

Towline

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Newsletter of the Seattle Glider Council

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Cover: Bob Moore's own Vintage Sailplane Trading card.

Out on Task

Welcome to "The Motorglider Issue!"

First out...Congratulations go out to Eric Greenwell who almost captured the National Motorglider crown this year in Hobbs, N.M. As you will see by the standings, he lost by a very slim margin. He was in the lead for most of the contest, only to be edged out on the final day. I hope that Eric will set himself in front of his keyboard to give us an insight on the contest. In this issue, Eric gives us some thoughts on what it is really like to take on the responsibility of being the glider pilot and the tow-pilot at the same time.

Bob Moore writes the third in a series of articles recapping the repair and return to service of his Nelson Hummingbird. As you will read...nothing has come easy in this adventure. Bob also brings us up on the ever increasing fleet of motorgliders in the area.

National & Regional Contests

What would we do without a summer full of contests? Well, the locals that usually fly in Region 8 had to sit on their hands this year, as it was cancelled due to lack of entrants. Many of our members from the US and Canada did manage to find their way to some of the National and Regional contests though.

Eric Greenwell, as mentioned, made a strong showing at the Motorglider Nationals in Hobbs.

Nelson Funston also flexed his big wings in the Open Class Nationals which was also in Hobbs. Nelson placed 11th behind a very experienced group of familiar names among the national contest circle. Also, in the Region 11 contest at Minden, Nelson pulled in a 3rd place finish.

Steve Northcraft represented the Northwest in the Standard Class Nationals at Moriarty, N.M. The contest was a very wet and trying contest for all with many days cancelled due to the nasty weather. Steve placed 20th in his LS-4 among the many ASW-24 and Discus pilots.

The SGC was well represented in the Canadian Nationals by four of our Canadian members. Helmut Gebenus placed 5th and Nick Pfeiffer came in 9th in the 15 Meter class. Mike Thompson placed 5th and Dennis Vreeken turned in a 7th place effort in the Sports Class. Norman Ellison (who was crewing for Helmut) reported that the weather was just terrible and depressing. Nick said every day started with reassembly of your glider after the previous day of landing out. He said the usual day found him skimming across the terrain at 1000 to 2000 ft. AGL just praying that he would bump into a thermal!

Weather seemed to be very sub-standard this year at most Regional and National contest sites this year. We can only hope for better action next year...(and maybe enough contestants to hold a Region 8 Championship!)

Vince

It's Time to Pass the Torch

Twelve years ago, the first time I ever saw a computer, I was watching Mike Mulcahy score the 1984 Nationals at Ephrata. One of my jobs at that contest—(my first contest as well), was to record the launch times and hand the forms to the scorer. Hence my chance to watch the mysterious happenings on the monitor screen and marvel as it was translated into print.

Several months later a letter arrived in the mail from Paul Cordell informing me that Mike wanted to fly in the next contest and since I had shown so much interest in contest scoring I had been chosen to score the upcoming regional contest. Mike, I was assured, was writing a scoring program and would teach me all I needed to know.

Practice day dawned and Mike patiently and carefully explained all I needed to know while I took pages of compulsive notes. I was tense but Mike made it sound simple and seemed to think I could do it. Mike went off to fly and when I started experimenting my anxiety really kicked in. Somehow, my notes didn't include solutions for the things that seemed to be happening. I suppose the most foolproof program can be defeated by nervous fingers hitting the wrong keys and creating glitches no programmer thinks of. Every day of the contest I would do something wrong, unrecognizable things would appear on the screen and the entire scoring process would be halted. Poor Mike would come down from a long, tiring competition flight to hear me yelling for help so I could finish the scoring.

How we both survived that first year I don't know but the intervening months must have eradicated something from our memories. We went through pretty much the same scene at the next two regional contests. The scoring was always modified and I had no access to a computer in the interim so I had to start learning all over again each year.

Finally, Dusty decided that if I was going to keep on doing this I might as well have my own computer. Mike help me pick out equipment; loaded me down with several fat books on Lotus 123, Microsoft Word and DOS; and gave me a copy of his Soar Score spreadsheets. My job was now to learn computer basics, to modify the spreadsheets for the next contest and make a new spreadsheet for the Sport Class which I had previously scored by hand. I spent several hours a day over the next nine or ten months learning Lotus 123 by taking apart pages and pages of macros and formulas that Mike had written and somehow managing to update the program. By the next contest Mike was finally able to fly without too much interference

from me.

For the next eight years I went through the frustrating experience of receiving the new scoring rules only about a month before the contest and then having to spend an inordinate amount of time modifying and testing the spreadsheets, often with Mike's help, until they would produce what the rules called for no matter how convoluted. Many of the changes—and there were *always* changes, required formulas so long and complicated they wouldn't fit in one cell. Even minor changes required a lot of work searching out how that change effected everything else in the spreadsheet. While I always enjoyed scoring the contests, I came to dread the weeks preceding them trying to get the program ready.

This year, as usual, about three weeks before the contest was scheduled to begin I received a copy of the new rules. One very quick look at the changes and I decided to revolt. To get the new "windcapping" formulas into the scoring program (along with other minor changes) would take more time and effort than I could give to it and I wasn't at all sure that Lotus 123 could handle it either. I must admit that I hoped the contest would have to be canceled and felt considerable relief when it was.

Scoring should not be so difficult, but if constant tinkering with the formulas and rules is a good thing, then I believe SSA should be responsible for developing, upgrading and testing one standardized program that is included in the contest manager's packet for a sanctioned contest.

Obviously I am burnt out and the time has come for me to resign. This is a good opportunity for someone else to take a fresh look at the scoring rules, find an application or language that can handle it and come up with a new scoring program. The alternative is for someone who knows Lotus 123 (version 2.1) or who wants to learn it, to take our present Soar Score program and update it. In either case I will be as helpful as I can, but really and truly, I have scored my last contest. It is someone else's turn.

My thanks to Mike for getting me started and to all of you kids and adults who have helped out in the scoring room over the years. Thanks as well, to all those contestants and contest officials who took the time to let me know you appreciated my efforts. It's been a great experience but it's time to pass the torch.

Pat Dunston

Contest Results

National

Standard Class Nationals

Moriarty, N.M. - July 2-11

1. Striedieck	ASW-24	4322
2. Garner	Discus	4070
3. Beltz	Discus	3963
4. Walker	Discus	3960
5. Jurado	Discus	3894
6. Cundiff	Discus	3891
7. Fletcher	ASW-24	3824
8. Opitz	ASW-24	3681
9. Payne	Discus	3622
10. Walters	Discus	3613
20. Northcraft	LS-4	3041

Motorglider Nationals

Hobbs N.M. - July 18-27

1. Howell	Ventus BT	5200
2. Greenwell	ASH26E	5182
3. Pollard	ASH26E	4782
4. Nelson	Ventus CM	4769
5. Estrada	ASH26E	4718
6. Aitken	DG400	4515
7. Dyer-Bennet	DG500M	4507
8. Mockler	Ventus CT	4385
9. Volkman	DG800M	4380
10. Perkins	Ventus CM	4243

Open Class Nationals

Hobbs, N.M. - June 18-27

1. Tabery	Nimbus 3	5626
2. Gimney	Nimbus 3	5341
3. Griffith/Stab	ASH25	5333
4. Mozer	ASH25	5303
5. Weissenbuehle	ASH25	5235
6. Bush	Nimbus 3	5230
7. Huffstutler	ASH25	5145
8. Leffler	Nimbus 4	5117
9. Ittner	Ventus C17	5043
10. Payne	ASH25E	4974
11. Funston	Nimbus 3	4826

Sports Class Nationals

Hobbs, N.M. - June 18-27

1. Jurado	Ventus C	6122
2. Ekdahl	Ventus B	6020
3. Franke	Ventus A	5918
4. Johnson	Ventus A	5600
5. Barber	Mosquito	5520
6. Franke	LS-3a	5507
7. Feager	ASW-20	5503
8. Martin	ASW-20	5279
9. Leonard	ASW-20	5191
10. Hollenberg	Ventus B	4932

15 Meter Nationals

Reedsville, PA - May 14-23

1. Striedieck	ASW-27	5196
2. Seymour	ASW-27	4903
3. Bartell	Ventus 2A	4886
4. Cundiff	Ventus CAX	4583
5. Ittner	Ventus C	4499
6. Nixon	ASW-20C	4413
7. Mozer	ASW-27	4340
8. Gaisford	Discus	4300
9. Walker	Discus	4220
10. Welles	Ventus V2B	4169

1-26 Championships

Iona, Michigan - June 26-July 3

1. Pat Tuckey
2. Bob Gravance
3. Ron Schwartz
4. Bill Vickland
5. Bob Hurni
6. Dan Mockler
7. Joe Walter
8. Mark Keene
9. Ron Almquist
10. Kevin Ford

International

Canadian Nationals

Red Deer, Alberta - June 25 - July 4

Standard Class

1. Stieber	LS-4	4497
2. Hollestelle	SZD-55	4203
3. Carpenter	Discus	4034
4. Kirby	Std. Jantar	2928
5. Longhurst	SZD-55	2457

15 Meter Class

1. Bonniere	ASW-20	4532
2. Weir	ASW-20B	4526
3. Teunisse	Ventus BT	4476
4. Krueger	LS-6B	4202
5. Gebenus	ASW-20CL	3958
9. Pfeiffer	PIK-20B	1839

Sports Class

1. Gatkiewics	Twin Astir	4250
2. Coates/Crutcher	Ventus B	3472
3. Burton	RS-15	3337
4. Hay/Ince	Mini Nimbus	3173
5. Thompson	HP-14	3111
7. Vreeken	Mosquito	2800

European Gliding Championships

Rayskala, Finland

Standard Class

1. Ziegler	GER	LS-8
2. Aboulin	FRA	LS-8
3. Briigliadori	ITA	LS-8
4. Weiss	GER	LS-8
5. Schramme	GER	Discus

15 Meter Class

1. Grund	GER	Ventus
2. Dederá	CZE	Ventus
3. Hoyeau	FRA	Ventus
4. Theisinger	GER	ASW-27
5. Bernard	FRA	Ventus

Open Class

1. Centka	POL	ASW-22BL
2. Back	GER	Nimbus 3
3. Anderson	DEN	Nimbus 4T
4. Wujczak	POL	ASH-25
5. Hansen	DEN	Nimbus 3



Motorgliders = Opportu

by Eric Greenwell

(The following applies primarily to high performance, self-launching sailplanes, not the more airplane-like Grob 109, Taifun, etc., that have much different characteristics)

The motor that gives the motorglider its opportunities also exacts additional responsibilities. The towpilot is no longer responsible for the safe operation of the launch vehicle: you, the motorglider pilot, is now responsible.

These extras include the: -maintenance of the engine and its systems -preflight of the engine and extension mechanism -fuel and oil -ground operation (starting and taxiing) -entire launch operation -converting back to a glider

Maintenance: Like most airplanes, there is more maintenance involved with the motor than the rest of the aircraft; further, the vibration, heat, fuel and oil tend to increase the maintenance of the glider itself. Because your safety during the launch depends even more on your motor than it did on the towplane's motor, it is wise to tend to it's needs carefully.

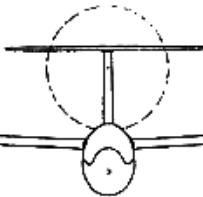
Preflight: It takes me at least three times as long to preflight my ASH26E motor glider as it did to preflight my ASW20; 4 times if I have to add fuel or oil. Ironically, the "glider part" of the preflight is actually easier, because all the controls hook up automatically, including the water system.

taxiway, it means your wing tip is now in the dirt (or weeds or lights or...) and may stop suddenly, swerving the glider off the taxiway.

All these things make careful planning necessary when you make your choice of runway, taxiway, and the route to them. Rarely can you just jump in and go! In addition to the wide track of the glider, it's steering isn't even as precise as an airplane's. For example, turning towards the down tip means you are on the outside of a big circle, so you must not cut the corner, unless you enjoy colliding with lights! Turning towards the up wing is easier, as the tailwheel castor is in your favor. Because there is no differential braking like airplanes, you are totally dependent on the tailwheel. Particularly in the wind, you must remember, "Authority is limited".

Launch operation: Once you have safely arrived at the runway, you must do your normal glider checks (except for hooking up the towrope), PLUS the power checks (fuel, temperature, ignition, electrical). Finally ready to enter the runway? Better check it for traffic and announce your departure, both things the towpilot normally does.

Some things are easier: the steerable tail wheel makes a wing down launch, even in a cross-wind, easier than a calm wind takeoff with a towed glider; also, no towplane wake to mess things up. It's a



Fuel and oil: You must use the proper types of each fluid, ensure there is enough to safely launch, and test for water.

Ground operation: To begin the flight, you must start the motor. Even though the propeller is shielded from people to a great extent by the wings and fuselage, you must still assure yourself no one is nearby and that your propeller wake will not tip another glider, slam a canopy shut, or kick up dust. Once started, you should move away from the crowd to reduce the aggravation of the noise and wind.

Pushing a glider out to the launch is easy because you are moving slowly and can see all around you; often, you have help and another pair of eyes. None of this is true for the self-launching glider. Additionally, the glider is much wider than a towplane, both in wingspan and track. Because you taxi with the wingtip on the ground the "track" is about 25 feet for a 15M ship, 30 feet for my 18M glider. You must stay close to the edge of a taxiway to keep the wing tip on the pavement.

Another complication is the possibility of the glider switching wingtips due to a gust of wind or propeller blast from an airplane. If it does this on a typical 40' wide

help during the landing and rollout, too.

During the first 500' of the climb, you have a higher risk than a glider pilot being towed, though still not as much as a towpilot normally assumes (think about that...buy your towpilot a beer next chance you get!). The main reason for this increased risk is the much higher sink rate of the motor glider with its propeller extended. For a PIK-20E, the glide ratio becomes 15:1 (from 40:1), for my ASH26E, about 20:1 (from 50:1). If there is a power failure, this does make landing ahead a little easier, but means a turn back to the runway must be started at a higher altitude than a towed glider.

As the "towpilot" it is your job to steer the aircraft and avoid flying into other aircraft, sky diver drop zones, noise avoidance areas, and so on. You can't just follow the towplane as you used to!

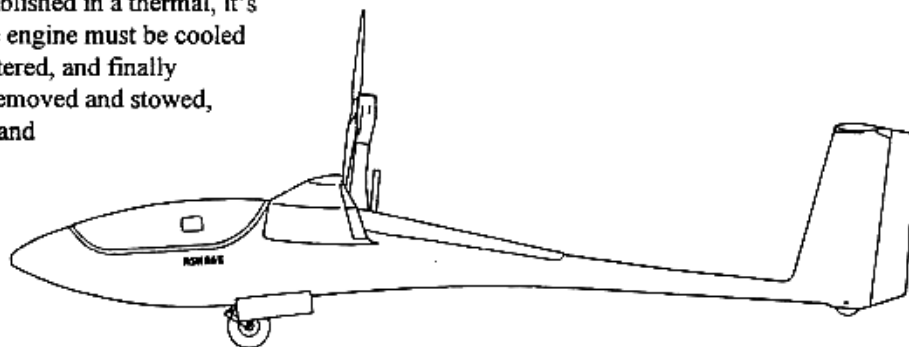
Locating lift under power is more difficult than under tow. The propeller wake disturbs the vario on many motorgliders, the audio is difficult to hear with headset on and the engine noise, the vibration seems to hinder the feel of a thermal, and you don't have the lift and sink cues the motion of the towplane provides. Also, the nose up attitude in climb seems

Unity + Responsibility

to reduce the horizon cues.

Converting to a glider: Once established in a thermal, it's time to re-configure as a glider. The engine must be cooled at reduced power, stopped, prop centered, and finally retracted. Then the headset can be removed and stowed, audio volume reduced, fuel shut off and engine master switch turned off, and (optional) a sigh of relief breathed. It's a very busy couple of minutes best spent well away from other gliders, so don't join a motorglider in its thermal until the "hummer" has disappeared into the fuselage!

Restarting the engine in flight has its special concerns, too. Safe flying means you cannot assume the engine will start and let you climb away. Besides a failure to start, it might not retract after use, leaving you with half your normal glider ratio. It is not just the mechanical problems that must be considered, but also the possibility of pilot error; furthermore, the sink, terrain, density altitude and other factors may be more than even a properly running engine can overcome. You must be prepared to landout, as tempting as it is to



believe your engine will once more hoist you into the sky.

This means the usual drill: selecting a field, entering downwind, completing all checks and lowering the gear. Only then should you attempt to extract and start the motor. If it runs, fine, otherwise you must continue the landing to your selected field.

A glider pilot who is also a current power pilot won't be so intimidated by all this, but other glider pilots should reflect on it carefully before they decide a motorglider is an unmitigated delight.

Motorglider Ramblings

by Bob Moore

The NW motorglider fleet continues to grow - percentage wise at least! Though still outnumbered by the "purist", more of them continue to join us. Dr. Bing Manawadu's beautiful Super Ximango arrived in Richland on July 19 - flown up from Florida in just four days by Bing and Oregon's soaring veteran Jim Anderson. (The Ximango outperforms a Cessna 150 when operated as an airplane and soars as well, or better than, a Blanik with prop feathered). Bing plans to build a hangar at the Richland airport to house his motorglider and his Sundowner airplane.

Meanwhile, Fruitland, Idaho's Dick Strawn has purchased an immaculate Scheibe SF-27M and expects to have it licensed and in the air by late August. The beautiful SF-27M single-place self-launching sailplane first appeared in 1967. The 26hp Hirth engine retracts into the fuselage (much like the PIK-20E and the DG-400). It features a fabric-covered steel-tubing fuselage and 15-meter wood and fabric wings. It boasts a very respectable 32:1 glide ratio.

Seattle's Dez George Falve has purchased a two-place, side-by-side Vivat motorglider ("son of Blanik") and is using this efficient aircraft for cross-country travel (under

power) as well as for soaring. He bases it at Wenatchee and plans to build a hangar there for it.

Kennewick's Art Napier has purchased an almost-completed HP-18 and plans to add a 24hp three-cylinder Koenig rotary engine to convert it to a self-launcher. Glen Reibolt has similar plans to convert a just acquired Laister LP-49.

Word from John Day, Oregon is that Eva Harris has completed a hangar to house her beautiful yellow Scout airplane, and that Lee has moved one of his motorgliders into Eva's hangar! (Lee has two motorgliders - a single-place PIK-20E and a two-place Scheibe Tandem Falke SF-28A). Eva is very good to Lee.

In Richland, the vintage Nelson/Perl Hummingbird has taken back to the air with its new engine! And, Rudy Allemann (DG-400), Eric Greenwell (ASH-26E) and Bob Moore (PIK-20E) have had a great soaring spring and summer (and Eric very, very nearly won the Motorglider Nationals at Hobbs, NM - a story which Eric will hopefully tell). Meanwhile, the Richland "purists" have had a lousy year; they have been grounded by towplane problems most of the season. Moral: **Get a Motorglider!** Even better. Get two!

The Hummingbird Hums (?) Again!!

by Robert Lee Moore

This is the third of a trilogy about my experiences with the famous Nelson Hummingbird. First was *"The First Modern Motorglider"* (*Soaring Magazine*, December, 1995). It told about the history of the development of this revolutionary aircraft, and of my purchase of Ted Nelson's personal Hummingbird - the last one flying. The second of the series, *"Things What I Learned (?) Building a Hangar"*, recounted the frustrations, delays and budget overruns in building a hangar to house my acquisition. This will tell about finally flying the Bird, things I learned, and how the soaring art has changed in forty-odd years.

To recapitulate, my friend Ken Rinear and I brought the Hummingbird home from Nevada in late 1994. It reposed - on its trailer - in my rented hangar for several months while the PIK20E occupied my basement garage workshop undergoing a major engine overhaul. During this time, we also embarked on the design and construction of a hangar to hold the Hummingbird - whose wing span would not fit into any of the rental hangars on the airport. I thought that a hangar could be built for an affordable price, and be ready by the start of the '95 spring soaring season.

How naive! The hangar was not completed till fall, and then at nearly twice the expected cost. Eventually the PIK was out of the basement, and "the Bird" (Ted's way of referring to his Hummingbird) moved in. A thorough cleaning was in order - during which we inspected every square inch. Although it had logged almost 2000 flying hours, there were no "dings", or evidence of repairs anywhere. Ted was obviously an excellent pilot; I hope I can treat it equally well! Besides a general cleaning and inspection (aided by A & P friend Eddie Burnet), we removed and cleaned the gas tank (which didn't seem dirty) and flushed the fuel line, replaced some leaky hydraulic lines, and Ken went over the engine carefully.

In September, the hangar was finally completed and we moved in and assembled the Bird for the first time. Eddie inspected it again, and relicensed it. We also borrowed a set of calibrated electronic scales that are used to weigh race cars and did a weight and balance. That may have been a mistake. The aircraft had gained over sixty pounds since it

was built, and the center-of-gravity had moved forward - not unlike some of us middle-aged to elderly people! This presented a problem - with most any passenger we would be way ahead of the maximum-allowed forward C.G., and with many we would also exceed the maximum-allowed gross weight. What to do? The log book contained a meticulous record of flying time and engine time, but no hint of why all this weight gain, nor any indication of the avoirdupois of previous passengers. (I know that Ted had given rides to some real heavies - such as my late friend Al Withrow). We removed a lot of equipment (including two large, high-pressure oxygen tanks) and did another weight-and balance. We also found an apparent error of several inches in the flight manual's position of the main wheel - one of the weighing points. All of this helped, but we would still have to be careful not to exceed maximum gross. (I told Ken, who weighed 220#, that he would have to lose thirty pounds by spring!)

In late October, we pushed the Bird out of the hangar and tried the engine. Over fifteen years since it was last fired up, it started in-

stantly and went right up to power! I was happy, and was ready to put it back in the hangar, but Ken suggested - with a note of impatience - that I do at least some taxi tests. I begged off till after lunch (I prefer to die on a full stomach). Since the NASA test pilots always wear crash helmets, I returned with mine (actually a bicycle helmet) only to find that the headphones wouldn't fit. So, I had to leave the helmet behind, and look unprofessional. It was a clear, calm, stable "Indian Summer" day, and everyone in Richland who owned an airplane seemed to be out flying. Also, the parachute jumpers were out in

force, and jumping over the airport every fifteen minutes. I was not eager for all this crowd to witness my attempts to fly the Hummingbird for the first time, but there was no avoiding it - not without Ken's scorn. The traffic was using the N/S runway, which left the E/W for me.

I taxied around for a bit. With its steerable nose wheel, it handled much better than the tail-dragger PIK 20E, and confidence built up. Finally, I announced a high speed taxi test. At 50 mph it felt right, so we lifted off and climbed out. All seemed to be going fine, in fact extremely fine - an incredible rate of climb, vario even pegged at times! But, at about 300 feet, the engine missed a few times, and I thought Oh, Oh! I remembered that Harry Perl's Hummingbird crashed, late in Harry's life, due to fuel starvation shortly after lift off - too low to turn back and with nowhere to go.



Harry and his wife survived the crash, but the motor glider was destroyed. But my engine then settled down (maybe a bit of dirt flushed from the line?) and we continued to climb. We climbed clear up to 5000 feet AGL, stowed the engine (one simply flips a switch and the engine doors open, the engine vanishes, and the doors close automatically, without any attention from the pilot - unlike the PIK where one has to operate a lever, turn a crank and look in a mirror, all the time flying the aircraft and watching for traffic!). A series of tests followed. Stall speed was about 43 mph and there was positive stall warning - but it would drop a wing and spin, if one persisted. Rate of roll (6 seconds) was satisfactory, though not as crisp as I am accustomed to with the shorter-span 15-meter PIK. But the incredible rate of climb had changed to a shockingly high rate of sink! (Much later, on the ground, I learned that a switch on the early Cambridge electric variometer was on the (unmarked) sensitive 2X position rather than the 1X - full scale was really only 500 fpm rather than 1000 fpm). Down to pattern altitude, we hit a thermal - on a day when none was expected - and climbed back almost to "release" altitude. We did this twice. It thermalled nicely, but a strange thing was noted: The angle-of-bank would increase to 70 degrees or more when I wasn't looking. This puzzled me, till I realized something I had forgotten, namely that these 50's-era gliders require a lot of top aileron and inside rudder - a "sailplane" characteristic that has been largely designed out of today's beautifully coordinated birds. After two hours, I came in to land - fortuitously and uncharacteristically making a smooth landing; particularly gratifying since many eyes were watching! The tiny dive brakes did prove ineffective and I was high on final, and had to S-turn to get down. (Harry stated a few years ago that if he were designing the Hummingbird again, he wouldn't change anything - except to make the dive brakes bigger). I made several more solo flights before winter set in. On one - a marginal soaring day - Rudy Allemann was up in his beautiful DG-400. We flew together, and Rudy took some pictures, but it was evident that The Bird, with its 25:1 glide angle, is no match for the DG-400. Summing up, flying the Hummingbird, after admiring the design for all these years, might be compared to going to bed - late in life - with some beauty whom one had admired from a distance while in high school or college (hypothetical comparison)! Many of us have fond memories of the gliders we flew in the early post-war years (prior to the fiberglass revolution) but memory may be playing tricks on us. Walt Cannon recently restored the Schweizer 1-21 ("The Wonderful Schweizer 1-21", p. 187 to 194 in my book, *As I Knew*

Him). I remember the 1-21 as the sweetest of gliders, but Walt's wife says that Walt reports that he finds that "it flies like a truck"! Jan Scott owns and flies a beautifully restored Minimoa (Wolf Hirth's personal ship), and reports that its handling characteristics also leave a great deal to be desired. However, though the Hummingbird can no longer claim to be the World's finest motorglider, there is a distinction it can still claim: it is surely the noisiest! It has no muffler, and each of the four cylinders of its two-cycle engine is separated from the environment only by 2-inch-long exhaust stacks. It makes a heck of a racket.

Winter soon set in - an unusually cold winter. The Flood of '96 followed. Then more winter. Finally spring arrived and it was time to try flying the Hummingbird (cautiously) with two people. Because of the gross weight problem, and some lingering concerns about the center-of-gravity, it seemed prudent to start with a lightweight passenger. An ideal candidate was available, "young" Johnny Smith. Johnny, a flyer himself and past president of our EAA chapter, is the son of Captain B.B. Smith, who established and commanded the Naval Air Training Station at Pasco during WW II. Captain Smith was also the designer of the prewar Student Prince sport biplane, at least one of which is still flying in Washington. More importantly, young

Johnny only weighs 115 pounds, "dripping wet". I told him that he had been selected and that, like me, he is (at 70) old enough to die. He said fine, let him know when I was ready. I had also picked passenger #2 - a lady who weighs 130 pounds (but is not old enough to die). However it didn't work out that way. A shirt-tail nephew (whom we will identify only as another Johnny, to avoid him any embarrassment) came to town - flew up from Boise in his Bonanza with his parents and wife to visit his aunt. I met them at the airport, took them to breakfast, and explained to Johnny that I was about to test the Hummingbird dual, and would be delighted to have him as the second pilot. He flies corporate aircraft for a living, jet fighters for the Air National Guard, and is one of the several smooth-

lots I have ever flown with. He weighs only about 145 pounds. He seemed an ideal choice, readily agreed, and said that they didn't have to be back in Boise till dark. I loaned them my car, and they went to visit Elisabeth. They returned about noon. We examined the Hummingbird. Then, he announced that they had to get home right away - that the women wouldn't want to wait around while we did even a brief flight test! My first thought was Damned Women! But on reflection, I realized that - after inspecting

Hummingbird - continued on page 10

<p>Robert Lee Moore 79107 N. Yakima River Drive West Richland, WA 99353 509-967-3773</p>	
<p>13 B730</p>	<p>NELSON HUMMINGBIRD PG-185B NELSON SPECIALTY CORPORATION</p>
<p>Ser. & Reg.: 82/N68582 Nat. Origin: U.S.A. Designer: Ted Nelson & Harry Perl Category: Two-Place Motorglider Span: 54 ft. Length: 24.9 ft. E. Weight: 843 lbs. Gross Weight: 1268 lbs. Glide Ratio: 25:1</p>	<p>Remarks: The First Modern Motorglider - shown with engine retracted. Featured 48 HP 4-cylinder/2-cycle Nelson engine; automatic electropneumatic engine erection and retraction; metal construction; all-movable anti-servo horizontal tail; hydraulic brake; and steerable nose wheel. Six aircraft built, one still flying.</p>
<p><small>© 1984 B.L.C. MADE IN USA</small></p>	
<p><small>VSA, Scott Airport, Lovettsville, VA 22080-9405</small></p>	

the vintage glider, learning that it was designed before he was born, and observing the increasing absent-minded and doddering behavior of the senior pilot (me) - the young man simply "chickened out"!

Rudy Allemann was watching all this, and immediately stepped forward and volunteered. Rudy is absolutely fearless - a mountain climber, skier, and flyer who likes to "go to the edge" in anything he does. He is also superbly qualified - a former National Soaring Champion and a motorglider owner (DG-400). Only problem is that Rudy weighs 195 pounds - no fat, just lots of bone and muscle. With Rudy and me and chutes, we would be at - or a bit above - maximum gross. It would be a very good initial test! We prepared a written test plan, and agreed that we would abort the flight if it didn't feel right when we started down the runway, or if it wouldn't trim out right after lift off. Everything went fine. We broke ground in about 1000 feet, and it climbed out at about 350 fpm. I considered this very satisfactory, but Rudy thought it disappointingly low (he is used to the incredible climb rate of the 400). All went fine - till about 2000 feet, where the engine started cutting out. Climb ceased, and we lost a bit of altitude. Then, it settled down and ran again. We climbed to 4000 feet before stowing the engine and starting our tests. Stall speed at 1280 pounds gross was 47 or 48 mph. Trim and handling were fine, and Rudy - one of the sport's finest thermallers, and flying from the rear seat - even found a thermal and worked us back up to "release altitude" a time or two. We were up over an hour. But having an aircraft engine cut out is disconcerting. I called Ken at once.

I am not sure Ken fully believed us, but he checked things over and changed some points. I told Ken that in the early days of aviation, when most pilots wore parachutes, there was an unwritten rule that any pilot who was suspicious of the packing of his chute could insist that the packer jump it, and the packer was obliged to do so (I am not sure they wore back-up chutes in those days). I proposed that another good rule would be that anyone who worked on an aircraft engine should be on board on the test flight! Ken agreed. Because of Ken's weight, we flew without chutes, and were at the same gross weight as Rudy and I. The engine cut out again - at about the same altitude as before - and Ken concluded that it was an ignition problem. (Other than that, we had a nice flight, were up two hours, Ken got some work on some thermals, and was elated). He next placed all of the spark-plug wires and one defective coil and checked everything. The engine ran beautifully in front of the hangar (it always did run fine on the ground) and even turned up a bit more rpm than before.

The next flight was only a *pro forma* test (since we knew the engine problem had been solved). It would be a "Dawn Patrol" flight, a high climb and a series of glides in stable air to establish the flight polar - which surprisingly has never apparently been determined for the Hummingbird. It took off quickly and climbed out smartly. But I am a coward, and

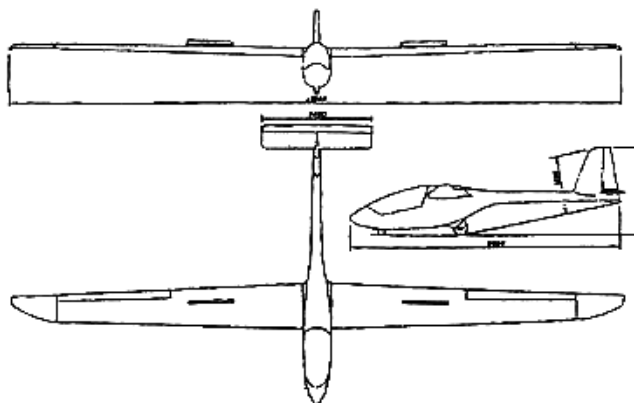
suspicious of motorglider engines, so I did a 90 degree turn at about 100 feet (to stay closer to the airport), and another at 200 feet. Next, the engine lost several hundred rpm; then quit! One more 90 degree turn lined us up with the N/S runway, and we got it down without incident. Subsequent examination showed bits of metal on one cylinder. The source was a failed ("inhaled") decompression valve. Examination also showed that the other decompression valve was badly worn. (The Nelson Engine uses decompression reliefs on two of the four cylinders to aid in starting the engine). The old engine has seen well over 300 hours of service. After a bit of agonizing, we have decided to install a new ("virgin") engine. Fortunately one came with the aircraft!

The new engine should solve all our problems. But, only after it is thoroughly tested, will I begin giving rides to "innocent" passengers. I would hate very much to kill somebody's wife, husband or child - particularly if they are fond of them.

PW-5 News

Sailplane Racing News reports that PZL has delivered 39 PW-5s as of March 1996. By the end of the year they expect 112 deliveries. Ten separate licenses for production have been purchased at this time. PZL also announced that the development of a two-placed glider based upon the PW-5 is planned for a first flight in 1997.

Apeks Aviation is working out the final details of an agreement with Xian Aircraft of China to manufacture the World Class glider. Apeks will be the sales and marketing arm of this venture. Jim Hogue is one involved in this merger, and has great hopes that the PW-5 will be available to anyone interested in the World Class glider. The quicker the PW-5 gets on the market, the sooner it will be in the hands of pilots interested in competing on a World level. We could see soaring in the Olympics by the Summer Games of the year 2000 in Australia if the glider gets on the market quickly.



Want Ads

FOR SALE: ASW-19, very good condition. 450 hrs, Sage mechanical and Rico electric variors, Edo Aire 360, tinted canopy, water, T.E. ,Minden type trailer, parachute, finish is very good, always trailered. Located in Portland. \$22,500 Thomas Johnson (503) 638-0384 after 7 weekdays.

FOR SALE: OGAR Motorglider, 182 hrs total time, 27-1 glide, retract gear, 75hp turbo. \$30,000 or trade? Chelan, WA (509) 682-2349

INSIDE TRAILER STORAGE: October 1 to April 1. \$100. New owners of the Dunston Soap Lake Barn will make it available for 6 trailers. Call Pat Dunston (509) 754-0570 or Mel Woods (509) 246-4028.

FOR SALE: Airpath 2 1/4" Compass \$25 Rudy Allemann (509) 375-0722

FOR SALE: Ball Audio Vario-used one season \$400, A-14 Oxygen regulator-yellow tagged \$150, O2 Bailout bottle \$50, Military Style O2 Mask \$50, Aerox Oxygen System-constant flow \$300, Garmin 45 GPS-new December 1995 \$200, Call Lori Brand H. 503-681-0186, W. 800-847-3806 ext. 5504. Email: BRANDL@delphi.com

FOR SALE: LS-1c, N771H, Ilec speed to fly variometer, trailer, chute, barograph, radio, Oxygen. \$14,000. Bill Shlaer, PO Box 2570, Vashon, WA 98070. (206)463-1698 or (360)696-1415

FOR SALE: Replogle Barograph, factory overhauled and recalibrated 5/21/96. The "Cadillac of conventional barographs. Only \$295! This one has supplemental one-of-a-kind base-line stluc to record engine-run time in motorgliders (simply ignore if used in a "pure" sailplane. Bob Moore (509) 967-3773

FOR SALE: ASW-20, Charlie Delta, N62TM. Profiled wings, Zander Computer, Schuemann mechanical vario, A-14 oxygen regulator, boom mike with ptt switch and mike in oxygen mask. Security 150, Replogle barograph, Minden style trailer, Currently in Wenatchee. Possible deal for new partner. Scott McKee (206) 284-5560 or Vitek Siroky (206) 884-9628.

FOR SALE: 1/3 share Pik-20D, "Kansas City" Ephrata Based. Ken Langland (604) 272-9112

Calendar

August 5 SGC Summer Social, Home of Bob and Doreen Chase. 12422 68th Ave N.E., Kirkland, WA. (206)823-6500

August 12 6:45 pm SGC Board Meeting @ Software Informations Services, 300 120th Ave NE #116, Bellevue, WA (206)455-3589

August 26-30 The 1996 Montague Contest at the Siskiyou County Airport. Contact Peter Kelly (707)448-6422

September 9 SGC General Membership Meeting @ The Museum of Flight.

November 9 SGC Annual Awards Banquet @ Museum of Flight

Looking Ahead

Jan 30-Feb 1 1997 SSA Convention, Arlington, TX

May 27-June 5 1977 15 Meter Nationals, Albert Lea, MN

June 10-19 1997 Standard Class Nationals, Cordele, GA

June 17-26 1997 Sports Class and Open Class Nationals, Minden, NV

June 23-July 5 1997 World Championships, St Auban, France

Seattle Glider Council Membership Renewal Form

1996 SGC Fee Schedule

Membership	\$15.00	
Canadian postage	5.00	Additional
Trailer fees per season	80.00	
Trailer fees per week	10.00	
Pilot fees per season	45.00	
Pilot fees per day	5.00	
EPH RV parking per week	15.00	
EPH RV parking per season	150.00	
Ephrata tows	10.25	first 1000 ft
(Minimum billing	5.25	per 1000 ft to 3000
1500 ft tow (\$12.88)	6.25	per 1000 ft above 3000
In state retrieve/tach hr	60.00	plus 7.5% sales tax
Out of state retrieve/tach hr	60.00	tax exempt
Glider ferry per tach hr	60.00	taxable if WA origin
Towplane ferry/tach hr	60.00	taxable if WA origin
Private flight/tach hr	60.00	
Overdue accts per month	5.00	after 90 days

Annual Membership \$15.00 _____
 Additional Family Members 14 and over 5.00 ea _____

Name(s) _____

Towline only 10.00 _____

Canadian postage (add) 5.00 _____

TOTAL (US funds only) _____

Phone number for SGC roster _____

E-mail address for SGC roster _____

Send check payable to Seattle Glider Council with this form to:
 SGC Membership - PO Box 7184 - Bellevue, WA 98008-1184

SGC Summer Social

August 5

Bob and Doreen Chase will again host this year's annual Pot-Luck Summer Social on August 5 at their home in Kirkland. Make plans now to bring a dish and join the fun! The fun begins at 5:30. The address is 12422 68th Ave N.E. 206-823-6500

From Bothell Way:

1. Go south on Juanita Drive to 141st.
2. Turn right onto Holmes Pt. Dr. and go to stop sign at 124th.
3. Turn left, first house on the left after the speed bump.

From I-405 Northbound:

1. Take exit 20A & go west on 116th to Juanita.
2. Continue straight ahead at Juanita onto Juanita Drive.
3. Just before reaching 121st make a hard left turn onto Holmes Pt. Dr. and continue to stop sign at 124th.
4. Turn right, first house on the left after speed bump.

From I-405 Southbound:

1. Turn off at 124th
2. Head toward 116th and Juanita and follow I-405 Northbound directions.

Towline

P.O. Box 7184

Bellevue, WA 98008-1184



Bob Chase
12422 68th Ave NE
Kirkland WA 98034