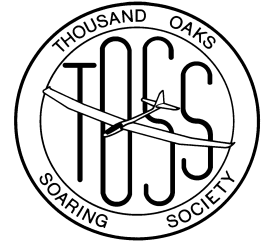


TOSSUP 00



JUNE 2000 TOSS Monthly Contest															
NAME	CLASS	Glider	ROUND 1			ROUND 2			ROUND 3			TOTAL	Normalized	Yearly Flier	
			Time	Landing	Points	Time	Landing	Points	Time	Landing	Points	POINTS	Points	Points	
Hank Schorz	Open	Addiction	8:01	85	983.1	8:01	87	985.1	8:00	88	988.0	2956.25	1000.00	1000.00	
Edgar Weisman	Open	Artemis	8:05	96	986.6	8:04	91	983.5	7:59	53	951.1	2921.25	988.16	988.16	
Mike Stern	Open	Mako	8:05	98	988.6	7:58	0	896.3	8:02	0	896.3	2781.13	940.76	940.76	
Lex Mierop	Open	Thermal Eagle	8:04	70	962.5	8:03	95	989.4	4:51	0	545.6	2497.50	844.82	844.82	
Greg Nikola	Open	??	4:26	87	585.8	8:03	89	983.4	8:05	0	890.6	2459.75	832.05	832.05	
Bill Karp	Open	Psycho	8:04	69	961.5	7:20	80	905.0	4:06	0	461.3	2327.75	787.40	787.40	
Gary Filice	Open	Addiction	8:04	21	913.5	8:09	90	973.1	2:51	86	406.6	2293.25	775.73	775.73	
Mike Reagan	Open	Addiction	8:01	92	990.1	8:03	82	976.4	2:46	0	311.3	2277.75	770.49	770.49	
Bill Karp	Sport	Pantera	7:20	0	825.0	7:57	0	894.4	7:59	79	977.1	2696.50	1000.00	912.14	
Peter Stairs	Sport	Bent Wing	8:01	81	979.1	8:02	68	964.3	2:22	28	294.3	2237.63	829.83	756.91	
Bob Swet	Sport	Isoar	8:02	38	934.3	4:14	0	476.3	6:07	0	688.1	2098.63	778.28	709.89	
Larry Jimenez	Sport	Spirit 2M	3:36	29	434.0	4:14	82	558.3	2:14	0	251.3	1243.50	461.15	420.63	

Results of June 2000's SC² Contest at Pasadena

Place	Name	Club	Class	Raw	Normal	Trophy
1	Richard Burns	PSS	Expert	3975.10	1000.00	E1
2	Daryl Perkins	HSS	Master	3975.10	1000.00	M1
3	Keith Kindrick	PSS	Master	3937.60	990.57	M2
4	Philip Halliford	PSS	Expert	3935.10	989.34	E2
5	Edgar Vera	SWSA	Sport	3932.70	989.33	S1
6	John Erickson	SCSA	Sport	3917.60	988.10	S2
7	Fred Sage	TPG	Master	3920.00	986.14	M3
8	Eric Farmer (J)	ISS	Sport	3917.60	985.53	S3
9	Kevin Anderson	SULA	Expert	3915.10	984.91	E3
10	John Rodgers	PSS	Expert	3912.70	984.30	
15	John Erickson	SCSA	3F	3877.80	975.52	3F1
23	Mike Stern	TOSS	Sport	3810.80	958.67	
25	Edgar Weisman	TOSS	Expert	3807.80	957.91	
26	Bob Swet	TOSS	3F	3790.30	953.51	
40	Gary Filice	TOSS	Sport	3070.80	772.51	
48	Bill Karp	TOSS	Sport	1403.50	353.02	
49	Dave Butkovich		Sport	1164.40	292.92	

Master: 5
 Expert: 17
 Sportsman: 23
 3Function: 10

Total: 55

Annual Standings →

Place	Club	Fliers	S1	S2	S3	Total
1	PSS	11	1000.00	990.57	989.94	2980.50
2	SWSA	11	989.33	983.62	966.69	2939.65
3	TOSS	6	958.67	957.91	953.51	2870.09
4	SULA	8	984.91	977.36	855.58	2817.84
5	SCSA	3	988.10	975.52	841.21	2804.84
6	TPG	3	986.14	982.39	815.20	2783.73
7	AVTS	3	976.76	968.53	815.88	2761.16
8	HSS	5	1000.00	964.78	731.81	2696.59
9	ISS	2	985.53	969.81	0.00	1955.35
10	EDGE	1	572.41	0.00	0.00	572.41

Note: SCSA - Santa Clarita Soaring Association

Place	Name	Contests	Points
6	Mike Stern	4	3511.51
11	Gary Filice	4	327.96
26	Edgar Weisman	3	2462.14
29	Bob Swet	3	2321.06
47	Lex Mierop	2	1578.71
54	Bill Karp	2	1150.04
74	Mike Regan	1	964.70
77	Art McNamee	1	955.67
80	Paul Trist	1	951.76
100	Lex 3F	1	566.40
109	Bill Karp	1	386.68

CVRC Built-up Bent Wing Contest *(Bob Swet)*

For those of you who have not attended a Fall Soaring Fest or Built Up Bent Wing Contests, just let me say you have missed another great contest hosted by the CVRC club. It always amazes me how such a small club can hold such a high caliber contest. The preparation, coordination, running and post contest effort makes either of these contests "World Class". During the fall, you compete against many of the leading fliers of the country and in the spring, it is against some of the leading "low tech" glider guiders of California and surrounding states. To place first is a well deserved honor.

Built Up Bent Wing contests were initiated by CVRC in the hopes to attract a new breed of competitors for Thermal Duration based upon low technology R/C gliders where costs remain low in comparison to those Open Class composite sailplanes. These BUBW contests are to be low key, low pressure, and most of all, fun. Since it's conception three years ago, we have watched the number of competitors and teams grow. Also, the number of contests have grown from one per year to four this year. Bakerfield's and Visalia are now history but TOSS will have one in August and new for 2000, HSS will have one in November. I believe that the idea is catching on.

This year's TOSS team consisted of Larry Jimenez, Don McNamee, Don Northern, Peter Stairs and Bob Swet. We were there to defend our title of Team Champions for the past two years. Yes, we were the team to beat and the other teams were going to try their best to strip away the title.

Saturday, the first of two days of tough competition was HOT as promised. The morning started off with first flights at 8:30. Launching and landing were performed in the usual downwind mode. But, since it was only a 3 minute round, most pilots excluding myself, made the time. Downwind landings into a 25 foot diameter circle on the other hand presented a problem for some. There were over flights and flip overs. It was during Round Two (five minutes) that times started to be missed significantly and landing produced some carnage. Round Three (seven minutes) proved to be challenging to some pilots. Round Four (five minutes) resulted in some standings changes. It was then time for the mandatory lunch break. What a fine idea! Everyone has a chance to wind down, re-hydrated, eliminate those hunger pains and make those broken parts a little bit better. Optionally, you could purchase a BBQ lunch provided by CVRC or make a quick trip into town. After suffering through the R & R, it was time for the "to b announced" round which was 9 minutes. To some, like Don Northern, this turned out to be just another disaster. The day ended with Don McNamee on top of the heap, Pete Stairs and Bob Swet tied in Sixth. The TOSS team was in first by 93 points (out of 6000+ points) thanks to the assistance and good flying done by Larry and Don N. I was really happy for my brand new and almost completed plane (flown the day before for the first time) was flying very well and was still in one piece (or so I thought).

Sunday started off with getting up and having breakfast before the roosters do their thing. After a quick trip to the field, it was time to assemble your plane, turn in your transmitter and start a search for someone with a spare wing rod. During the last flight the day

before, my one and only wing rod for the new plane had broken halfway through. There were many offers but regrettably no one had the correctly sized wing rod at the field. One fellow pilot even offered to drive home and bring one back. I turned him down for the pilot's meeting was ready to start. So it was out with my back up plane, that trusty old Cumic.

First round was for three minutes but the landings had to be inside the circle and were scored based upon a 25 foot tape. As usual, launching and landing was downwind (and remained so for the next two rounds). For Don N. this was a moral booster since it was the first time in many rounds that he had made his time. Pete Stairs broke his spoiler servo. As for me, a steep downwind landing cause the front wing mount to break off the fuselage. Our pits then became a flurry of repair activities. With the help of many, Pete replaced his servo and the wing mount was reattached to the Cumic. [Thanks Don M, Don N., Larry J. and Karl Hawley].

Second round was six minutes. Lift was light and for those unfortunate, lift did not exist. Landings by most planes were high scoring unlike the day before. Third round (8 minutes) was like the second with light lift for most. This was probably the most destructive round where several planes hit telephone poles and others landed way, way off the field as we struggled to hopefully make our times. Somehow Larry and Don M. manage to managed to find enough lift to get the eight minutes. By now Don N. was thinking that the Thermal Gods were seeking payback for all those contests he had won. It was his third 3 minute plus flight of the day. I too, had made only 3 minutes while Pete stretched his flight as far down wind as possible to get 5 minutes but paid for it by doing the walk of shame to the turn arounds to retrieve his glider. By now we were seeing a lot of movement in the standings. Our team's short times was costing us positions. But there was still hope, after the mandatory lunch break there would still to be one more round of undetermined length.

The CVRC BBQ lunch consisted of Chili Dogs, potato salad, chips and a drink. At 12:30, Jerry Fox (CD) announced and started the final round. It was to be nine minutes. Missing this would send you to the bottom of the pile. The first to be called was Don N. (it doesn't always pay to be the ex-top dawg). Unfortunately, the none of the first pilots made their times. Larry tried his best, but those mouse farts just didn't keep his Paragon afloat. When it was my turn, a gaggle of gliders had just skied out far downwind. It was launch, turn, stretch and pray that I would find some remnants of the thermal. The gamble paid off and soon it was my turn to land. By the time I had landed, Pete and Don M. had been called to fly. Pete was to launch first (sacrificial lamb) and to search for lift for Don M. who was still in first place. Now that is team work. We sent Pete back to the same area where I had just been. The thermal was still there and remained there long enough for both Pete and Don to make their times.

So how did we do? Let me say we all had fun. Don McNamee placed first, Pete finished thirteenth, Bob finished fifteenth. Larry and Don Northern placed 20 plus (sorry guys, but I don't remember your exact positions). As a team, all that I know is that the

SULA SC-2 HAND LAUNCH GLIDER CONTEST

SATURDAY, JULY 1, 2000

PILOTS MEETING AT 9:00 AM

Browne Goodwin, Contest Director (sulaclub@aol.com, 310-392-5352)
Brian Iten, Assistant Contest Director

LOCATION:

SULA Field, at Cal State University Dominguez Hills, Carson, CA. (map at http://hometown.aol.com/sulaclub/SULACLUB_sPage2.html). Restrooms on site.

SCHEDULE OF TASKS:

Round	Window	Throws	Objective
1	8 min	Unlimited	Most flight time from increasing flights. First flight at least 15 sec. Must have at least 3 flights. To receive credit for a flight, it must be longer than previously credited flight.
2	5 min	6	Five longest flights, 1 min. max/flight
3	10 min	8	Four longest flights, 4 min max/flight, only 1 flight over 3 min, only 2 flights over 2 min, only 3 flights over 1 min. (Flights in any order)
4	10 min	6	Five longest flights, two minute max/flight

RULES:

1. This is an AMA sanctioned event. AMA rules will apply, except: Maximum wingspan is 1.5m (59.06").
2. Heats will be posted in advance and announced as a courtesy. Pilots are responsible for knowing which heats they are in, and for being ready on time.
3. All heats will be flown man-on-man and scores will be normalized for each group.
4. Flight time commences when the model leaves the hand and ends when the model comes in contact with any land based object, including people. Flight time ends at signal ending window time. Time will be truncated. No rounding.
5. There is no restriction on the number of planes a pilot may fly during a round or the contest, provided all planes are on the assigned frequency. Pilots may not share planes.
6. All launches and landings must be made within the field boundaries in order for flight time to count. The field boundaries will be clearly defined.
7. Any launch made before the official launch signal starts will not count. Any landing that occurs after the official landing signal stops, will receive a 50% penalty toward the flight points for that flight. Field judges will be the final word on late launches, landings and field boundaries.
8. Mid-air collisions will receive no reflight consideration. Pilots should observe "Blue Sky" rules.
9. All Pilots must launch own plane, unless exception is allowed for reason acceptable to Contest Director.
10. Warm-up and test flights will only be allowed between heats.
11. Timers and scorers will be assigned by the CD. Pilots not flying in a heat will be expected to serve as timers or scorers as assigned.

TROPHIES: First through third in Expert and Sportsman Class

ENTRY FEE: \$8.00

The Antares Motorglider *(Editor)*

Over the last eight months to a year I've been following the Websites of two full-sized manufacturers - *DG Flugzeugbau* and *Lange-Flugzeugbau*. Mr. Lange worked at DG for a number of years on DG-800 development before leaving to form his own company. This new company has been developing a high performance electric motorglider, called Project Antares. This prototype is at an advanced stage of development and is expected to be in production next year.

The DG Website devotes quite a lot of space to the discussion of electric sailplanes. They describe two existing non-commercial designs. One is a pure experimental design, the "*icare 2*". Its a plane equipped with both batteries (able to get it to 450m) and solar cells. Its 25m span, weighs 270Kg and has a top speed of 120Km/h. It was very expensive. The other, the "*Electro-Silent*", is an ultra-light 12m ship with a 13Kw motor, a battery good for a 500m climb, a L/D of 31 and a price of about \$40K. DG is fairly skeptical of the practicality of electrical propulsion; they figure that even if it could be practical the cost and weight of the propulsion system would make for a plane that is a poor performer and not cost effective.

Lange and the rest of the Antares team have a different vision. They realize that although electric propulsion is still rather exotic there will be a demand for it because noise and other environmental considerations are starting to squeeze full-size flying, just as model fliers are finding ever increasing difficulty in finding choice flying sites unless they too are able to control their impact on their surroundings.

What they have built is a very advanced single-place sailplane. It is 20m span, has an aspect ratio of 32, and an 'extremely slender super-ellipse' shape composed of nine different airfoils. It weighs 900lbs empty, has a maximum weight of 1260lbs, a glide ratio of 56:1, stall speed of 38kt and a maximum 'good gliding' speed of about 130kt. Construction is 'glass slipper' (of course) with a lot of

carbon in the wings. It is designed to be quiet (40dBA noise - effectively silent) and to have very low maintenance requirements compared to a normal motorglider.

Now to the electric bit. They have an electronically controlled 42kW (57HP) DC brushless motor that has a fixed stator and the rotor connected directly to the folding pusher two-blade propeller. The propeller rotates at about 1500rpm and is capable of a climb rate of 13-14 ft/sec for a climb height of 5000'. The batteries that power the motor are Nickel Metal Hydride connected as a 240v stack and are housed in the wings. The propeller assembly is mounted on a retractable pylon that is a simplified version of the assembly used on a lot of motorgliders.

Now, will it work?

The prototype certainly seems real enough but so far all I've been able to trawl off various Websites is fairly generic marketing information. In particular, I've only found computer generated images of the plane in flight, not real pictures. Its expected to cost about "\$10K than a comparable 20m motorglider" (i.e. expensive). I think that there are some other 'gotchas' that may be a problem - for example, the engine won't require the expensive periodic overhauls that gas engines need but the batteries have a finite life of between 500 and 1000 takeoffs (and those batteries are not cheap). Whatever happens to this plane its sure to be modeled (since the bulk of the press articles referenced seem to be in European modeling journals) and if nothing else its going to make an incredible non-powered sailplane.

Lange's Web site is:-

www.lange-flugzeugbau.de

DG's Web site is:-

Antares - continued.....



Picture of what the plane should look like in flight. Note the very slender wings, with winglets and the pusher prop on a very thin pylon - there's no drive system to the propellor so the entire arrangement can be made very light.



Another (computer generated) picture showing the pylon, propellor and motor.



A close-up of the motor showing its very simple mechanical design. The hinged propellor blades are attached directly to the outside rotor, the inside stator is fixed to the pylon and a cable pulls the assembly into the fuse for soaring. I figure three