President's Message

Auxiliary-Powered Sailplane NEWS

The Official Publication of the Auxiliary-powered Sailplane Association, Inc.
Stan Nelson-President • Bruce Templeton-Vice-President
ASA is a Division of the Soaring Society of America

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Bi-Monthly

MOTORGLIDING IN THE UNITED STATES 1999

The letter below was submitted to the International Gliding Commission (IGC) by Stan Nelson, President of ASA on March 3, 1999 at the request of Piero Morelli, Motorglider Chairman of IGC.

"The Auxiliary-Powered Sailplane Association (ASA) whose membership list includes over 350 motorgliding enthusiast's worldwide tracks the Status Of Motorgliding in the United States. Membership has shown a steady growth in the past five years. The ASA began with 12 members in 1987 and is the only organization of its kind in the soaring world. Of these members, one hundred thirty own auxiliary-powered sailplanes. Pilots who purchase auxiliary-powered sailplanes fall into two general categories: one third glider pilots, two thirds power pilots who want the convenience of power with the option to soar. To put these numbers in perspective, there are approximately 10,000 pilots in the United States who possess a glider rating only. There are 20,000 pilots who have a glider rating in addition to other ratings. To compare with other countries: Germany, 60,000 glider pilots. France, 40,000 glider pilots. Great Britain, 20,000 glider pilots. Italy, 12,000 glider pilots. Switzerland, 7000 glider pilots.

Auxiliary-powered Sailplane Association members who own auxiliary-powered sailplanes are broken down in the following categories.

2-Place Self-Launchers	20	2-Place Sustainers	02
Single Place Self-Launchers	71	Single Place Sustainers	06
Motorgliders	31		

There are approximately 30 pilots who have competed at least once in auxiliary-powered National Contests in the United States in since 1988. There have been ten National Contests in various sites including Hobbs, New Mexico, Minden, Nevada, Winter Haven, Florida, Marfa, Texas, Uvalde, Texas, Littlefield, Texas and Hutchinson, Kansas. In 1990, an U.S. Team was selected to attend the first Motorglider World Contest in Issoudun, France. In addition to contest flying there are safaris flown each year which involve groups of two or more motorgliders. Soaring camps are held each year in the U.S. at such places as Air Sailing, Nevada, Ely, Nevada, Minden, Nevada and Parowan, Utah which welcome motorgliders. The 1999 Auxiliary-powered Nationals will be sponsored by the National Soaring Foundation and held at Hobbs, New Mexico July 6 through July 15th.

The first integrated 18 Meter U.S. National Contest will be flown this year in Mifflin, Pennsylvania. This new class will prove to have great Potential benefits to all soaring pilots in the U.S. and to the sport of soaring worldwide. It will demonstrate that Integration is a positive step in the broad picture and will result in far more enthusiasts joining the sport. With the advent of motors for self-launching and flight recorders for documentation, contest infrastructure is considerably reduced.

Continued on page 2.....

ELT Installations

For the DG-800, the factory recommended ELT is the ACK E-01 which is furnished with a mounting bracket, special aerial and batteries. The short "rubber ducky" style antenna is mounted on the floor of the baggage compartment on the left side, forward. Much of the discussion has centered around possible problems with antenna emissions in the vicinity of carbon fiber structures. In the DG-400 series a similar installation of the EBC ELT was used, also with the rubber ducky antenna. This antenna position suggests that emissions will be satisfactory, according to the factory. Please direct any questions about ELTs and antenna type and location to your respective factory. To have your name and email address added to this DG users group, email Marc Teugels at:
marc.teugels@iname.com

Motorgliding in the USA

The Auxiliary-powered Sailplane Association is chartered for the scientific and educational purposes to encourage the design, development, production and safe use of self-launching and sustainer-engine sailplanes to advance the art of soaring promoting or providing:

1. Performance flights seeking F. A. 1. Badges and World, National and State flight records.

2. Participation in World, International and U. S. National and Regional Soaring Championships.

3. Mutual exchange of scientific advances through publication of reports of safe flying procedures: power plant servicing repair, maintenance procedures and soaring craft development.

4. Comparison of sailplane and engine technical development, construction and performance levels.

5. Preparation or participation in educational symposia, fly-ins, soaring regattas, safaris,seminars and other meetings of scientific and educational interest.

Optimizing Thermalling Airspeed

One Pilot's View

The optimum indicated airspeed used while in a thermal can be elusive. The IAS used by most pilots while climbing in a thermal varies somewhere between 45 and 55 kts. Using stall speed as a benchmark, thermalling airspeed can vary between 1.2 to 1.6 above wings level stalling speed. Other variables are also present depending on airfoil cross section, wing loading, angle of bank, gust loads and flap position. The optimum airspeed to obtain the maximum rate of climb in a thermal has much to do with minimizing airflow separation over the airfoil. The objective being to maintain a reasonable amount of laminar flow over most of the wing's surface. All soaring pilots have felt the warning of laminar flow separation when banking steeply with the application of additional up elevator to center the thermal or adjusting the flight path when in a gaggle with other sailplanes. These aileron "nibbles" can also be followed by the nose pitching and yawing excursions from balanced flight. Since few sailplane pilots are aeronautical engineers there is a relatively simple test flight procedure to get in the proper thermalling airspeed ballpark. Tape several 6 inch yarn tufts within the inboard 6' of each wing at various chord positions fore and aft. Enter a thermal and fly at different airspeeds. Watch the tufts and note at slower speeds, the aft tufts will begin to rise from the wing's surface. Adjust the nose position so that there is just a hint of the aft tufts beginning to rise from the wings surface. For that particular angle of bank at that particular wing loading and that particular flap setting, you have discovered the best speed to thermal. Increase the bank angle and the aft tufts will begin to rise again. Increase the airspeed and they will descend. Continued on Page

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A Short Story by Karl-Friedrich Weber-President of DG Flugzeugbau

Pete, if you correct my "Doughnut-Englisch" you can publish this note.

"In May 1996 I flew the DG-800B for the very first time. I already was the owner of the DG factory. That means that I bought a DG-800B and after Glaser-Dirks bankruptcy, I bought the whole company before I ever flew a DG-80OB! Well, I climbed up to 10,000 ft and I was very satisfied that the sailplane was flying so stable and so powerful - much better than my DG-400! Then I tried to retract the engine - but nothing happened. The propeller brake was a completely different design than the DG-400. But in that moment I was very, very anxious. This is the prototype, and I am the new boss. Of course I can land this plane with the extracted engine, but if I damaged anything, all my new employees would laugh about the piloting ability of the new boss. I attempted to contact Mr. Dirks via radio about what to do, but he had left the airport already. So 1 was was gliding and gliding and did not know the emergency procedures. I also did not know that the pilot can retract the engine easily without any brake using the prop stop system. The ship was flying very smooth and so after 20 minutes I made a wonderful landing - Thank Heaven! And from that date on, I was convinced that the DG-800B really is a very easy to fly sailplane. This was the story of my solo in the DG-800B. It happened with the factory no. 8-8B1, the very same sailplane which some months later was sold to Pete Williams." Best greetings to all of the ASA pilots and Always Happy Landings, Karl-Friedrich Weber

http://www.dg-flugzeugbau.de - Manufacturer of DG Sailplanes
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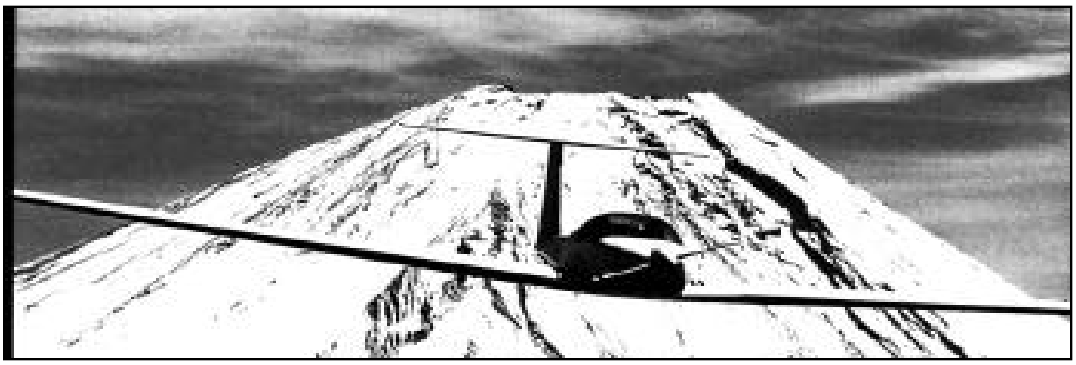
Motorgliding in the USA-continuation from page 2

The ASA communicates to its members by bimonthly newsletter. The newsletters contain safety and technical information, as well as reports on specific motorgliders and interesting flights. These newsletters are sent to members around the world emphasizing 'safety first'. Seven safety surveys have been published as well as handbooks with safety information for the beginning motorglider pilot. The motorglider movement in the United States is a growing phenomenon, which will expose soaring to many people who have never seen any type of sailplane. When a motorglider lands at a small airport, which has probably never been frequented by a non-motorized sailplane, people crowd around asking many questions. This is an opportunity for the motorglider pilot to be an ambassador for the entire sport of soaring. The Auxiliary-powered Sailplane Association's mission is to promote, not only motorgliding, but the sport of soaring as a whole. Stan Nelson, President ASA"



Super Ximango near Mt. Fuji, Japan.

Photo Courtesy AIRWORKS Magazine

New Format for Newsletter

By now you have noticed a new layout and format for the ASA newsletter. This format was developed using ClarisWorks and Apple Works word processing software and final keyboarded using the new PowerMac G3, the next generation of Macs following the popular iMAC.

Thermal Speed.....Continued from Page 2

Note your rate of climb during these tests and you will discover that you have been flying too slow while thermalling and not optimizing the wing's capability to climb efficiently. Maintaining this optimum speed is difficult in a thermal gaggle as everyone is pulling back on the stick to outclimb the guy above or below. Someday, someone will install and test an angle of attack indicator that will allow pilots to adjust angle of bank and nose position and maximize the airfoil's ability to climb efficiently. Since I am not by any means a test pilot, any comments from those more learned than me in this area will be greatly appreciated. All I know is that this system seems to work for me.....Pete Williams

FOR SALE

1996 KATANA XTREME: 63HRS TTAF , $75,000 RAY CARTER
Pho: 904-771-6078; Fax: 904-573-5811; Web: www.raycarterkia.com
Jacksonville, FL.

Pete Williams and Lee Hallerberg prepare for a flight in Lee's ASH 25 at Minden

Soaring Site Survey

Richland, Washington - Motorglider Capital of the Pacific Northwest!

Submitted by Bob Moore

The Richland motor glider fleet has now grown to nine, the largest concentration of such aircraft in the Pacific Northwest. lt currently (early '99) includes a Super Ximango, a Taifun 17, 2 DG4OO's, 2 PIK2OE's, an ASH26E, a TOPP-powered HP-l8, and (momentarily) a DG-5O5MB20.

The Richland airport (at only 400 ft. MSL) features two paved (and lighted) 4000-foot runways, parallel 40-foot wide taxi ways, and extensive paved tie-down areas(but bring your own ropes). Runway 01/19 is 75feet wide while runway07/25 is 1 00 feet wide - both adequate for all but the widest span sailplanes. Unicom is 122.7. Both 100LL and 87-octane aviation fuel are available on the field. Richland is located near the confluence of the Columbia, Snake and Yakima rivers in the arid eastern part of Washington state (only 6 inches annual rainfall). Soaring is possible year round, with particularly good spring and summer thermal soaring over the broad, friendly Columbia Basin which features abundant airstrips and many safe landing places. June and July are probably the peak for strong thermal soaring. The very-nearly 4000 ft. Rattlesnake mountain range (15 miles west of the airport) frequently generates waves - not as strong (or dangerous) as the more famous Sierra Wave, but still a lot of fun. A wave window can be activated by calling Seattle Center. Altitudes of 30,000 have been achieved on occasion. For years now the air space over the Hanford Atomic Reservation has been open and unrestricted. The only nearby restricted area is the Yakima Firing Range to the NW; however permission can often be obtained (by radio) to fly through it if it is not in use b@ the military. Flights to the mountains (Cascades to the west and the Blues to the east) are possible, and very scenic, on strong days. In summary, the soaring conditions in Richland are very similar to those at Eprhata, WA 70 miles to the north. (The Seattle Glider Council has hosted many successful Regional and National contests there, and has bid on an upcoming Worlds).

Area attractions - of possible interest to crews - include World Class wine tasting at the many nearby wineries-, an extensive system of bike/walking/jogging paths (maps available); half-a-dozen golf courses of varying difficulty; jet boat tours (by advance reservation) on the Columbia River's scenic Hanford Reach - the last free-flowing stretch of the Columbia, currently proposed for Wild and Scenic designation; water sports on the Columbia (rentals available from several marinas), and much more. Self-contained vans and motor homes are welcome to camp on the airport, though nearby affordable motels abound.

Soaring visitors are always welcome! For additional Information, contact Rudy Allemann (509-375-0722), Eric Greenwell (509-943-9065), Jim Leedy (375-4268), Bob Moore (509-967-3773), or Tom Seim (509-627-5532). Leedy can also be reached at FAX (509) 943-5249 or e-mail jeleedy @ aol.com. Bob Moore's hangar ("Sailplane Haven") alongside the east-west runway often serves as a focus for motor glider activities.

Bob Moore also reported Spring-like temperatures during the winter and flew 5 flights in February alone. He also reported wave flights to over 22,000ft by Jim Leedy (Tom Seim as passenger in Jim's Taifun) and Rudy Allemann in his DG-400.

RICHLAND, WA (RLD)
El: 391' N46-18.34 W119-18.25
Runways: 1-19 3,999X75 7-25 3995X100
UNICOM 122.7 Right traffic 19 & 25

DG-USA SHOP TALK
by Oliver Dyer-Bennet

In the last Shop Talk we discussed the importance of batteries for starting a self-launch engine. In this article we examine in some detail this important part of your sailplane.

Most Self-launching sailplanes use a rechargeable lead acid battery normally called a gell-cell.This battery type has some important points:

1. The gell-cell is the same basic system as your car battery.
2. Electrolyte is gelled to prevent slosh and to allow operation in any position.
3.Gell-cells are subject to damage it allowed to remain discharged for extended periods of time.
4. A gell-cell battery will loose 50% of its normal capacity in 18 months when stored at 68º F.
5. Gell-cells should not be allowed to remain a discharged state and should be recharged as soon as possible after each use.
6. One can expect 250 to 500 life cycles for each battery.
7. Continuous float charging for periods measured in years will not hurt the batteries.

Gell-cells lose their ability to produce cold cranking amps (CCA'S) as the temperature drops. Tests at the DG-USA shop show that a battery that produces 195 CCA's @ 65 degrees F. will drop to 140 CCA's @ 20 degrees F., an almost 30% loss of battery power, This means when its cold outside the batteries, the heart of your starting system, will have less power to give, to provide a hot spark for engine starting. If you regularly fly in a cold climate, perhaps an external battery starting system would be just the ticket to provide a reliable start for those chilly mornings.

DG-USA is the factory-authorized Service and Repair Facility for DG Flugzeugbau GmbH of Germany

Pilot Profile

Stan and his Ventus CM - Photo by Suzie Capitano

Stan Nelson is a retired Air Force pilot with over 16,650 hours in all types including jets, helicopters reciprocating engine aircraft and gliders. He soloed in gliders in 1982 and had his first flight in a Ventus cM self-launcher at the Schempp-Hirth factory in 1988. His total glider time is 1,700hrs. His most memorable flight was in his Ventus cM at the First Motorglider World Contest in Issoudun, France when he flew a 630km triangle on July 4th. On this marginal day, Stan and the Italian National Champion, Ronzati were the only finishers who did not use the engine with Stan winning the day. Stan holds 3 Florida State records-500km speed triangle, distance triangle and attitude gain. He also won the Florida Senior Championships. His logbook contains flights in 15 different sailplanes including 5 motorized sailplanes. He became ASA's president in 1995. Stan has a CFIG rating and currently flys a motorized ASH-25E. His reason for flying powered sailplanes is the freedom to explore new areas of the country that he would not otherwise experience. He is currently the Airport Manager atTaos, NM.

ASH-26E Owners Newsletter Available

Eric Greenwell is the editor of a newsletter directed to ASH-26E and other Schleicher glider owners. He has been a 26E owner for the past 4 years and is very knowledgeable about 26E systems as well as the Mid-West rotary engine. Subjects covered are Flying Performance, Convenience, Maintenance and Trailer Ground Handling, etc.. He distributes this newsletter (including photo images) via E Mail: egreenwell@prodigy.net. The current newsletter is #5 with info on the engine's fuel injection, soft field takeoffs, flight recorder installation, spare parts, etc. See ASA Roster for his address or you can contact him at 509-943-9065.

EPA to Regulate 2-stroke Engine Emmissions.....

AP/Washington_ "Smoke belching snowmobiles and all terrian vehicles are in for an overhaul as the EPA is ready to write the first emmission standards for these machines after finding they are a source of significant air pollution in some cites.

According to the EPA, the 2-stroke engine emits 25% as many hydrocarbons as do car and truck 4-stroke engines. Due by September 2000, the new rules are likely to force manufacturers to redesign or replace the 2-stroke standard on snowmobiles and some ATVs. New JetSkis have a fuel injected 2-stroke that cuts emmissions by as much as 80% but the EPA says that is not enough. The problem is that a 2-stroke burns only 2/3rds of its fuel, spewing the rest into the air as part of the exhaust."

Ed. Note: What the effect will be of this is unknown as far as motorglider 2-strokes. Some say the 2-stroke engine companies may opt to develop small 4-strokes to comply with the emmission standards. The new standards will go into effect in 2006 for watercraft and outboard motors. Many 2-strokes in recreational vehicles are Rotax engines similiar to the Rotaxes found in many powered sailplanes.

ASA Member Ed Shilen - Top SAM Model Airplane Competitor

Little known is the fact that Ed Shilen is an active member of the Academy of Model Aeronautics (AMA) and a serious competitor in the Society of Antique Modelers (SAM). SAM modelers build and fly both powered and free flight model airplanes that were first designed in the 1940s using both antique ignition engines as well as modern glow engines. Ed enters the SAM Nationals every year as well as regional SAM contests and consistently places in the top 10 in 5 of the Classes. He also owns Shilen Aerosports, a company that builds antique model engine replicas with ignition systems.The photo shows Ed at the 1998 SAM Championships where he picked up 1st, 3rd, 5th, 8th and 13th in five classes. The basic scenario of each flight is a takeoff, vertical climb until the engine quits and an extended glide with a landing within a specified area. Points are won based on the time of each flight. Most of the competitors lie on their backs while peering up at the model and searching for thermals to extend the time as long as possible. Some flights last well over an hour after an engine run as short as 30 seconds.

Ed uses electric starter to spin the prop at 1998 SAM Champs in Muncie, IN Photo by Rosalia Salvador

News and Views

Solo 210 Engine Installation in AC-4M/Nelson

Russia AC-4M Self-Launcher Introduced at Knoxville Convention

The AC-4M Serial #001 built by Aviastroitel is the Proof Of Concept motorglider built in 1997. Prior to its first USA showing in Knoxville in February 1999, the AC-4M had logged over 150 hours flying in Russia as a test vehicle. Bill Ard, Russia Sailplanes Dealer for the USA said development is proceeding toward a production model with increased hp. This diminutive sailplane (12.6 meters) holds great promise of a 33:1 self-launcher at an affordable price. The prototype's specifications and performance are:

Span	12.6 meters (41.3ft)
Empty Weight	330lbs
Payload	242lbs
Max. Gross Wt.	572lbs
L/D	33:1
Min. Sink	145fpm
SL Climb Rate	335fpm
Distance to50'	1,500ft.
Power Loading	38#/hp

AC-4M self-launcher at Knoxville with Bud Schurmeier in foreground and Rick Howell on the right./Nelson

Eric and Jan Greenwell on the convention floor at Knoxville/Nelson

Florida Senior Soaring Campionships March 8-14th

52 sailplanes competed including 15 guests and 8 powered sailplanes. Pilots flying powered ships were: Don Pollard (ASW22BLE); Chicho Estrada (Ventus2CM); Phil Petmecky (ASH-25M); Peter Fuss (ASH-26E); Dick Butler (ASW-22BL); Eric Greenwell (ASH-26E); Gale Johnson (ASH-26E) and Ed Shilen (DG-800B).

ASA Financial Report 1998

Size of engine and propeller in AC-4M can be clearly seen in this photo of Oliver Dyer-Bennet.

Gale Johnson prepares to man his new ASH-26E at the Senior Nationals in Florida. Gale flew as a guest and plans on entering the Open and 18-Meter Nationals at Mifflin County, PA. May 18-27.

ASA Mission

The **A**uxiliary-powered **S**ailplane **A**ssociation, Inc. was founded in 1988 as a non-profit organization to encourage the design, development and safe use of motorgliders, self-launching and sustainer engine sailplanes.

ASA Membership

Membership in ASA is open to anyone interested in powered sailplanes. Write or call:
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Annual Dues: $20 USA, $25 International

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Publishing Information…..

Pete Williams, ASA Publications Manager, is the Editor, and Print Production Manager for the newsletter. As such, he supervises and coordinates with a printer located in Minden, Nevada. The Newsletter is mailed from the Taos, NM address.

Contributors are requested to submit hardcopy typewritten or keyboarded text . 12pt font size is best for accurate scanning. If submitting text on a floppy disk, please advise the word processing program used.Text may be edited as required to fit the newsletter. The newsletter is produced on a Macintosh G-3 using AppleWorks word processing software. Photos are always welcome and will be returned promptly.

The newsletter is delivered to the printer the last week in Jan; Mar; May; July; Sept & Nov. ASA desires input on what the members want in this newsletter and we are doing all we can to keep it informative and interesting. It's your newsletter, so please let us hear from you!

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50 cents/word, prepaid for 3 insertions.
Contact Pete Williams for Display Ad sizes and rates.

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May-June 1999 NEWSLETTER

INSIDE.....

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