Auxiliary powered Sailplane Association

January-February 1997

NEWSLETTER

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From The President

The past two months have been very busy coordinating ASA events for the SSA convention in Arlington, Texas, Jan 31-Feb 1, 1997. The ASA breakfast has been rescheduled for Saturday at 7AM.

The Post Card Poll had a response rate of 51% and indicated that 58% of ASA members prefer to continue working with SSA toward eventual integration of auxiliary powered sailplanes into existing FAI Classes and that if such efforts fail to materialize, ASA would seek other organizations to affiliate with and conduct our own contests. 20% of the respondees preferred to work with SSA only and 8% preferred to seek other affiliations and not work with SSA.

The results of this poll are in the hands of the SSA Executive Committee. This concept of integration has been discussed with the SSA Executive Committee and I am confident that a fair and through analysis will be made by SSA leadership in an effort to implement this goal as there are many issues on the table now. The SSA will approach this as a broad issue that affects all SSA divisions, not just competition alone.

In the interim, the ASA will be more directly involved in deciding the framework under which Auxiliary-powered Sailplane National Contests are conducted since aux-powered sailplanes are specficially excluded by Contest Rules from competing in SSA Sanctioned FAI Classes. The SSA Contest Board is not responsible for rules governing Aux-powered Sailplane National Contests.

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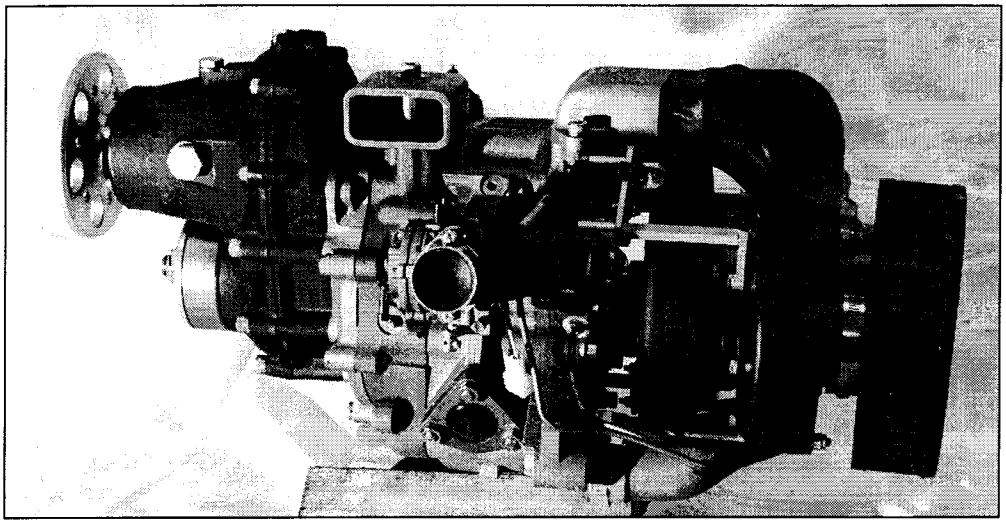
Mid-West's Wankel-Rotary Engine Type AE50RA



This compact 294cc powerplant is currently installed in the ASH-25M and the ASH-26E. It is a single rotor engine with a liquid cooled housing and forced air rotor cooling. Output is 50hp at 7,500 rpms. It has a single carburetor and dual electronic ignition. With all accessories it weighs 139lbs. Overall size is about 24" long and 12" wide. It has a twin rotor cousin (AE100R) that produces 100hp. Since 1992, Mid West Engines, Ltd., a U.K. company, has produced over 100 of the single rotor version to JAR 22 standards. Mid-West photo

The 1997 Auxiliary-powered National Soaring Championships.

To be held at Cordele, Georgia June 10-19 in conjunction with the 1997 Standard Class Nationals. Cordele is located in south-central Georgia on I-75 between Macon and Valdosta. There will be two classes according to existing Aux-Powered Rules:

18 Meter Class (handicapped): sailplanes with wing spans of greater than 15 meters & up to and including 18 meter spans.

Open Class (non-handicapped): wing spans greater than 18 meters.

It is **recommended** that contestants have a down loadable GPS Data Recorder which records engine runs. It is **recommended** that contestants without GPS Data Recorders be equipped with Data Back Cameras that can display time, and an electrically powered or battery operated Barograph that contains a specfic Motorglider sensor that can show engine run duration. For a copy of the Aux-Powered Rules, please contact Bud Schurmeier at 619- 941-3703.

The contests at Cordele are conducted by a professional and experienced staff & the extracurricular activities are great fun. For info & entry application, contact Clyde Taylor 770-985-2732 or 404-715-7227. Please indicate on you application if you will require tows. See you there!

WINTERIZING TIPS

(Or if no flights are expected for over 30 days)

1. Inject 2-stroke defogging oil into carbs while engine running . Shut down immediately. Protects bearings.
2. Drain the fuel tank. Flush tank before first flight of the season.
3. Inspect and lube all mechanical connections that require lubrication.
4. Air all tires to 5psi over recommended pressures. Replace worn tires.
5. Inspect all hinges. Replace worn bungees.
6. Check prop and prop belt for connection integrity, nicks and wear.
7. If solar panel not used, remove batteries and place on charge.
8. Clear out and clean the cockpit. Remove any instruments you plan on working on.
9. Tape shut all air vents including carb throats and exhaust pipe outlet.
10. For trailer, air the tires and lube hitch and braking system. Check condition of wheel bearings.

By accomplishing these checks early, you have actually completed part of the Annual Inspection and are ready for this event come spring.

Pilot Reports

GROB 103C Twin III SL Prop Brake Actuation & Retraction Tension Spring Failure

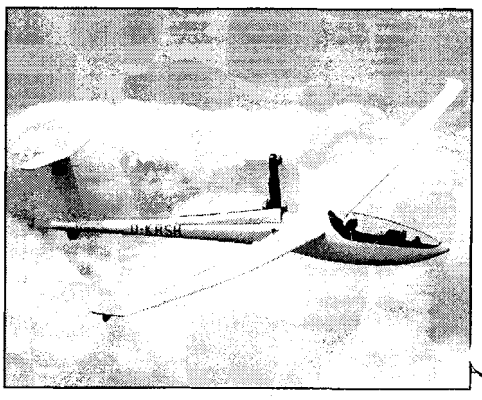
Bruce McGhie reports that during a routine in-flight engine retraction, after successfully braking the prop and initiating retraction, the prop was not arrested in the vertical position and continued to windmill. In the Twin III SL, the engine reclines 5 degrees from full up when retract is selected, at which time a helical tension spring assists in the "capture" of the prop brake placing the prop in the vertical position which electronically initiates the final retraction phase. The proper function of this spring is necessary for a successful retraction. This, unfortunately, led to a forced landing in a corn field, but with only minor damage to the front wheel fairing.

Post flight inspection revealed that the tensioning spring that mechanically actuates the prop positioning had broken off just below its upper hook. This spring is subject to severe fluctuations while the engine is running. The excessive vibration of the spring had abrased the metal engine frame support on Bruce's 103C. Close inspection of the hooked end of a replacement spring revealed surface imperfections and several replacement springs had to be inspected before finding an acceptable one with a minimum of surface imperfections.Engine time was 29.6 hrs.

Tension Spring on Grob TWIN S/L. McGhie photo

Bruce reported this failure to the Grob factory and suggests all Twin III owners conduct a very close inspection of this spring prior to each flight. Grob has responded with redesign of this function, using a shock cord style rubber band instead of the metal spring. Although no Service Bulletin is to be issued, owners have the option of replacing the spring tensioner with the new system. which can be obtained through the USA dealer, Grob Systems in Bluffton, Ohio. *Bruce McGhie is an active paraplegic soaring pilot with over 1,200 soaring hrs. For more information contact him at 203-873-8446.*

Ten years of engine, propeller and sound attenuation technology are represented in this photo of a DG-800B (left) with the MidWest liquid cooled buried engine and a DG-800A (right) with the Rotax air cooled extracted engine. Ed Shilen's 800B sits beside David Volkmann's 800A at Oliver Dyer Bennet's shop in Calistoga, CA. Photo: Pete Williams



DG-800B (Solo Engine) cruises above the clouds over Germany. Photo by G. Marzinzik.

President's Message
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Also, the Aux-powered sailplane Handicap numbers have been derived from the Sports Class sailplane Handicap numbers as created by Carl Herold. This has resulted in some anomalies in Aux-powered handicap values that appear to effect an increasing penalty as wing span increases. I know of some long wing pilots who do not compete now because of no chance in doing well. We are not talking about winning, but just doing well and having fun. The simple reason is that although the longer the span, the greater the L/D, very little task time is spent flying at max L/D, therefore the penalty is exaggerated.

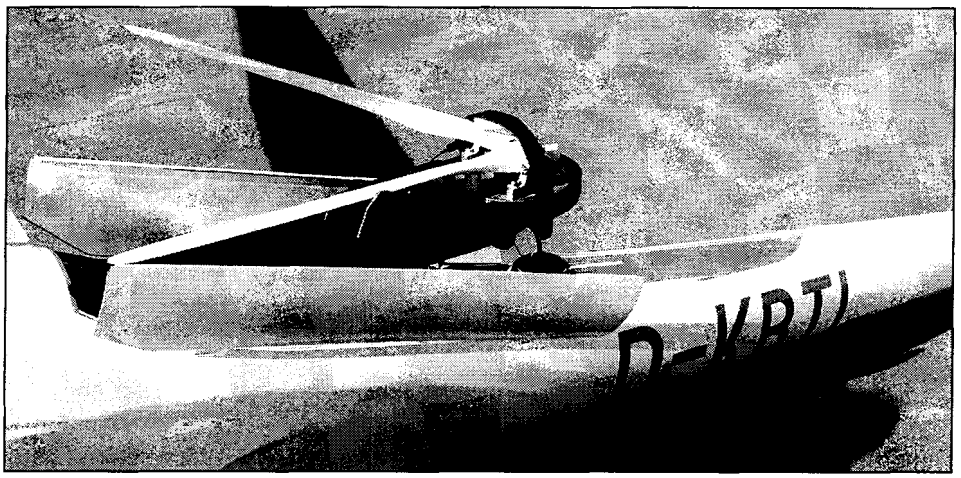
I want to thank you all for your input which allows the ASA President, the SSA Executive Committee and the SSA Board to understand what our membership goals are. After all, our real job is to represent **YOU**.

Stan Nelson, President ASA, Inc.

DG-800B EVALUATION

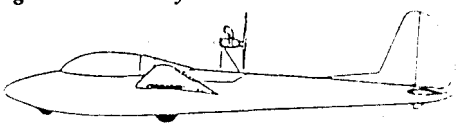
ASA member Ed Shilen's comments on his new DG-800B (MidWest Engine) that he took delivery of just prior to the Nationals at Hobbs were positive. Ed stated there were no problems with the power plant per se, but he had experienced a failure of the Starter Ring-Gear connection to the Belt/Gear Sprocket. Specifically, the four bolts and shear pins that attach the Starter Ring-Gear to the Belt/Gear Sprocket sheared off. He said this causes no problems other than the fact the engine cannot be started with the electric starter and a windmill start is necessary if airborne. Ed is a machinist and repaired the parts. A replacement Sprocket/ Ring-Gear assy is the recommended fix for non-machinists.

Ed suggests Pre and Post Flight inspections of the Ring Gear for looseness. There should absolutely no play between it and the Sprocket Gear. Ed said this failure was the only one experienced in DG-800Bs delivered so far.He said the plugs and carbs are easy to access and the engine runs and retracts without problems. One feature that Ed particularly likes is the EGT probe which permits very exact tuning of the Mikuni carbs for various field elevations and temperatures. He was also impressed with the ships ability to self launch and climb at Max. Gross Weight with water ballast. He reported that the MidWest and DG factories stock adequate parts for the engine. Ed claims the soaring performance is very close to the Ventus cT. He found that in a still air glide with a Ventus 2 (both ships 15 Meters and equal wing loadings) the ships had the same sink rate at 85kts. The Ventus 2 had a slight advantage at 70 and 100kts. He said the DG-800Bs performance was good considering it had drag producing wing tip wheels and a larger than normal tailwheel housing. Dick Johnson is conducting an evaluation of Ed's 800B and the results should be available in early 1997. Other Comments:
1. Choke is an automatic fuel injection system regulated by a temperature probe in the engine.2. Automatic engine erection system permits a start within 30 sec after turning on the Ignition Switch.
3. Automatic retraction system activated by switching off the Ignition Switch: Engine stops/ prop rotates to vertical and stops/engine retracts. 4. DG-800B is at its optimum performance configuration in the 18 meter mode with a wing loading of 7-9lbs/sq/ft. In 15 meter configuration the wing loading rises to 8-10 lb/sq/ft.



The offset hub connections of the Shempp-Hirth Ventus 2M 2-piece prop allows propeller blades to fold together for compact storage. thereby reducing the size of the aft fuselage door.The 18 meter ship is powered with a 54hp SOLO 2-stroke liquid cooled engine. First USA deliveries are expected by early Spring 1997. Photo by Axel Schneider

Bob Moore's Hummingbird Hums (?) Again!



Bob Moore purchased Ted Nelson's Hummingbird in 1994 and has been busy getting it ready to fly which included building a hangar for it. His friend, Ken Rinear assisted him in the preparation which included weighing the ship, going over the airframe and running the engine. They found that, after removing several oxygen tanks, the ship was still pushing maximum gross with two normal size pilots. After some taxi tests a takeoff was made and the bird climbed out nicely according to Bob. However, at about 300' the engine missed a few times and then continued to run normally. After arrival at 5,000' the engine was stowed and stall tests were made with a positive warning at 43mph. Bob reported that the "Bird" thermaled nicely but was a bit heavy on the controls. After two hours, he made an uneventful landing by greasing it on. He said the small spoilers were not as effective as he would have liked but that all in all the ship flew fine. He made several other flights before winter set in and his only adverse comment was the noise of the engine. In the spring of 96, he made his first dual flight with Rudy Allemann as passenger. Gross weight was 1,280lbs. They broke ground in about 1,000' and climbed out smartly at 350fpm. At 2,000' the engine began cutting out again but settled down and ran ok. After some work on the engine another flight was made with Ken as passenger. The engine missed again as before. After working on the ignition system another flight was made and the engine quit completely at about 200'. A safe landing was made as Bob positioned the ship during climb out to handle such an emergency. Bits of metal were found in one cylinder due to a failed decompression valve. Fortunately, Bob has a new engine that came with the Bird! *More to come. Pete Williams*

ON JULY 14, 1996 AT 65 MPH THE BIRD'S POLAR MEASURED AT OVER 30:1. MIN SINK@60MPH=168 FPM.