

First Hand Launch Contest of the Year... A Mud Bath?

Arthur Markiewicz

No way, fun was had by most, but not all — the norm. Don Van Gundy takes the prize — the blue. Speaking of blue, Steve Stricklett and I were pretty blue after zeroing round 2 on a close call landing. Don't land on the mark, but rather it is wise to put it down a second or two early, just to be safe. That is if Ron "The Shark" is an Official, he really puts "teeth" into the rules, ouch!

The meet was a little long, I admit. Partly due to the new — "bungie class", and partly due to the fact that I'm a little too laid-back on keeping rounds going quickly. Sorry guys, I'll work on it. The day was perfect, right Don? Sunny and relatively calm all day. We were wrapped up about 1:30 PM, with 3 rounds flown in both classes.

The new bungie class got off to a fun start with 8 entrants, some flying both classes. Like Don "Lawnmower Man" Richmond, George Joy, and others. I think adding some landing tasks were a hit. Your thoughts on this matter and anything else to make this new event work out will be welcomed.

There was some carnage. Fred Sage did something or didn't do something to his vision transmitter — like turn it on! He bungied up and looped big time, right back nose first to hit the ground hard enough to shear his aileron wing right off his new super-duper V-tail ship. The crowd went wild. But Fred wasn't alone. Rick Shelby did a wicked "zoom" off the 4 lb pull bungie cord only to snap his new Climax aileron ship's right wing in half...Oops!

Argentine Mario was on hand to add that International flavor we've been

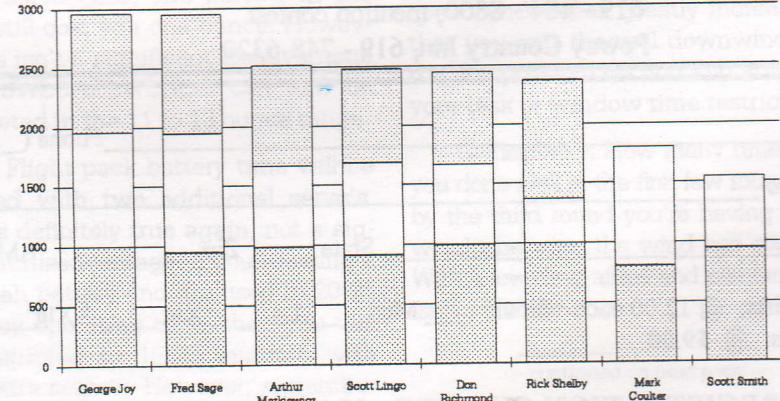
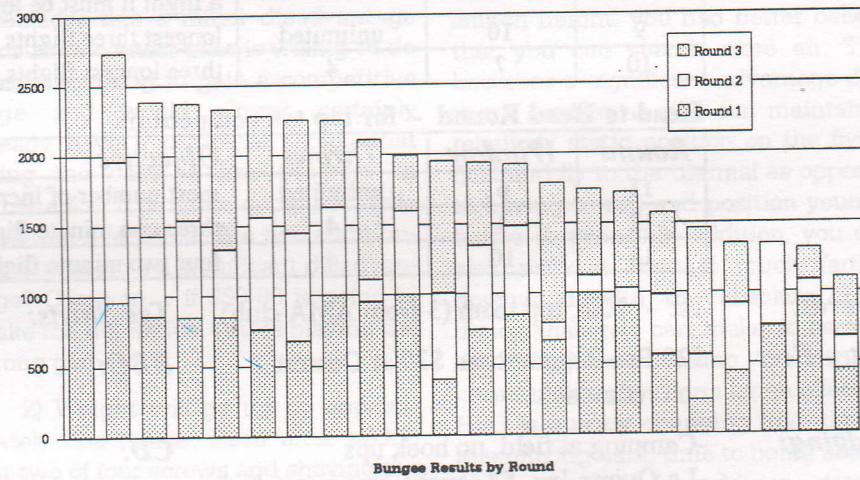
looking for. He flew well with a vacuum bagged plane he bought from Fred Sage a month before the meet. Rumor had it that he was getting dialed in over at Mike Z's secret site, and was getting good. He definitely was a threat. I think the Friday night partying caught up with him, and by the third round, he was having trouble with his vision — and I don't mean his radio! The free flying was good after the awards and the front way in had two very, very slippery ruts to get through. So out the back way was our exit. Pizza was enjoyed by most, but not all — the norm.

Congratulations go to George Joy for winning the bungie event, and to Don "My arm hurts like hell" Van Gundy, for taking the hand launch event. See you at the field. Arthur. †

	Standard Hand Launch	R1	R2	R3	Total
1	Don Van Gundy	1000	1000	1000	3000
2	Steve Condon	960	1000	773	2733
3	Mike Ziaskas	857	573	958	2388
4	Merrill Farmer	850	691	834	2375
5	Don Richmond	850	481	1000	2331
6	George Joy	762	797	725	2284
7	Mark Gumprecht	680	765	810	2255
8	Rick Shelby	1000	627	624	2251
9	Arthur Markiewicz	952	159	1000	2111
10	Paul Naton	1000	599	397	1996
11	Robert Thompson	400	608	944	1952
12	Mario Scolari	750	595	590	1935
13	Gary Whitney	850	633	441	1924
14	Jerry Fry	667	124	995	1786
15	Ken Williams	1000	126	616	1742
16	Steve Stricklett	905	127	688	1720
17	Ron Scharck	560	424	587	1571
18	Blake Godkin	240	317	901	1458
19	Mark Navarre	440	481	427	1348
20	Bill West	762	582	0	1344
21	Bob Matheson	950	130	234	1314
22	Ryan Fry	450	230	424	1104

	Bungee Hand Launch	R1	R2	R3	Total
1	George Joy	1000	962	1000	2962
2	Fred Sage	949	1000	1000	2949
3	Arthur Markiewicz	987	678	852	2517
4	Scott Lingo	916	770	797	2483
5	Don Richmond	995	672	781	2448
6	Rick Shelby	1000	374	1000	2374
7	Mark Coulter	803	1000	0	1803
8	Scott Smith	949	596	0	1545

Hand Launch Results by Round



Frequencies Used			
20	30	*60	
11		31	
		32	
4	14	*24	*54
5	15		55
		36	56
7	17	27	57
		28	38 *48
			*29

* Freq. used by 2 or more

Torrey Pines Gulls

Radio Control Soaring Society, Inc.

March 1995

INTERNATIONAL HAND LAUNCH GLIDER FESTIVAL

Date: May 20 & 21, 1995**Place:** Torrey Pines Gulls Thermal Field
West Garden Road
Poway, CA (San Diego, CA)**Tasks:****Saturday**

Round	Window	Throws	Objective
1	10	unlimited	greatest number of flights with increasing times, first flight must be at least 15 sec., to receive credit for a flight it must be longer than the previously credited flight
2	10	unlimited	the most number of flights in the following sequence: :10, :20, :30, :40, :50, 1:00, 1:10, 1:20, 1:30, 1:40
3	10	unlimited	longest three flights
4	10	6	longest five flights, none over two minutes
5	7	6	one five minute
6	10	unlimited	a two minute flight, a three minute flight, a four minute flight

Sunday

Round	Window	Throws	Objective
7	10	unlimited	the most number of flights in the following sequence: :10, :20, :30, :40, :50, 1:00, 1:10, 1:20, 1:30, 1:40
8	10	unlimited	most flight time from 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
9	10	unlimited	longest three flights
10	7	4	three longest flights, none over two minutes

Head to Head Round - for top ten competitors

Round	Window	Throws	Objective
11	6	unlimited	most number of increasing flights, first flight at least 5 sec.
12	4	4	three one minute flights
13	10	4	four two minute flights

Awards: 1st - 10th, top team (3 from AMA club) **Tee Shirts:** \$12.00**Entry Fee:** \$20 Pre-Registration, \$30 at Contest Sat. night, \$9.00, catered by Tony Roma's
non refundable**Lodging:** -Camping at field, no hook ups **CD:** Steven Stricklett
-La Quinta Inn, \$43/night, two queen beds 2376 Viewridge Place
619 - 484 - 8800, mention contest Escondido, CA 92026
-Poway Country Inn, 619 - 748-6320 619 - 741-1037

Name _____ Phone (____) ____ - ____ AMA # _____

Address _____ Frequency 1st ____ 2nd ____ 3rd ____

City _____ State _____ Zip _____ AMA club _____

Tee Shirts: @ 12.00 each Small ____ Med ____ Lg ____ Xlg ____ XXlg ____ Entry Fee \$20.00
Dinners: @ \$9.00 _____ Tee Shirts _____
Dinners _____
Late Fee _____**PRE-REGISTRATION CUT OFF: MAY 15, 1995** (Make checks payable to TPG) Total Enclosed _____

So, You Want To Get Serious About Hand Launch...

Fred Sage

This column will discuss the relative merits of aileron-equipped hand launch gliders. Although pilots have been experimenting with aileron-equipped HLG for years, it was Joe Wurts at the Riverside hand launch contest last year that effectively campaigned this type of glider. Again, in the prestigious two-day International Handlaunch Contest staged by TPG at Poway in October, Joe used his aileron-equipped HLG to great advantage against many of the best hand-launch pilots in the country. Of course, Joe won both contests. Many of you will say that Joe would have won even if he were flying a baseball bat, and you're probably right. But this attitude doesn't address of whether a straight wing, low camber (RG15) aileron equipped, light wing loading hand launch glider (SWLCAELWLHLG) offers any performance advantage over the traditional polyhedral floater type design (TPFHLG). Recently, we've seen that several prominent hand launch pilots have adopted the SWLCAELWLHLG, including Arthur Markiewicz, Don Van Gundy, and Rick Shelby. More importantly, they've done extremely well in recent contests with consistent high placings. Were they just jumping on the bandwagon or do they know something that we haven't considered?

Traditionally, HLG's have been polyhedral designs that relied on just the rudder and elevator for control. This was necessary because, given the state of construction techniques and radio gear, the only way to achieve light weight (approximately 15 oz.) was to employ only two servos and control just the rudder and elevator. However, in the last year or two as construction techniques and micro radio equipment improved, we've found the weight of competitive TPFHLG's decrease to the range of 10-12 ounces. Although they offer very low minimum sink speed, they begin

to suffer from lack of throw height and ability to penetrate or cover ground. A few people started experimenting with thinned or blended airfoils in an attempt to recapture these abilities, and this eventually led to the SWLCAELWLHLG. At this stage of development, the SWLCAELWLHLG has only slight dihedral and relies on ailerons to achieve rapid turn response. Low camber means less than the traditional 3 to 4 degrees and the light wing loading is less than 6 oz/ft² to retain good minimum sink performance.

The design philosophy at this time is that with the SWLCAELWLHLG, you can have your cake and eat it too. With light wing loading, hang time doesn't suffer; but with thinner or less cambered airfoils, the glider can be thrown higher and cover more ground.

Next, let's discuss the pros and cons of the SWLCAELWLHLG. Starting with the cons because they are relatively minor, the SWLCAELWLHLG has the following disadvantages:

1) Requires two additional micro servo's - 4 total - and a computer radio. I consider this a minor disadvantage because a contest pilot is willing to do almost anything to gain a competitive edge and would almost certainly already have a computer radio. That being the case, a free program in either a 4 or 8 program computer radio is all that's required. Are two additional micro servo's a significant disadvantage? Come on... if \$60-80 is going to make the difference, you're playing the wrong game!

2) Weight will go up by approximately one ounce. Even after taking out two of four screws and shaving the micro servo case, two servo's in the wing still cost you one ounce. However, this isn't a significant disadvantage as a SWLCAELWLHLG can still be completed in the 11 to 13 ounce range.

3) Flight pack battery time will be reduced with two additional servo's. This is definitely true again, not a significant disadvantage. If you're using a 110 mah battery and are used to 20-25 minutes operating time, then you will be restricted to 15-20 minutes with two extra servo's. However, remember

that the longest contest window is only 10 minutes. Most contest HLG pilots put their flight pack on quick charge after a round is over anyway. In the worst case, where you're required to fly two rounds back to back, you only have to swap flight packs. An extra flight pack is not a serious detriment.

On to a discussion of the positive attributes of the SWLCAELWLHLG. These characteristics aren't necessarily listed in the order of importance as they will shift under different flight conditions.

1) Greater throw height: The difference in throw height between a 10-12 ounce TPFHLG and a 12-13 ounce SWLCAELWLHLG that is reflexed can be dramatic. The extra 10 feet might not seem significant, but this represents approximately a 25% increase in throw height and will most certainly overcome any slight advantage in hang time a TPFHLG might enjoy.

2) The ability to range further: With a lower drag airfoil (less camber), a cleaner planform (no polyhedral joint interference wave drag) and a greater launch height, you had better believe that you can search more air. This becomes a significant advantage during a contest as you can maintain a relatively static position on the flying field and fly to the thermal as opposed to having to run and position yourself before throwing. In addition, you can also work a thermal much farther downwind with the absolute confidence that you can make it back to the field before landing. In fact, the ultimate design criteria for an effective HLG is quickly changing from that of maximizing hang time to being able to cover ground. In addition, transit speed with reflex greatly increases so that you can thermal downwind until the last possible second and still make your task or window time restriction.

3) Flexibility: How many times have you done well in the first few rounds, but by the third round you're having to add weight because the wind has come up. With a low drag airfoil and planform, this isn't a problem.

So, You Want To Get Serious About Hand Launch...

(continued)

Under all but the most extreme conditions, you can continue to fly dry knowing that you can penetrate when necessary. Reflex and go!

4) Ability to camber the airfoil: With full span ailerons and a computer radio, you can not only reflex to throw and penetrate, but camber to help core small, low level HL thermals. In fact, with 1/16 inch of camber and when flown at a light wing loading, the RG15 will thermal as well as the SD7037.

5) Instant maneuverability: With rudder/elevator only, if you're flying at minimum sink speed just short of a stall, and you want to initiate or change turn direction, it can take a long time from control input to glider reaction. With full span ailerons, control response is almost instantaneous. This will allow you to core a thermal more quickly. In addition, the glider becomes much more fun to fly and almost seems to anticipate your control input. Although not important in a contest environment, the full spectrum of aerobatic maneuvers becomes available.

6) The final advantage and becoming more critical all the time is the ability to control approach energy through use of spoilerons. Many of the new HLG contest tasks require that you catch and relaunch quickly many times during a round. Not only do you have to relaunch immediately, you also have to catch exactly on the required second. With a TPFHLG, this can take several seconds as there's no way to control approach energy. If you catch and relaunch this type of glider, you can easily waste 5 seconds of window or task time as you have to run to catch your glider. In fact, I've seen several TPFHLG damaged because a catch or a dork landing was required after approach energy was misjudged. With spoileron control that SWLCAEL-WLHLG offers, catches on the second, at the spot, are as routine as precision

landings during thermal duration contests.

In conclusion, do the advantages of the SWLCAELWLHLG out-weigh the disadvantages? Only you can answer that question, but for the serious contest pilot the answer seems obvious. More importantly, I'm so convinced of the merit of the design, that I'm going to be offering SWLCAEL-WLHLG wings for sale to performance oriented HL pilots. These wings will be one piece, 60 inch, 375 in² glass bagged wings in the following airfoil options: RG15, 7012, 7080, SD7037 blended from 9% thickness at the root to 7.5% at the tip, and a standard SD7037. The root chord is 7.5 inches and the tip chord is 5 inches. Total wing weight varies from 4.8 ounces to 5.8 ounces depending on airfoil and foam choice. The layup is an exclusive multilayer/multibias fiberglass layup and provides sufficient strength to consistently complete HL contests. However, since these wings are light, they will not stand up to terminal velocity dives or aggressive winch launches. Low weight and high performance are the design criteria, not indestructibility. These wings, in conjunction with a set of my lightweight HL high compression "Spyderfoam" V stabs and judicious radio component selection will allow a completed HL with 4 servos at less than 13 ounces for a wing loading of under 5 oz/ft². The wings are available in either gray extruded/1.5 lb foam or blue PRB 2 lb foam. The wings are complete as delivered with reinforcement at the leading edge for a standard bolt-on wing attachment. Ailerons are cut out, beveled and taped, and the servo holes and wire channels are routed out. All that is left to complete the wing is to mount your servos and control arms and drill wing attachment bolt holes to match your existing fuselage.

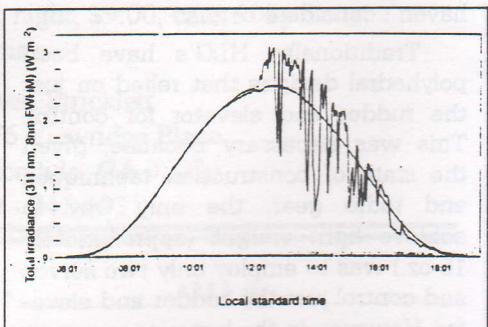
This wing may not enable you to beat Joe Wurts, but if you're serious about hand launch, it's certainly a step in the right direction. Introductory cost to TPG members is \$79. Contact Fred Sage at (619) 485-6239 with your specifications. +

UV-B Radiation

Gary Fogel

While reading a recent issue of Nature magazine (Nature, Vol. 371, "Cumulus Clouds and UV-B", pg. 291, 1994), I came across an article that suggests cumulus clouds near the sun "can significantly intensify solar UV-B, particularly during summer and when both the Sun and cumulus clouds are near the zenith." The report suggests that the increased UV-B at noon was "sufficient to reduce the time required for erythema (reddening) of exposed human skin by at least 15% below the expected under an identical ozone column and a clear sky." Although most of their measurements were conducted in Hawaii, they went on to report "similar enhancements of UV-B caused by cumulus clouds were observed in August 1994 at Seguin in south-central Texas, but only on haze-free days." I imagine the same rules apply in San Diego.

Generally, I feel that most of us operate R/C under the assumption that the more cumulus clouds there are to "block" the sun, the less chance there is at getting a sunburn. Unfortunately, this does not appear to be the case. Even the clouds we use as thermal indicators can be damaging to us. With spring and summer fast approaching, perhaps this would be a good time to remember to pack some extra suntan lotion in your toolbox (and put it on!) before you go to the field to fly under those lazy cumulus clouds. +



Total UV-B radiation at 310 nm at Mauna Loa Observatory. Smooth curve represents "clear" day. Jagged line representative of sky three days later with cumulus clouds. Jagged line peaks caused by reflection, troughs caused by blockage of sun by clouds.