

Auxiliary-powered Sailplane Association

September-October 1998 Newsletter

Stan Nelson-President • Bruce Templeton, Vice President

Issue # 64 Vol. X

ASA, Inc. is a Division of the Soaring Society of America

BiMonthly

President's Message....

Planning for the Feb. 24-27, 1999 SSA Convention in Knoxville, TN is underway. At the Portland convention Skip Atwell asked ASA to expand our program. Skip is a founder member of SLSPA/ASA and is heavily evolved in the organization of the Knoxville Convention. He has asked us to consider manning a booth as well as giving a 'Safety' talk and the traditional manufacturers discussion session. We will give him as much support as possible which will require ASA membership participation and commitment to make this convention a success. We will also have the Aux-powered Breakfast with a speaker. We need volunteers to come forward to man the booth and give the 'Safety' talk as well as information, ideas and materials for the booth and the talk. Please contact Bob Saxton, our safety person at 254-848-4472 or fax: 254-848-4474 with safety information. For the breakfast speaker and any other ideas that will help us plan this event. Your assistance and active participation in this convention will make it a success.

The British Gliding Association and the Soaring Society of America will publish a bimonthly magazine called *Motorgliding International*. The first issue will be Nov/Dec 1998. Gillian Bryce-Smith, the editor of *Sailplane* and *Gliding* magazine is also the editor of MGI. This initiative will have a positive effect on motorgliding worldwide and ASA congratulates the sponsors and organizers for this effort. Look for some familiar ASA members who will be contributing articles to this magazine. The hope is that this will stimulate interest in motorgliding and membership in ASA as well.

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ASA FLEET SURVEY

Model	USA/Foreign	Total
DG-500	4/1	5
DG400	21/6	27
DG600M	2/1	3
DG800A	5/1	6
DG800B	3/0	3
Nimbus3DM	4/0	4
Nimbus4DM	1/1	2
Nimbus3T	1/0	1
Nimbus2M	0/2	2
VentusCM	4/1	5
VentusTurbo	5/0	5
ASH-25E	1/1	2
ASH22BLE	2/0	2
ASH26E	4/1	5
PIK20E/30	15/3	18
Stemme	6/0	6
Grob103SL	3/0	3
Vivat	4/0	4
Ximango	5/3	8
G109	10/1	11
Dimona	2/0	2
Taifun	6/0	6
TOTALS		130

This survey is representative of current ASA members and does not reflect all powered sailplanes registered in the USA.

Catagorys include:

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

It is estimated that another 8-10 powered sailplanes will enter the U.S. inventory by the end of 1998.

There are approximately 10,000 pilots in the USA with a medical certificate and a glider rating only. However there are close to 20,000 pilots who have a glider rating in addition to other ratings. So it is evident there are many glider rated pilots who are not members of ASA or SSA. Many new ASA members are not SSA members and have limited knowledge of the powered sailplane movement. For this reason it's a good idea to be open to answering questions by curious onlookers who want to know more about your motorized sailplane. Some members distribute an info sheet that describes their particular powered sailplane. This is positive PR and helps promote a sport that only a few Americans are engaged in.



Mono Lake, CA from 13,000' msl. Paoha Island (6686' msl) seen in the center. Photo taken looking North on a flight out of Minden. / Williams



The Ringels and their Ventus 2cM at Minden-Tahoe Airport, NV USA /Williams

Pilot Profile

This is a new article series that features an ASA Member.

Manfred Ringel is a new ASA member from Germany. He is a recently retired Lufthansa pilot and has flown gliders for 37 years since soloing in a Grunau Baby IIB at the age of 21 in 1961. His first auxiliary powered flight was in a Ventus bT in 1996. He is a current active member of the Deutscher Aero Club. Manfred is a partner owner of two Ventus 2cM saillaunchers, one of which is in Germany and the other based at Minden-Tahoe Airport, NV USA where he visits each summer. He has 2,700 hrs. in pure sailplanes, 350 hrs. in auxiliary-powered sailplanes and 18,500 power hrs.

Manfred's wife Hertha has been his crew chief for over 30 years. His most memorable flight was a 516km out and return flight in a Scheibe L-Spats in 1977. He has logged flight time in 34 glider types. His reasons for flying a motorized sailplane are "independence, self-launch, no retrieve and safety for myself and the glider"



Manfred and Hertha Ringel /Williams

DG-800B Pilot's Brief Booklet

This illustrated booklet covers both the Mid-West and SOLO engine versions. It is a guide to flying and maintaining the 800B series and is especially useful for the prospective owner. Send \$3 to ASA Publications c/o Pete Williams 1033 Dresslerville Rd. Gardnerville, NV 89410 USA Tel: 702-265-3877 Fax: 702-265-6179

Will Your GPS Work on 8/23/1999??

When the GPS system was activated on 1/6/80 it began counting weeks until midnight 8/22/99 when the week rolls from 1,023 to zero. Most units will be unaffected by the rollover, but some especially VFR units built prior to 1994 may be somewhat affected. Contact your GPS manufacturer for more information. Most manufacturers have said their units will be unaffected by the Y2K (year 2000) bug. Source: AOPA Pilot Sep98

Self-Launch! Book News

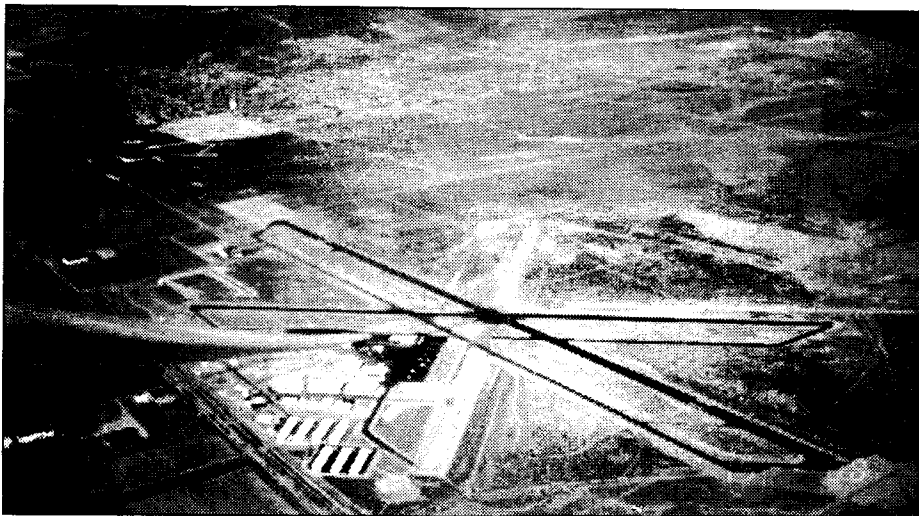
Over 500 copies of Pete Williams new reference book, *Self-Launch! Retractable Engine Sailplanes* have been distributed since its introduction early this year. Book reviews by AOPA Pilot, Aerokurier, Soaring Magazine and Air Line Pilot have resulted in increased interest by both sailplane and power pilots. Book vendors include SSA, Knauff and Grove, Zenith Books, Airworks of Tokyo and Hans Disma of Holland. This book is a single-source publication that covers in detail all 25 models of retractable engine sailplanes available today as well the developmental history of this type of sailplane including engines and retraction systems. It is available postpaid for \$30.95-U.S., \$33.95-Canada and \$39.95-Europe. Checks (U.S. Banks only), Money Order or bank funds transfer are accepted. Send order to For The Birds 1033 Dresslerville Rd., Gardnerville, NV 89410 USA Fax 702-265-6179

FOR SALE

NELSON HUMMINGBIRD
ONE-OF-A-KIND VINTAGE 2-PLACE
SELF-LAUNCHER. TED NELSON'S
PERSONAL AIRCRAFT. MANY
EXTRAS. \$30K TO QUALIFIED BUYER.
DETAILS
ON REQUEST.
BOB MOORE 509-967-3733

**PIK-20E MOTORGLIDER. FRESH
OVERHAUL. FULLY EQUIPPED. ONLY
\$45K.**
BOB MOORE 509-967-3733

**DG-500M FULLY LOADED IN
EXCELLENT CONDITION.**
400-TTAF/75-TTE. \$159,500.
DAN MATZKE
PHO/FAX: 805-270-0788. E-MAIL: Dan
Matzke@aol.com



Minden-Tahoe Airport News

Runway 30/12 was resurfaced during August by Granite Construction Co. This work placed heavier than usual traffic on runways 34/16 and resulted in challenging cross-wind conditions on several days. The taxiway was also resurfaced and considerable work done on the drainage contours adjacent to the new surfaces. 30/12 is the primary use runway for PM glider recoveries. The summer of 98 was a busy one with between 60 and 80 sailplanes active at the field. Hilton Cup winners spent a few days at M/T and were hosted by High Country Soaring which annually provides the Hilton Cup attendees with tow planes and sailplanes. Over 60% of all flight operations out of M/T are sailplanes. For more information call High Country Soaring at 702-782-4944 or Soar Minden at 702-782-7627.

Getting a Self-Launching Sailplane? Congratulations, but please fly safely!

by Bob Moore

I am an enthusiast for self launch! I bought one of the first PIK20E's to come into this country, and have now flown it for some 2500 hours (250 hours on the engine). Thanks to self launch independence from tow planes and tow pilots, I have been able to do a lot more soaring than I could have otherwise. And because of restart capability, I have been able to make almost every flight a cross country flight, knowing that I would get back and wouldn't put friends or family to a lot of inconvenience should I land out. All of this is great, but there are factors associated with a SLS that pilots should be aware of. One might think that with an engine, SLS's would be a lot safer than "pure" sailplanes, and that they would have a lower accident rate. It isn't so! Repair stations report that they have a lot of SLS's in their shops for major repair. I applaud your getting an SLS, but feel impelled to share with you a few of the things I think I have learned along the way.

Engine Failure: In the beginning, I vaguely assumed that engine-failure-on-take-off would be no more serious than a rope break when launching a conventional sailplane. I also assumed that it was unlikely to ever happen to me. I was very wrong on both counts! Engine failure on take off with an SLS is serious. There are several reasons it is more serious than a rope break: The motorglider is heavier than a conventional sailplane, more like a competition glider with a full load of water ballast. And, the extended engine and wind milling propeller cause tremendous drag. In the PIK, the glide ratio drops from a claimed 40 to only 14 - about like a primary glider, or an airplane. There is also fuel on board, which can burn. So, engine failure on takeoff deserves a lot of respect; it certainly gets a pilot's full attention when it happens! How likely is it to happen? I don't know, however I have had this experience five times in my PIK, and twice with the Hummingbird. Two-cycle engines seem inherently less reliable than four-cycle, and most probably don't get the routine maintenance as they deserve.

What to do if the engine fails on take off? At a motorglider safety session at an SSA Convention not long after I purchased my PIK, Captain Tug Willson (probably the World's most experienced motorglider pilot) gave us some emphatic directions. Tug said that we should immediately do a maneuver that could be described as the "last half of an outside loop", while simultaneously dropping the gear, extending the flaps, and opening the dive brakes. If there is any runway left, land on it! If not, take what is straight ahead. Don't try to turn back unless you are already plenty high. Tug's advice has saved me several times. After one such experience, I consulted a former military pilot friend. I had been sucking up the gear smartly right after lift off (just like the big boys), and throttle back to climb power shortly thereafter, and would simultaneously switch off the electric fuel pump - recommended in the flight manual to reduce fuel consumption (there is also a mechanical fuel pump). My friend said that an aircraft engine is most likely to fail when the pilot changes some setting. I now use maximum takeoff RPM till I near 1 000 feet AGL, and then turn the electric fuel pump OFF.

I also leave the gear down till then - one fewer thing to possibly forget if there is an emergency. I also learned, early in the game, that the plugs in a two-cycle engine can "load up" easily - the day I learned this I had to taxi a long way (because of an unusual wind direction at Ephrata) and then hold a long time for other traffic. As I crossed the end of the runway, the engine faltered. I got it going again (there was no place ahead to land). I replaced the plugs and the fuel filter, and cleaned the breaker points. I now install new plugs every 8 hours of engine time (plugs are cheap!).

How high is high enough? Remember that aircraft configured like the PIK, DG400, DG-500 and other retractable engine sailplanes. there is lots of drag if the engine quits and you will come down rather quickly. After shutting off your engine (at a safe height) and before retracting it, you may want to experiment to see how much altitude you would lose turning back to the field. Remember if you are operating from a runway rather than from a large grassy field - you need to allow for more than just a 180 degree turn, actually for 360 degrees of turning. 180 degrees will put you alongside and parallel to the runway, and another 90 degrees will put you perpendicular to it. You then have to roll out and turn another 90 degrees in the opposite direction to line up for a downwind to the runway, i.e. 360 degrees of total turning. How much altitude this will use up will depend on your aircraft, airspeed and the steepness of the bank. I breathe easier after I see some 600 feet "on the clock".

Cowardly Patterns: If there is a bit of cross wind, some recommend that you can allow it to drift you off to one side as you climb out. Only a 180 degree turn might then line you up for a downwind landing, i.e. half the amount of turning and half the altitude loss of crabbing to obstinately track straight out. Our Richland airport has two perpendicular runways. I take advantage of this fact with what I call my "cowardly pattern". Soon after crossing the end of the runway, I do a 90 degree climbing turn, say to the right. A couple hundred feet higher, I do another. This keeps me close to the airport (it has saved me twice). If all is going well, I continue climbing and wait till near pattern altitude before I depart for where I hope to find lift.

Restarts and Off-Field Landings : When I first got my PIK, I thought that 500 feet was high enough to do an engine restart. One day I tried a restart while on downwind at a small airport out in the Columbia Basin. The engine didn't start and resisted all efforts to get it going (I may have flooded it). By the time I turned final it was evident that I wouldn't make the runway. I landed hard in a plowed field, and tore off the gear doors. I was lucky that there wasn't more damage. (I immediately retracted the engine - so anyone glancing over from the airport wouldn't realize that it was a motorglider. That would have been too embarrassing!). After that incident, I raised my decision altitude to 1 000 feet AGL. Since then, most of us long-time SLS pilots have increased our engine-restart altitude to 2000 feet AGL. At that altitude, if the engine doesn't start at once (possibly cold soaked or battery low), one can dive to get the prop wind milling, and that may do the trick. If all fails, one has time - before getting down to 1 000 feet to retract the engine and clean the sailplane up for a normal landing including a careful inspection of the selected field, and a pattern that includes downwind, base, and final legs. See Page 7

Honing Your Landing Skills

This discussion is for the more experienced sailplane pilot and does not necessarily apply to the student pilot who are under instruction learning basic landing pattern techniques. See FAA Practical Test Standards for Glider Pilots. The purpose of this article is to bring to light a few key points that can improve the landing procedures and provide increased awareness of this most important part of each flight. To some pilots the techniques will be academic. To others it may illuminate an area that needs attention.

If you are not totally satisfied with your landing techniques (most pilots are not), there is a good possibility that your landing skills may need reviewing. Over time, all pilots develop a landing technique involving a sequence of events that eventually places the sailplane on the ground in a somewhat orderly fashion. In short, we all tend to get into a rut. Many of the procedures mentioned below have become second nature to the experienced sailplane pilot. However, a new event may alter the normal sequence of events and the landing has be salvaged. This salvaging usually takes place during final approach and touchdown and can result in an overshoot (past the centerline), undershoot (short of the centerline), too fast, too slow, too far out, too close in, too high, too low, a steep turn low to the ground or a troublesome combination of the foregoing. Once on final approach the landing is only a few seconds away and you are committed to the landing. If not at the proper airspeed, altitude and position there is a lot of work ahead in the next few seconds. Several factors are always present during any approach and landing. First and foremost, Wind Direction and Velocity (including gusts and direction changes) is the single most important factor that must be addressed during the landing pattern. Next in importance is Pattern Altitude, The Initial Turn, The Cross Leg, The Final Approach, Indicated Airspeeds, Wing Loading, Use of Flaps and Spoilers, Level Off, Touchdown, Rollout and Stop.

Wind Direction and Velocity: If over a landing field, look at the windsock, or wind T and if possible get a wind report. Look at other sailplanes in the landing pattern and note if any drift is present and how fast or slow they appear to be on final. Also note if they weathercock or veer into the wind after touchdown. If landing at a strange field or during an off field landing, it may not be possible to accurately determine the wind conditions on the ground. In this case observation of crops, blowing dust and trees should be made during a flyover of the intended landing spot. Note also the ground speed of your sailplane. Remember even a very mild tail wind can dramatically increase the amount of distance required for a safe landing. On a downwind landing there is a tendency to use a lot of spoiler or to raise the nose to slow down as the sailplane's ground speed is higher. This can result in a stall. Allow for a longer than normal final leg, pay close attention to the airspeed and be prepared to float and land long. Avoid a downwind landing if at all possible. Wind gusts of over 5 kts will affect the final approach and requires more airspeed to penetrate as well as control wing drops, yawing and longitudinal pitching. Be prepared to use large control deflections all the way to touchdown and rollout. During gusty conditions do not let the airspeed bleed off because as a gust comes and goes the airspeed will increase then decrease. A fluctuating airspeed is normal during gusty wind conditions close to the ground. Make sure you keep at least 5-10 kts above your selected final approach speed. Be prepared for wind shear close to ground.

Downwind Pattern Position and Altitude: Somewhere between 6-800' agl is an acceptable altitude depending on wind velocity. If you fly a relatively wide down wind leg the altitude should be higher. The downwind leg is the place to do three important things: 1- Fly at a constant airspeed and altitude. 2- Lower and check the landing gear down and locked. 3-Note the wind direction and velocity and adjust your heading to maintain a track parallel with the runway. You should determine at this time if there is a crosswind and make an estimate of wind velocity and the position you plan to start the Initial Turn toward the runway.

The Initial Turn : Prior to starting this turn, lower the landing flaps and check the airspeed. Start this turn using the end of the runway as a geographical reference. Some pilots fly past the end, others turn when the runway's end is 90 degrees to the left or right. The key to the correct place to begin the turn is dependent on the wind velocity and direction. If you anticipate a crosswind from your right and your initial turn is to the right, be prepared to fly a short cross leg as the wind will drift you past the runway centerline. If you anticipate a crosswind from your left, be prepared to fly a longer cross leg with a short turn to final. Look at the runway and select the place you desire to land. If the wind velocity is strong, begin the Initial Turn when the runway is 90 degrees to your line of flight. If the wind is light or conditions are calm, turn a little later. A 10 second delay of the the Initial Turn on a calm day at an IAS of 60kts can add as much as 1,500' to the down wind leg. With a 20mph wind, over 2000' can be added to the down wind leg. This can result a long Final Approach which is to be avoided. A Final Approach of about 1,500' short of the end of the runway will consume 15 seconds on a calm day (60kts airspeed) or about 20 seconds while penetrating a 20mph headwind. Keep in mind the ground speed of the sailplane is continually changing after beginning the Initial Turn. It is only on Final Approach that the ground speed begins to stabilize.

The Cross Leg: The whole point of the cross leg is to arrive at a safe altitude and airspeed for a comfortable turn onto Final Approach. Use the spoilers like a throttle to control altitude. If low close the spoilers, if high, open them.

The Final Approach: Some pilots fly a long, flat final approach. Others are fly a relatively high, short and steep final approach. If there is a cross wind and the runway centerline is crossed keep turning to return to just the past the centerline. Then roll the wings level and crab into the wind to keep the ground track on the centerline. If it takes time to arrive at the centerline, roll the wings level to fly an angling cross leg, After arriving at the centerline, turn and establish a crab into the wind to stay on the centerline track. Adjust spoilers as necessary to keep the sailplane descending toward the selected point on the runway. This is the point where you will begin levelling off and flare for a touchdown. If the selected point moves toward the nose of the sailplane, you are high and perhaps fast. If it moves away from your nose, you are getting low and possibly slow. Check the airspeed and use spoilers to control the descent rate.

Indicated Airspeeds, Wing Loading, Use of Flaps and Spoilers, Level Off, Touchdown, Rollout and Stop to be continued in the next issue. Please send any comments or suggestions to Pete Williams.

REFLECTIONS OF A SCUD PILOT

Ted Hull, a British sailplane pilot, made significant historical contributions to the book Self-Launch, Retractable Engine Sailplanes recently published by Pete Williams. Ted owns and flies a 1930s vintage Scud sailplane that once had a retractable engine. Called the Carden-Baynes Auxiliary, this Scud was fitted with a 9hp motorcycle engine and made the first successful self-launch in the summer of 1935. Below are excerpts of a letter Ted recently wrote to Pete, seasoned with typical British dry humor.

"I was delighted to receive a copy of your book from you this morning and could not wait to get down to reading it through. Many congratulations. The quality of the production is superb and I am sure you must be very pleased with the final result. Glad that the contribution about the Scud has found its place in the history section and I was most interested to read about the (German) Go4 motor glider, a new one to me.

Your book will be eagerly read by the two or three motor glider owners at Dunstable and I hope they will be encouraged enough to order from you - the least they could do. One, I know, will be disappointed that his Ka 16 is not featured but then, you can't please everyone, can you?

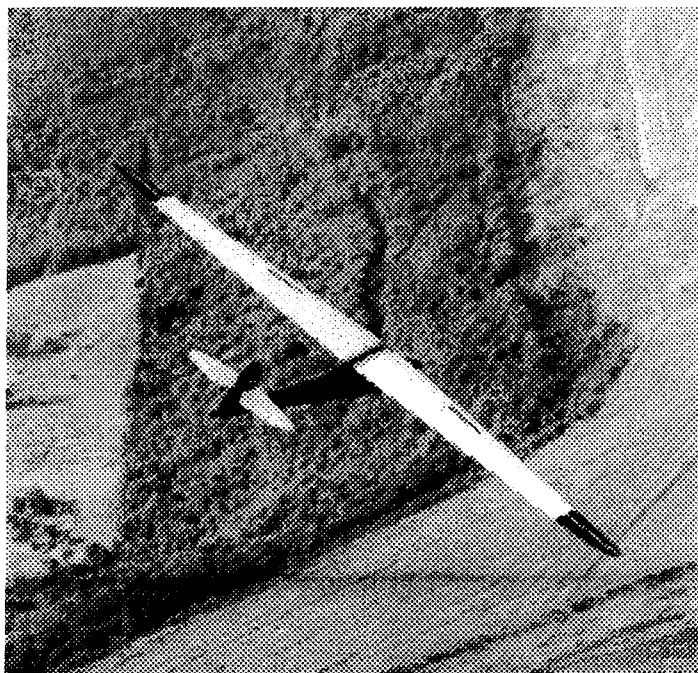
I managed a couple of Scud flights during February when we had a slot of fine weather and did manage to keep up for 35 minutes in some weak wave over our site. Since then the conditions have been pretty diabolical and there is no sign of improvement at present. We have our first vintage event scheduled for the first week in May which will also be a reunion for the surviving members of the Glider Pilot Regiment. We will keep our fingers crossed and hope the sun appears in time.

Many thanks for the picture of the Spitfire MKXVI. Us 'oldies' recognize the sound of a Merlin when they very occasionally fly over and this always produces a rush to the window. Alex Henshaw wrote his autobiography about production testing Spitfires during the war years and, so nostalgic was he about the sound, he entitled it 'Sigh for a Merlin'.

This year will see the completion of my first 40 years of gliding, knocking up about 1800 hours most of which has been pottering around the sky in vintage machines. I did get my 'gold' in wooden aircraft and then had five years of 'Tupperware' soaring in a Standard Cirrus and Kestrel 19. All very nice but I decided to sacrifice performance for interest and I must say that the variety of old machines I have had the opportunity to sample (76 up now) has always been a fascination. Well Pete, very many thanks once again for the book, I truly appreciate it and hope that it goes really well."

P.S. John Allison, who test flew the Spitfire, is now the owner of my Kirby Kite built in 1939. He is now an Air Chief Marshal and disgraced himself at the Duxford Air Show by inverting our one and only flying Me 109 on landing".

E.A. Hull
30 Bramley Close, Southgate,
London N14 4HJ, England
17 April 1998



Ted Hull over Dunstable in Scud III 19 October 1997

98 Swiss National Championships/Samedan

Entries: Standard Class-19; 15-Meter Class-14;
Open Class-18. Total-51. Top 5 in each class:

Standard Class

4481	Frey, T.	LS8
4480	Frey, D.	LS8
4210	Gaumann	Discus A
4171	Hahn, M.	LS8
3948	Schmid, D.	LS7WL

15-Meter Class

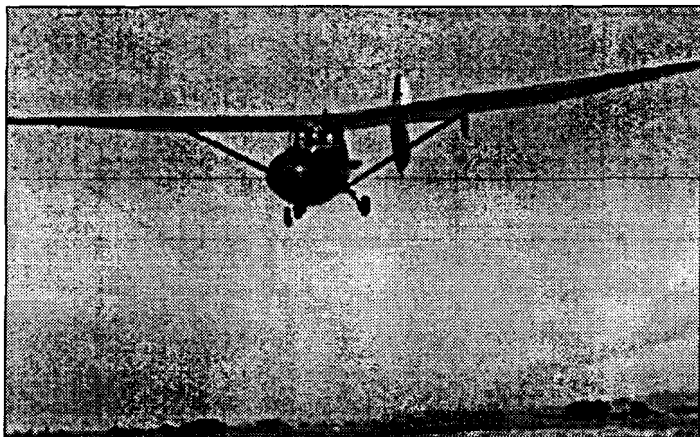
4794	Danz, W.	DG800S
4648	Rossier, G.	DG800S
4601	Jacobs, D.(USA)	LS6C/15
4460	Hostettler, C.	ASW27
4128	Hauser, F.	Ventus 2

Open Class

3784	Binder, H.	Nimbus3
3651	Tuth, D.	ASH25
3531	Schmid, R.	Nimbus3
3318	Keller, J.	LS6/W18
3089	Baumann, W.	ASH25

Via Wolfgang Wessing/DG

Motorglider Symposium
NSM, Elmira, NY, July 16, 1998
Impressions of Bob Moore



The one-day Symposium on Motorgliders & Self Launching Sailplanes was organized by Paul Schweizer and held on July 16 in the pleasant facilities of the National Soaring Museum, with the Museum staff playing key supporting roles. The Eastern Workshop of the Sailplane Homebuilders Association followed there on July 17/19. Many of the participants attended both.

Bill Gallagher, of the NSM staff, reviewed "Pre-1949 Motorgliding in the USA" and Jan Scott did the same for Europe. Dez George-Falvy (a Washington State transplanted Hungarian, Boeing retiree, and Vivat owner) reviewed "The Evolution of Motorgliders in Europe in the Post WWII Period". The slides that Dez created for his talk were of superlative quality and should have more than just one showing! The three talks impressed on us that self launch has a much longer history and is represented by many more aircraft than we might have suspected! These were followed by my illustrated lecture on the history of the development of the Nelson/Bowlus Dragonfly and the Nelson/Perl Hummingbird and my claim that the Hummingbird is the "First Modern Motorglider!". I couldn't resist mentioning that my ship, Ted Nelson's personal Hummingbird, is available for sale to some qualified lover of vintage aircraft. Ed Knight, whose Hummingbird NSM now has, and George Downsborough, who flew his across the USA, were scheduled to speak about their Hummingbird adventures, but both had to cancel for medical reasons.

Floyd Sweet talked about his experiences in a club that operated a two-place Scheibe Falke motorglider in the Washington, DC area. Among other things, Floyd used it effectively to establish rapport with officials in the FAA by taking them for rides and letting them experience motorgliding at first hand. Brian Uttley told the attendees about ASA's origin, mission, and the importance of having an organization to represent our interests before the regulators. Next, Les Schweizer (one of the young second generation of Schweizers who are now running Schweizer Aircraft) described the SGM-2-37 motorglider that was developed for the Air Force

Academy flight training program. Its use there has proven highly successful and students have been trained to fly more quickly than with "pure" gliders, and the graduation rates and subsequent service retention rates of cadets who have taken glider training have proven significantly higher than for those who didn't. The SGM-2-37 has been further developed into an ongoing series of specialized, highly instrumented, successful surveillance aircraft, which were first used in Viet Nam and later for border patrol, interception of drug smugglers, environmental polluters, etc. (i.e. catching the "Bad Guys"). These aircraft can pass overhead at night at 300 feet and not be noticed. They are no longer sailplanes (one model even has twin engines), but they are an outgrowth of soaring. (Schweizer no longer makes sailplanes).

Subsequently, Dick Harrington talked about his thoughts on Electric Propulsion & Solar Sustainers and exhibited a radio-controlled model he has built (currently powered with a gasoline model airplane engine). Bruce Carmichael who has played such a long and authoritative role in sailplane design and aerodynamics reviewed what various experimenters have done to try to achieve light and ultralight selflaunching sailplanes. It is a noble goal, but so far no one has successfully pulled it off. As with the Motorglider Symposium, the Eastern SHA Workshop was attended by only approximately 40 people. In contrast to the Western Workshops at Tehachapi, CA, only one aircraft was exhibited, a recently completed American Spirit. I presented my informal talk about "Self-Launch Safety" emphasizing the complexity of motorequipped sailplanes, the dangers associated with engine failure (particularly on takeoff), the need for a careful check out when transitioning from "pure" sailplanes, the mandatory use of check lists, restart decision altitudes, etc. All of these things are set out in more detail in Pete William's great book, *Self Launch!*, and in a pamphlet Eric Greenwell has published. I attended only the Friday SHA sessions, and their Saturday evening banquet. The scheduled banquet speaker failed to appear, so Jim Marske, of flying wing fame, ad-libbed and gave us an interesting update on the Genesis standard-class sailplane. Teething problems and production problems have been solved and these interesting American-designed gliders are beginning to roll off the production line and enter the country. Several are expected to compete in this year's Standard Class Nationals. Elmira hosts a new museum, which had just opened, the National Warplane Museum. It is located on the Chemung County Airport, on the opposite side from the Schweizer Soaring School (which is still in regular operation). The Warplane Museum is housed in some impressive buildings that were built for it by the county and contains some interesting aircraft. Anyone visiting NSM should also go down the hill and visit this complimentary museum. RLM

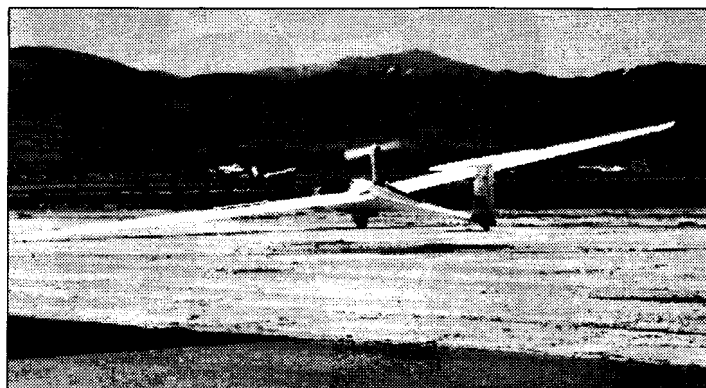
Continued from Page 3: Those of us who have been flying self-launching sailplanes for a while operate them exactly as we would a pure sailplane, i.e. make sure that we always have a good landing place within range, don't fly across unlandable terrain without plenty of altitude! Before doing a restart, I like to have the selected field (preferably an airport) directly underneath.

Check Out: If you are an experienced power pilot with lots of time in complex aircraft, you should have no difficulty checking out in an SLS. If you are a high-time Diamond Badge soaring pilot, and have studied the operating manual carefully (everyone should study and restudy the manual for any aircraft they fly!), you should have no problem. But if you are a low-time glider pilot and transitioning from a training glider, a 1-26, or a simple Standard Class sailplane to an SLS, you should proceed with caution. First, study the flight manual very carefully and listen to experienced SLS pilots. Besides the engine - with its extension and retraction procedures, the aircraft will probably have retractable gear and flaps. Also, lots of switches, levers, cranks, controls and gauges associated with engine operation. One should get some cockpit time on the ground. (An airline captain friend said that when he transitioned from a 1-26 to a big open class sailplane, he put the fuselage into his garage and would sit in it for hours - till he could instantly touch any control or switch, with his eyes closed. Good advice!). I would strongly recommend next taking several high aero tows to check out the stall characteristics, get the "feel" of the sailplane, and to become familiar with the operation of the flaps and dive brakes, all without the distraction of dealing with the engine. Next, do some taxi tests somewhere where there is a big paved ramp. You may find that your SLS doesn't have as positive control on the ground as do most airplanes, and that it can be turned more easily in one direction than the other. On narrow taxi strips, you will have to taxi with the main wheel close to the side of the pavement and the wing-tip wheel close to the other. I taxi slowly and with one hand always on the brake, so I can stop quickly if things get out of hand - or a wind gust tips the aircraft over onto the other wing. (One doesn't want to hit a runway light or taxi way marker!). Now, you should be ready to do some takeoffs under power, and to try air restarts (at a safe altitude).

Check Lists: When I was flying a simple sailplane, I didn't always use a written check list. With the PIK20E, I always use one. The Flight Manual for the PIK has pages of things one should check. I have boiled this down to a personal 14-item START AND TAKEOFF PROCEDURE, plus a 4-item ENGINE RETRACT PROCEDURE, a 7-item ENGINE RESTART, a 5-item LANDING PROCEDURE, and finally a 5-item SHUT DOWN PROCEDURE. I have typed all of this onto two sides of a 6"x8" card (protected with transparent shelf paper). I carry it in the map pocket and consult it frequently. Sometimes as a test I will run through the preflight check before looking at the printed list; it is surprising how often I find that I have overlooked something! A local pilot I know with lots of time in a standard class sailplane bought an SLS. Within a month, he had severely damaged it. He got low on a cross country flight, waited too long to try a restart, and landed very hard in a plowed field, apparently without sizing up the field or flying a pattern.

The aircraft was extensively damaged, and he was transported to a hospital complaining of back pains. The ignition switch was found to be in the OFF position. The several lessons are obvious. Another local pilot, this one a highly-experienced former National Soaring Champion, had also bought a self-launcher. Soon thereafter, the engine wouldn't retract. He was able to return safely to the airport and land with the engine extended. The cover on a crucial switch was found not fully closed, preventing its operation. Any of the other retractable-engine sailplanes could experience similar problems - if the pilot fails to follow the procedures specific to their particular sailplane. After my one (and only) gear-up landing, I discovered that the little battery that powers the gear warning system was dead. It is easily checked prior to flight, and doing so is now on my preflight checklist (as is a check of the engine door warning horn)!

Other Considerations: The newer ships such as the ASH-26E, Nimbus 4DM, Ventus 2cM, LS-9 and DG-800B which extend only the propeller into the air stream, also suffer a degradation of glide angle should the engine fail. And the superb Stemme is in a class of its own. Still, none of these are forgiving training gliders and all need to be flown with care, and engine failure is a serious crisis. There are a few other things with which a new SLS pilot should be familiar. One is how to handle a cross-wind takeoff, or indeed whether to attempt one. Tail dragger SLS's, such as the PIK, depend on a tail wheel for steering during the start of the takeoff run. Unfortunately, the forward tipping moment of the high-mounted engine removes most or all of the weight from the tail as soon as one opens the throttle fully and starts down the runway. Before reaching flying speed, a gust from the side may cause the aircraft to weather cock right off the runway! Various pilots have devised their own ways to try to handle this problem, such as starting from the down-wind side of a wide runway, advancing the throttle slowly, keeping the appropriate wing down, etc. - or simply not flying if the cross wind exceeds a critical value. It may also be prudent to swallow one's pride and take an aero tow; the pull of the tow line tends to keep the glider going straight. If pure sailplanes are not having a problem launching in a cross wind, you shouldn't either - if you take a tow. A word also about engine maintenance. Unless you have these skills yourself, this can be a problem. Many A&P's are not familiar with the kind of engines that are used in most of today's SLS's, and really don't want to touch them. Your best bet may be to try to find a young A&P who came up through Hang Gliding and the Ultra Light movement. Members of your local EAA chapter may also be a lot of help. Good luck! **Robert Lee Moore**



Jerzy Plaszwieki taxis his ASH-26E for self-launch at Minden-Tahoe Airport.
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