TOSS-UP

NEWSLETER

OCT 1990 T.O.S. S. P.O. BOX 1955 THOUSAND OAKS, CA. 91360
A.M.A. CHARTERED CLUB # 1493
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Next Contest; NOV11th 1990
C/D: Ralph Morgan
Type: ???

Next Meeting: OCT 31st 1990
Place: Oaks Mall
Next to Bullocks
Hillcrest Dr. T.O.
Time 7:30 p.m.

Newsletter — TOSS — Newsletter

Minutes for Sept. 1990

The meeting was called to order at 7:35 PM by President Edgar Weisman.

The Treasurer's Report was given by Chuck Griswold. $385.00

Ten members were in attendance with several guests and potential new members also present.

A motion was passed that effective Jan 1st 1991 all radio equipment used at a TOSS field must meet 1991 AMA requirements.

Elections will be conducted at the November meeting for 1991 club officers. Please be thinking of those folds we want to nominate. (This year I'll be present for the nominations

We had a guest show up with a very nicely constructed Wanderer. (Sorry I didn't get his name) Chuck volunteered to assist him in applying his Monokote and ended up giving an impromptu demonstration. Atta way Chuck!

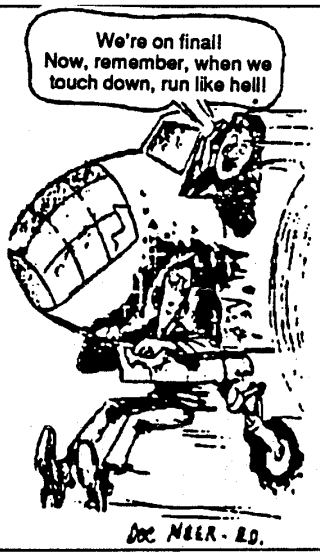
Remember that SC squared contest is at SWSA on October 28th 1990. Let's put a team together and show So Calif. what a great club we have.

Bob Goldsmith

Capt. Hendrickson Speaks

Sorry I didn't get a report on the X-Country in the last newsletter but Chuck summed up my feelings pretty well. I am suffering from BURNOUT. In any case here goes.

First let me thank Bob Swet, Mike Leal, Chuck and Edgar for if it were not for their help at the contest I would have been up a creek. Saturday morning was beautiful and not too hot. We had a pilots meeting and I explained the rules and object of the contest (to beat Wurts). It also seemed that Joe misplaced his stabs from the flying we did on Friday. There seemed to be a consensus that the one holding the "lost" stabs should auction them off to the highest bidder. Ten teams showed up with a few notables missing like Jolly and Kindrick not to mention there was only one team from TOSS, me. (Where are you guys?)



Most of us launched around 11-11:30. I provided the excitement right off the bat. I was up pretty high getting ready to head over to the start line when all of the sudden my plane started going straight down. At about warp 11 it did an outside square loop then went back up vertical at least 500 feet. It then went straight down again and when it got inverted I tried to keep it there with the rudder. That started a couple of the fastest outside barrel rolls I have ever witnessed. It then headed for the ground again and I had just about given up on it when I got control back. Hooray!! But not for long on base leg I lost the elevator again this time it went cart-wheeling out through the desert. After a few damns (and a bunch of unrepeatable words) later it came to rest. We drove out to it with me moaning the whole way only to find the damage not too bad. Fuse and tail feathers okay and the wing fine except for the tips were crunched a little. I might point out this plane is more than strong enough and I can tell you unequivocally you could never blow it up in flight. I'll share my lamination schedule with anyone who wants to know. We put together the backup and launched it but the sniffer wasn't working as well so I landed and decided to tape up the tips and fly the smashed wing instead. In the meantime Joe's out finishing the course not once but TWICE. Todd Billman also finished and Harry Rose, Marshall Searcy and Team SULA landed out. This all happened and I haven't even started yet. We finally went on course at 2:15 and finished in 59 minutes. The lift was not as strong but neither was the sink and the cotton fields were not being watered this late in the year so they didn't have as much big sink as normal. We struggled in a couple of places getting really low but managed to carry it on our backs when needed.

The second run was for speed with Joe 15 minutes ahead of me and Billman only a minute ahead. No one else had finished the course. We still didn't start high enough but with the launch window closing in 15 minutes and the lift weakening I wanted to get on course. The first part went well then we got low at the turnpoint. I managed to work it off the deck at the

turn and headed for home. I figured we needed one more thermal. I was right, because we never hit it and landed straight ahead at a little over 18 miles. Four teams finished on Saturday Billman, SULA, Wurts and myself. Wurts setting the pace finishing three times. The rest of the field made it 10 to 11 miles.

The banquet and raffle were held at Joe's (No relationship to JW). I opted to raise the dinner tickets a buck and half so we had our choice of chicken and or beef. Everyone enjoyed the food particularly since they had a choice. Hint for next year.

Sunday dawned cooler. I might point out that this weekend the Los Angeles basin was baking in the sun and actually hotter than Taft. With the cooler weather we got a later start with the teams starting at 12 o'clock all landing 5 miles out. Joe and I started at about 12:50 and I never saw him again. I got low 5 miles out and stayed low. I'm not talking about 1000 feet. I only wish I had that kind of altitude. No, I was down at 200-500 pushing down the course in weak little gopher farts. At the turn I hit a boomer and for the first time all weekend specked out. It had taken almost an hour to get to the turn. Heading for home we passed Billman heading out. He was skied out and moving. I knew I had to run the course again and quick. We made it to the finish in 19 minutes nonstop and with altitude so we didn't have to relaunch. While we climbed up Billman finished in 42 minutes beating Joe's first time. Joe had already started packing up but not one to be beaten Joe put his plane back together again and turned a 39:51 while I was doing a 51:45. Team SULA also finished in 1:25. No other teams finished.

I elected to raffle off a Airtronics radio to the helpers and teams that stayed for the awards' ceremony. This worked good at Santa Maria and great for us. Almost everyone stayed instead of a handful as in years' past. Definitely the way to go. Mark Cooper won the radio. It seems he made out like a bandit at the raffle the preceding evening not to mention his team won the winch and retriever we raffled off a few years back. Seems they got our number. No surprises this year in the final standings with Joe beating everyone hands down followed by Billman, myself, Team SULA, Harry Rose, and Marshal.

It was unanimous to hold the contest in September. EVERYONE liked the conditions even though the lift was not as strong. The times looked about 5-7 minutes off previous and the distances off about 3-4 miles. But it was cooler and made for a lot of fun.

A few side notes, both Edgar and Mike went on course with me and I think I even got Edgar hooked. We also had a visitor from the Iowa Great race and he says he's coming with a plane next year. Edgar also smashed his new bagged hybrid Falcon into a million bits. I still haven't found out why. The gears in my elevator servo stripped causing my problems on Saturday. I have fixed the tips already doing something that may be of interest. The tip was wrinkled and delaminated about 6 inches worth. I mixed up a batch of bagging epoxy and brushed it on the foam and into the cracks as best I could and then stuffed the whole mess into a bag and turned on the vacuum pump. I then put the tip and bag into the foam beds and set a couple of batteries on it overnight. The next morning the tip was solid and the delamination fixed. I filled the bad areas and painted it, good as new.

I have a 10 dollar SR battery gift certificate I won at the raffle I'll give to the first caller.

Someone else will need to run the X-C next year. I'd like to concentrate on flying. As you can see I do have "burn out" and I may as well tell you right now that I will not be running for any Club office next year. One final comment I do have my house up for sale and will be moving if we sell it in this awful market. Relax I'm not going far just Santa Rosa Valley about 5 miles down the road. I'd like to get a piece of property I could fly my hand launch on any time I want to. I understand Paramount is approved. I sure hope someone puts the contest schedule in the newsletter so I know where to go on what days.

Later Eric.

C/D's For the Year:

~~Jan 13th~~	~~Ed Weisman~~
~~Feb 10th~~	~~Don Northern~~
~~Mar 10th~~	~~Art McNamee~~
~~Apr 8th~~	~~Ed Oldenburg~~
~~May 12th~~	~~Eric Hendrickson~~
Jun 9th	Bob Goldsmith
~~Jul 14th~~	~~Terry Koolan~~
~~Aug 11th~~	~~Chuck Griswold~~
~~Sept 8th~~	~~X/C~~
~~Oct 13th~~	~~Richard Hartman~~
Nov 10th	Ralph Morgan
Dec 8th	Myles Moran

Well—Here We Go Again.

I just recieved word that Buddy Fox passed away. He was always there to give a hand, built fine winches and beautiful model sailplanes. We'll miss you Buddy.

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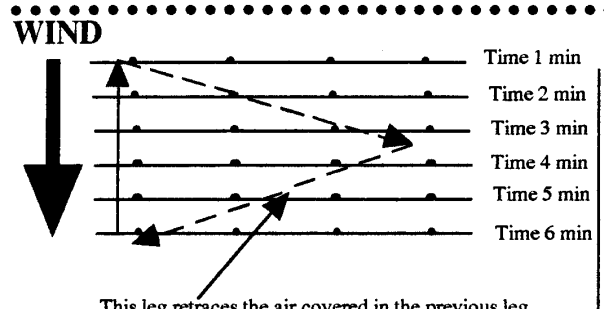


FLIGHT PLANNING

By Frank Deis
Pikes Peak Soaring Society

As with most endeavors, planning and preparation increases the likelihood of maxing the duration flights. This is especially true in competition when you don't get to pick the time and conditions for your flight. Preparations fall into two categories; 1) preparing the airplane and 2) planning the flight. Preparing the airplane is the subject of a future article. Here, we will focus on preparing a "flight plan."

It is likely that you have not thought about preparing a flight plan except when you check to see if anyone ahead of you is in a thermal. Flight planning is a technique used by competition pilots and if you don't watch them closely, you may not be aware they are doing it. The objective is to figure out where to go in search of a thermal when it is your turn to fly. Now you say "that's simple and I do it all to the time. What is the big deal?" BY the end of this discussion I hope to convince you that making and following a flight plan is not simple and that it can have a big impact on your flight scores.. Flight planning is the merging of the results of three separate activities: 1) mapping the flying site, 2) observing the results of preceding flights and 3) understanding the basic dead air performance of the airplane. I will cover this as though you were going to write it down. This is the best way but it is a bit formal. Most pilots just do it in their heads. Either way will work. The important idea is that you consciously think through the flight planning process instead of doing whatever comes to mind when you get off the winch.

The first step is to map out the flying site. I try to build a picture of everything on the ground that can affect the air I might fly in. That means estimation how far away I can see the airplane and then adding 1/4 or 1/2 mile to allow for thermals to drift in or waves to form downwind or something. Now go for a walk— a long walk! Find out what is out there and where it is.

I have never been any good at guessing where the good and bad air will be. I have found sink over freshly plowed fields and lift over lakes - it makes no sense to me. Others have written extensively on this subject so I will not provide a discourse here. I will provide my belief which is more religious than scientific. In my experience, thermals seem more likely to occur where there is some change or discontinuity in the landscape to trigger it. Any change will do. A change in color, texture, moisture, angle to the sun etc. Any discontinuity that will turbulate the boundary layer next to the surface if the wind is blowing. I call these things trigger points because they give a thermal the excuse to break loose and start to float away, so I look for trigger points. The other things I look for are features that can generate ridge like or wave lift conditions because they can help get me from one trigger point to another with the minimum loss of altitude or keep me up if I cannot find anything else. These features include hills. buildings, tree lines etc. Trigger points include roads, tall weeds, short grass, trees, buildings, gentle rolling contours, steep drops, strong moisture and color variations etc.

The day of the contest, I watch the pilots and make little notes on the map about where the thermals were, how strong they were and how far apart in time they were. This tells me what trigger points are active and how active they are. That is how I collect the results of the previous pilot's flights.

OK, we know the landscape and what is actively generating thermals. Now what? Now is the time to develop the flight plan.

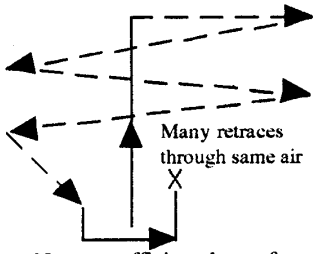
You should know how much time you get (usually 3-4 minutes) in dead calm air with no thermals (dead air time) from your tests and practice. Your flight plan is a search pattern that uses all of that time to efficiently search for thermals and, if you fail to find one, return you to the landing pattern entry point with just enough altitude to make a 100 point landing. Your flight plan is based upon your knowledge of the field, the air, the previous good and bad flights. It should take you over every likely thermal trigger point avoiding likely down air spots. It should make use of slope lift, ridge lift and rotors to get from trigger point to trigger point quickly and with minimal altitude

loss.

The thermal cycle (the time between thermal formations from the same trigger point) is typically longer than your dead air time. Hence, if there wasn't a thermal there the first time you visited a trigger point, there is not likely to be one there a minute or two later. Hence, the flight should never retrace itself through air you have already tested. Retracing your path cuts your opportunities of finding a thermal in half! The key to finding a thermal is to look in lots of places. Staying in one place means the thermals must come to you and they don't always understand their responsibility! If you fly in "new air" at 15 to 20 MPH for 3 to 4 minutes you will cover 3/4 to 1.5 miles! With a F3b type airplane and one of the new airfoils, you could perhaps double that! (That is why the new designs are so exciting.) Now, if you fly in a straight line for that long, finding a thermal is almost a sure bet! Obviously you can't fly in a straight line because you will loose sight of the airplane and the path would not leave you in position to start the landing pattern. We need a closed pattern that will do the job.

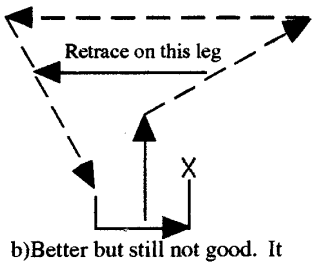
The particular pattern you use depends on many variables but there are some commonly used generic patterns that you can start with and then tailor to the site and weather conditions.

Novice "Hang around upwind until it's time to land" Pattern (A)



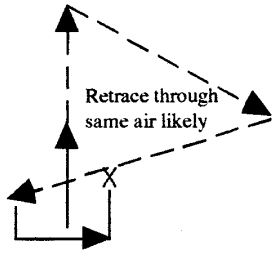
a)Not very efficient due to frequent retraces. Get away from this as soon as possible.

Full upwind trangle Pattern (B)



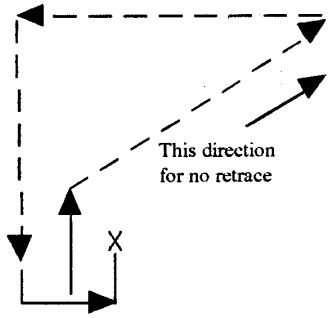
b)Better but still not good. It produces about 30% retraces.

Aft -left /right trangle Vertex out Pattern (C)



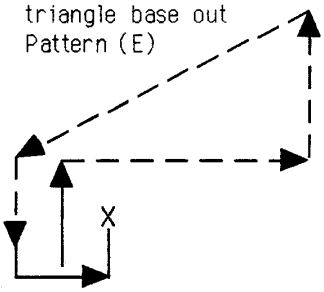
c)Poor because of 50% retrace. Note that changing direction along the path fixes the problem.

Forward left/right trangle vertex out Pattern (D)



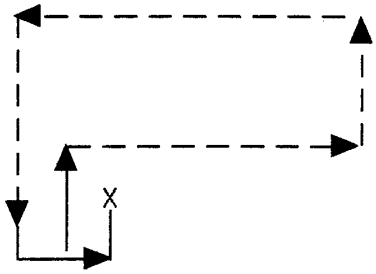
d)Not too bad, only minor retraces. Good for floater type airplanes that don't cover much distance. Best of the small patterns. If possible, fly to visual limit and back.

Forward left/right triangle base out Pattern (E)



e)Not too bad, no retraces, good for floater type airplanes and aggressive pilots. Stay at visual limit for as long as you dare.

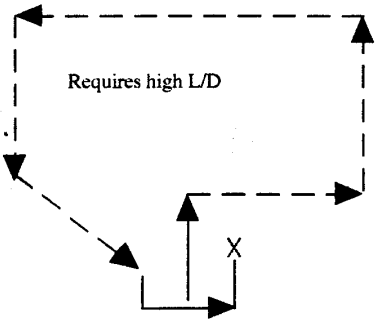
Forward left/right rectangle Pattern (F)



f)Covers more ground than D) or E) and keeps airplane at visual limit longer.

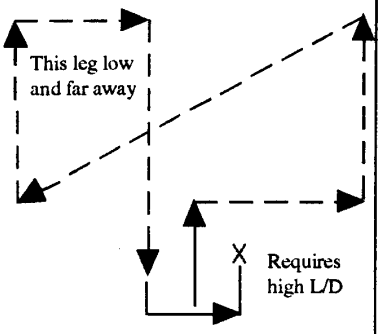
Also takes more courage. Efficiency drops if flown in the other direction. Requires moderate L/D to complete.

Full forward Rectangle Pattern (G)



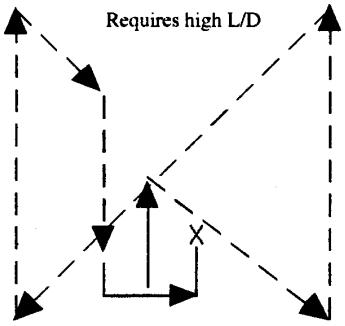
g)This one can be extended to the visual limits on both sides. Note the potential retrace problem. It can be extended to a full semi-circle at the visual limit. It requires a pretty good airplane and lots of courage to execute because you end up low and far away.

Improved forward rectangle Pattern (H)



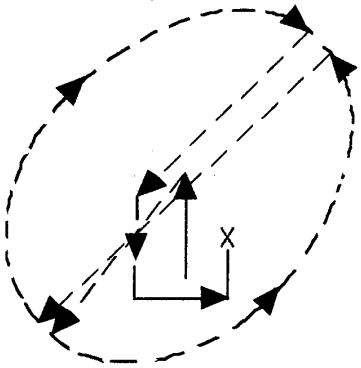
h)Eliminates the retrace in g) and can be modified to a full semi-circle. It turns out to be a special case of a family of figure eight patterns. It requires a good L/D airplane and an aggressive pilot because you get very low very far away.

Figure eight Pattern (I)



i)These look like two forward left/ right triangle- base out patterns placed vertex to vertex. They have lots of flexibility, almost no retrace problems and can be extended to the visual limits in all directions. They require very high L/D and a very aggressive pilot.

The ultimate Pattern (J)



j)This requires a fool hardy pilot, expendable airplane and a motor!

The generic flight plans are just that. They give you general sizes and shapes of the flight plan options. If you don't know your dead air performance, waste a few flights by trying a couple of generic plans. Start with (e) Forward base out triangle for example - most airplanes can complete it. If you get back with lots of altitude to spare try the full forward rectangle and then stretch it to a semicircle. If you are still too high on your return try one of the figure eight patterns. Don't cheat by riding a thermal to stretch the pattern because you won't always be able to do it. It is fun to make a quick turn if you pass through a thermal to confirm it and then move on though the plan. I like to see how many thermals I can find in a single 4 minute search. You would be surprised at the size of the number. Anyway, I think it is best to pick the largest possible generic pattern as a starting point.

The last step is to layout the generic pattern on the landscape map. Then bend and tweak it to take advantage of the trigger points and transit (ridge lift) areas. (Remember you can always flip a pattern left to right if you need to.) Assume you will be losing altitude the whole time and include the effect of both the wind and the altitude when visiting the trigger points (ie. Thermals will be further downwind of the trigger points if you are higher.) Just for kicks I put a Falcon and a Legionair plan on the landscape map. I bent them to fit the field conditions discussed in the landscape section. If you find something, ride it. If it peters out, go back to the flight plan and continue your search.

Remember, whatever pattern you select, it should result in just reaching the entry point conditions for the precision landing pattern with 3o seconds of altitude left. Typically the home bound leg of the pattern is pretty low. Remember the search isn't over until you hit the landing pattern entry point. It ain't over till it's over.

That is all there is to it. Now that you have a plan go try it out. Flight planning is not a one shot process. You are usually well advised to change the flight plan two or three times a day as the wind direction changes and trigger points increase or decrease in activity. In my experience, if flight planning is done properly you can max. more than 90% of your attempts. The goal is a thermal every time!

Frank Dias

patterns

November 1990

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	T.O.S.S. Fun fly.Help for new fliers and practice for contests 3
S.W.S.A. Covina 4	5	6	7	8	9	TOSS CONTEST PARAMOUHT RANCH OOPS 10
11	12	13	14	15	16	17
DUST PALMSPRINGS SC² 18	19	20	21	22	23	24
Monthly contest Weedpatch Bakersfield call Myles for ride info. 25	26	27	TOSS meeting MEETING 28	29	30	

December 1990

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						T.O.S.S. Fun fly.Help for new fliers and 1
SC SQUARED TPG SC² 2	3	4	5	6	7	MRCSS Santa Monica monthly contest. 8
TOSS CONTEST OOPS 9	10	11	12	13	14	15
P.S.S. Pasadena El Dorado Long Beach 16	17	18	19	20	21	22
23	24	25	TOSS meeting MEETING 26	27	28	29
30	31					

T.O.S.S. Calendar of events. Please contact officers for car pool information

NORMALIZED

Max score OCT 3000

Highest T.O.S.S. score OCT 2857

#	NAME	CLUB	TOTAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	OCT
1	NORTHERN	TOSS	6512	929	0	1000	941	991	962	952	737	0
2	KOPLAN	TOSS	5700	947	971	0	998		960	0	825	998
3	GRISWOLD	TOSS	5645	0	0	817	924	982	1000	921	1000	0
4	WEISMAN	TOSS	5514	0	320	882	927	0	768	669	974	974
5	McNAMEE D.	TOSS	5363	0	780	966	876	1000	0	910	831	0
6	SWET	TOSS	4709	0	790	0	674	764	0	904	612	965
7	OLDENBURG	TOSS	3924	892	569	0	722	959	0	782	0	0
8	MORAN	TOSS	3455	0	0	926	0	897	0	0	633	1000
9	HARTMAN	TOSS	3379	1000	881	742	0	0	0	0	756	0
10	BEN M.	PSS	2826	0	0	0	0	896	996	0	0	933
11	HENDRICKSON	TOSS	2742	0	0	0	972	872	0	0	897	0
12	RATNER	PSS	2590	0	0	0	0	919	752	0	0	919
13	WURTS	TOSS	1968	0	1000	968	0	0	0	0	0	0
14	VICKERS	TOSS	1775	0	0	0	775	0	0	1000	0	0
15	McNAMEE	TOSS	1653	0	0	744	0	910	0	0	0	0
16	NIBLEY	TOSS	1496	690	0	0	806	0	0	0	0	0
17	DOUGLAS,I	SWSA	1458	0	0	0	0	0	0	810	0	648
18	GOLDSMITH	TOSS	1347	0	0	0	0	0	0	625	722	0
19	KRAINOCK	SVSF	1000	0	0	0	1000	0	0	0	0	0
20	BURNS	PSS	983	0	0	0	0	0	983	0	0	0
21	WICHERT	TOSS	979	0	0	0	979	0	0	0	0	0
22	BUTKOVICK	PSS	814	0	0	0	0	0	814	0	0	0
23	TURNER	??	631	0	0	631	0	0	0	0	0	0

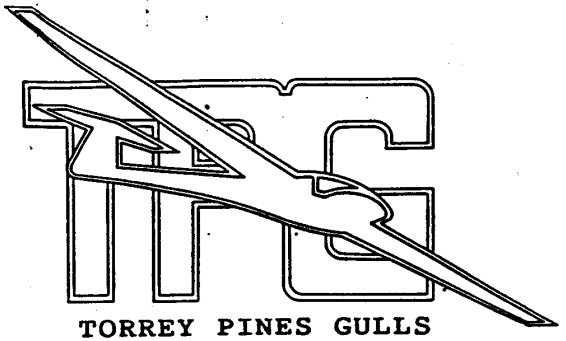
2 METER CONTEST

NORMALIZED TO 1000

	NAME	CLUB	TOTAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	OCT
1	GOLDSMITH	TOSS	3286	891	305	0	798	888	0	0	403	0
2	GRISWOLD	TOSS	2714	0	0	0	1000	1000	714	0	0	0
3	HENDRICKSON	TOSS	2626	0	0	0	794	990	0	0	842	0
4	SWET	TOSS	2000	0	0	0	0	0	1000	0	1000	0
5	OLDENBURG	TOSS	1732	1000	732	0	0	0	0	0	0	0
6	WEISMAN	TOSS	1339	0	0	0	664	676	0	0	0	0
7	MORGAN	TOSS	1279	619	660	0	0	0	0	0	0	0
8	VAN HAMERSVELT	TOSS	1066	0	0	0	513	553	0	0	0	0
9	WURTS	TOSS	1000	0	1000	0	0	0	0	0	0	0
10	WICHERT	TOSS	899	0	0	0	899	0	0	0	0	0
11	Mc NAMEE D.	TOSS	869	0	869	0	0	0	0	0	0	0
12	VICKERS	TOSS	857	0	0	0	857	0	0	0	0	0

SPORTSMAN CLASS NORMALIZED TO 1000

			TOTAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	OCT
1	LEAL	TOSS	3345	0	0	755	1000	590	1000	0	0	0
2	GOLDSMITH	TOSS	3184	823	463	0	899	1000	0	0	0	0
3	VAN HAMERSVELT	TOSS	2947	0	0	0	671	574	0	0	702	1000
4	BUTKOVIC	PSS	2739	918	0	1000	0	821	0	0	0	0
5	MORGAN	TOSS	2714	714	1000	0	0	0	0	0	1000	0
6	IMES	SCSA	1000	1000	0	0	0	0	0	0	0	0
7	JIMENEZ	TOSS	656	0	0	0	0	0	0	0	0	656



TORREY PINES GULLS SC²

DATE: DECEMBER 2, 1990

PLACE: MONTGOMERY-WALLER PARK

TIME: 8:45am Pilots meeting
9;00am First flight

C/D: GARY ANDERSON (619) 429-8281

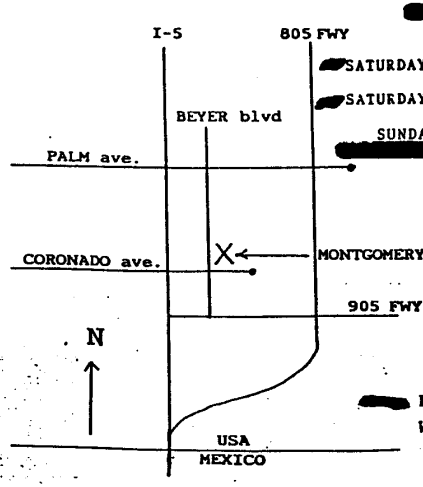
ROUND #1, #2, & #3 CONTESTANT FLYS EITHER A, B, or C. PILOTS OPTION

A) 3 MIN. FLIGHT AT 700 POINTS.
4 points/second off of time.
LANDING at 300 points.

B) 5 MIN. FLIGHT AT 800 POINTS.
3 points/second off of time.
LANDING at 200 points.

C) 7 MIN. FLIGHT AT 900 POINTS.
2 points/second off of time.
LANDING at 100 points.

JOIN US FOR A
WEEKEND OF FLYING



SCHEDULE:

SATURDAY A.M. PRACTICE, WINCHES SET UP APPROXIMATELY 8:30am

SATURDAY P.M. SLOPE FLYING AT TORREY PINES

SUNDAY A.M. CONTEST FLYING

LOTS OF INEXPENSIVE LODGING WITHIN 5min. OF THE FIELD.

ELDORADO SILENT FLIERS

2 ND. ANNUAL "TOYS-FOR-TOTS" CONTEST

DECEMBER 9, 1990 9 AM

ELDORADO PARK FLYING FIELD
WEST OF 605 FREEWAY OFF SPRING ST. EXIT , LONG BEACH
(GRASS FIELD - WINCHES AND RETRIEVERS - PARK MAPS AT GATE)

ELECTRIC PLANE AND SAILPLANE CONTEST
THREE ROUNDS OF PRECISION FLYING WITH MEASURED LANDINGS
900 FLIGHT POINTS - 100 LANDING POINTS PER ROUND
PROOF OF AMA MEMBERSHIP REQUIRED - AMA, FAA, AND PARK RULES
(ALTITUDE LIMITATION)

ELECTRICS AND SAILPLANES WILL FLY THE SAME TASKS AND WILL BE SCORED SEPARATELY- RIBBONS TO FIVE PLACES.

ENTRY FEE - ONE NEW UNWRAPPED TOY
PARK ADMISSION - $3.00 PER CAR

EVERYONE BRINGING A TOY WILL BE ELIGIBLE FOR THE DOOR PRIZE DRAWINGS.

THE UNITED STATES MARINE CORPS. WILL PICKUP AND DISTRIBUTE THE DONATED TOYS.

CONTEST DIRECTORS
JIM BARNHART (213) 421-3583
MARK CHILD (213) 866-2257

EDSF OFFICERS
AL TAYLOR (213) 866-1056
BOB PEETERS (213) 420-2814

EDSF

ARE YOU GOLD yet?

RC Equipment Certified

The following radio systems (transmitters and receivers) have been independently certified by a registered professional test laboratory retained by the manufacturer, or by a U.S. importer or distributor, as meeting or being better than the Radio Control equipment specifications detailed in the Academy Guidelines for operation at 20 kHz frequency spacing. The testing was done specifically for this listing or at the time of the product's FCC type acceptance procedure. This listing is presented as a matter of information only and is not to be construed as an endorsement of the products listed:

Airtronics	Spectra PCM 7P (Receiver Part No. 92985, Tx RF Module 93782)
Airtronics	Spectra PCM 7H (Receiver Part No. 92985, Tx RF Module 93782)
Airtronics	Quantum PCM 8P (Receiver Part No. 92985, Tx RF Module 93782)
Airtronics	Quantum PCM 8H (Receiver Part No. 92985, Tx RF Module 93782)
Airtronics	Module FM MD7P (Receiver Part No. 92785, Tx RF Module 93772)
Airtronics	Module FM MD7SP (Receiver Part No. 92785, Tx RF Module 93772)
Airtronics	Vanguard PCM VG4R Receiver Part No. 92965, Tx RF Module 93572)
Airtronics	Vanguard PCM VG6P (Receiver Part No. 92965, Tx RF Module 93572)
Airtronics	Vanguard PCM VG6H (Receiver Part No. 92965, Tx RF Module 93572
Airtronics	Vanguard FM VG4R (Receiver Part No. 92765, Tx RF Module 93572)
Airtronics	Vanguard FM VG6DR (Receiver Part No. 92765, Tx RF Module 93572)
Airtronics	Vanguard FM VG6H (Receiver Part No. 92765, Tx RF Module 93572)
Airtronics	Vision PCM 8P (Receiver Part No. 92985, Tx RF Module 93782)
Airtronics	Vision PCM 8SP (Receiver Part No. 92985, Tx RF Module 93782)
Cirrus	Excell RC-4F (Receiver Part No. CR-217A, Tx RC-4F)
Cirrus	Excell RC-4P (Receiver Part No. CR-224A, Tx RC-4P)
Cirrus	Excell RC-7F (Receiver Part No. CR-217A, Tx CR-7F)
Cirrus	Excell RC-7P (Receiver Part No. CR-227A, Tx CR-7P)
Futaba	Conquest FP-4NBF FM (Receiver Part No. FP-R127DF)
Futaba	Conquest FP-4NBP PCM (Receiver Part No. FP-R124DP)
Futaba	Conquest FP-6NFK FM (Receiver Part No. FP-R127DF)
Futaba	Conquest FP-6NPK PCM (Receiver Part No. R127DP)
Futaba	Conquest FP-5NLH FM (Receiver Part No. FP-R128DF)
Futaba	Conquest FP-6NHP PCM (Receiver Part No. FP-R128DP)
Futaba	FP-5UAF FM (Receiver Part No. FP-R128DF)
Futaba	FP-5UAP PCM (Receiver Part No. FP-R129DP)
Futaba	FP-7UAF FM (Receiver Part No. FP-R128DF)
Futaba	FP-7UAP PCM (Receiver Part No. FP-R129DP)
Futaba	FP-7UHF FM (Receiver Part No. FP-R128DF)
Futaba	FP-7UHP PCM (Receiver Part No. FP-R129DP)
Futaba	FP-8SSA PCM (Receiver Part No. FP-R128DP)
Futaba	FP-8SSH PCM (Receiver Part No. FP-R128DP)
Futaba	FP-9VAP PCM (Receiver Part No. FP-R129DP)
Futaba	FP-9VHP PCM (Receiver Part No. FP-R129DP)
Futaba	Attack FP-4NBL AM (Standard) (Receiver Part No. FP-R114H)
Futaba	Attack FP-4NBL AM (Glider) (Receiver Part No. FP-R114H)
Futaba	Attack FP-4NBL AM (Electric) (Receiver Part No. MCR-4A)
Futaba	FP-5UA AM (Receiver Part No. FP-R117H)
Futaba	FP-5NLP PCM (Receiver Part No. FP-R105IP)
Hitec USA	Master 5P Transmitter (Receiver Part No. MAS 457FP, Tx RF Module MAS 457FM)
Hitec USA	Master 7 &7 Heli Transmitter (Receiver Part No. MAS 457FP, Tx RF Module MAS 457FM)
JR RC	Max PCM-NET W125 VZ Receiver Part No. NER-627X)
JR RC	X-347 NET-C127UZ (Receiver Part No. NER-627XZ, Tx NET-J72P)
JR RC	Max FM-NET W125 V, H, & W124 FM (Receiver Part No. NER-327X)
JR RC	Vegas FM-NET B125 V and H (Receiver Part No. NER-327X)
JR RC	PCM 10-NET A110 FZ and HZ (Receiver Part No. NER-910XZ
JR RC	Max Computer-NET W126 FZ and HZ (Receiver Part No. NER 627X)
JR RC	Vegas Computer-NET W126 FG and HG (Receiver Part No. NER 627X)
JR RC	Apollo-7 Heli-NET-DL127HM (Receiver Part No. NER-327X, Tx Module NET-J72M)
JR RC	Apollo-7 Airplane-NET-DL127MM (Receiver Part No. NER-327X, Tx Module NET-J72M)
JR RC	Century-7 Heli-NET-N127H (Receiver Part No. NER-327X, Tx Module NET-J72M)
JR RC	Century-7 Airplane-NET-N127M (Receiver Part No. NER-327X, Tx Module NET-J72M)
JR RC	Century-7 SS Heli-N7C4SHS (Receiver Part No. NER-327X, Tx Module NET-J72M)
JR RC	Century-7 SS Airplane-N7C4SMS (Receiver Part No. NER-327X, Tx Module NET-J72M)
JR RC	Century-7 PCM Heli-NET-N127AH (Receiver Part NER-627X, Tx Module NET-J72P)
JR RC	Century-7 PCM Airplane-NET-N127M (Receiver Part No. NER-327X, Tx Module NET-J72P)
JR RC	Max 4-NET-B124AM (Receiver Part No. NER-324)
RCD Inc.	Platinum Series AM (replacement receiver) (Receiver Part No. PGP21AM)
RCD Inc.	Platinum Series FM (replacement receiver) (Receiver Part No. PGP31FM)
World Engines	Expert FM Series (Receiver Model HP7RM 72F)

Future issues of *Model Aviation* will contain an expanded listing as additional information is received by AMA.

Synopsis—Executive Council Meeting July 23, 1990

The July Executive Council meeting took place in Muncie, IN. The following were in attendance: President Don Lowe, Altamonte Springs, FL; Executive Vice President Dave Brown, Hamilton, OH; District I Vice President Don Krafft, Duxbury, MA; VP-II John Byrne, Bayside, NY; VP-III Bob Brown, Bradford, PA; VP-IV Howard Crispin, Charlottesville, VA; VP-V Jim McNeill, Birmingham, AL; VP-VI Jim Sears, Burgin, KY; VP-VII Pete Waters, Northville, MI; VP-VIII Gene Hempel, Garland, TX; VP-IX Travis McGinnis, Arvada, CO; VP-X Reggie Keyawa, Carmichael, CA; VP-XI Ed McCollough, Portland, OR; NAA Executive Vice President Ev Langworthy.

Also in attendance: Vince Mankowski, Executive Director, and John Worth, Executive Director Emeritus.

Present from the Academy's executive staff: Bob Underwood, Technical Director; Micheline Madison, Competitions Department Director; Carl Maroney, Special Services Director; Bob Vojslavek, Operations Director; Geoffrey Styles, Marketing Director.

Guests included: Lillian Worth; Harry Mur-

Continued on page 131

Check before buying

DESERT UNION OF SAILPLANE THERMALISTS (DUST) ANNOUNCES SC 2 R/C SOARING CONTEST AT OUR NEW PERMANENT FLYING SITE

DATE: Sunday, November 18, 1990 ← THIS IS CORRECT

Times: Practice flying, 8:00 to 9:15 AM
Pilots meeting, 9:15 AM
Registration Ends, 9:30 AM

CO-C/D's George Ritter (619) 346-5767
Rex Powell (619) 564-1921
Dave Hall (619) 320-5814

DUST President: Dave Hall (619) 320-5814

LOCATION: DUST Flying field; Empire Polo Club Grounds; Indio, CA (see map on back)

EVENTS: Three rounds of precision duration. Pilots choice of:

3 Min. Scored 700 Pts flight (minus 4Pts/sec over or under time) / 300 Pts landing

5 Min. Scored 800 Pts flight (minus 3Pts/sec over or under time) / 200 Pts landing

7 Min. Scored 900 Pts flight (minus 2Pts/sec over or under time) / 100 Pts landing

Round 1 Starts 09:30 ends 11:00

Round 2 Starts 11:00 ends 12:30

Round 3 Starts 12:30 Ends 14:00

OPEN WINCH Sign-up sheet for congested frequencies

Standard 25' radius landing circle

WINCHES: DUST Club winches, 12 volt DC: With Mechanical Retrival

LINE LENGTH: 700' plus to the turn around

LANDING SURFACE: Mowed grass

SPECIAL RULES: NO ZOOM LAUNCHES!!! ← I wonder why.