

U.S. Team To Enter 1990 1st World M/G Championships.

It's official. A U.S. Team has been selected to compete at the First World Motorglider Championships to be held in June 1990 at Issoudun le Fay south of Paris.

The official contest days are 30 June-13 July with practice day the 29 of June. Pilots are welcome to fly training flights 23-28 June. The competition director will be Yves du Manoir with the contest organized by Federation Francaise de Vol a Voile and the Aero-Club d'Issoudun.

There will be three classes:

Class I-Single seaters and two seaters with retractable engine and a wing span of more than 18 meters.

Class II-Single seaters and two seaters with retractable engine and a wing span of not more than 18 meters.

Class III- Single seat motorgliders with a retractable engine and a wing span not exceeding 15 meters.

The U.S. Team is as follows:

Don Pollard-Team Manager

CLASS 1 Ken Shea Nimbus 3T

Jerry Wenger Nimbus 3DM

CLASS 2 Don Pollard Ventus CM

Roger Buchanan Ventus CM

Each country can enter up to six pilots of which no more than three pilots may fly in one class. Start time will be determined by photographing a ground feature with a databack camera. An official clock will be photographed before and after the flight. Team flying using the radio is permitted. Radio navigation is permitted. Continued on Page 2.....

Self-Launching Sailplane Pilot's Assn. N E W S L E T T E R

November - December '89

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SLSPA MOVES OFFICE TO NEVADA.....

As of 6 January, 1990 the editorial office of SLSPA will be relocated in Gardnerville, Nevada just a few miles south of Douglas County Airport/Minden. The new address is shown on the cover of this newsletter. The telephone number is 702-265-3877.

This area near Lake Tahoe is most likely the finest soaring site in the US. I had the opportunity this last July to fly out of Douglas County as a contestant in Region 11 and for 4 weeks between Aug 15 and Sept 15. If you have never soared this area, you are missing some of the most beautiful scenery in the world equalled only by the Alps. On a flight to the White Mountains I averaged over 11 kts in a thermal that was still going strong at 18,000'. While this is old hat to many of the California pilots, the power and frequency of thermals on a good day permit 1000km attempts as a matter of course. Operating a DG-400 out of the 4,700' msl Douglas County presented no problems even with intersection takeoffs. It does take a little longer to get airborne and high altitude jets are recommended. The ample ramp space allows taxi right from tiedown if desired. Look for a 2-place DG-500 in 1990 operated by Soar Minden.

1990 Auxiliary Powered Nationals Site...

The site for the Open Class has been designated at Ridge Soaring. In keeping with a central location so more contestants will attend, talks are underway to locate the the 1990 MG Nats with the Sports Class Nationals scheduled to fly out of Littlefield Texas in August. Since four of our pilots will be at the World Champs in Europe, we need to expend every effort to get as many pilots as possible to attend. A poll will be taken in the next newsletter to determine attendance. In the previous 2 nationals, we have found it simple and easy to combine with another class with all powered sailplanes usually launched as a group in a very short time period. Normally 15-Meter tasks are assigned the MG and with the new scoring system handicaps are assigned according to span with penalties for engine on time measured in distance. That is, if the engine is used only distance points are scored. All in all it is very similiar to European scoring. If anyone desires a copy of the scoring system, write and I will send it and the Handicap values. All attendees will seed into the U.S Soaring Pilot Ranking List.

World Championships continues...

If a pilot exceeds start gate altitude by up to 328' he gets a 200 pt penalty. If he exceeds 328', he is given no points for the day.

Within 3 km of the field, a pilot must not exceed 80mph. Pilots will incur a 50 pt penalty if their crews do not communicate his start time to contest official within 30 minutes of starting. The finish line must be crossed above 328'. Landing out incurs a penalty equal to 20% of the top scoring pilot for the day and class.

Each sailplane will be handicapped according to the German Aero Club standards and after 6 competition days there is a mandatory rest day. Takeoff weights are limited to 1,102 lbs for Classes 2 and 3 and 1,653 lbs for Class 1.

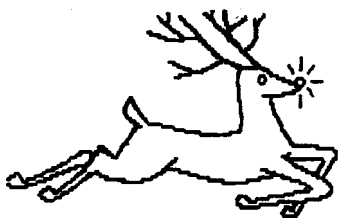
All in all a very civilized affair but very demanding on safety items. English and French are the official contest languages. Add to all of this the unfamiliar topography and weather patterns, metric maps, the foreign language barrier and the USTeam has its work cut out for it. In addition to the traditional speed tasks, Cat's Cradle tasks will be called. Ed.

SLSPA Membership Statistics...

As of 11-7-89 85% of all SLSPA Members were SSA Members. 6% are Foreign Pilots and 9% are not members of SSA. We have 147 Members as of this newsletter.

DO YOU HAVE UNINVITED VISITORS IN YOUR BIRD?

One pilot reports that after a week of tiedown on the flight line, his crew noticed a mouse exit the tail cone as he taxied toward takeoff. Investigation revealed two more of the critters scurrying around in the engine bay. It was determined they had entered the bird via the tailcone and were residing in the tailboom in flight. Even after a turbulent ride to 18,000', the mice were still toughing it out in their new fiberglass home. On the ground they retreated forward under the pilots seat area. Finally, the bird was boxed and a few days later a deceased field mouse was found resting quietly near the tailwheel. Remedy suggested: Stuff foam in and around the tailwheel and rear boom area and set a trap. Always give the controls a full deflection test prior to takeoff. Also inspect the rear tailboom area visually during preflight checks.



**MERRY
CHRISTMAS**

Winter Projects.....

FUEL SYSTEM:

Inspect all fuel lines for security of fittings and hose condition. Softness and fraying of hoses means they should be changed. This is a mandatory requirement every 5 years for the DG-400. Change all fuel filters. Flush fuel tank. Check action of all petcocks. Measure rate of fuel flow per handbook 25 hr. inspection.



TIRES/BRAKES:

Check tires for wear. Since many self-launchers taxi with the wing down, you will find increased wear at the sidewalls. Keep inflation to maximum to reduce this wear. Inspect and adjust the wheel brake system. Inspect the tailwheel steering system and lube.

CONTROL SYSTEM:

Check wear of all connecting points, especially the aileron and flap connections. All torque tube ball junctions should be tight. Lube lightly being careful to not lubricate the sliding latch of the hottellier quick connects. Make sure you have safety pins for all quick connects. For the stabilizer connection double check the tightness of the nut that holds the torque tube rigid. Inspect rudder cable connections for integrity and fraying. Inspect control stick throw and connections and lube as necessary.

WINGS:

Inspect the connection points and lube. Lube all control hinges and the spoiler controls/linkages. Inspect for corrosion in the spoiler boxes.

ENGINE:

Check extraction and retraction. Go over the engine bay very carefully. Check all nuts and bolts and lube the extension assy. Remove and inspect the spark plugs. Replace if necessary. Carefully check engine mounting bolts and hard points. Check prop drive belt tightness. Inspect muffler mounting bolts. Check magneto mounting bolts and wires. Check tightness of starter mounting bolts. Inspect prop brake system. Inspect prop blade for nicks and attachment bolts. Check carb. membranes for softness. If brittle, replace. Recommended grease is lithium based pressure resistant anti-corrosion OR lithium-soap greases (multi-purpose greases for rolling element bearings).

FAA SAFETY INSPECTORS SOUGHT....

The FAA intends to hire 900 Safety Inspectors during the next 2-3 years. These inspectors will certify aircraft, pilots, mechanics and those involved in aircraft manufacturing. Applications are being accepted during the following open periods in 1990:

Jan 2-16
Apr 2-16
Jul 2-16

Operations positions require 1,500 flight hours with a minimum of 1,000 in the past 5 years. Maintenance positions require 3 years supervisory experience in aviation maintenance. If interested contact:

Aviation Careers Examining Division
P.O. Box 26650, Oklahoma City, OK 73126

FIXING STATIC LEAKS....

SLSA has an excellent article published in the Journal of the Soaring Association of Canada that goes into detail on how to safely and easily seal a leak that occurs where the static port exits the skin of the glider. Most leaks occur where a cone is bonded to the inside of the fuselage sidewall and is repairable without opening up the fuselage. If you suspect a leak, write or call and I will send you a copy. Ed.

Weight and Balance Computations Made EASY... (as reprinted from S.H.A.p Talk Oct '89 by Stan Hall)

We all know that to obtain cg position, we must obtain the weights registered by both the main and tailwheel with the bird in a level position as specified by the manufacturer.

When all is said and done the empty weight cg will land aft of the mainwheel by the amount of the ratio of the aft scale reading to the total of both scales X the interscale distance..

Example: Aft Scale=32lbs Fwd Scale=542lbs; Distance between scales=160inches.

cg position= $32/574 \times 160$

$$= .056 \times 160 = 8.92"$$

For Adding or Removing Weight:

wt. added or removed/orig total wt +/- wt added or removed X distance from orig. cg position.

Example: Org. total wt.=635lbs.

Wt added=20lbs. 24" forward of orig. cg

$$20/635 + 20 \times 24 = .73"$$

Don't forget: Weight added fwd of fwd scale moves cg fwd

Weight rmvd fwd of fwd scale moves cg aft

Weight added aft of fwd scale moves cg aft

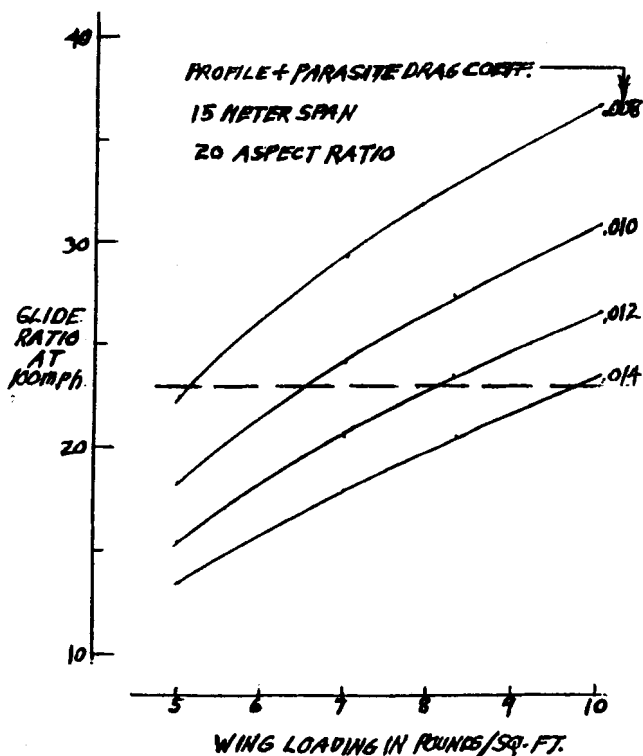
Weight rmvd aft of fwd scale moves cg fwd

All above applies to tail draggers only.

CLEANING AND SEALING MEANS MORE PERFORMANCE....

In many self-launchers, it is not possible to increase wing loading dramatically with water ballast since the ship is already fairly heavy due to engine and fuel. Is there an L/D or penetration advantage to adding a few gallons of water? And what about the inhibited climb rate when right up against gross weight. No matter if you fly for fun, records or competition, we all want to go a little faster and climb a little quicker. Tradeoffs are necessary but we have to consider the consequences of "loaded to the gills".

Circling speed is the most affected area when wing loading is high. The circle radius of a 7 lbs/sq' wing load is 219' at 40 degree bank and 52+ mph. At 10lbs/sq' at 63mph our turn radius increases to 312'. Actually the self-launcher operates in a narrow wing loading envelope and has not the capability to dramatically lighten up. While this is not a "fixed" wing loading, it can be considered such for academic purposes. This means that aerodynamic cleanliness is the single area of improvement open for better performance. Assuming a 15 meter sailplane with 120 sq.ft. wing area and an aspect ratio of 20 with a gross weight of 1,000lbs and a wing loading of 8.33lbs/sq' we can see from Table 1 below that drag has a much greater effect on L/D than wing loading. In our example sailplane this means it takes an increase of 1.5lbs per sq. ft. wing loading to compensate for an increase in zero lift drag coefficient of .002! It pays to seal up and clean up (Sailplane Homebuilders/Oct '89/Bruce Carmichael).



RELATIVE EFFECT OF WING LOADING AND ZERO LIFT DRAG ON PENETRATION