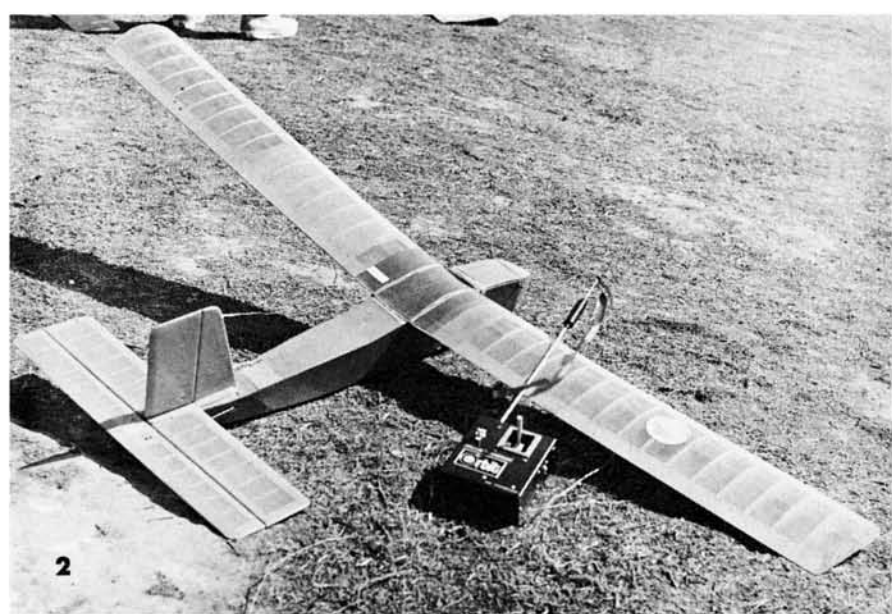


The Zephyr...

by Dale Willoughby

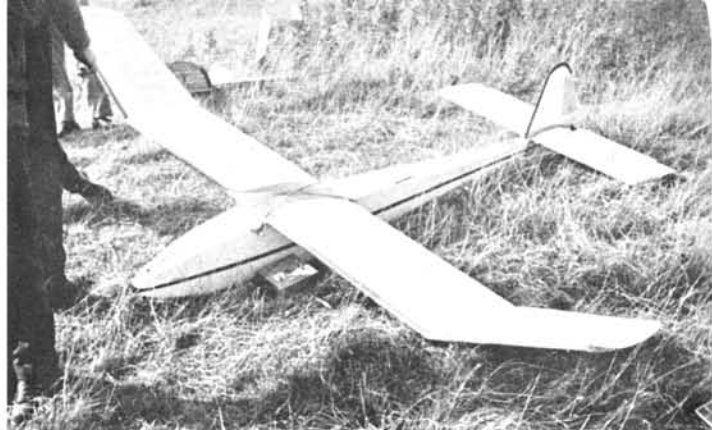
Blasphemed by a buzzard...

1. Bulach, Switzerland Modellfluggruppe (Model Flying Group) pause in the midst of their activities to pose for the cameraman. The easy relaxed way of flying!
2. Bill Zeppenfeldt, member of the Harbor Slope Soaring Society, designed and built this slope soarer, which he flies on Orbit 3+1 equipment. Has placed high in spot landing contests due to the design's short coupling and the large moving rudder and elevator areas.
3. Photo depicts large number of slope soaring designs now flying at Instant Lift Hill in Southern California. Front row, Kurwi, Mistral, Foam Wingbat, Kurwi, Double K8b; Second row, Li'l T, Foam Wingbat, Tom Laurie's design; rear row, Howard Power's design and Bergfalke.
4. Another K-7 on rudder only by Fred Breisch in Air Force. Good thermal flier, full size K-7 has taught many a German and American sailplane pilot how to fly.
5. Modified cockpit in this 12 foot "Buzzard" being launched by Larry Youngstrand. His wife holds the transmitter while he throws, then hands him the black box. Uses rudder and elevator and Duke Fox prescribed "tip rudders" for slow majestic flight through the air . . . size is deceiving.
6. On the ground just prior to launch, Larry Youngstrand's Buzzard is all silver, with wing skids and "tip rudders" apparent. All R/C gear moved as far forward as possible . . . still room for two small midgets.
7. English model builder B. Clement's rudder only "Aries" flying at Ivanhoe, a very good and windy slope soaring site near Enfield. Plans available from Aeromodeller.
8. Another English design called "Scorner II" by R. E. Moore, now residing in Salisbury, Southern Rhodesia. Single Channel, V-tail.
9. Pete Downham launches his brother's scale MU-118, at Ivanhoe. Weighs about 8 lbs. Nearly all plywood and silk. Shown as rudder only, but being converted to rudder and elevator.
10. "Windhover" by B. Wildman. A beautifully made 6 channel soarer, green wings and white fuselage. Member of English "Enfield" M.A.C., a pioneer club in British R/C gliding.





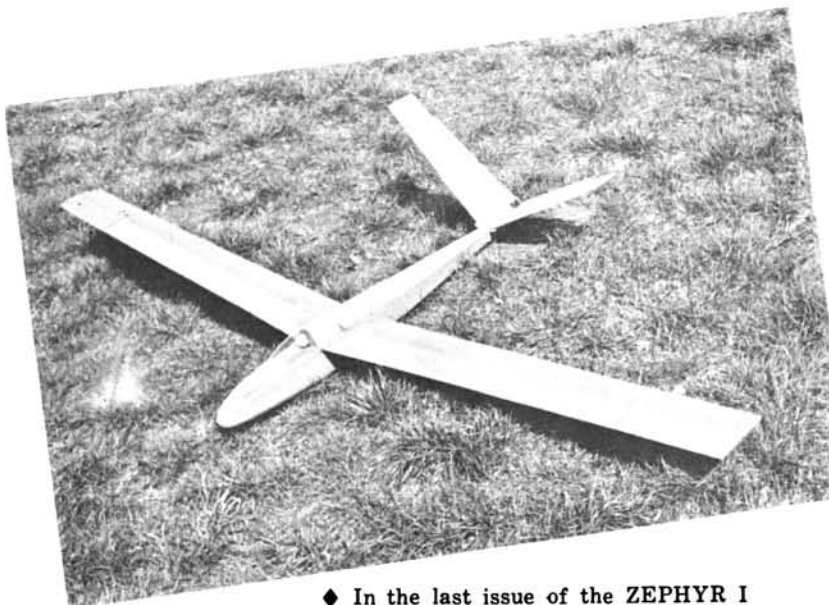
4



7



5

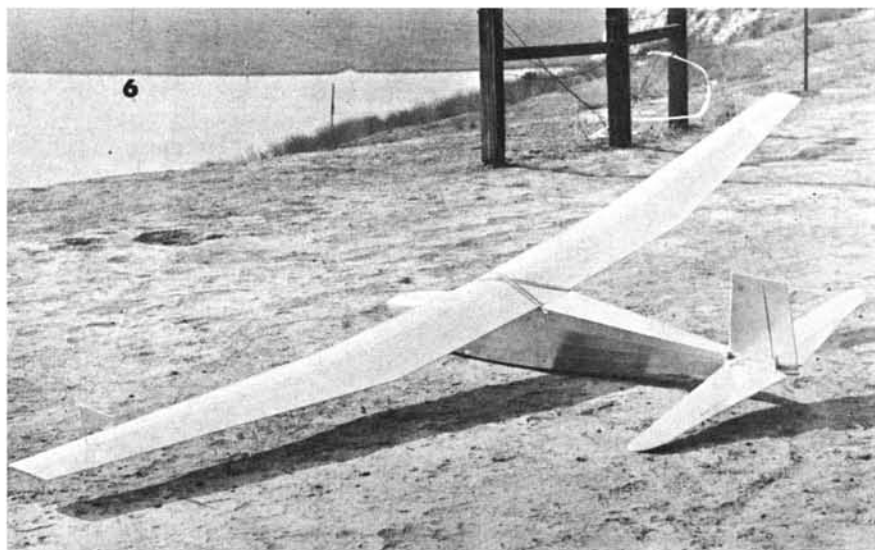


8



◆ In the last issue of the ZEPHYR I set forth the rules used at a recent radio controlled glider contest NOT held at a slope soaring site. However, if you noticed that 1,000 points were allowed for each category, i.e., duration, aerobatics and spot landing, and tallied up the Pattern Points, it was apparent something was missing. It was an oversight on my part. The "K" factor for Number 5 should be shown as K=15 as well as for the Optional Maneuver which is also K=15. The R/C glider contest, originally scheduled to begin at 1 p.m., finally began at 2:25 p.m. and it was dark by 5 p.m. with a strong hazy wind blowing which nearly eliminated any thermal searching for those airborne.

The Judges sat close to the launch point and the spot, but the winch furnished by Frank Colver was up-wind some 980 feet and when the tow-hook came off the glider at maximum altitude, the straight flight out was too far up-wind for the Judges to accurately score points. Then the straight flight back meant quite a loss of altitude with the wind blowing as it was. Anyway, it was a very interesting contest and those powered fliers watching were at first sceptical, then as the number of flights increased and the gliders performed the Pattern Maneuvers and made the Spot Landing, their scepticism mellowed somewhat. A couple
(Continued on Page 30)



6

THE "ZEPHYR"

(Continued from Page 25)

even asked where such gliders could be bought.

For comparison to show that R/C gliding under flat land conditions is still very much in its infancy, out of a possible 18,000 points (three judges and 3,000 points max for two flights) the highest point score went to John Walden (9594), second highest to Bob Hahn with 7141 points, and third to your Editor with 6739 points. As for individual scores (a maximum of 3,000 points), John Walden was first in Aerobatics with 1710 points, while Tom Laurie had highest duration with 735 points, and John Walden came within four feet of the spot for first with 2940 points. While these are just figures to most of the readers, to some they will indicate a need for generally improving the design of an all-round radio control glider, capable of good duration, good aerobatics and precise flight control. As Contest Director, we agreed upon one condition to the rules prior to the beginning of the contest, namely, if the line broke while under tow, another flight was scheduled, but not if the glider's tow hook was improperly positioned so it failed to be towed aloft nor in case of radio failure, or malfunction. Another condition was that the Pattern Maneuvers had to be called (as in FAI & AMA competition) in order to be judged, but if the airborne glider caught a thermal anywhere in the pattern sequence, the contestant was at liberty to break off maneuvering and pursue the thermal for duration time. However, the maneuvers must be attempted in the order named, and in the time allotted (17 minutes).

The lead photo shows some of the members of Modellfluggruppe Bulach in Switzerland with their own brand of slope soaring gliders. As a club, they have decided upon a design, molded the fuselages in their barracks after hours and built their own wing and stab combinations. Peter Stauffer, Club Secretary, took his 3 weeks vacation last summer in the mountains near Gstaad and sent the following report:

1st day: Check batteries, planes, radio and make check-glides.

2nd day: Looking for a flying site,

we hit the best. Walter Schlatter throws his glider into wind and flies 1½ hours. In the afternoon I take mine ("CLOU" with more solid wings [6½ ft.] and tips plates for stability). This flies very well, although a little light for the conditions. The slope rises from 3,000 to 6,000 feet, and we locate about in the middle. Average lift is 10 feet per second so the problem is to get the gliders down, not up. During one of the attempts to get mine down (lift has increased and model slowly climbs out of controllable sight) I trim it to fly pretty fast and it begins to dive. Right turn is good, left turn is steeper and suddenly the elevator begins to vibrate and then breaks off. The stabilizer conceived for the CLOU looks very nice, but I do not recommend it where high speed and fast lifts are prevailing. Anyway, the fuselage with fin, etc. was a complete wreck. (The model came down vertically from about 1,000 feet!!) and one wing broken.

3rd thru 9th day: Fortunately it begins to rain. We start building a new fuselage, finishing it one week later. In the meantime we fly Walter's big 10 foot glider. As we have only one Superhet receiver, the first week is a one glider affair.

10th day: Walter gets so many holes in the wings (which are paper) that we decide to do a new covering job with Silron which is done in one morning, drying in the sun. Model flies again at 1 p.m. Our President arrives with second superhet receiver and from thereon we always have two planes in the air. Mine does not look like a "CLOU" (Graupner's German kit), as the fuselage is longer and stronger with the stabilizer set at the very end. A new name is given—"Windspiel."

11th day: Our President bought a new kit—Graupner's "FOKA."

12th thru 27th day: We are very busy completing it, although the wings take practically all the nerves out of you. This cap-strip construction looks good, but the balsa wood should be carefully selected so that you do not have light ribs and hard capstrips.

18th day: We fly the "FOKA" . . . what a sight!! and a beautifully stable bird . . . as long as it is well trimmed. It handles very nicely and handily turns left and right, but cannot stand turbu-

lence, where it gets unpredictable, especially when you have to use elevator. Ours was 6 channel (rudder, elevator and elevator trim) and came (after several hours flight) in a downdrift (but still above us) and never did recover. Our suggestion for high lift areas is to build the stabilizer longer, 3" each side, just stretch the rib spacings and add sheeting.

The three weeks were over too fast, and there remains beautiful souvenirs and a total of about 70 hours flying with two complete wrecks. We used the Grundig Radio equipment, partly with Ancco actuators. During the whole three weeks this equipment gave us no trouble at all, even the crash of the "CLOU" required no repairs, the equipment being used in the new plane.

In order to get real pleasure when mountain-slope soaring, we highly recommend sturdy soarers (for landing up hill) and good batteries as well as a lot of foam rubber around the receiver. The best kits, available in Switzerland, would be the Bergefalke, Zugvogel, etc. Styrofoam is not recommended but of course fiberglass is. Wing loading should be between 30 and 40 gr/dm² (9 to 12 oz. sq. ft.) in order to get stable flying. We also learned that the "hollow" (undercambered) profiles are not so good as the straight or even laminar (See "CLOU" airfoil) as the speed should be adaptable, especially for coming down and landing. Radio equipment should be at least 6 channel for rudder, elevator and trim to perform safe landings and to penetrate during high wind conditions.

Living in the flat lands near Zurich, it was a great experience to have our models flown in the mountains, and as we were seated just near the station of a telecabin, we had many spectators near us. However, one point disappointed us . . . In Gstaad there is a model club whose members do not know what a joy slope soaring is, and they usually practice radio, control line and free-flight. We showed them how it was done and there was only one day the selected slope was not suitable, and free of charge the whole year round." Peter Stauffer, Club Blulach.



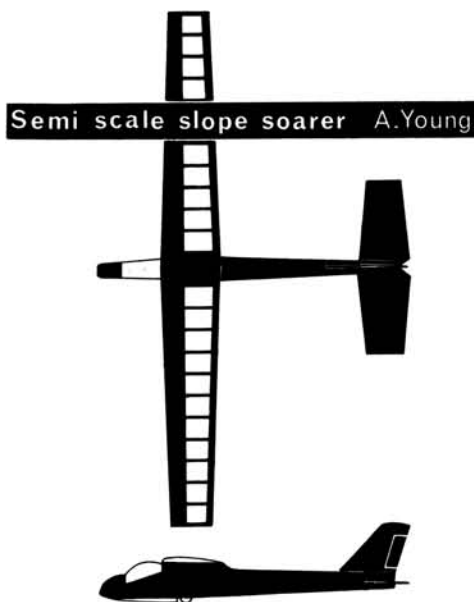


NORTHERN CALIFORNIA SPOT FOR SLOPE SOARING:

In response to my plea for locations in the United States where slope soaring is easily accomplished, Paul Forrette, 925 Pomeroy Ave., Apt. 12, Santa Clara, Calif., 95051, stated in a recent letter that they (Santa Cruz R/C Bees) fly at Sunset Beach State Park. He writes that the Park Rangers have approved flying there after they were shown AMA insurance. Another spot in that area is on Weller Road near Milpitas, above the Santa Clara valley. Paul extends a welcome to anyone in that area (or traveling through) to fly with him or several others in the club, who most always have R/C gliders ready to go. Paul has very kindly agreed to be the contact man and either write him at the above address or write to me if you have found a nice site for slope soaring. This not only applies to the Northern California area, but to any spot in the U.S., Hawaii or Alaska that is suitable for slope soaring. There will be a map published (and we hope to have a photo of the area) when we receive a few more locations.

THERMAL SOARING IN MARYLAND

One of my best friends (because he allowed me to fly his glider for more than 20 minutes) is Ray Smith. Ray's "Pegasus" has been flown quite a bit this past summer on proportional in thermal country and because he writes the kind of letters that are "meaty" and full of information, I'm sure he wouldn't mind sharing his comments with somewhat of a world-wide number of fans who are like-minded. Excerpts of his letter follows:



An English design inspired by the "T.49" scale glider, but built strong for beginner training.

"I have used your Hi-Start a lot this summer. Between Walt Good and myself we have worn it out. I used it on the small range glider which I showed you when you were here. I used all the line and about 80 feet of double rubber. It would put my glider right on top. I can certainly recommend the Hi-Start for anyone who doesn't have a winch or slope. The winch has the disadvantage of requiring two to operate it (He has his own electric winch similar to Maynard Hill's for the big "PEGASUS"). The two disadvantages to the Hi-Start are:

1. It takes a good field to keep the rubber from getting caught. Even at our field this is somewhat of a problem (They lease a sod farm).
2. The life of the rubber is limited because of the heat and sun. A reasonably active flyer would use two sets per season.

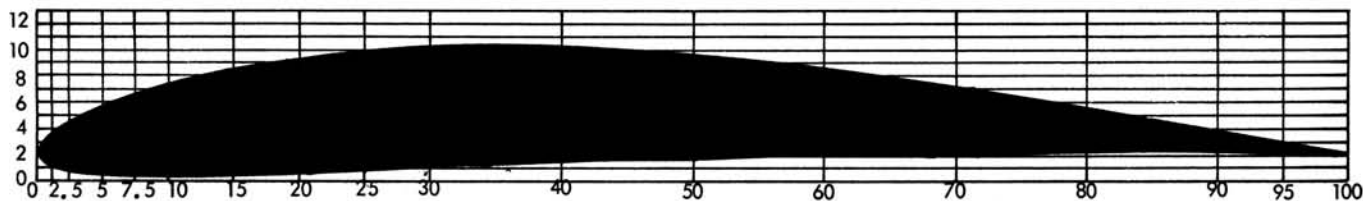
I tried Sig rubber but it is not as thick and required three strands which makes it more susceptible to being caught. I have had a good season, I have been out most every Saturday and Sunday. Have had many good thermal flights well over an hour. I have pur-

posely brought the glider down on a number of occasions in order to let someone use the frequency or because it was time to go home. I have found the use of spoilers unnecessary (His "Pegasus" does not have ailerons either). I have spiraled down a number of times without any trouble. You have to be careful but it can be done.

I rebuilt the "Pegasus" fuselage to reduce weight, thinking that this would increase soaring capability. Weight was reduced from 6½ pounds to 5 pounds. It didn't help a bit!! So I have concluded that we should build large gliders structurally strong with weight being a secondary consideration.

Buzzards can be helpful in locating thermals as you know (Especially on the desert). Several weeks ago I was in what seemed to be a weak thermal at about 1000 feet, when I spotted a buzzard circling some distance away. Since I figured his detector was better than mine, I decided to join him. I just got the glider turned around when I noticed he had stopped circling and was looking for lift. At this point I decided to stay with what lift I had at that spot. The lift got stronger and within a few minutes the buzzard had joined my glider and they rose together to over 2500 feet. That buzzard wasn't very appreciative, however. When I brought the glider in for a landing the wing had a big brown messy smear on it . . . ??

There are a number of potentially good slopes in the Blue Ridge Mountains about 80 miles from Washington. Walt Good, Maynard Hill and I hope to try it sometime this fall. One area in particular was cleared for a full scale glider site back in the Thirties. In the Forties when the Skyline Drive was built, part of the site was taken over for camping. There is still a big



EPPLER E-387 — FOR R/C SLOPE SOARING GLIDER DESIGNS

Station %	0	1.25	2.5	5.0	7.5	10	15	20	25	30	40	50	60	70	80	90	95	100
Upper	2	3.5	4.3	5.6	6.5	7.2	8.3	9.2	9.7	10.1	10.2	9.5	8.2	6.8	5.2	3.6	2.8	2.0
Lower	2	1.2	0.9	0.6	0.5	0.5	0.5	0.7	0.8	1.0	1.4	1.7	2.0	2.2	2.3	2.3	2.2	2.0

THE "ZEPHYR"

(Continued from Page 44)

meadow on top of the mountain—probably 400 acres. If this proves to be a good soaring site we hope to have a glider get-together there sometime next summer with no power planes permitted. By that time we should have about 15 gliders in the club. We have found that thermal flying is more fun where a number of gliders are around.

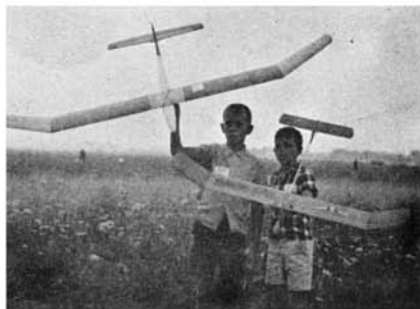
I believe we will be having a glider committee as an active part of the D.C. R.C. Club. This will develop more interest also. We are already looking into a separate field for glider flying only. Our field in Howard County is in the landing pattern to Friendship Airport. Although we are more than the legal five miles away, it does present a certain hazard and we have to be careful.

There is one aspect of glider flying you should push. We lose a lot of new members because they spend a lot of time building a plane, buy expensive equipment and have a series of crashes because they don't know how to fly it. They get disgusted and quit. Although a lot of R/C fliers won't be satisfied with the slower pace of glider flying (and you can make a lot of mistakes that are not fatal) it is the best way I know of to learn to fly. It can serve a real purpose as a stepping stone to more satisfactory (and lasting) power flying.

I have found this summer that gliders can be simple in design and still be sailplanes. As long as the aspect ratio is at least 10 to 1 and areas are about the right proportion, it can be a good glider. I am working on such a glider with a 10 foot span, and have flown a seven foot one for hundreds of flights this summer."

Ray Smith, Silver Spring, Md.

In passing, let me comment on his last paragraph. Because of the slow speeds a glider can be less streamlined than a comparable power ship and still fly. But, I still maintain that there are slope soaring designs, and there are thermal soaring designs and there are aerobatic designs. And though one may be used for a different purpose and still fly well, no design that I have ever studied (and I can number over 30 gliders built and flown) can yet efficiently operate in these three areas. I predict that the time will come that such designs will be developed, and this trend is slowly but surely being felt in America. Dale Willoughby ●



FLYING MODELS