 AM, Paramount Ranch, Agoura, CA

TOYS FOR TOTS CONTEST: December 4th, 9:00 AM. Hosted by EDSF/SULA at SULA

MONTHLY CONTEST: December 11th, 9:00 AM, Redwood School, Thousand Oaks, CA
CONTEST DIRECTOR: Mike Reagan

OCTOBER MEETING NOTES:

OLD BUSINESS

1) Larry Jimenez has not found a free checking account for the club. He will continue looking.

NEW BUSINESS

1) The TOSS Cross-Country Contest will be held on November 12 & 13 th. We will have a normal monthly contest as well at Redwood School.

2) Charley Babcock has made a very generous contribution to TOSS by donated a new retriever. It works great and is quite simple to operate. THANK YOU VERY MUCH, CHARLEY !!!!

3) Bob Swet proposed an increase to the club dues to cover additional expenses to be incurred next year and to increase our year end assets. He proposed the following new dues:
Family = $30, Adult = $25, Half Year Adult = $15. No change would be made for Juniors. Proposed effective date would be January 1, 1995 and would not affect 1995 renewals before that date. This issue will voted on during the next meeting.

4) Nominations and Election of new Club Officers are to take place during the next two meetings. You need not be present to be nominated or elected. But you must be present to vote or decline being nominated.

1994
SC ^{2} FINAL STANDINGS

CONGRATULATIONS
TO

MIKE REAGAN	FIRST
B. J. WEISMAN	FOURTH
EDGAR WEISMAN	NINTH

RAFFLE WINNERS

The big raffle prize for month was a stopwatch with presetable countdown function and was won by Bob Swet. Also, a Hot Sock was won by Mike Reagan.

TREASURER'S REPORT

The treasurer's report was not available at the time of printing.

DECEMBER'S MONTHLY MEETING

December 21st, 7:30 PM, Cameron Center

NOVEMBER MONTHLY CONTEST

A monthly was held despite the club was to be split in locations. Half at Redwood and half at Taft. It ended up that everyone showed up at Redwood. The format was a 3, 5, 7 minute (one of each and in that order) with 20 point in / out landings.

With fair flying conditions during the first two rounds, everyone one did fairly well. By the third round, the Santa Anna's had really kicked in, causing difficulty for allot of the flyers.

One plane, an Olympic II was lost and never found behind the right side of the hill. So keep your eyes and ears open. I imagine Mike Reagan was saving all his luck for the last SC^2 Contest.

Bob

SOUTHERN CALIFORNIA SOARING CLUBS

1994 FINAL STANDINGS

Congratulations are due to several club members for their outstanding performances throughout the year. **MIKE REAGAN finished FIRST OVERALL B. J. Weisman finished FOURTH, and Edgar Weisman placed NINTH.**

TOSS was well represented with three pilots in the top ten. Our team was probably in the top four only because of the lack of additional pilots (you need four) at each contest. Please come and support your team during the 1995 season.

For Sale

SAILPLANES for Sale:

Contact Bill Council (805) 499-6561 if you are interested in the sail planes listed below.

SUPER DRAGON FLY Slope Plane. New, just built. Just add radio. 70" wing span with Eppler 374 airfoil. Weighs 42 ounces..... $75

DOVE 2 Meter kit by Northeast Sailplane. For Slope or thermal. 23 ounces. $80

SAILPLANES for Sale:

Contact Ed Oldenburg at (805) 499-6354 if you are interested in the sail planes listed below.

FALCON Thermal Sailplane with graphite bagged wings. Weighs 80 ounces. Would make great slope ship..... $300

PIXIE by Dodgson $200

What's New in Sailplanes

by Tom Gressman

From RMSA "THERMALS" 11/94

It is most interesting to contemplate the progress made in sailplane design since my introduction to IVC soaring in 1977. One could take the position that the 90's represent the golden age in our hobby. The computer radio, Princeton tunnel tests, the use of new airfoils designed with programs that predict performance polars (much of which we owe to aerodynamicists such as Dr. Selig), new wing planforms, wing tip experimenta-tion, exotic materials such as carbon fiber, Kevlar and new construction techniques, have expanded the envelope. Competition in the F3B, F3J, thermal contests, and slope racing have been the empirical arena in which many concepts have been verified or rejected.

I thought it might be of interest to briefly discuss some of the new designs that are about to be available from the amazing cottage industries that represent the source of kits for the R/C soaring enthusiast.

Layne/Urwyler: These fellows have been turning out a number of competi-tive designs over the years including the 2.9t and 3.0 Saturn's. Byron Blakeslee remarked that the 3.0 Saturn is still a standard by which he measures other designs. Currently two other Saturn designs are under development. The Saturn X project has a number of prototypes flying that use the 2.9t fuse, are glass bagged, have a 118" span, with a Quabeck 2.5/9 transitioning to a 2.5/8, 980 sq. in. and a flying weight of approx. 70 oz. Additional experimenta-tion is now under way with a new approach to molded wings and the new Selig S7012 section. This project should produce a very competitive ship. Another Saturn in the works and currently flying is the Saturn F3J. This Saturn uses the Saturn 3.0 fuse with the 2.5/9 to 2.5/9 section on a 130" wing.

NSP: After more than a year of development of a no compromise kit, the Opus 750 designed by Dr. Selig is now available. Observing Michael Selig's Opus 750 in Denver during the summer of 1993 convinced me that an extremely efficient design at a low wing loading (less than 9 oz. per sq. ft.) Could be very competitive. I have wanted one of these from the very start as I think that its approach is logical and it represents some state of the art aerodynamic features in fuse design and new airfoils designed from Dr. Selig's Profoil program. The S9037 and sections designed especially for the vertical and horizontal stabs are unique to this design. I encourage the reader to read the extensive article in the NSP catalog which discusses the design philosophy of the Opus 750. The kit is flying at 45 oz. And is contest balsa over foam with such weight reducing features as a CF wing joiner. The kit version should be stronger than the all-wood version we saw in '93. I have seen the glass fuse and it is quite aesthetic.

RNR: A new 2 meter called the Evolution is an all molded kit with a SD7037, parabolic two-piece wing and a horizontal stab placed high on the vertical stab. The fuse uses a slip-on cone. Reported flying weight is in the 40 oz. region. At 650 sq. in. This puts the wing loading at less than 9 oz. per sq. ft. These are available through Sleger International and, of course, RNR.

Sleger/Mark Allen: you probably have seen the ads in RCSD for the Skyhawk. Bighorn, Jack Zika and I have these kits in our possession. The fuse is an exquisite gel coat with a flush- fitting canopy made from carbon fiber. The Skyhawk is also available with a molded stab. Word from my good friend out east, who is a major Weston fan, is that the Skyhawk took a 1st on day one and a 2nd on day two, for an overall win on the last contest of the ESL circuit. Apparently, the Skyhawk did very well on a day that had little or no lift and was deadly on landing. Sleger will also have the Selig/Olsen Blackhawk available within 30 days. The Blackhawk has been written about or photographed in many of the monthly publications. This design not only represents the latest thinking in airfoils but in structure with a seamless, one-piece CF wing structure. Sleger is also about to release a new V- tailed 2 meter designed by mark Allen. This lightweight design will use the new S7012 and is named Vulcan..

CSR: The F3B raider is about ready to go and is available in a thermal 70 oz. version.

Levoe Design: At Visalia, a new 100" Super V at 47 oz. with wing area in the 800 sq. in. range was flown. This may be the golden age with a very large number of excellent designs available . The Selig tunnel tests at university of Illinois may also create a new group of sections that will enable us to soar faster and further. These are indeed exciting times.

Tom Gressman

THE WESTERN STATES TRIAD IS ON

At a special meting held a the recent Fall Soaring Festival at Visalia CA., it was unanimously agreed to go ahead with the proposed WESTERN STATES TRIAD series in 1995. This event is a compilation of scores from the three major soaring contests in the western US.

The meeting adopted the proposal as amended, and the details are:-

The three contests used to determine the Triad winner will be, 1) The SWWSC held in Gilbert Arizona. Traditional date is the first full weekend in February. 2) The Rosebowl Soaring Festival in Pasadena California, the 1995 dates are to be 5th & 6th of May. 3) The Fall Soaring Festival in Visalia California. Traditional date, the first full weekend in October.

Points from each contest (open class only in the case of the Rosebowl) will be normalized and added.

A significant trophy will be awarded, bought with contributions from each host club. The trophy will be awarded at the Fall Soaring Festival in Visalia. Computerized record keeping will allow almost instantaneous determination of the winner.

The Annual trophy will be returned to the C.D. at the Fall Soaring Contest the following year after it is awarded and the previous winner will be presented with a plaque or replica of the perpetual trophy.

Teams representing any AMA chartered club will also compete for an annual team award. the members of the team need not be the same at each contest. The winning team will be presented with a banner suitable for display on club tents or awnings with the club name, the names of all pilots involved in the team effort, and the year for which it was won.

The purpose of this TRIAD is to add another dimension of interest to the growing sport of Radio Controlled Soaring.

Get those entries in, you can't win if you don't fly!

Press release to all western states news-letter editors for immediate publication. From Iain Glithero CASL.

SOARING CORNER

by Tom Hagney

From Rocky Mounting Soaring Association "THERMALS" 11/94

Again this month I would like to pass on an excellent article written by Jim Rimmer (Mr. Wizard) of Heart of Texas Soaring Society as it appeared in the September issue of "Hot Flash"

AILERON DIFFERENTIAL

by Jim Rimmer, HOTSS

The movement of the air currents, whether in large air masses or in small areas around the sailplanes we fly, is completely unpredictable.

To compensate for this chaotic movement we must constantly react by adjusting the bank and pitch of our plane. The sooner we see the need for a correction, the smaller the correction can be and the more efficiently (less drag) the plane will fly. Small changes in pitch are taken care of by dynamic pitch stability the pilot adjusted with center of gravity changes during the initial trim flights. Roll stability of aileron ships are to some degree provided for by swept wings, dihedral, and lateral area inherent in the design of the ship. Larger corrections in bank or the establishment of turns are made by rolling the ship into the desired angle of bank with ailerons. When we use aileron we want the ship to roll only on its longitudinal axis. The problem is that to raise a wing the aileron increases lift on that wing with the resultant increase in drag. At the same time there usually is a decreased lift on the opposite wing with a decrease in drag. The descending wing has less drag and moves forward while the rising wing has more drag and moves backwards. This produces a tendency to yaw (turn) in the wrong direction or into the rising wing and away from the intended turn direction. This usually results in a nose high slip with the fuselage side presented to the relative wind with high drag. This is called "adverse yaw" and is fine if you need to loose altitude with lateral fuselage drag as in a landing approach, but bat for beginning a coordinated turn with the fuselage parallel to the relative wind.

A pilot in a sailplane learns to use rudder in the direction of the turn to compen-sate for adverse yaw. When the correct amount of rudder is used with aileron the turn is said to be "coordinated". To compensate for this problem and make flying easier, full sized planes are usually designed with one or a combination of a number of methods to decrease adverse yaw. Some jet airplanes have only spoilers instead of ailerons. A more common fix for adverse yaw is to mechanically produce differential aileron movement so that there is more up travel than down. In other planes the aileron is hinged toward the top of the wing/aileron joint so that a portion of the leading edge of the aileron sticks down into the slipstream creating drag when that wing is descending to balance the resultant drag of the rising wing. Other planes couple the rudder with the aileron so the pilot does not have to use much rudder in the direction of the turn. The problem with all these "fixes" is that they can only be adjusted to work correctly within a small range of velocities, usually at cruise speed. As the velocity of the ship changes the effect maybe too much or too little and the pilot must learn to use the correct amount of rudder for a given amount of aileron application at different velocities. The problem is almost nonexistent with short wings and long tail moments. This is one reason the rudder usually has a longer moment than the elevator. I have a small 2 meter ship with mechanical differential aileron but with rudder mix by a computer transmitter. The ailerons operate with one servo operating cables to both ailerons. With the aileron horn on top and cable attachment to the horns a little forward of the hinge point there is more up movement than down on each aileron. Changes in the amount of differential movement would require new horns and cable adjustment. This arrangement works fine at normal cruise but on landing the rudder is too effective causing a bad snap roll at slow speeds. To correct this I simply switch out the rudder mix when nearing the pattern. I don't forget the switch now after being complimented for some interesting aerobatics while on final a couple of times.

How much adverse is enough?
One of the best methods of correcting adverse yaw on an R/C sailplane is to use differential aileron (more up than down) with a moderate amount of rudder mixing. But how much is the correct amount? First you must be satisfied with something less than perfect except possibly when making smooth, gentle rolls at thermal speed which is how we should be flying most of the time for efficiency. Heavy control usage always increases drag. This amount of rudder mixing for this type flying will usually be inadequate for heavy control application. When setting up the differential aileron, no down, all up will not be a problem except for being a little slow rolling into turns. Without rudder mixing you are never increasing lift on a wing and are not increasing the possibility of stall which is the beginning of a snap roll. As mentioned before, rudder can cause snap rolls, thus it is always best to be able to switch out rudder mixing for landings so you can use heavy aileron or rudder separately.

Final trim for aileron - rudder mixed ships is always begun with aileron and rudder neutral, then when in flight trim the aileron for level flight. In level flight the aileron or rudder may need to be trimmed to other than neutral because of a warped wing. Construction problems that require other than neutral aileron or rudder for straight level flight should be corrected. If problems are impossible to correct with repairs, the ship can usually be trimmed to minimize the error. In such cases the pilot simply learns to adjust to the ship's characteristics.

I often hear pilots complain about some characteristic of their ship. Remember, all planes fly slightly differently, and we pilots must simply learn to adjust to these characteristics. In other words: Know your ship! Every plane is a compromise, you sacrifice one flight characteristic for one you desire. With high aspect ratios we get better soaring efficiency but slower roll rate and a greater degree of adverse roll. By using thinner airfoils we get better penetration but higher stall speeds and larger thermaling circles. Any change to a given configuration will usually produce noticeably different flight characteristics. You can't go to the moon in a Cub, but then a rocket ship can't land at 35 miles per hour on most of our Texas beaches.

Good luck and Fly High and Long.

A VALUABLE LESSON

by Curt Nehring

From SWSA "POPOFF" 10/94

At the recent North/South Challenge in Visalia, on the next to last round, I launched into downwind conditions and hit my hand with the skag when the tail dropped on release. Although it was somewhat of a shock, I stayed on the pedal and the Mako continued to track normally.

During the Final round, a three minute task, my hand still hurt and I was favoring it quite a bit, thinking more about the pain than launching the glider. Consequently, I didn't "throw" the plane and hit the top of my hand again. This time however, it pulled me forward off the pedal. Instead of watching the Mako, I searched for the pedal which had moved out of position, and began pulsing it. The next thing I heard was "Heads Up!" and my timer shouting "pull up!". I saved the glider but had to fetch it from ankle high mud in a well irrigated cornfield.

I relaunched only to have a midair with a pilot I almost hit on the ground during the popoff incident, reentered the thermal with a flapping aileron and made my time.

Looking back at what happened, I can't say I would have done it any differently. I believe it was just the pressure off the moment and losing my focus to

the distraction of a temporarily painful condition. In the future however, I'll have a new reason for keeping my eye on the Mako! Also, my thanks to Mike Deckman for his alertness and making a good call when it really counted.

LAUNCHING A MODEL GLIDER USING AN ELECTRIC WINCH

by Dave Condon and Steven Stricklett

From SWSA "POPOFF" 10/94

PART 1

Introduction

There are four methods to launch a model glider: hand launch, hi start, hand tow and electric winch. All of these methods are effective and useful. Your choice depends on the size and weight of your plane, the prevailing air conditions and the flying task your are trying to accomplish. The good news is that a winch launch will usually give a higher launch than any other method, especially as the size and weight of the model increases. The bad news is that the winch and retriever take more time to set up and are complex electro- mechanical pieces of equipment subject to malfunction .

This article will discuss the operation, etiquette, and safety aspects of using a winch to launch a model.

Winches and retrievers are normally used for launching models at the TPG thermal contest and at club sponsored contests in general. Many of us also use them for sport flying. The use of a retriever adds a bit to the set up time and increase the complexity of launching. However, compared to the alternative of walking to retrieve the launch line, a retriever does return the end of the line to the launch position quickly. Retrievers are used at our contests to help speed up the contest and provide for more launches in a shorter amount of time. Some retrievers can be operated by the pilot and some can't. The TPG retriever equipment does require a separate operator.

What is a winch?

A winch system is made up of several parts. An electric motor, activated by a foot pedal, drives the mechanism and gets its power from a six or twelve volt battery. The motor turns a take up spool (drum) around which the tow line is wound up. The tow line stretches from the winch out around a "turn-around" and then back to the model. On the end of the tow line is a ring which is slipped over the tow hook on the model.

Normal Operation

A winch is a complex, delicate and potentially dangerous piece of equipment. However, if a pilot understands how to operate it properly and observes adequate safety precautions, there is nothing to be afraid of and a winch can be operated with complete confidence.

The first thing to do when you approach a winch is to inspect it, the retriever, the tow line and the retriever line. If you see any electrical connections that are loose, line that is snagged around something, obstructions in the launch corridor, a loose pack of line on the retriever take up spool, or anything else that doesn't look right, stop and investigate or fix any problem.

The foot pedal should be on solid ground where it will not slip or slide when you step on it. Make sure, as a safety precaution, to not set it directly behind the take up spool. More than one pilot has had his legs whipped past the point of bleeding when the line broke during a launch and then it proceeded to repeatedly whip around the drum before the pilot could get his foot off the pedal. Then make sure the winch and retriever are turned on.

The winch should be tested if there is any question as to whether the winch is properly hooked up, free of obstructions, and has adequate power from the battery. This can be done by firmly holding the tow ring in your hand (DO NOT EVER PUT YOUR FINGER THROUGH THE RING) and "tapping" the foot pedal once or twice. The line will tension up and you will be able to see if the winch is operating properly.

Before you launch, move the control surfaces of the airplane to assure the radio is on and everything is working OK. If appropriate, set the control surface configuration to launch mode. Check the air space in the launch zone for any possible conflict with other planes during launch.

When you are ready to launch, place the tow ring around the tow hook on the glider. Stand in a throwing posture, ready to throw the glider. Step on the winch pedal to build up line tension. When the tension is appropriate for the model, throw the model straight ahead as if the winch line were "not" pulling on the model. I have seen many cases where the line broke at the instant of release and if the model had not been thrown, it would have fallen to the ground. Make sure the wings are level. The degree of nose up attitude will depend on the model, tow hook location and the pilot. It is equally OK to throw it straight ahead and level or to use a javelin throw.

How much tension to allow before the model is thrown depends on the model and the pilot. Pilots using models with all glass wings are known to tension the line to the point when the winch begins to stall. That amount of tension is not necessary for most models and will surely break a built up wing. If a model has not been launched on a winch before, it is a good idea to start out with light tension and build up to more as your experience dictates. A good procedure for starting off is to tap the winch pedal in a staccato rhythm.

During the launch, you have to fly the plane as you would during normal level flight. The plane will fly up at a rather steep angle until it reaches the "top" at which point it will fly over the crest and start flying level or even down slightly. Once a glider has made it over the crest you can fly the plane off the tow line by stepping off the winch pedal and giving the nose of the glider a little dip down followed by a little dip up. If appropriate, at the top of the launch, take the model out of launch configuration.

It is important to watch your plane carefully during the launch. It is a good idea to back off the winch pedal and fly off the tow line, if you see any abrupt or unusual flight characteristics. If the wings bow upward, there is too much tension on the line. Lighten up on the line tension immediately. It is also important to keep in mind that what is a normal amount of line tension during the "climb" will be way too much after the plane has "crested" at the top. More that a few sets of wings have been ripped off of planes by the pilot staying on the winch pedal way too long after the plane has crested.

As your skills progress and your confidence grows in operating a winch and flying your plane, you may want to try a "zoom" launch. This is a technique to increase the model's velocity and allow you to convert that velocity to altitude. It is performed after the model has crested at the top of the launch. To accomplish this, you step on the pedal for a short time and dip the nose of the glider down. The planes speed will increase very quickly. Then pull the glider up at about a 30 degree angle and step off of the winch pedal. This is a very quick maneuver and the "dip" is held for less than a second. A deep zoom is not needed and adds to the risk of breaking the wing or snagging the winch line. The goal of a zoom is to increase speed to convert to altitude. A little experimenting will help select an appropriate zoom profile.

After Coming Off The Line

After the model is free of the winch line move your foot away from the control pedal to prevent accidental operation of the winch. Make sure your model is under control. At a contest, step back away to allow the next pilot access to the winch while the retriever operator brings the end of the winch line back to the launch area. If sport flying without a retriever your may want to tap the foot switch to bring the line down if the wind is not straight down the winch line. If the wind is straight down the winch line there is no need to step on the pedal, just let the wind carry the tow line back toward the winch. After your flight you can retrieve the line all the way back to the launch position. At all times your priority should be the safety of the model and not the winch system.

The model may climb at an angle that is too steep or too shallow. This can be corrected by moving the tow hook forward to get a more shallow climb or rearward to get a steeper climb. Before going to the trouble of moving the tow hook, you might try experimenting with the position of the model's flaps or elevator during the launch. It is very important to remember that the wind can have a major impact on the launch. If you are launching into a head wind, the model will tend to climb at a steeper angle. In this situation you don't need to step on the winch pedal as much as on a normal launch. The wind will help keep tension on the line. The opposite is true if you are launching down wind. Your will need to keep more tension on the line.

A cross wind presents a different kind of problem. In this case you need to point the model into the wind (crab) and keep enough tension on the line to keep the model climbing at a normal angle. How much tension depends on how strong the wind is and what direction it is coming from.

(CONTINUED NEXT MONTH)

11/12/94		OPEN CLASS STANDINGS								HIGH SCORE =	2449.3			
pos	NAME	CLUB	TOTAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
1	DON NORTHERN	TOSS	8930	703	914	994	840	973	961	0	857	893	971	824
2	EDGAR WEISMAN	TOSS	8134	702	611	982	1000	825	292	0	992	952	960	818
3	MIKE REAGAN	TOSS	7984	1000	0	998	0	1000	989	0	1000	997	1000	1000
4	BOB SWET	TOSS	7341	901	602	978	728	0	785	0	889	697	915	846
5	PAUL TRIST	TOSS	5740	988	1000	0	0	0	1000	0	0	902	970	880
6	ART McNAMEE	TOSS	5394	716	0	0	902	968	967	0	844	997	0	0
7	DON McNAMEE	TOSS	5072	638	0	568	0	977	904	0	996	989	0	0
8	B.J. WEISMAN	TOSS	4608	739	0	1000	0	1000	0	0	0	1000	0	869
9	DANE VANNETT	TOSS	4342	610	801	955	980	996	0	0	0	0	0	0
10	BILL KARP	TOSS	4192	653	0	919	878	833	0	0	0	0	0	909
11	LARRY JIMENEZ	TOSS	3834	632	0	948	0	725	217	0	528	0	784	0
12	BEN MATSUMOTO	PSS	2423	464	969	0	0	0	0	0	0	990	0	0
13	MYLES MORAN	TOSS	1937	0	0	0	0	0	0	0	350	982	605	0
14	GREG JOHNS	PSS	1863	0	866	0	0	0	0	0	0	997	0	0
15	DAVID BUTKOVICH	TOSS	1830	0	0	0	0	0	0	0	0	957	873	0
16	MIKE LEAL	TOSS	1819	0	0	0	919	900	0	0	0	0	0	0
17	HANK SCHORZ	SCSA	1806	0	0	0	0	0	0	0	839	967	0	0
18	MIKE RATNER	PSS	1774	896	878	0	0	0	0	0	0	0	0	0
19	LOWELL NORENBERG	SFVS	1760	0	0	0	0	0	0	0	764	0	0	996
20	KARLTON SPINDLE	PSS	1573	0	0	0	0	0	0	0	0	0	785	788
21	GREG NIKOLA	SCSA	1568	0	0	0	0	0	0	0	633	935	0	0
22	TONI STARK	PSS	957	0	0	0	0	0	0	0	0	957	0	0
23	J. RODGERS	PSS	799	799	0	0	0	0	0	0	0	0	0	0
24	FRANK CHASTLER	AMTS	746	0	0	0	0	0	0	0	0	0	0	746
25	CHASE KEIGHTLEY	TOSS	736	0	0	0	0	0	0	0	0	736	0	0
26	ROBIN RIGGS	PSS	723	0	0	0	0	0	0	0	0	0	723	0
27	MICHAEL STERN	TOSS	659	0	0	0	0	0	0	0	0	0	659	0
28	ED DEVLIN	PSS	656	656	0	0	0	0	0	0	0	0	0	0
29	FRANK LEPPLA	PSS	615	615	0	0	0	0	0	0	0	0	0	0
30	PHILIP HALLFORD	PSS	610	0	610	0	0	0	0	0	0	0	0	0

11/12/94		2 METER CLASS STANDINGS								HIGH SCORE =	2439.4			
pos	NAME	CLUB	TOTAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
1	EDGAR WEISMAN	TOSS	8080	683	0	963	1000	907	897	0	1000	994	774	862
2	DON McNAMEE	TOSS	6716	1000	0	976	0	980	991	0	980	998	0	791
3	ART McNAMEE	TOSS	5756	0	0	0	911	1000	0	0	887	1000	958	1000
4	B.J. WEISMAN	TOSS	4741	870	0	1000	0	985	0	0	0	971	0	915
5	MIKE REAGAN	TOSS	3705	722	0	987	0	996	1000	0	0	0	0	0
6	DAVID BUTKOVICH	TOSS	1986	0	0	0	0	0	0	0	0	986	1000	0
7	LARRY JIMENEZ	TOSS	1571	0	889	0	682	0	0	0	0	0	0	0
8	JONATHAN SPOER	TOSS	1030	0	0	813	0	0	0	0	0	217	0	0
9	PHILIP HALLFORD	PSS	1000	0	1000	0	0	0	0	0	0	0	0	0
10	TONI STARK	PSS	986	0	0	0	0	0	0	0	0	986	0	0
11	GREG JOHNS	PSS	985	0	985	0	0	0	0	0	0	0	0	0
12	KARLTON SPINDLE	PSS	902	0	0	0	0	0	0	0	0	0	0	902
13	ED DEVLIN	PSS	893	893	0	0	0	0	0	0	0	0	0	0
14	KARTON SPINDLE	PSS	831	0	0	0	0	0	0	0	0	0	831	0
15	MIKE STERN	TOSS	721	0	0	0	0	0	0	0	0	0	0	721
16	PAUL TRIST	TOSS	547	547	0	0	0	0	0	0	0	0	0	0

11/12/94		SPORT CLASS STANDINGS								HIGH SCORE =	2226.7			
pos	NAME	CLUB	TOTAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
1	DON NORTHERN	TOSS	9771	997	991	1000	938	1000	883	0	1000	1000	962	1000
2	LARRY JIMENEZ	TOSS	7912	910	1000	946	996	655	1000	0	779	912	714	0
3	BOB SWET	TOSS	6354	648	687	987	1000	0	851	0	670	945	0	566
4	PAUL TRIST	TOSS	4457	1000	723	0	0	0	898	0	0	982	854	0
5	MIKE REAGAN	TOSS	1985	985	0	0	0	0	0	0	0	0	1000	0
6	SONNY KIM	TOSS	1619	648	283	0	0	0	688	0	0	0	0	0
7	WYATT SADLER	AV	1052	0	0	0	0	0	0	0	328	0	724	0
8	JONATHAN SPOER	TOSS	990	0	0	990	0	0	0	0	0	0	0	0
9	MIKE LEAL	TOSS	985	0	0	0	0	985	0	0	0	0	0	0
10	BOB GRAY	TOSS	938	0	0	0	0	0	0	0	0	938	0	0
11	DEVIN HOLZER	TOSS	876	0	0	0	0	0	0	0	0	876	0	0
12	BILL KARP	TOSS	866	0	0	0	0	866	0	0	0	0	0	0
13	KARLTON SPINDLE	PSS	827	0	0	0	0	0	0	0	0	827	0	0
14	CHASE KEIGHTLEY	TOSS	685	0	0	0	0	0	0	0	0	0	685	0
15	FRANK CHASTLER	AMTS	673	0	0	0	0	0	0	0	0	0	0	673

THOUSAND OAKS SOARING SOCIETY

PRESENTS

AMA DELTA CUB WORKSHOP

Learn the enjoyment of the model aircraft hobby by building and flying your own simple rubber band powered model aircraft.

DESCRIPTION OF ACTIVITY:

9:00 AM - Start building small, stick & tissue rubber band powered model airplanes.

11:00 AM- FLY OFF - All airplanes to be launched at the same time. Last plane still flying -- wins a prize.

Planes, tools, adhesives, instructions and help will be supplied.

TIME: Saturday, December 3, 1994 9:00 AM to Noon

PLACE: Paramount Ranch, a site in the Santa Monica Mountains National Recreation Area, a unit of the National Park System, Cornell Road, Agoura, CA.

LOCATION: the PAVILION in the Old Western Town.

OPEN TO THE PUBLIC: Ages 7 and UP FEE: NONE

GROUPS: Please reserve a place by calling:
(805) 498-8878 or (805) 388-9619

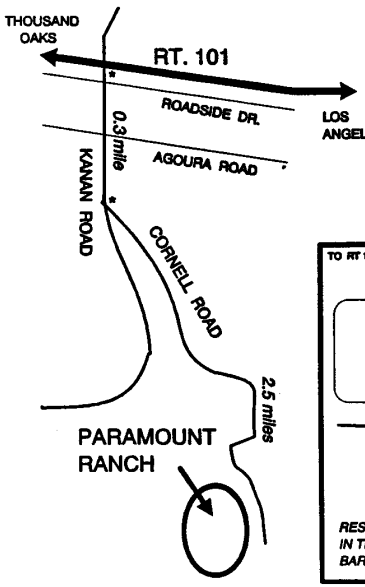
SPONSORED BY:

MARTY'S HOBBIES
1728 N. MOORPARK ROAD
THOUSAND OAKS, CA 91360

THE RED BARON
77 DAILY DRIVE
CAMARILLO, CA 93010

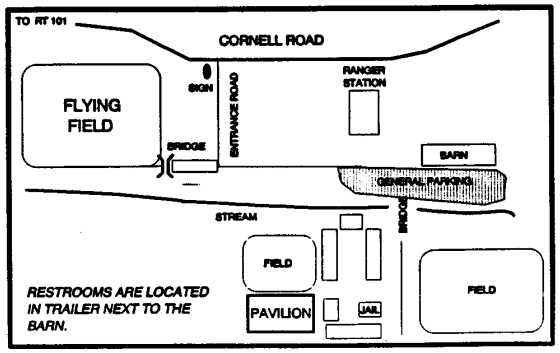
THOUSAND OAKS SOARING SOCIETY
THOUSAND OAKS, CA

PARAMOUNT RANCH



DIRECTIONS

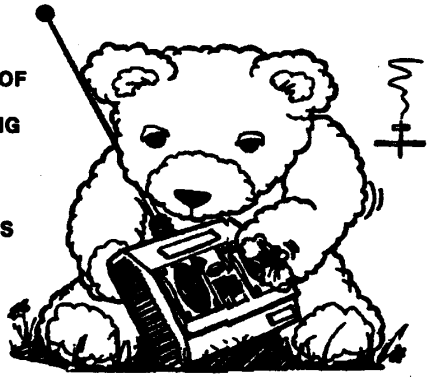
Take RT. 101 to the KANAN ROAD (Agoura) exit.
Follow KANAN RD. to CORNELL RD. [0.3 miles]
Left onto CORNELL RD.
Follow CORNELL RD. [2.5 miles] to PARAMOUNT RANCH (Santa Monica Mtn. Nat. Rec. Area)



6th ANNUAL

TOYS FOR TOTS

CHARITY SOARING CONTEST



THREE ROUNDS OF THERMAL DURATION FLYING

PRIZES THRU 5th PLACE

CONTEST STARTS AT 9 A.M.

ENTRY FEE IS A NEW TOY WORTH $10 OR MORE

TOYS WILL BE COLLECTED BY THE U.S.MARINES

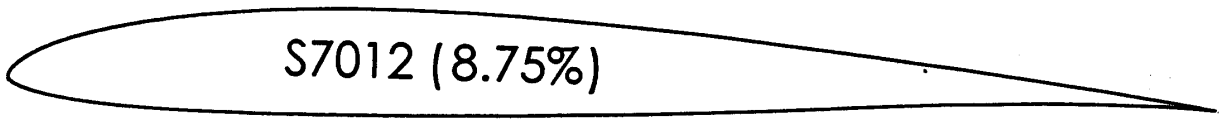
DECEMBER 4th 1994

NEW LOCATION - THE SULA FIELD AT CAL STATE DOMINGUEZ HILLS

HELP US BRIGHTEN THE CHRISTMAS OF NEEDY CHILDREN EVERYWHERE

The s7012 coordinates follow, seemed silly to upload this, so here they are:

1 0
0.99819 0.00024
0.99294 0.00104
0.98451 0.00231
0.97296 0.00392
0.95833 0.00586
0.94077 0.00817
0.92044 0.0108
0.89749 0.01372
0.8721 0.01689
0.84445 0.02029
0.81474 0.02386
0.78318 0.02757
0.74999 0.03138
0.7154 0.03524
0.67965 0.03909
0.64298 0.04287
0.60563 0.04654
0.56785 0.05002
0.52988 0.05324
0.49193 0.05615
0.45426 0.0587
0.4171 0.06081
0.3807 0.06241
0.3452 0.06335
0.31071 0.0636
0.27741 0.06319
0.24543 0.06209
0.21486 0.06033
0.1859 0.05795
0.15865 0.05496
0.13326 0.05143
0.10983 0.04738
0.08846 0.04287
0.06926 0.03798
0.05229 0.03274
0.03759 0.02728
0.02525 0.02167
0.01528 0.01605
0.00773 0.01058
0.00266 0.00524
0.00007 0.00087
0 0
0.00069 -0.00278
0.00486 -0.006
0.01208 -0.00918
0.02223 -0.0122
0.03523 -0.01495
0.05102 -0.01739
0.06952 -0.0195
0.09065 -0.02126
0.11428 -0.02265
0.14032 -0.02368
0.16861 -0.02436
0.199 -0.02471
0.23131 -0.02474
0.26535 -0.02448
0.30091 -0.02396
0.33778 -0.02318
0.37572 -0.0222
0.41449 -0.02101
0.45383 -0.01965
0.49348 -0.01813
0.53316 -0.01644
0.57261 -0.01453
0.61171 -0.01227
0.65044 -0.00978
0.68859 -0.00732
0.72582 -0.00504
0.76182 -0.003
0.79628 -0.00128
0.82889 0.0001
0.85936 0.00112
0.88743 0.00178
0.91283 0.00211
0.93533 0.00214
0.95473 0.00192
0.97084 0.00153
0.98352 0.00105
0.99266 0.00055
0.99816 0.00016
1 .000000 0



From Inland Soaring Society Newsletter 11/94

Servo Wiring

...by George Siposs
Costa Mesa, California

If you have several radio sets of various manufacture and would like to switch servos among them you should know that they don't all get wired the same way in the factory.

Each servo has three wires: one for gound (or return or negative), one for battery power (this is called "hot" and supplies +4.8 V), and the last one is for "signal" (i.e., the radio control input).

The three wires have three different colors and you must not assume that they match. Here is the color code for each system:

Color	**Futaba "G"**	**Futaba "J"**	**"JR"**	**"AIRTRONICS"**
RED	hot	hot	hot	hot
WHITE	signal	signal	——	——
BLACK	ground	ground	——	edge(#1)signal center = ground
BROWN	——	——	ground	——
ORANGE	——	——	signal	——

Note: On Hitec or World Engines radios: black = ground, yellow = signal, red = hot.

Charging: The transmitter charging plug on ACE, AIRTRONICS, Hitec and Futaba is hot = center, and ground = outside ring.

On "JR": the center = ground, and outside ring = hot!

NOTE: A universal servo connector is available. It is equipped with 4 pins and 3 wires. By removing the cap you can convert it to a male connector. The catalog number is "CEU" and it costs $3 each. Order from: Custom Electronics, RR 1 Box 123B, Higginsville, MO 64037; Telephone 816-584-6284, Fax 816-584-6285. ■

A Computer Bulletin Board Just For Us!

AeroData is a bulletin board system dedicated to building and flying model aircraft. There is something for every modeler: **Classified Ads Section** - Turn used kits, planes, radios and parts into cash, or find a great deal or swap and trade for other items; **Aircraft Plans** - Download aircraft plans designed by modelers around the country. If you have your own plans, upload them to share with others, or sell them as a "shareware" item. There are also starter plans which are a great way to start designing you own aircraft; **Kit Reviews** - Find the information you need on kits BEFORE you purchase.

Much More! Shareware, personal mail; speciality areas (including gliders); upcoming events from around the nation including swap meets, fly-ins, trade shows and more. Legal/FCC area to discuss flying sites, insurance, and other important issues facing clubs today. Call AeroData with your modem at (313) 944-0822 (up to 14000 bps, 8 data bits, NO parity, 1 stop bit). AeroData asks for a $1/month subscription fee to help maintain the phone lines, equipment, and overhead.

From CVRC "Zoomie" Newsletter
11/94

Lo Tech Stuff

By Brian Chan

Nose Job

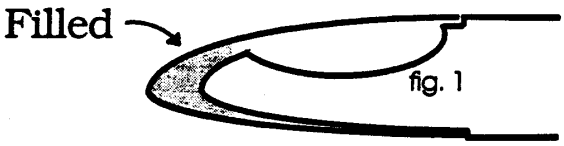
It seems that sporting a nose cone is the trend of the new generation sailplane. I guess the canopy is out and nose cone is in.

Every once in a while, the nose cone is called upon to perform its secondary function as a stopping aid. This is fine if the nose cone is in full contact with the inner fuselage. On several models I examined, I noticed that there is a void between the nose cone and the front of the inner fuselage (see fig. 1)

The problem occurs when the nose cone is required to perform its secondary duty. Picture this in slow motion (the real action only takes a couple of microseconds). The nose cone touches the ground and stops. Whatever is behind it is still traveling at a high rate of speed. The nose cone is the only thing between the rest of the plane and the ground, and there is space available for the inner fuselage to get in. Guess what ? The force of nature is going to win this one. If the nose cone is strong, you will have a hard time separating the nose cone from the fuselage. But if the nose cone is not strong enough, it will split on the back end of the cone.

The solution is to fill the space with something (see fig. 2). That something could be epoxy with micro balloon, if it is a small gap. Use epoxy with lead shot if the void is big enough. Since you have to put nose weight to balance the plane, why not put nose weight in the nose cone ???

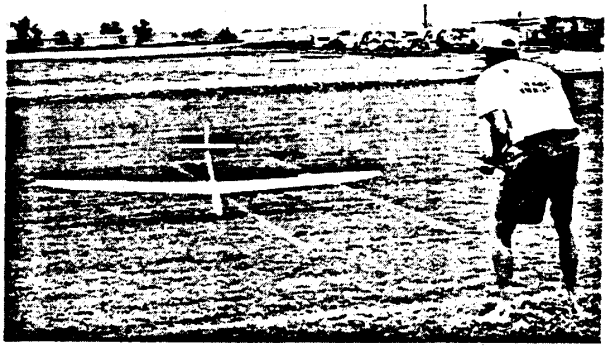
The trick is to put in the right amount. The plan here is not putting all the nose weight in the nose cone but to put enough to fill the void so there is solid contact between the nose cone and the inner fuselage. Pour lead shot (no. 9 shot is preferred) into the nose cone, trial fit and adjust the amount so the nose cone will slide on all the way. If the gap is small, use modeling clay.



The most important thing to remember is to wax the inner fuselage or use some kind of mold release. If you do not use mold release, you will end up bonding the nose cone to the fuselage. You can also use plastic wrap. Pour the epoxy/lead shot mixture (or the epoxy/micro balloon mixture) into the nose cone. Make sure the mixture is in the very front end of the nose cone. Slide the nose cone onto the fuselage while holding the fuselage nose pointed downward.

After the epoxy is set, you can remove the cone. If it come off, you are done, you have successfully matched the cone to the fuselage. If it doesn't come off, you HAVE permanently mated the nose cone to the fuselage !!!

Editor's note:
I used this method on my Genesis, taking care to lubricate the inner nose with petroleum jelly. However, I poured too much epoxy in the nose cone. When I tried to remove it, no go! Quick thinking brought out the heat gun and I carefully heated the front of the nose cone until the epoxy softened enough to release it. Seems the excess epoxy, although minimal, had formed a lip in the radio bay opening. If you use this method, it would be wise to place the fuselage in an inverted position while the epoxy cures, and check that the nose cone is not stuck before the glue cures completely.



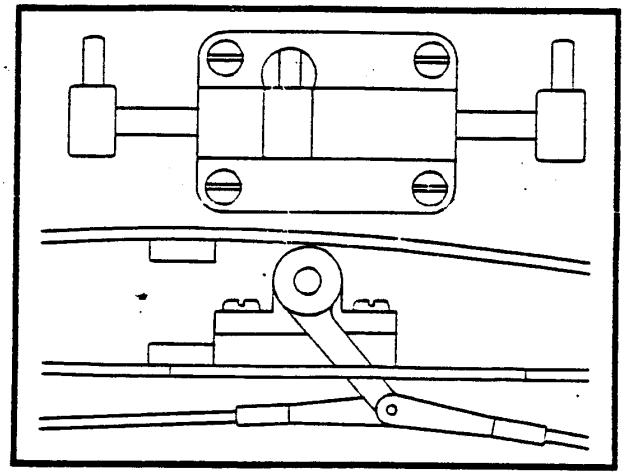
Leo Asnault, a frequent competitor at SBSS contests, just misses the landing box at Visalia. He also demonstrates the reason for Brian's technique with his AMAP Flair.

From Inland Soaring Society Newsletter 11/94

Airtronics Specialty Division by Tim Renaud

SINGLE FLAP SERVO LINKAGE

Since the introduction of the computer type radios like the Infinity 600 and the Vision 8SP, setting up and adjusting servos mounted in the wing has become a quick and simple task, and most of the newer designs are using four servos mounted in the wing. The up side of this trend is short, tight control linkages to the flaps and ailerons which are not subject to binding if the wing is flexing. The down side of the wing mounted servos is that the servos themselves need to be both small and powerful, a combination that can become expensive when four servos are involved. I won't argue that two wing mounted aileron servos are the only way to go with the radio equipment available today. The two aileron servos are a must is you want to run differential, variable camber or crow. But why are two flap servos always necessary? In most cases the flap servos are both moving in the same direction all of the time, especially on thermal duration ships. And if you have a plane with a one or three piece wing, both flaps are attached to the same panel, so there's never a need to disconnect the left flap from the right flap. When you consider these factors a single fuselage mounted flap servo starts to look very attractive.



ASD's Whisper uses a single flap servo that is mounted in the fuselage. By doing this, an affordable standard size servo can be used, eliminating the cost of two mini servos. The gear train of the standard servo is much larger and able to withstand the shocks of landing without stripping gear teeth. And not only is the single servo about 3/4 of an ounce lighter than the two mini servos, but its weight can be located ahead of the CG rather than behind it. As you can see, in the smaller planes the single flap servo concept has a great deal going for it.

Most of the people who have looked at the plans for the Whisper have commented on how simply and effectively the flap linkage is set up. As you can see in the drawing, there is a central control arm which extends from the bottom of the wing and attaches to the servo arm via a short pushrod. A 3" long music wire torque rod transfers the servo motion to the two control arms mounted at its ends. These control arms extend out the bottom of the wing and are hooked up to the two flaps with short pushrods in the same manner as wing mounted servos would be. A flat is ground along the entire length of the torque rod for set screws in the control arms; this ensures that the arms won't rotate and that they will be properly aligned with one another. The torque rod rotates in a nylon bearing block which is mounted to a 1/16 plywood hatch, which in turn is mounted into the wing. The whole arrangement is self contained, can be set up and tested outside of the wing, and is easily accessible for maintenance.

Since ASD is stocking all of the parts for this linkage, we've decided to make it available as an accessory item so that scratch builders can use it in their own planes or kit builders can retrofit it to other kits. The Flap Linkage Kit includes the torque rod, bearing block, mounting screws, control arms, threaded rod for pushrods, clevises, and lock nuts. The assembly can be mounted on a hatch as in the Whisper or built into the wing itself. To order a Flap Linkage Kit, use part number ASD504, retail price $4.95.