

THE RC SAILPLANE World Championships are now slated for March 28 through April 2. The U.S. team of Skip Miller, Dale Nutter, and Lemon Payne will be in South Africa competing against at least nine other countries according to the latest report from the December C.I.A.M. Paris meeting. The announcement of at least ten countries competing is encouraging.

Flying the same planes as they did in the Labor Day weekend finals in Denver, the U.S. team held a practice session on November 20 and 21. The Tulsa Club of Tulsa, Oklahoma sponsored the event and by the time you read this at least one more practice session as a team will be held—Dallas on January 22 and 23. For those of you that are keeping score here are some of the Tulsa results.

Six rounds were flown. Payne won three of them, Miller two, and Nutter one. Scores for a winning round ranged from a

perfect 3000 (all three tasks won—Payne achieved this twice) to 2552. The best speed was 14.6 seconds by Nutter and his Grand Esprit. Payne and his Legionair did 13.3 laps for the best mark in the distance tasks and that in 12, 20-mph winds.

Miller with his Aquila had the best lap average of 9.17 and Payne's speed average of 16.28 seconds was high. Not only were the overall average scores incredibly close but individual performances as well. Final averages: Payne, 2683.8; Miller, 2554.2; Nutter, 2432.5.

If you still wish to show support for the U.S. team, contributions can be made to: Mr. John Nielsen, F.A.I. Team Finance Chairman, 3744 Lake Ave., Wilmette, IL 60091.

Although the fund raising raffle is over the fund is still open to donors.

**Just Wings:** Enough interest has been generated in at least one club to hold compe-

titition for flying wings—only flying wings. The Soaring Union of Los Angeles (S.U.L.A.) has enough members interested for such a contest in '77. Dave Jones of Western Plan Service (*Model Aviation*, Jan. 1977, pg. 86-87) no doubt has been influential with his various designs and plans.

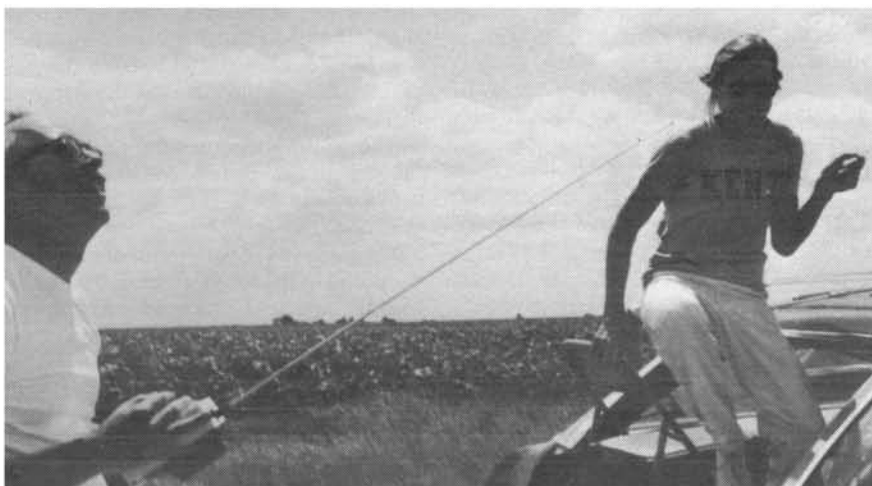
For the scale buffs one of Dave's booklets contains three views of six flying wings. Included are the Horten I, II, III, and IV; Pioneer II and Icarus V. The Horten series is of a German design, first designed in 1931. In 1939 the Horten brothers, Walter and Reimer, had the model IV on the drawing board and the Horten IV's aspect ratio of 21.66 is a graceful departure from the other bat-wing types. Jones' drawings include substructure detail, spoiler and drag rudder locations.

Of an era more current are the Pioneer II and Icarus V designs. The three views of both are enough for stand-off scale documentation but for those that are looking for more detail on the Pioneer write to: Jim Marske, 130 Crestwood Dr., Michigan City, IN 46360.

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Cross-country racing requires team effort as these pix attest. Here, John Nielsen watches Warren Tiahrt, Jeff Mrlik and Dave Corven of Greater Detroit Soaring and Hiking Society.



Above: Jeff Mrlik jumps from "pilot's seat" as Tiahrt takes over to land along course.



Left: Jerry Mrlik launches his original design on what will be eventual winner—some four hours and 47 miles later. Jeff controls.

Below: Tiahrt and Mrlik launch from the weeds during last year's famous "Great Race."



## RC Soaring/Pruss

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Brochures are two dollars. The Icarus is a hang glider and detailed information can be obtained from: Icarus Aircraft; 37 S. Euclid, Suite 5; Pasadena, CA 91101.

**More Cross Country:** From Dick Beltz (who had to be pumped for the information 'cause he's so modest) comes information on the latest club to hold a cross-country race. The Lancaster (PA) Area Soaring Society (L.A.S.S.) held the event at the Milton Hershey School in Hershey, PA on Sept. 25. The course of nearly eight miles was all on school grounds. The winner was Dick Beltz with his own design, Pokey, in a time of 49 minutes. Dick utilized a high-start and only five launches. Other finishers:

Don Goughnour 1 hr. 06 min. 7 launches

Bob Curry 1 hr. 13 min. 7 launches

Jerry Zeigenfuse 2 hr. 04 min. 9 launches

It is interesting to note that Beltz's overall pace was just behind that set by Mrlik/Tiaht of the Greater Detroit Soaring and Hiking Society last July during the Great Bicentennial RC Sailplane Race. Yet Beltz averaged only a little over a mile and a half per launch while the Detroit team had over a 3.5/1 distance/launch ratio.

Since the "Great Race" much arm chair flying has been done by many fliers, not only by those that competed, but also by those that observed and also by some who just read about it.

It should be remembered that it was the San Fernando Valley Silent Flyers that got this race business started. That happened two years ago with the inauguration of the Desert Dash and the then unheard of goal of 20 miles. The S.F.V.S.F.'s have recently run their third one and as the other two it was set up and run downwind.

Now planes that are to compete in races where downwind is the only direction of flight are not necessarily cut out for cross-country flying where a closed course is to be flown. Example: If your super floater has its best glide ratio at 10:1 and that at say, 10 mph, then you know you aren't going to cross much country if you have to fly into a 10 mph headwind. This was apparent to the clubs that entered the Great Race. However, some of the points that were discussed since last summer can be passed on for your whatever it's worth department.

If the super floater is not the bird for racing then consider the opposite extreme, the Nelson KA-6. For those of you new to the scene of soaring the Nelson KA-6 was an all fiberglass sailplane—all fiberglass, wings and tail included. It appeared on the scene about eight years ago. Weight was nearly 11 pounds and the wing loading was over 24 ounces per square foot! Stall speed was about 15 mph and L/D was about 30:1 at about 35 mph. Simply put, this meant at a mile high the KA-6 could fly for 30 miles without encountering another thermal.

Now, if it could find one thermal (and they did and still do thermal) in 30 miles the flier should be able to find another one and a race course the likes of the Great Race could be flown in approximately one hour and 30 minutes, and utilizing only one launch! The above figures are not merely hypothetical. However, the practicability of such a plane for such a race must be questioned.

First, with a stall speed of 15 mph, large landing zones have to be carefully selected. For when damage is incurred with a plane of this type the repair required is usually beyond the Hot Stuff/Monokote requirements. Launching requires the brute strength of a 12-volt winch and R.O.G. (Rise Off Ground) is imperative. Not all cross-country courses can provide the latter requirements.

Furthermore, because of such a high aspect ratio, the visibility of such a plane is not as good as other 12-foot sailplanes. The mile high would be an impractical altitude to reach (this doesn't mean thermals couldn't be encountered more often and the course flown at lower altitudes; however, the possibility of more frequent landings would also have to be considered). It seems then for racing there is a performance gap between the KA-6 and today's most popular kits, but in the cross-country racing aspect of competition only. Yet that gap can be closed.

With most of today's kits designed around the precision/duration tasks, the performance gap is reversed if one considers a KA-6 type for precision/duration and spot landing. Today's designs when ballasted should perform very well for cross-country work. When one analyzes the FAI scores of last summer it can be seen that a happy compromise can exist between the lazy afternoon floater and the high performing KA-6 type.

One can only surmise the outcome of a race between a floater with fewer launches required and the ship with a much higher L/D and possibly requiring twice as many tows. This is not to say a plane with a higher wing loading, with possibly a higher L/D would need to launch more often or that it would necessarily get better mileage each time it went up. The point to consider is, if a trade-off is anticipated, would one be at an advantage with a ship that flew faster but required more launches, or one that could get by with few times and less overall time on the ground but flew slower.

Something else that came from the arm chair analysis was that team effort is a must in winning. What the pit crew is to auto racing the ground crew is to the flier(s). Whatever the method of launching, crew coordination must be perfected. That brought up a point and a solution seems long overdue.

The point was why not standardize hand signals within soaring with regards to winch operation, relocating upwind pulleys, extending the line length, shortening the line length, etc. This would be valuable

especially when outside assistance is required during contests in relocating because of wind shifts, for example.

It seems the signals are a must for efficient crew coordination during cross-country work. So if any of you have already devised a system that works—without the use of a public address system—send it this way and perhaps a form of standardization can take place.

In the meantime, talk your club into cross-country flying and pass the results this way.

*Dan Pruss; Rt. 2, Box 490; Plainfield, IL 60544.*