Auxiliary-powered Sailplane Association

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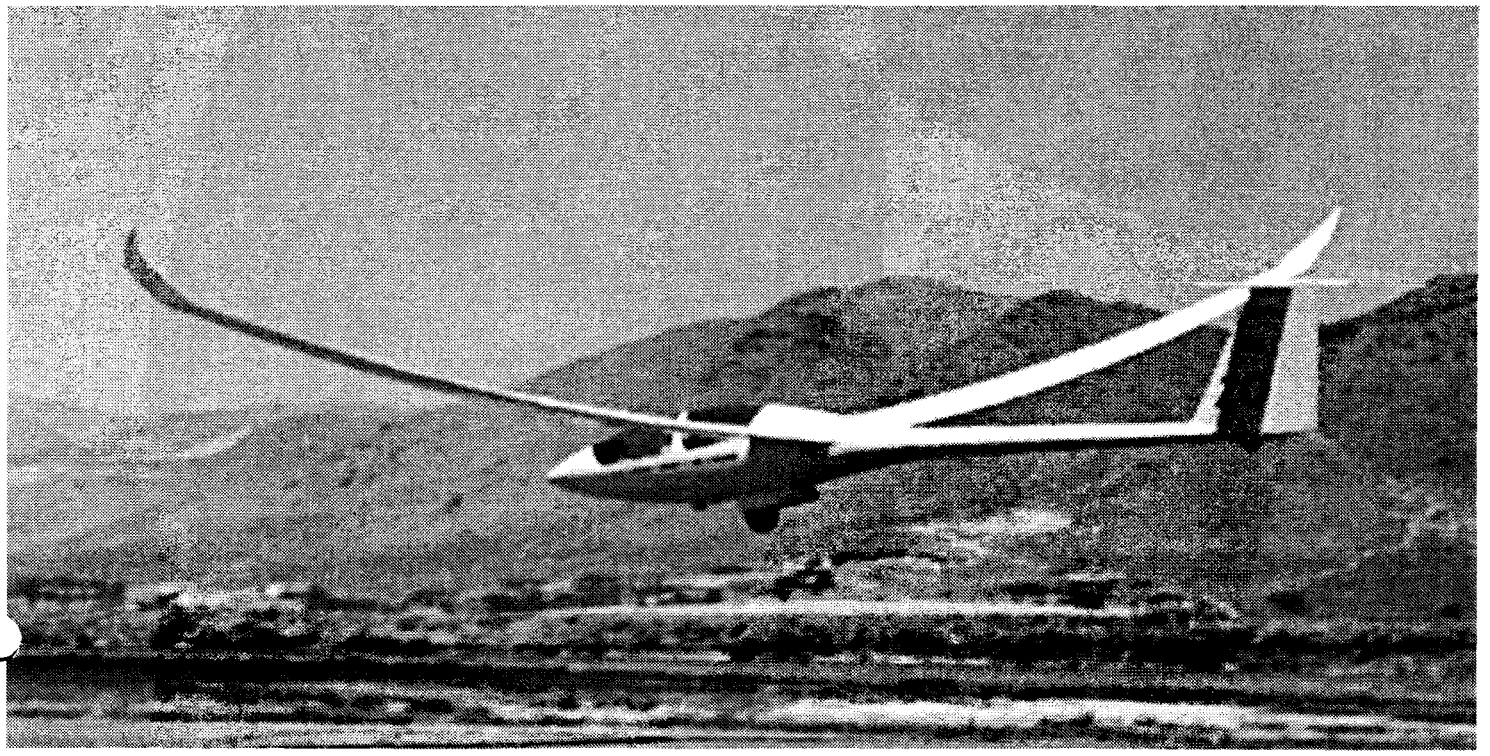


ASH-25E flown by Stan Nelson at the 1997 U.S. Open Class Nationals in Minden, Nevada

FAA CFR Part 61 and 141
Training requirements for Gliders and Motorgliders

In reviewing the Federal Register dated April 4, 1997, the following Sections of CFR Part 61 outline the requirements applicable for a pilot to obtain a logbook endorsement to operate a Glider or Motorglider.

61.31 (k) p. 16308 Additional Training
61.05 p. 16330 Aeronautical Knowledge
61.07 p. 16330-31 Flight Proficiency
61.109 (f) p. 16332 Aeronautical Experience

A glider or Motorglider pilot with a Private Pilot Certificate and a Glider Rating Category issued prior to August 4, 1997 is considered to be in compliance with Part 61 requirements and has the same privileges he had under the old rules.

For a power pilot transitioning to a motorglider, Additional Training per 61.31 (k) is required to obtain a logbook endorsement certifying that the pilot is qualified to fly a motorglider

To obtain a Private Pilot Certificate with Glider Rating Category, the following is required: 10 hrs. Flight training in a glider; 20 training flights; 2 hrs. solo in a glider and 10 launches/ landings plus three training flights in a glider within 60 days preceding the practical test.

Additional Training for a Glider or Motorglider:

1. Preflight preparation
2. Preflight procedures
3. Airport/Gliderport operations
4. Launches/tows, as appropriate and landings
5. Performance speeds
6. Soaring techniques

7. Performance maneuvers
8. Stall awareness; spin entry, spins and recovery techniques
9. Navigation
10. Slow flight and stalls
11. Emergency operations
12. Postflight procedures

Suggested Logbook Endorsement:

I certify that (pilot's name) has been found proficient in (self-launch/ ground tow/ aerotow) procedures and operations in compliance with FAR Part 61 Subpart A 61.31 (k).

Medical Certificates requirements for Glider/Motorglider Pilots and Instructors

Part 61.23 (1) (4) states that a medical certificate is not required for pilots [including students pilots seeking a glider rating] and flight instructors while exercising the privileges of a pilot certificate with a glider category rating.

DG-800B Pilot's Report

These comments are offered to assist the prospective pilot/owner of a DG-800B in understanding the sailplane and it's systems for engine control, extraction/retraction and flying qualities. The 800B is truly the currently state of the art in a high performance retractable engine self-launcher. Before flying this ship, read the Flight and Maintenance Manuals from cover to cover and take notes. Learn ground operations first by conducting a Pre-Flight Inspection then starting the engine and taxiing the bird around a bit. Conduct several engine starts and ignition checks and determine the rough rpm areas. Steer clear of these rpms during taxi. Take note of the "P" that is displayed on the DEI as the engine is being automatically primed. If the engine does not fire in 10 blades, shut off the Auto Prime switch. Before the first self-launch, be sure to set he elevator trim to Full Aft (Up) position and be prepared for the bird to rock forward on the main wheel during acceleration. Things happen fast after full throttle application and the airspeed builds very quickly. You should be airborne in less then 10 sec. after full power application. On climb out check the CHT and EGT (if installed) and check that all Circuit Breakers are in. Automatic engine retraction is simple, but the Manual system should also be checked out for proper operation. For the first 10 flights, stay around the field and take a specific test check list on each flight to test certain systems including the flight controls, high speed, stalls, different flap positions and thermal speed. After each flight, conduct a very thorough Post Flight including engine bay inspection, starter flywheel security, coolant hoses, throttle cable, muffler-exhaust pipe connection integrity, no loose aluminum foil in the bay, prop attachment security, etc.

Some tender areas to check are:

1. In the MidWest engine version the Engine Extend mechanical switches (2) (left forward at firewall) and one retract mechanical switch (right forward at firewall) provide signals and power to the electric spindle drive during these operations. The displays on the DEI affected by the switches are the Yellow engine in transit light and the Green engine fully up lie.
Problems: If these mechanical switches are not mounted at the proper angles it is possible for the spindle drive to continue to get 12V power when engine is fully retracted thereby stalling the electric spindle drive motor and popping the circuit breaker that protects the system (12A-upper right on CB panel). If this breaker pops, the manual (emergency) system for extract/ retract is not operable. This happened to me with the engine out and stopped and unable to crank or lower engine until CB pushed in. **Look at the circuit breaker every time you raise or lower the engine.**

2. The engine compartment is lined with aluminum foil. It is possible for this foil to come loose. Check before and after every flight for adequate clearance as the engine moves. Some came loose in my engine bay and stuffed itself between the exhaust pipe and the muffler coupling making for less then a good connection. RPMs decreased as the engine was laboring. Shut down and retracted. Any air conditioning and heating facility carries this foil (sticky back).

3. There is a metal clamp that secures a rubber boot to the spindle drive gas strut. This boot rubs against the spindle drive arm each extract/retract cycle and eventually tears the boot. (This boot is simply a dust cover that isolates the engine compartment from the cockpit). I found the broken metal clamp loose in the engine compartment and secured the boot with a plastic tie wrap.

4. **Ignition Boxes.** These are mounted to the firewall and almost impossible to get at. There is a fuse in each box (5mmX20 .2A). The only way to change these fuses is to detach the box from the firewall. Engine ½ way up lets you see the buggers. You have an ignition problem when there is a drop on one circuit and no run (engine stops) on the other. The Maintenance Manual gives trouble shooting test procedures.

5. **Starter Flywheel and Lower Pulley.** The flywheel is used only for starting and is secured to the lower pulley (which is attached to the main crankshaft) with 4 bolts and 4 shear pins that connect the pulley to its mounting platform. There are 5 bolts that connect the assembly to the starter ring gear flywheel. If these fail (mine has), the starter just spins the flywheel and the prop stands still as it is not connected anymore to the pulley which is connected to the main crankshaft. DG has beefed up this assembly but it still requires very close scrutiny before takeoff and after landing. To remove and replace this assembly requires a puller (make sure you get one from DG). Remember that the drive belt passes over the butt end of the 5 attachment bolts. Turn the prop so that each bolt end can be seen. They should be marked in red or scribed to ascertain if they are coming loose. There should be absolutely no play as you move the starter ring gear.

6 Vibration. Since you and the engine are both in the fuselage, you will experience some vibration Things are smoother at 2,000 rpm and the engine just purrs. Starting at 3,000 rpms you can feel the roughness which goes away at about 4500 rpms and at 6,000 rpms you will experience a growing roar during takeoff. Much like a dirt bike's sound. Power.

7 **Pitch Control.** This is different then what most pilots are used to. Set the trim all the way aft for powered takeoff by depressing trim lever and pulling back with your fingers on the Green Trim Flag on the left. Otherwise the ship will rock forward to a nose low position during the takeoff roll. Behind the fiberglass cover on your left is exposed all control arms. You will note a bungee is connected to the trim arm that will tend the flaperons to a neutral position if set in negative. The essence is that once you are cruising level, nose down trim is easy but nose up trim requires assistance with the finger to set for slow flight (thermalling). To accelerate from thermal speed (50-55kts) to cruise use, press trim lever and select negative flap to –10 to attain 78-80kts, then select –5 to cruise or you can stay in –10 if conditions permit. FYI –5 is actually zero flap. I use +4 for thermals or +8 if lift is strong. Sometimes in real strong lift you can use landing flap position. I have cruised with a Ventus 2 CM with no problems. The ship has a dense feel to it with very little wing flex

8 .Landing Gear and Spoiler Controls: Both require a very delicate and strong push to lower the gear or lock down the spoilers. On the gear, the handle must also rotate to the left to engage the up lock.

9 Landing: I use about 65 Kats on downwind and no lower that 57 Kats on final until roundabout begins. Do not expose more spoilers during roundout. With engine out and stopped use slightly higher speeds and for sure no extra spoiler on roundout.

10. Pre and Post Flight Inspections: I cannot emphasize enough the necessity of a complete and thorough inspection. Especially checking for adequate engine bay wall clearance on engine retraction and condition of the flywheel (NO PLAY).

11. Suggested Spare Parts: One each of all Circuit Breakers; One each of the 3 mechanical limit switches; One each of the Proximity Switch; One each of the spindle drive strut rubber boot; Coolant drain Kit; Two Ignition Boxes; One each of the EGT sensor probes (Option); 4 spark plugs.

12. Also suggest a Shempp-Hirth ball bearing tailwheel as the DG wheel has no ball bearings. The S/H wheel has a black hub, DG's is white. DG also has a ball bearing option, #10190025.
SUBMITTED BY PETE WILLIAMS

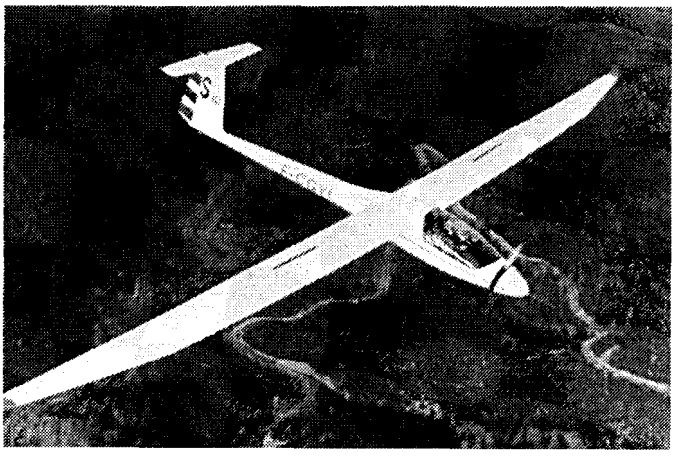
EDITOR'S NOTE: THE CURRENT PRODUCTION DG-500B USES THE SOLO ENGINE WITH 55 HP. THE LATEST WINGLETS ARE 500 MM TALL FOR THE 18M WING INCREASING THE L/D 1.5 POINTS.

Stemme S10-VT Completes Certification Flights

Stemme reported in July their latest version of the S10 powered sailplane, the two seats S10-VT, completed all of the required flights for LBA and FAA Certification. Powered by a Rotax 914, 4 cylinder, 4 stroke turbocharged engine and equipped with a variable pitch folding propeller, the S10-VT maintains sea level climb performance of 800 fpm to an altitude of 12,000 feet facilitating operations from higher elevations. Cruise speed is up to 127 kts and range under power exceeds 860 nm. Electrically actuated retractable conventional landing gear allows operation from typical airports without the need for ground support personnel. The plane's carbon fiber wings fold from 76 to 35 feet for storage in a normal sized T-hanger. Like the normally aspirated S10-V, the new S10-VT also employs STEMME's patented nose mounted folding propeller design which enables nearly instantaneous transition between powered and soaring flight.

Stemme's S10's have a Lift-to-Drag Ratio of 50:1. Certification of the new S10-VT is expected by Europeans and U.S. authorities by mid August 1997 with immediate deliveries to North America scheduled thereafter. Fifteen of the new S10-VT aircraft will join the growing population of more than 100 aircraft now flying.

Also Stemme USA, Inc. announced expanded operations today with the opening of a new sales office location in Telluride, Colorado. With a field elevation of over 9,000 feet, the S10-VT will be one of the self-launching sailplanes capable of operating from the airstrip." The turbocharged Rotax 914 engine gives the S10 an impressive 800 feet per minute climb at 10,000 feet" sated Marc Arnold, Vice President, Stemme USA.



STEMME S-10 IN FLIGHT

"We are pleased our family of world class high performance powered sailplanes now range from the fixed pitch, normally aspirated S10 to the variable pitch, turbocharged S10-VT, said Dr. Reiner Stemme, President and Founder.

EMERGENCY EXIT ASSIST NOAH

Preface:

Late in 1995 the Glaser-Dirks Company researched the interest in an emergency exit assist mechanism. It was developed in cooperation with Ballonfeabrik Augsbuis known for it's rescue packages.

The intent was to obtain a few firm orders for such an exit aid, and if there was sufficient interest to develop the product for series production. The minimum worldwide orders would have to be at least ten.

Unfortunately only four firm orders were realized, one of them from a customer known as Mr. Weber and then the development was shelved.

In mid-May 1997 there was an unfortunate accident in Austria when two pilots were involved in a midair collision in which both died.

One of the two was a partner in a DG 800A, and the surviving partner now accused he "community of sailplane pilots" not to have reacted sufficiently to the proposal. He had been interested in the emergency exit aid, and stated that his partner would probably be still alive if he had such equipment in his sailplane. It appears that he could not exit quickly enough after the collision.

PLEASE send us your opinion by mail or e-mail, and consider that such an exit aid could be installed in almost any sailplane, not only in DG products, as long as the legs are free after the canopy is ejected.. This would apply to any sailplane with a forward lifting panel and canopy.

K-F-WEBER@t-online.de

Dg-flugzeugbau@t-online.de

Stan Nelson-President/ASA
P.O.Box 254245
Patrick Air Force Base, Florida 32925 U.S.A.
Nelson asa@aol.com

GENERAL DESCRIPTION:

That an emergency exit from a sailplane is a matter of only seconds is well known to most pilots. Yet looking at the statistics of the Luftahrtbundesesamt (German Air Ministry) it becomes obvious that nearly one-half of the fatal accidents involved lack of a quick emergency exit.

Thomas Matuschak developed NOAH especially for sailplanes in cooperation with the Ballonfabrik Augsburg and Glaser-Dirks. The patented NOAH system enables the pilot to make an emergency exit from the sailplane in the shortest possible time. A fast emergency exit is usually impeded by several factors:

1. Low seating position, inefficient for an emergency exit;
2. Narrow cockpits make the lifting of the upper body by the arms difficult;
3. High g force, such as in a spiral dive after a collision with only 2 g acceleration mean
4. Poor physical condition of the pilot, or injury after a collision

NOAH is a air cushion built into the seat, which on activation by one lever releases the seat belt (an extra move to undo the seat belt becomes unnecessary), blows up the air cushion and lifts the pilot to the level of the fuselage side in about 1 second. The design of the system takes into account the stress level of the pilot when making an emergency exit. After the canopy is jettisoned, the actuator level sticks up over the fuselage side and need only be pushed forward.

PROTECTION AGAINST UNWANTED RELEASE

The inadvertent activation of the system is prevented because the activator level cannot be pushed as long as the canopy is closed. The seat belts can be released in the normal manner even with the emergency exit aid in place. Inadvertent activation by release of the seat belt is not possible.

INSTALLATION OF THE SYSTEM.

The system can be installed in all DG single seaters without difficulty. Installation consists of installing the air cushion in the seat, installation of the actuator lever and it's Bowden cables, and the installation of the pressure bottle in the fuselage behind the cockpit. The folded air cushion is only a few millimeters thick and is put under the seat cushion. There is no loss of comfort even for tall pilots. The NOAH activator lever is installed on the right side of the cockpit and, because of it's small size, does not pose a problem in normal flight use.

APPROVAL AND SECURITY

Because NOAH does not interfere with the normal emergency exit and none of the certification rules for emergency exits are compromised there is nothing to prevent certification by the LBA (German Air Ministry).

Using the NOAH system together with the safety cockpit and the long canopy in all DG sailplanes provides maximum safety possible in today's technology. Furthermore, it provides an outstanding solution and can be installed in all existing single seat DG sailplanes with one-piece canopy.

For further information regarding price, installation and delivery times please contact DG Flugzeaugbau.

TECHNICAL DATA.

Total weight of all Components 3.5 kg
Pressurization Method: Compressed Air 200 bar
Inflation Speed 0.7 sec
Function-span (pilot weight 110 kg) up to 4 G's

-Thomas Matuschak-

NOTE FROM THE PRESIDENT

This past June I was asked by Jana Drane, Soaring Society of America FAI Subcommittee member, for a policy statement from the ASA concerning the retention of certain categories of National and State records in the U.S. that will be eliminated from World Record categories this fall. Specifically, categories of Motorglider and Multi-place records will be eliminated by default unless the SSA takes action to retain these categories the National and State level. Representatives from the SSA who attended the International Gliding Council meeting in Europe did not support the elimination of these categories. What follows is the ASA policy in support of the SSA position.

It is the policy of the Auxiliary-powered Sailplane Association to encourage the integration of powered and non-powered sailplanes in competition. As a Division of the Soaring Society of America it is also the policy of the Auxiliary-powered Sailplane Association to support the efforts of the SSA to build soaring and increase the numbers of our membership by providing the greatest variety of ways for soaring pilots to achieve their personal goals. Record flying appeals to a great number of soaring enthusiasts who do not attend contests and it would be counter productive to eliminate categories and classes for record setting that would shut out large groups of soaring enthusiasts.

Therefore, the Auxiliary-powered Sailplane Association supports the efforts of the FAI Subcommittee to continue the currently available categories and classes of records for both U.S. National and State Soaring Records.

This is one example of the many ways that the ASA leadership and membership support the SSA for the benefit of soaring. By doing so we enhance and invigorate the sport for everyone. In the past several months the ASA Executive Committee and the SSA Executive Committee have laid the ground work for the integration of a new 18 meter Class and the integration of the Open Class. This past July in Minden, NV. auxiliary-powered sailplanes were allowed to compete on a one time experimental basis in the U.S. Open Class Nationals. Three Aux-powered sailplanes competed in the contest. Stan Nelson in an ASH-25E, David Volkmann in a DG-800 and Don Pollard in an ASW-22BLE. The contest featured fantastic flying and camaraderie with David Volkmann leading the way among the aux-powered ships by finishing in the top ten.

At the ASA Board meeting last February in Arlington, Texas an Advisory Committee was established to examine how additional interest in the ASA and its goals could be achieved. Don Pollard has given this much thought and is working on an idea that could encourage the design and manufacture of a low cost, medium performance, self launch/self retrieve, single seat sailplane that could compete in a one design 'tournament class'. This idea also includes designing a two-place version for training. More about this at a later date. FLY SAFE!

Stan Nelson

NOTE TO THE ASA

Thanks to ROD BUNKE of RIVERSIDE, CALIFORNIA . You made our day. Appreciate your kind words. Rod says " You people are doing a great job for all of us. You make the difference in the freedom we enjoy in our flying, in comparison to the rest of the world. Thank You."

EDITOR'S NOTE: ASA MEMBERS PLEASE GIVE US YOUR INPUT ON WHAT YOU WOULD LIKE TO SEE IN THE NEWSLETTER. WE WANT THIS PUBLICATION TO BE ENJOYABLE AND ALSO INFORMATIVE TO EVERYBODY.

CLASSIFIED

FOR SALE: 1979 PIK 20-E LOW HOURS, ABSOLUTELY MINT CONDITION, TRAILER AND SHIP JUST REFINISHED. LOOKS AND FLYS LIKE NEW, M NAV, DITTLE, SELF-RIG, MUCH MORE. JOE SERRANI 908 534-5803.

TAOS SOARING CAMP '97
GREAT FRIENDS AND GREAT SOARING!