

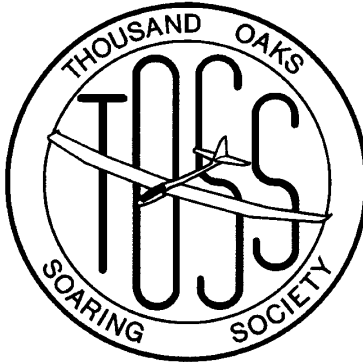
September 1994

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, September 28th, 7:30 PM, Cameron Center, Thousand Oaks, CA

MONTHLY CONTEST: October 9th, 9:00 AM, Redwood School, Thousand Oaks, CA
CONTEST DIRECTOR: TBD

SC² CONTEST: October 16th, 9:00 AM. Hosted by Pasadena Soaring Society at Pasadena, CA

JULY MEETING NOTES:

OLD BUSINESS

- 1) As usual, none to report.

NEW BUSINESS

1) A brief discussion was held on who will be attending the Fall Soaring Festival at Visalia. It looks that TOSS will be well represented with at least five pilots attending. Good luck is wished for all.

2) The majority of the meeting covered the subject of getting and holding on to new members. The main stream of perspective new members is through referrals from local hobby shops. Other sources are those who see us flying or are crossovers from other clubs / RC disciplines.

How others perceive us is directly related to our approach and social behavior toward them. Complaints or at least interpretations voiced by various members and perspective members was that we are NOT FRIENDLY. Toss appears to be

cliquish or self centered. Some other clubs have this problem as well while others don't.

Those who don't go out of their way to make you feel welcomed. Torrey Pine Gulls was presented as a good example. Whether you are a member or not, their members will come over introduce themselves and strike up a conversation like you were some long lost relation. You are treated as a participant in the old gang. Suggestions and help are given freely. Though you may be a stranger, you are certainly not treated as one.

In order to expand the size of our clubs, we must be more social and helpful to ALL perspective and new members. If you have a free moment, spend it with a stranger. Offer suggestions and your assistance. Don't think that the hobby revolves around you because it doesn't. Be a friend to everyone.

RAFFLE WINNER

It is with great welcome to announce that the raffle is finally paying for itself. Many thanks go to Larry Jimenez and Dane Vannett for their efforts. As the kitty grows each month, so shall the value of the prizes. Maybe someday Toss will have a Super

Raffle similar to TPG. More participants are needed to ensure such a future to exist. Remember, you must be present at the monthly club meeting to participate.

Winners included this month were Bob Swet (Easy Answer Kit) and Charley Babcock and Sorry but I wish that I could remember more details but it is quite late and this newsletter must be ready for printing tomorrow.

TREASURER'S REPORT

As of 9/22, TOSS has \$495 to its name along with approximately \$260 plus in debts. The amount shown is dependent upon club approval of the sale of a winch to Mike Leal. Voting on this matter will occur during the next meeting.

BOB HSIEH HEADS NORTH

Without a sound, Bob has left Camarillo and returned north to Sunnyvale to be with his family. Bob will be remembered as one of those quite Hand Launch Glider pilots we would occasionally see at the field. More likely, he could found at one of the local slopes practicing. Best wishes and if you are ever in the area Bob, please stop by the field and give us an update.

SEPTEMBER MONTHLY CONTEST

Jonathan Spoer held a 3,5,5,7 with one throw out round. All flight times were worth 900 points and landings worth 100 points as scored on a 25 foot tape.

Weather was good with light winds in the early hours and picking up continuously as the contest proceeded. Scores were high and tight due to the ability to eliminate your worst performance.

We had many pilots from other clubs participating. They certainly increased the level of competition. Toss would like to all those who drove out to the boonies just to demonstrate their skills. There were even a few new club members who flew their first contest. For those we hope you had a good time and we are looking forward to see you again in October.

Bob

SOUTHERN CALIFORNIA SOARING CLUBS

1994 OVERALL STANDINGS 6 of 6 Contests TOSS MEMBERS

1	Mike Reagan	5761.0
2	B.J. Weisman	5753.4
4	Edgar Weisman	5548.1
36	Bob Swet	3698.2
47	Art McNamee	3161.7
76	Dane Vannett	1730.3
98	Don McNamee	953.0
126	Don Northern	698.5
135	Mike Leal	575.0
142	Jonathan Spoer	248.9
143	Myles Moran	196.7

Keep up the good work guys.

BE WARNED !!

During the last contest we had a near mishap due to someone operating a wide band (non 1991 approved) radio. Let me remind you all that this is against club rules and would nullify our insurance coverage. Luckily there was only minor damage to the sailplane and no one was injured. Root cause of the crash was from another pilot operating on an adjacent channel.

The wide band receiver interprets the adjacent channel signals as interference once the plane has some physical separation with its associated wide transmitter. For those technical buffs, your signal strength decrease by the square of the distance. Luckily the wide band transmitter was not so broad band for it could have brought down the glider operating legally. That could have been quite an expensive way of learning it doesn't pay to be cheap.

As direct result of this incidence, prior to the next contest, ALL transmitters will be verified and spot

checks made randomly at the field. So if you own a wide band radio, it is best that you save it for those uncontrolled flying locations.

For Sale

SAIL PLANES for Sale:

Contact Rich Warrick (805) 640-0589 if you are interested in the sail planes listed below.

COYOTE Slope Plane - Built up wing, Partial completion of fuselage, one roll of salmon color MONOKOTE ... \$50

3 Channel Futaba radio, Model FPT3S transmitter (Pre - 1991) on 72.240 MHz ... Best Offer

SAIL PLANES for Sale:

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

COMET Cross - Country Sailplane: Completed Larry Jolly Design. Set a couple of club records years ago at Taft. 14 foot wingspan. No Radio. Need the space. \$300

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

PIXIE by Dodgson \$200

THERMAL HUNTING PARTS 3 & 4 by Ben Clerx

From: SWSA POPOFF 6/94

PART - 3

With your plane cruising at the best L/D speed you'll want to keep the wings as level as possible, using only gentle turns to steer along your search pattern (or to a known lift location). Smooth flight will allow you to see the effects of lift. If large control deflections are used (erratic flight path), you may fly right through a thermal and not notice it. You should then think of a deflected control surface as a speed brake as they do create a lot of drag.

A plane with an L/D of 20 to 1 (20:1) will travel forward 20 feet through the air for every foot of altitude lost in a no-lift condition (I'm hesitant to use altitude lost since this implies the sailplanes only come down. They do come down vertically through the air, even in lift while altitude is increasing.) If the configuration of the plane doesn't change (e.g. you don't deploy speed brakes, flaps, control surfaces, or other drag devices), the UD won't change regardless of weight. This means a 3 pound Falcon will fly as far as a 7 pound Falcon for a given altitude. The best L/D angle-of-attack will be the same for both Falcons since they have the same airfoil. The only difference is that the 7 pound Falcon achieves best L/D angle-of-attack at a higher speed. All angle-of-attack conditions that use

airspeed as reference will occur at higher airspeeds as weight increased. This means that your stall speed is also higher and the min. sink speed used while thermaling will be faster (the disadvantage of using ballast).

To summarize: The 7 pound Falcon will fly just as far as the 3 pound Falcon since they have equal amounts of drag and identical airfoils (lift). The heavy Falcon will get there faster (but faster means it stays up for less time). Adding ballast is good when you want your plane to be efficient at a higher speed - as in cross-country flying and racing (speed and distance). It also serves to reduce the effect of wind on a model's ground speed. A plane with a best L/D airspeed of 20 mph will efficiently go nowhere into a 20 mph headwind. You can dive to increase speed, but since the plane is not at its best L/D airspeed, it is not flying efficiently. It is much better to add ballast at the plane's center of gravity to increase the best L/D airspeed. For thermal flying then, the main use of ballast is for wind penetration. Aileron equipped planes like Falcons and Legends are usually heavy enough to do well in windy weather even without ballast. Floaters like Paragons (for example) that don't do well in wind will see a great improvement with a few pounds of lead under the wing (make sure the ballast is properly secured).

Add ballast in increments and get used to the flying characteristics before adding heavy amounts of ballast. Don't go from a 3 pound Paragon to a 6 pound Paragon until you are comfortable at the 4 and 5 pound weights. This also allows you to see the effects of weight on the plane's structure. It is probably not a good idea to pull your tightest loop with a 6 pound Paragon unless the wings have been strengthened. Likewise, don't make hard landings (3 pounds of lead doesn't like to be confined to a ballast box.)

Experiment and find out how much ballast is best for certain wind conditions. An experienced flyer can measure the wind and know exactly how much ballast to add.

PART - 4

In this last part, we'll look into optimizing sailplane performance once we finally stumble into some lift. The rate of climb of a plane in lift is the sum of the plane's sink rate and the vertical velocity of the air mass. For example: If a plane with a sink rate of 100 feet per minute (fpm) is flown into a 200 fpm thermal, it will climb at 100 fpm. Pretty simple. The part that requires a bit of skill is when the same plane is flown into a 100 fpm thermal. Normally, this situation would be known as zero sink. Most experienced pilots, however, know there is no such thing as zero sink -- one must simply fly the plane in such a way as to reduce its sink rate in order to realize a positive rate of climb.

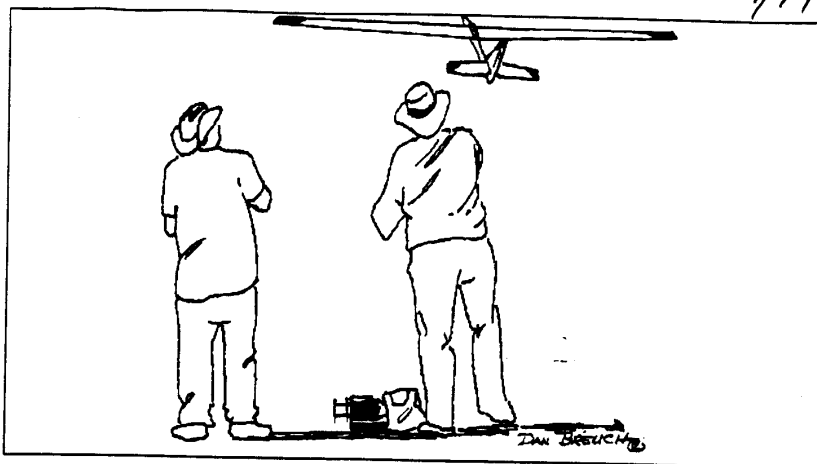
One way of doing this is to fly at minimum sink speed. This speed is generally just above stall speed and provides maximum lift (but not maximum lift for the least drag -- best L/D). Again, we are really talking about angles of attack that are proportional to airspeed. Flying faster than this speed will not only increase the sink rate, but also increase your turn diameter (if higher bank angles are not used). That brings us to the second way of reducing the plane's sink rate: reducing bank angle in your turns. The best way of tightening your turns (reducing turn diameter) is not to increase bank angle, but rather to slow the plane's speed (rate of turn is inversely proportional to speed at a constant bank angle). Watch seagulls in a thermal, they rarely exceed 20

degrees of bank. Using excessive bank angles in turns does several things, non of which help our cause: vertical components of wing lift is reduced; g-loading (weight) and wing loading are increased; more lift will be needed to counteract the above by increasing the angle of attack; and finally, as angle of attack is increased so is drag at an alarming rate (stall speed also increases with increased bank angles). At 60 degrees of bank (2 Gs) the plane's weight and wing loading will be double!

Lastly, fly smooth and keep your control inputs small to reduce drag. Consider a fully deflected aileron or rudder the same as a deployed speed brake. In summary: fly slow, smooth and flat thermal turns to out climb the competition!

*THE FOLLOWING IS FROM
AAMA NATIONAL
NEWSLETTER*

MARCH 1994



WINDSONGSTERS

From NCC NEWSLETTER by Dan Brouch

Soaring: Improving Your Contest Performance

Every contest flyer has at one time or another asked other flyers questions regarding improving contest performance and has no doubt received a greater variety of answers than one could imagine. A theory that I have developed over the last couple of years deals with removing the barriers that may inhibit our potential or give an advantage to our opposition. Below are several tips that will assist you in being "on the same page" as many of the expert pilots and hopefully will contribute to improving your contest standings.

PROGRESS TO AN OPEN CLASS SAILPLANE—If the competition is flying high tech planes and you are not, you're giving up a lot of speed, distance and landing accuracy potential. An aileron plane with its responsiveness gives you the ability to go WHERE and WHEN you want, unlike most polyhedral planes.

DON'T FLY A 2-METER PLANE IN AN OPEN CONTEST—Although it may be fun to fly a 2-meter plane in a contest, when pitted against open class planes, the disadvantages are just too great. Big planes fly better, and while it may not matter when the list is great, when conditions get bad you need to be able to search as far as possible for lift and be as unaffected as possible by utilizing a superior L/D (lift over drag) and speed potential.

HAVE YOUR EYESIGHT CHECKED—This is something I feel is easily overlooked. I had a friend who flew a Falcon 880 and just wouldn't let the plane travel in search of lift like it could, creating a huge handicap. Despite the Falcon's performance potential, he would continually search the same air even though he wasn't going up. It turned out he wasn't flying the plane to its limits, he was flying to the limits of his vision! Once he began wearing glasses, he was able to fly it out to MY vision range. Test your eyes against those you fly with and if there is doubt, then have them checked (your eyes, not your fellow flyers) and get glasses if necessary. You may want to experiment with different tints for sunglasses. Different colors work better for different people.

COLOR YOUR PLANE FOR VISIBILITY—Again, this deals with seeing your plane as far away as possible. A natural wood finish may look great on the ground, but if it disappears in the sky, you're hurting your performance potential. If another pilot can see his plane a mile away and you can only see half that, he has a definite advantage. Being able to see your plane well will increase your confidence in marginal situations as well.

FLY A PLANE THAT WILL PERFORM WELL AT LIGHT WING LOADING—While using the latest composites is fun and has benefits, if it increases wing loading over 12 oz./sq. ft., you are at a disadvantage. Even if you

subscribe to the philosophy that weight doesn't matter, you won't have the advantage in light lift and especially in slowing down the plane for landings when there is little or no breeze. If conditions change and the heavier ships come into their own, ballast up.

FIND A PLANE THAT IS EASY TO FLY—The best plane to fly is the easiest plane to fly. What that means is you don't have to worry about what the plane is doing. It basically flies itself. A plane that flies predictably and calmly will require minimum inputs, minimizing drag and maximizing the plane's performance in all conditions. It also gives you the opportunity to concentrate on strategy instead of worrying about flying the plane. Trimming out the plane has a big effect also, so get your plane trimmed as well as possible.

FLY WHERE THE EXPERTS FLY—Regardless of whether they call it sandbagging or not, when you are trying to figure out when to fly in an open contest, the burden is on you to choose the right time to fly. When considering all the factors, like birds, dust devils and the less obvious details, keep your eye on the experts who consistently make their times. It's very probable that it is not only their good flying skills that cause them to find lift. Notice their search patterns and fly when they fly, if possible. They may fool you occasionally, but chances are good that if you have comparable equipment and eyesight, you will find lift with them.

USE LANDING DEVICES—As ugly as they look, if rough skids or shark's teeth are allowed, use them. The competition does. Not only can they improve your scoring consistency, they keep your ship from sliding too far. This may not be important if you fly only on a sod farm. However, if you fly on rough dirt, the shortened slides keep your wings from getting so roughed up. If you fly in a fenced area, it may keep your plane from sliding into a fence on a poor landing. Landing devices may even keep your plane from occasionally hitting you in the shins!

FIND "USER FRIENDLY" TIMERS—This is like having an easy plane to fly. I'm sure you've noticed when you have not had a good timer. He/she may not keep you informed, leading to anxiety or lack of rhythm (you should tell your timer how you prefer to receive updates and countdowns). The timer may talk excessively to bystanders, distracting your concentration. Whatever the reasons, strive to find several who read lift well, keep you posted on your time, and have mannerisms that put you at ease and allow you to concentrate on flying.

BUILD A LIGHT, YET STRONG PLANE THAT WILL LAUNCH HIGH—High launches feel great, look great, and give you a definite advantage. It may take a bit of work and

Learning how, when, and how much ballast to add will place you in the same ballpark. So learn how, and do it.

In closing, I hope these tips are helpful to you. In my observations over the years I have been contest flying, they seem to hold true more often than not. Anything you can do to give yourself an edge or to neutralize the opposition - DO IT! While it almost always comes down to the pilot's skill and not the plane, removing as many handicaps as possible will go a long way toward improving your ultimate contest performance.

(Editor's note: This article was originally written by Roger Luckey and has appeared previously in other newsletters.)

knowledge, but with the right amount of weight and structure in the right places (and a correctly placed hook), you can build a light yet strong plane. It is advisable to start with a kit or plans that have the potential to be both light and strong. There are lots of Open class planes out there that meet these criteria, so stick around 12 oz./sq. ft. wing loading if possible. Planes rarely come in at less than the advertised weights.

LEARN TO BALLAST—Finally, since several of my topics have dealt with keeping weight down, it is important to learn to overcome any disadvantage created by light weight when the wind conditions pick up. Heavy planes have advantages at times. If the wind picks up and there is lift to be found, you should be able to match a heavier aircraft's performance.

R/C AIRCRAFT FREQUENCIES and ADJACENT SOURCES

DESCRIPTION	POLICE	FIRE	LOCAL GOVT	MEDICAL	AIRCRAFT	OTHER	REQUEINC	AM	NFM	WFM	NOTES	LOCATION
Citizen Band							72,0100	A	N		R/C Ch. 1	Aircraft Only
CA/L State							72,0200	S	N			San Diego
Citizen Band							72,0300	A	N		R/C Ch. 1	Aircraft Only
Hayward City	F						72,0400	N	N			Hayward / Alpine Co. (L)
Citizen Band							72,0500	A	N		R/C Ch. 1	Aircraft Only
CA State	P						72,0600	A	N			Lone Pine (P) / Kernan (P)
Citizen Band							72,0700	A	N		R/C Ch. 1	Aircraft Only
Citizen Band							72,0900	A	N		R/C Ch. 1	Aircraft Only
CA State	P						72,1000	A	N			Salinas (P) + (R)
Citizen Band							72,1100	A	N		R/C Ch. 1	Aircraft Only
CA State	P						72,1200	A	N			Parker-Dam (P) / SLO (R) / Cambria
Citizen Band							72,1300	A	N		R/C Ch. 1	Aircraft Only
Monterey Co.	P						72,1400	N	N			Big Sur
CA State	P						72,1500	N	N			Salinas
Citizen Band							72,1500	A	N		R/C Ch. 1	Aircraft Only
Tuolumne County							72,1600	N	N			Sonora
Citizen Band							72,1700	A	N		R/C Ch. 1	Aircraft Only
Citizen Band							72,1900	A	N		R/C Ch. 2	Aircraft Only
CA State	P						72,2000	N	N			Cedarville
Citizen Band							72,2100	A	N		R/C Ch. 2	Aircraft Only
CA State	P						72,2200	A	N			Gasquet / Columbia (R)
Citizen Band							72,2300	A	N		R/C Ch. 2	Aircraft Only
CA State							72,2400	N	N			Spreads
Citizen Band	P						72,2500	A	N		R/C Ch. 2	Aircraft Only
CA State							72,2600	N	N			Multiple
Citizen Band	P						72,2700	A	N		R/C Ch. 2	Aircraft Only
Monterey County							72,2800	N	N			Point Sur
Citizen Band							72,2900	A	N		R/C Ch. 2	Aircraft Only
Citizen Band							72,3100	A	N		R/C Ch. 2	Aircraft Only
Citizen Band							72,3300	A	N		R/C Ch. 2	Aircraft Only
CA State	P						72,3400	N	N			Parker
Citizen Band							72,3500	A	N		R/C Ch. 2	Aircraft Only
Citizen Band							72,3700	A	N		R/C Ch. 2	Aircraft Only
Citizen Band							72,3900	A	N		R/C Ch. 3	Aircraft Only
Citizen Band							72,4100	A	N		R/C Ch. 3	Aircraft Only
Santa Cruz Count	P						72,4200	N	N			Salinas
Citizen Band							72,4300	A	N		R/C Ch. 3	Aircraft Only
CA State							72,4400	N	N			
Citizen Band							72,4500	A	N		R/C Ch. 3	Aircraft Only
CA State	P						72,4600	N	N			Pilot Hill (P) / Point Sur (S)
Citizen Band							72,4700	A	N		R/C Ch. 3	Aircraft Only
CA State							72,4800	N	N			

DESCRIPTION	POLICE	FIRE	LOCAL GOVT	MEDICAL	AIRCRAFT	OTHER	REQUEINC	AM	NFM	WFM	NOTES	LOCATION
Citizen Band							72,4900	A	N		R/C Ch. 3	Aircraft Only
CA State							72,5000	A	N			Santa Cruz Co (P) / Fresno (L)
Citizen Band							72,5100	A	N		R/C Ch. 3	Aircraft Only
CA State							72,5200	N	N			
Citizen Band							72,5300	A	N		R/C Ch. 3	Aircraft Only
Citizen Band							72,5500	A	N		R/C Ch. 3	Aircraft Only
CA State							72,5600	A	N		R/C Ch. 3	Aircraft Only
Citizen Band							72,5700	A	N		R/C Ch. 3	Aircraft Only
CA State							72,5800	N	N			
Citizen Band							72,5900	A	N		R/C Ch. 4	Aircraft Only
CA State							72,6000	N	N			
Citizen Band							72,6100	A	N		R/C Ch. 4	Aircraft Only
CA State	P						72,6200	N	N			Bells Station (P) / Rialto (F)
Citizen Band							72,6300	A	N		R/C Ch. 4	Aircraft Only
CA State							72,6400	N	N			Garberville
Citizen Band							72,6500	A	N		R/C Ch. 4	Aircraft Only
Citizen Band							72,6700	A	N		R/C Ch. 4	Aircraft Only
Citizen Band							72,6900	A	N		R/C Ch. 4	Aircraft Only
Citizen Band							72,7100	A	N		R/C Ch. 4	Aircraft Only
Citizen Band							72,7300	A	N		R/C Ch. 4	Aircraft Only
Citizen Band							72,7500	A	N		R/C Ch. 4	Aircraft Only
Hall Ambulance							72,7600	N	N			Bakersfield
Citizen Band							72,7700	A	N		R/C Ch. 4	Aircraft Only
CA State							72,7800	R	N			Repeater
Citizen Band							72,7900	A	N		R/C Ch. 5	Aircraft Only
CA State	P						72,8000	N	N			Dobbin
Citizen Band							72,8100	A	N		R/C Ch. 5	Aircraft Only
Citizen Band							72,8300	A	N		R/C Ch. 5	Aircraft Only
San Diego County							72,8400	N	N			Mt Laguna
Citizen Band							72,8500	A	N		R/C Ch. 5	Aircraft Only
Torrance Mem. Hosp.							72,8600	S	N			Redondo Beach
Citizen Band							72,8700	A	N		R/C Ch. 5	Aircraft Only
CA State	P						72,8800	N	N			Philo / La Jolla (S)
Citizen Band							72,8900	A	N		R/C Ch. 5	Aircraft Only
Radio Call SVC							72,9000	S	N			Pasadena / La Jolla (S)
Citizen Band							72,9100	A	N		R/C Ch. 5	Aircraft Only
Monterey County	P						72,9200	N	N			Salinas / Point Sur / Gardena (S)
Citizen Band							72,9300	A	N		R/C Ch. 5	Aircraft Only
Citizen Band							72,9500	A	N		R/C Ch. 5	Aircraft Only
Citizen Band							72,9700	A	N		R/C Ch. 5	Aircraft Only
CA State	P						72,9800	N	N			Willows / Lee Vining
Citizen Band							72,9900	A	N		R/C Ch. 6	Aircraft Only

SERVO COMPARISON

MANUFACTURER	PIN	DESCRIPTION	TORQUE	WEIGHT	SIZE	SPEED	BALL	MOTOR	METAL	WATER	DEADBAND	IDLE CURRENT
			(oz.in)	(oz.)	W x L x H (in.)	sec/60	BEARINGS	GEARS	RESISTANT	micro seconds	(mA)	
ACE	Micro 380	Micro	30	0.60	0.56x1.12x1.094	0.10	None		No			
ACE	Mini 310	Mini	28	0.95	0.55x1.25x1.20	0.22	None		No			
ACE	Sport 330	Standard	42	1.55	0.79x1.43x1.80	0.24	None		No			
ACE	Pro 342	Pro	42	1.65	0.79x1.43x1.80	0.24	Metal		No			
ACE	Pro 342 HS	Pro High Speed	32	1.55	0.79x1.43x1.80	0.10	Metal		No			
ACE	Giant 370	Giant	130	3.60	1.14x1.97x2.30	0.23	Single		No			
Airtronics	94501	MicroLite	29	0.57	0.50x1.07x1.07	0.23	None	Coreless	No	No	1.8	
Airtronics	94407	Micro	29	0.98	0.80x1.23x1.23	0.23	Single	Standard 6-Pole	No	No	6.0	
Airtronics	94141	Micro	45	1.17	0.80x1.42x1.29	0.20	Single	Coreless	Yes	No	1.5	
Airtronics	94143	Micro	33	1.08	0.80x1.42x1.29	0.09	Single	Coreless	No	No	3.0	
Airtronics	94831	Mini	38	1.10	0.71x1.46x1.19	0.21	Single	Standard 3-Pole	No	No	2.5	
Airtronics	94732	Contest Aircraft	68	1.60	0.79x1.54x1.39	0.19	Dual	Coreless	No	Yes	1.3	
Airtronics	94734	Contest Retractor	74	1.73	0.79x1.54x1.39	0.40	Dual	Standard 6-Pole	No	Yes	N/A	
Airtronics	94735	Contest Helicopter	75	1.80	0.79x1.54x1.39	0.20	Dual	Coreless	Mixed	Yes	1.8	
Airtronics	94737	Contest High Speed	67	1.86	0.79x1.54x1.39	0.15	Dual	Coreless	Mixed	Yes	2.3	
Airtronics	94738	Contest High Torque	71	1.95	0.79x1.54x1.39	0.21	Dual	Coreless	Yes	Yes	1.8	
Airtronics	94739	Contest Proportional Retractor	74	1.77	0.79x1.54x1.39	0.42	Dual	Standard 6-Pole	Yes	Yes	2.7	
Airtronics	94741	Contest Standard	67	1.80	0.79x1.54x1.39	0.21	Dual	Standard 3-Pole	No	Yes	1.9	
Airtronics	94102	Precision Heavy Duty Standard	60	1.59	0.79x1.54x1.42	0.22	None	Standard 3-Pole	No	No	6.0	
Airtronics	94151	Pro High Speed	75	1.87	0.79x1.54x1.48	0.08	Dual	Coreless	Mixed	Yes	2.7	
Airtronics	94152	Pro High Torque	105	2.30	0.79x1.54x1.48	0.12	Dual	Coreless	Yes	Yes	2.7	
Airtronics	94181	Pro Large Scale	135	2.50	0.79x1.54x1.85	0.25	Dual	Standard 3-Pole	Yes	Yes	2.7	
Airtronics	94510	Heavy Duty Large Scale	110	2.30	0.80x1.87x1.54	0.33	Single	Coreless	No	Yes	4.0	
Airtronics	94581	Sail Winch - Arm Type	170	4.94	1.58x3.65x1.78	1.76	None	Standard 3-Pole	No	Yes	2.5	
Futaba	S133	Micro Precision	27.8	0.60	0.50x1.09x1.12	0.22	None		No			
Futaba	S5102	Micro Precision w/metal gears	27.8	0.80	0.50x1.09x1.12	0.22	None		Yes			
Futaba	S3002	Metal Gears w/ball bearings	44	1.80	0.82x1.21x1.19	0.16	Single		Yes			
Futaba	S9001	Mini	36.1	1.10	0.82x1.21x1.18	0.17	Single	Coreless	Yes			
Futaba	S132H	High Speed Mini	25	1.10	0.88x1.43x1.18	0.13	None		No			
Futaba	S5101	Dual Ball Bearing	55.8	1.40	0.77x1.52x1.38	0.24	Dual		No			
Futaba	S9101	Coreless w/ball bearings	41.7	1.50	0.77x1.52x1.38	0.17	Single	Coreless	No			
Futaba	S148	Precision	42	1.50	0.77x1.59x1.56	0.22	None		No			
Futaba	S3001	Precision Ball Bearing	42	1.80	0.77x1.59x1.56	0.22	Single		No			
Futaba	S9201	Coreless w/ball bearings	69.5	1.70	0.79x1.59x1.40	0.22	Single	Coreless	No			
Futaba	S9401	Coreless w/ball bearings	44.5	1.70	0.79x1.59x1.40	0.16	Single	Coreless	No			
Futaba	S9303	Coreless w/metal gears	99	2.30	0.79x1.59x1.55	0.19	None	Coreless	Yes			
Futaba	S136G	Compact Retractor	76.4	1.48	0.87x1.75x1.00	0.50	None		No			
Futaba	S9102	Wing Mount	50	1.60	0.87x1.85x1.05	0.13	Single	Coreless	No			
Futaba	S125	Sail - Arm Type	128.3	2.30	0.88x1.58x1.89	0.82	None		No			
Futaba	S134	Quarter Scale	112.6	2.70	1.14x2.32x1.97	0.22	None		No			
Futaba	S134G	Quarter Scale Retractor	173.9	2.80	1.14x2.32x1.97	0.33	None		No			
Futaba	S3302	Quarter Scale w/metal gears	110	3.80	1.14x2.32x1.97	0.19	None		Yes			
Futaba	S3801	Sail - Arm Type	200	3.80	1.14x2.32x1.97	0.22	None		No			
Hitec RCD	HS-90	Sub Micro	31	0.62	0.51x1.1x1.1	0.15	None		No			
Hitec RCD	HS-80 MG	Sub Micro w/metal gears	31	0.78	0.51x1.1x1.1	0.15	None		Yes			
Hitec RCD	HS-101	Mini	24	0.93	0.61x1.3x1.2	0.20	None		No			
Hitec RCD	HS-101 MG	Mini w/metal gears	24	1.07	0.61x1.3x1.2	0.20	None		Yes			
Hitec RCD	HS-205 BB	Super Mini	44	1.10	0.81x1.3x1.3	0.20	Single		No			
Hitec RCD	HS-205 MG	Super Mini w/metal gears	44	1.30	0.81x1.3x1.3	0.20	Single		Yes			
Hitec RCD	HS-300	Standard Sport	42	1.57	0.81x1.6x1.4	0.19	Nylon (1)		No			
Hitec RCD	HS-422	Standard Pro	49	1.85	0.81x1.6x1.4	0.20	Oilite (2)		No			
Hitec RCD	HS-425 BB	Standard Pro w/BB	49	1.85	0.81x1.6x1.4	0.20	Dual		No			
Hitec RCD	HS-605 BB	Ultra Torque	77	1.73	0.81x1.6x1.5	0.16	Dual		No			
Hitec RCD	HS-605 MG	Ultra Torque w/metal gears	77	2.12	0.81x1.6x1.5	0.16	Dual		Yes			
Hitec RCD	HS-815	Super Torque w/metal gears	107	2.12	0.81x1.6x1.5	0.21	Dual		Yes			
Hitec RCD	HS-76 BB	Retractor	90	1.30	0.81x1.7x1.0	0.50	Single		No			
Hitec RCD	HS-700 BB	Giant Scale	133	3.80	1.1x2.3x2.0	0.22	Single		No			
Hitec RCD	HS-705 MG	Giant Scale w/metal gears	181	4.00	1.1x2.3x2.0	0.27	Single		Yes			
Hitec RCD	HS-725 BB	Sail Winch - 4 Turns	181	3.80	1.1x2.3x2.0	0.27	Single		No			
JR	341	Micro	31.8	0.63	0.50x1.12x1.17	0.24	None	5-Pole Ferrite	No			8.5
JR	321	Mini (cored)	29.2	0.77	0.58x1.30x1.02	0.23	Single	5-Pole Ferrite				9
JR	3021	Mini (coreless)	37.5	0.94	0.58x1.30x1.02	0.22	Dual	Coreless				8.5
JR	3025	Mini Ultra Speed	29.2	1.61	0.58x1.30x1.02	0.15	Dual	Coreless				
JR	3321	Glider Wing (coreless)	59.8	0.95	0.58x1.30x1.30	0.38	Dual	Coreless				8
JR	901	Mid-Size (cored)	43.1	1.33	0.71x1.37x1.32	0.27	Dual	5-Pole Ferrite				8
JR	9021	Mid-Size (coreless)	57.5	1.50	0.71x1.37x1.32	0.22	Dual	Coreless				8.5
JR	507	Standard	40.3	1.47	0.79x1.52x1.32	0.25	None	3-Pole Ferrite				4
JR	517	Standard w/Bearing	40.3	1.56	0.79x1.52x1.32	0.25	Single	3-Pole Ferrite				4
JR	4000	Ultra Linear	73.8	1.78	0.79x1.52x1.32	0.19	Dual	Coreless				
JR	4131	Ultra Precision	90.4	1.50	0.79x1.52x1.32	0.23	Dual	Coreless				10
JR	4721	Ultra Torque	119.8	1.72	0.79x1.52x1.32	0.22	Dual	Coreless				8.5
JR	4736	Ultra Speed	90	1.72	0.79x1.52x1.32	0.15	Dual	Coreless				9
JR	7000	Ultra Linear Low Profile	62.6	1.45	0.88x1.73x0.93	0.19	Dual	Coreless				
JR	703	Low Profile Retractor	93.2	1.18	0.88x1.73x0.93	1.38	Dual	Corad				N/A
JR	7005	Low Profile	82.6	1.31	0.88x1.73x0.93	0.19	Dual	Coreless				N/A
JR	806	Monster FET	139.1	4.75	1.26x2.50x2.30	0.28	Dual	Corad				11

Information shown is based on information available to author at time of data entry and may not represent current manufacturer specifications.

THE FLEDGLING

Tom Dean

CONTEST STRATEGIES

Strategy plays a vital part in the outcome of thermal contests. It changes and grows as a pilot's experience and skill increases. The beginning pilot usually feels he has enough to do just to survive the contest. Even though this is true, there are many things that he can think about ahead of time and plan for that will help to improve his chances for doing well.

LIMITATIONS:

One of the most important things to keep in mind during a contest is to fly within the capabilities of the pilot and the plane. If you are flying a two meter polyhedral wing floater type of airplane, don't expect to fly huge search patterns looking for lift like the speedier unlimited craft do. On the other hand you should be better able to find and take advantage of tiny amounts of lift to reach your target time. Your plane will signal to you the slightest updrafts by a wing lifting. For example, if your left wing lifts up, the lift is on your left, turn left into it. Be aware of the wind speed and direction so that you can anticipate the movement of the lift and follow it. This is known as drifting with the lift.

Don't exceed the limits of your skill during a contest. This is known as the Superman Syndrome. Don't attempt to circle too low to the ground. Lift has a bad habit of disappearing when you need it most. Never get below the altitude needed to make a safe landing within the target area. Also keep in mind that trees and bushes grow at an alarming rate as your plane approaches them. Some people even claim they have plane magnets in them.

WHEN TO FLY:

Be very observant and ready to fly at a moment's notice. If you see the experienced pilots go for their planes and transmitters, jump in line ahead of them. Or at least right behind them. If you see planes upwind of the launch area doing well launch and head towards them. If planes downwind of you are doing well, forget it. By the time you launch the lift will be too far away, and you would

probably have to fly though Serious sink to get there. If you see birds circling within your range go to them. A flock of tweety birds, chasing around in a group, indicate that bugs are being drawn up by a fresh thermal.

FLIGHT PATTERN:

Before your flight decide on your search pattern but be flexible. If you are unfamiliar with the field ask one of the more experienced pilots where some of the good lift generators are. Work out in your mind a flight path that you feel confident you can accomplish with your airplane that will take you over the most number of lift points. Your timer should be looking for lift indicators. Be sure he understands the limits of your plane and ability. Don't let him talk you into going too far for the elusive boomer. Be aware that even though other planes are caught up in a big thermal at a great height, you might be too low to join them.

Your last resort at the Poway field is the nearby hill at the ESE end of the field. If there is any wind at all out of the west, you should be able to sustain your altitude by using the slope lift. This area also gives you a fairly safe landing approach. (Watch out for the wires). Don't ever get too low on the south side of the field. The wires can cause you grief.

FLIGHT DURATION:

If you have a set time to achieve do the best you can. If you have a choice of time for your flight such as 3, 5 or 7 minutes, it's best, score wise, to go for the longer duration. However, don't take the chance of coming up way short of the time by hoping to find lift that might not be there. In general, if you are below launch height with 1 minute to go to the next target time, prepare for your landing approach. Trying to stretch out another 3 minutes is a lot to ask. By coming in for a safe, controlled, relaxed landing, you will probably get a better landing, and overall score, than if you frantically search for lift just above the ground and try to land from an unusual approach direction.

LANDING APPROACH:

Try to make the same approach each time you land. To practice, make yourself a cassette tape of a 2 minute countdown. Play it when you practice

landings. This will allow you to adjust your position during the landing approach to compensate for early or late touchdowns. Make sure the tape countdown goes about 30 seconds past the 0 point so you know how late your practice landings may have been. You should be in the same relative position each flight at the 1 minute, 45 sec, 30 sec, and 20 second point consistently. I've found that if, while facing the east towards the landing approach, I pass towards the west at my left (the north) at cruising speed at about 200 ft altitude at the 1 minute mark, make a 180 degree turn at 45 seconds, pass again at my left towards the east at 30 seconds at about 100 feet, make my downwind 180 degree turn at 18 seconds, that I can usually approach and land at 0 seconds. This is a good starting point anyway. Find your own comfort sequence and stick with it. Consistency on your landing approach is essential.

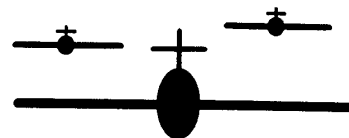
LANDING:

A lot of pilots are finding that for a tape landing, stretching the tape out to the side seems to work very well. This seems to give a better perspective on the actual position of the 100 point on the tape. Practice stretching the tape towards you, away from you, and to the side. Again find the best for you and stick with it.

During your final approach, other than fighting to keep control of your plane, you should be very aware of the wind speed and direction. It will have a major effect on your landing position and time. Your timer can help with this by alerting you to any last minute changes in the wind as you are concentrating on flying your approach.

Also consider the condition of the ground. After a rain, the wet earth will cause a plane to stop sliding much sooner. During the summer the hard packed ground will cause the plane to slide farther. As with all phases of flying practice is the key.

NEXT MONTH: REPAIR



Torrey Pines Gulls

Radio Control Soaring Society, Inc.

INTERNATIONAL HAND LAUNCH GLIDER FESTIVAL

Date: October 29 & 30, 1994
Place: Torrey Pines Gulls Thermal Field
 West Garden Road
 Poway, CA (San Diego, CA)
Times: Pilot check in - Saturday 7:30 AM
 Pilot's meeting - Saturday & Sunday 8:00 AM
 First Flight - Saturday & Sunday 8:30 AM

Tasks:

Round	Window	Throws	Objective
1	10	unlimited	longest three flights
2	7	six	one five minute
3	10	unlimited	increasing flights, must have at least 3 flights, first flight must be at least 15 sec., to receive credit for a flight it must be longer than the previously credited flight
4	10	unlimited	a two minute flight, a three minute flight, a five minute flight
5	10	unlimited	accomplish the following flight times in sequence: .15, .30, .45, 1.00, 1.15, 1.30, 1.45, 2.00
6	10	six	longest five flights, none over two minutes

Sunday

Round	Window	Throws	Objective
7	10	unlimited	longest three flights
8	10	unlimited	accomplish the following flight times in sequence: .15, .30, .45, 1.00, 1.15, 1.30, 1.45, 2.00
9	10	unlimited	increasing flights, must have at least 3 flights, first flight must be at least 15 sec., to receive credit for a flight it must be longer than the previously credited flight
10	7	4	three longest flights, none over two minutes

Fly Off - for top ten competitors

Round	Window	Throws	Objective
1	5	3	longest flight
2	4	4	three one minute flights
3	10	6	five two minute flights

Awards: 1st - 5th, top team (3 from AMA club) **BBQ:** Sat. night, \$9.00, catered by Tony Roma
Entry Fee: \$20 non refundable
Tea Shirts: \$12.00
Lodging: -Camping at field, no hook ups
 -La Quinta Inn, \$43/night, two queen beds
 -Poway Country Inn, 619 - 745-6320
 Steven Stricklett
 2376 Viewridge Place
 Escondido, CA 92026
 619 - 741-1037

Name _____ Phone () _____ AMA # _____
 Address _____
 City _____ State _____ Zip _____ Frequency 1st _____ 2nd _____ 3rd _____
 Tee Shirts: @ \$12.00 each Small _____ Med _____ Lg _____ Xlg _____
 Dinner: @ \$9.00 _____
 Entry Fee _____
 Tee Shirts _____
 Dinner _____
 Total Enclosed _____

Southern California Soaring Clubs

Results of SWSA SC Contest of 8/28/94 Contest Director - Ian Douglas

Rank	Name	Club	Score	Norm
1	KEITH KINDRICK	PSS EXPERT	2991.0	1000.0
2	B J WEISMAN	TOSS EXPERT	2990.8	995.9
3	STEPHEN CONDON	TPG EXPERT	2976.0	995.0
4	LARRY JOLLY	SULA EXPERT	1970.7	993.2
5	BEN CLERX	HSS EXPERT	2967.9	992.3
6	MIKE REAGAN	TOSS EXPERT	2967.8	992.2
7	BRENDAN LUGO	NCC SPORTSMAN	2966.7	991.9
8	ROGER LACKEY	HSS EXPERT	2965.0	991.3
9	TONI STARK	PSS EXPERT	2961.0	990.0
10	EDGAR WEISMAN	TOSS EXPERT 60+	2959.0	989.3
11	ART McNAMEE	TOSS EXPERT	2957.5	988.8
12	AARON VALDES	TPG EXPERT	2955.8	988.2
13	PHILIP HALLFORD	PSS EXPERT	2949.9	986.3
14	GREG BAGGERLY	ISS EXPERT	2947.8	985.6
15	RICHARD BURNS	PSS EXPERT	2943.5	984.1
16	EMMETT JOLLY	SULA EXPERT	2912.0	980.3
17	DON VAN GUNDY	TPG EXPERT	2928.8	979.2
18	JIM MARKLE	EDSF EXPERT	2911.2	973.3
19	KEN RAYMOND	NCC EXPERT	2889.8	966.2
20	SCOTT CONDON	TPG EXPERT	2877.9	962.2
21	DON RICHMOND	TPG SPORTSMAN	2875.8	961.5
22	MIKE LEE	ISS SPORTSMAN	2875.7	961.5
23	Keith Finkenbier	NCC EXPERT 60+	2870.5	959.7
24	GREG JOHNS	PSS EXPERT	2868.7	959.1
25	DEAN CLARK	ISS EXPERT	2856.7	955.1
26	DAVID BUTKOVICH	PSS EXPERT	2846.7	951.8
27	ROBERT MORFORD	SWSA SPORTSMAN	2839.6	949.4
28	DON EDBERG	TPG EXPERT	2830.0	946.2
29	ROSS THOMAS	HSS EXPERT	2829.2	945.9
30	JOHN RODGERS	PSS EXPERT	2822.5	943.7
31	BEN MATSUMOTO	PSS EXPERT	2813.0	940.5
32	MARK LEOE	PSS EXPERT	2807.3	938.6
33	JOHN YEE	SWSA EXPERT	2799.5	936.0
34	STAN SADORF	ISS EXPERT	2794.8	934.4
35	NICK BUZOLICH	HSS SPORTSMAN 60+	2778.6	929.0
36	JOE NAVE	SFV EXPERT	2777.1	928.5
37	Lowell Norenberg	SFV EXPERT	2775.0	927.8
38	FRANK CORSARO	SWSA SPORTSMAN	2773.6	927.3
39	MIKE CARRICO	HSS EXPERT	2770.6	926.3
40	CURT NEHRING	SWSA EXPERT	2735.5	914.6
41	GEORGE JOY	TPG EXPERT	2717.6	908.6
42	MIKE RATNER	PSS EXPERT	2707.6	905.2
43	IAN DOUGLAS	SWSA EXPERT 60+	2691.0	899.7
44	MARK GATTI	PSS EXPERT	2661.9	890.0
45	MIKE AGUIRRE	HSS EXPERT	2661.6	889.9
46	FRANK CHASTELER	AMTS EXPERT 60+	2658.3	888.8
47	BOB SWET	TOSS EXPERT	2606.9	871.6
48	RICK SHELBY	NCC EXPERT	2597.5	868.4
49	GEORGE SPITZER	PSS EXPERT	2576.8	861.5
50	PAUL IKONA	SWSA SPORTSMAN	2571.1	859.6
51	Arthur Markiewicz	TPG EXPERT	2564.3	857.4

TEAM SCORES

Year to Date	Results
Contest of 8/28/94	TPG 22825.2
	HSS 22805.2
	TOSS 21742.5
	SWSA 20042.7
	PSS 19859.2
	NCC 19502.8
	ISS 18285.9
	EDSF 14351.6
	SULA 13425.7
	SFV 5292.0
	AMTS 4149.8
	SFV/SF 4149.8

Results of SWSA SC 2

Year to Date	Results
Contest of 8/28/94	TPG 3970.3
	HSS 3960.3
	TOSS 3924.6
	SWSA 3858.5
	PSS 3786.2
	NCC 3732.1
	ISS 3727.2
	SWSA 3528.4
	SULA 3274.3
	SFV 2674.3
	EDSF 2301.5
	AMTS 888.8