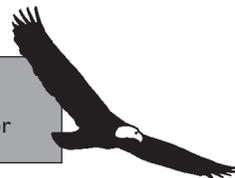


free flight • vol libre

3/07
Jun/Jul





As the newest Ontario Zone Director, I'd like to thank the outgoing Director, Doug Scott, our new Board, and the many other committee members and pilots past and present who have taken on the responsibility, almost totally volunteer, to continue to support soaring through SAC. I have been a member of the SOSA Gliding Club since 1998, where I'm a cross-country pilot and instructor with over 600 hours in gliders. *(More biographical information on all of SAC's Board members will appear in an upcoming edition of free flight.)*

Already, I've learned the first question people seem to ask is, "What does SAC actually do?" Even from my initial Board involvement, there appears to be a wide variety of activities that I and many other members may not be aware of. In the coming months, we will write about some of these efforts. However, this column will focus on SAC's newest initiatives, starting right now, to try to assist in promoting and marketing our sport. As most of you know, soaring in Canada and around the world is seeing a noticeable decline in numbers. Excluding cadets, SAC's membership looks like this: 2004 – 1019, 2005 – 961, 2006 – 948. This is not new news, but at the same time it is of real concern. It was one of the main reasons I wanted to get on the SAC Board, to see if there are steps that can collectively be taken to work on this major issue.

In March, the Board approved a budget to put together a promotion and marketing kit to be made available to all SAC clubs. It is intended to include a high-quality generic poster, flyer, newspaper ads and articles, business card, gift certificate etc. so that clubs who do not have resources readily available can promote soaring at a very reasonable cost with limited effort. For larger clubs, it may also give some inspiration for other initiatives that currently may not be under way. We are hoping to have these materials available within the next few weeks to at least be able to use them over part of the 2007 soaring season.

The other major area that the Board is immediately focusing on is the SAC website. For some time now this site has been a challenge, in part because it is difficult to find volunteers with the technical skills required. As a result, we are in the process of working with a professional web design company to develop a budget. If approved, we are trying hard to launch the revised website by the Canada Day weekend in July, ie. in time that it also may have a real impact for this season.

If anyone has any comments on these initiatives or any other ideas, please let any Board member know. There is a sincere commitment on the part of the SAC Board to try to make some new things happen promptly. I hope members will support this direction and the trend in membership losses we see will start to be reversed.

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3/07 – Jun/Jul

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Le journal de l'Association Canadienne de Vol à Voile

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Cover

The Cu Nim L-33 Solo is D'I'd and ready to go as soon as the thermals start to work.
photo: Tony Burton

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Club management

This article by Emilis Prelgauskas in 1981 in *Australian Gliding* is no less relevant today.

THROUGHOUT MY WORK, I have noted that, apart from its resources, a gliding club needs member enthusiasm, loyalty, and so on to survive. There is more work yet to be done, for us to better understand what resources a club requires to be viable. I don't pretend to have all the answers, but suggest I've a better understanding than most.

This article deals with the management of a gliding club and how that affects its survival. As this directly involves the enthusiasm of a club's members and other similar qualitative rather than quantitative factors, the hypotheses more than ever are my own. Even if you disagree, hopefully the approach will turn a few cogs. Part of sending this type of work for publication is to seek to excite discussion from which may provide a satisfactory explanation of how, despite all the fumbling, the sport manages to survive.

Theoretical base

In most of our day-to-day behaviour, glider pilots, like the rest of the community in which we exist, behave like consumers. Decisions are based on how suitable to our immediate needs the available resources are. So we 'buy' not only the product, but how it is packaged and how it meets our financial, practical and aesthetic needs. In soaring we are buying 'flying time'. As the diversity of gliding clubs shows us, this one commodity can be packaged and presented in different ways to appeal to different people.

So, here is the dilemma for incoming club executives. Having spent their gliding lives concerned essentially with how the sport can fulfil their individual needs, the problem is now perceived from a different standpoint.

Soaring is a sport, principally amateur in composition. Thus, the same pilots who are consumers of 'flying time' are also in effect the producers, manufacturers, and suppliers of the commodity, in as far as their decisions affect how the gliding club operates.

If the executive resolves its decisions as a board of management, setting out to fulfil the objectives of the club, that is to maximize the production of 'flying time', then the club and the sport as a whole, will prosper. If however, the executive consists of individual consumers, and decisions are reached on the majority vote of vested consumer interests, then the club must fail.

Here is an interesting example that is surprisingly common. The committee decides to buy a new high performance sailplane and the club trainer (or first solo sailplane) is retained, perhaps given an overhaul.

The rationale is quite sustainable (from the consumer's point of view). The club has a competition pilot element, which appreciates having the most up-to-date equipment. The immediate needs of the other sections of the club are catered for, so there appears to be no problem. However, the reality is faced the next winter when the new hot ship is collecting dust in the hangar and the basic sailplanes are still working hard, not only in filling the training need, but also earning income to pay for the new acquisition.

In summary, what is good for the pilots is not necessarily good for the club, or the sport. The club committee, acting as vested consumers, are doing the club a disservice.

The access ratio

If gliding clubs are instead the producers of 'flying time', the committee has to concern itself with all the factors that make their product available to the community.

The term "access ratio" has been used to essentially describe this attitude. The term has been used in comparison with glide ratio, which describes lift to drag, while access ratio describes cost to glide performance; or if you prefer George Moffat, dollars per glide point. In this article, the term access ratio is used even more broadly, although commit-



The SOARING ASSOCIATION of CANADA

is a non-profit organization of enthusiasts who seek to foster and promote all phases of gliding and soaring on a national and international basis. The association is a member of the Aero Club of Canada (ACC), the Canadian national aero club representing Canada in the Fédération Aéronautique Internationale (FAI), the world sport aviation governing body composed of national aero clubs. The ACC delegates to SAC the supervision of FAI related soaring activities such as competition sanctions, processing FAI badge and record claims, and the selection of Canadian team pilots for world soaring championships.

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Images may be sent as photo prints or as high-resolution greyscale/colour .jpg or .tif files. Prints returned on request.

free flight also serves as a forum for opinion on soaring matters and will publish letters to the editor as space permits. Publication of ideas and opinion in *free flight* does not imply endorsement by SAC. Correspondents who wish formal action on their concerns should contact their Zone Director.

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L'ASSOCIATION CANADIENNE DE VOL À VOILE

est une organisation à but non lucratif formée d'enthousiastes et vouée à l'essor de cette activité sous toutes ses formes, sur le plan national et international. L'association est membre de l'Aéro-Club du Canada (ACC), qui représente le Canada au sein de la Fédération Aéronautique Internationale (FAI), laquelle est responsable des sports aériens à l'échelle mondiale et formée des aéroclubs nationaux. L'ACC a confié à l'ACVV la supervision des activités véliplanes aux normes de la FAI, telles les tentatives de record, la sanction des compétitions, la délivrance des insignes, et la sélection des membres de l'équipe nationale aux compétitions mondiales.

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Les articles publiés dans *vol libre* proviennent d'individus ou de groupes de véliplanes bienveillants. Leur contenu n'engage que leurs auteurs. Aucune rémunération n'est versée pour ces articles. Tous sont invités à participer à la réalisation du magazine, soit par des reportages, des échanges d'idées, des nouvelles des clubs, des photos pertinentes, etc. L'idéal est de soumettre ces articles par courrier électronique, bien que d'autres moyens soient acceptés. Ils seront publiés selon l'espace disponible, leur intérêt et leur respect des normes de qualité du magazine.

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vol libre sert aussi de forum et on y publiera les lettres des lecteurs selon l'espace disponible. Leur contenu ne saurait engager la responsabilité du magazine, ni celle de l'association. Toute personne qui désire faire des représentations sur un sujet précis auprès de l'ACVV devra s'adresser au directeur régional.

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tees do have to consider cost for performance in buying sailplanes. If a club is going to provide flying, it must first understand who is going to 'buy' it.

I once noted to an executive member that his club has a 'market'. After a stunned silence, a nervous laugh, he asked whether I was being serious. I sure am. A club's membership consists not only of the people already in the club, but also those who will be in it *in the future*. Every club can fairly simply define its market. Look at your current membership, and why they join your club in particular. Their attitudes, ambitions and criticisms will give you a guide as to people the club will attract in the future (it's called agglomeration), people of similar tastes banding together. Quite often, the attitudes also dictate how big the club will get.

Either the less affluent section of the community abandons its ambitions of flying, or those who seek out the amateur clubs are disappointed that the lower costs also means greater involvement and less sophisticated equipment. In this area, full time operators do the sport a disservice by presenting essentially the "America's Cup" end of the sport, while most of us are in fact "mucking around in dinghies".

So, the other factors to be considered are concerned with the product that the club is selling. Most clubs sell more than the performance of the sailplanes. They offer comradeship, mutual help, and even promise certain levels of hassle-free or regular flying.

So, the club must have equipment, airfield, sailplanes, launching, hangarage, maintenance, and flight instruction. It must also have each in sufficient quantity not only to serve its current membership, but also to have vacancies for new members. Thirdly, it must be able to guarantee that all are operational.

It's no good having a grand clubhouse, good sailplanes and launching if the rostered instructor doesn't turn up! Nor is there any point in buying a sailplane if no reasonable mechanism exists to maintain it. In both these areas, the professional has it all over the amateur.

However, a club executive, having shrugged off their vested consumer interests, can get down to making the club produce as much flying as practical for its members, then this will benefit both the club and the sport as a whole.

It is again interesting to note, that while clubs were buying new equipment in the early 70s, the sport grew rapidly. Having over-extended themselves, the current lack of expansion in resources is also reflected in a static Gliding Federation of Australia membership. So, the club must look at maximum resources within its means. This may mean buying a lower performance ship at a lower price. It may also mean discouraging private ownership of the heavily wing-loaded sailplanes, because the club can no longer justify the more powerful tugs, and wants to move to a cheaper operating tug or winch.

Private owners, in fact, can be a blessing or a plague, depending on how a club fits them into its own objectives. They can in effect increase the resources of a gliding site without the club having to buy the equipment; or they can become a stone around the club's neck by demanding backup equipment (launching, hangarage) well beyond the club's capability.

The bottom line

Gliding clubs must not be administered by "pilots". They must be operated by people with adequate vision to perceive that the gliding club is the vehicle whereby the sport provides flying to the community. Clubs must establish objectives — for whom are we providing flying, how much equipment can we afford, how do we guarantee that we are operational? How do we make soaring accessible to the community?

If gliding clubs restrict access by virtue of insufficient equipment, inadequate organization, maintenance, or manpower, or excessive cost (read pricing yourself out of the market), then the club may in fact survive on its current membership, but will not be achieving the main reason for existing — the production of flying. And when the sport is challenged (reductions in airspace, urban expansion engulfing a gliding site), if it can be demonstrated the soaring has been self-indulgent, elitist, and not serving a community need, then we can expect to be legislated out of existence, sooner or later. ❖

70 years and counting

learning to glide in pre-war Germany

Walter Mueller

Grande Prairie Soaring

SEVENTY YEARS AGO in May 1937 I was at the “controls” of an aircraft for the first time. To be specific, it was a Zögling-33 primary glider. I started my flying career with solo flights, sitting on an “ergonomically” designed piece of plywood, my feet on a wooden crossbar hinged in the centre and on each side was a cable which connected to the rudder. The control stick (*Steuerknüppel*) was in the same position as it is in any modern sailplane except it was just a straight piece of tubing with a bicycle handle bar grip on it, with this the ailerons and the elevator were controlled. So this was a full three-axis control aircraft. The wing had a constant chord 10m span. The fuselage was a wooden truss structure and the whole thing was held together with wire cables that served well as an acoustical airspeed indicator. There were no instruments and no cockpit, there wasn’t even a place to put a yawstring, I wouldn’t have known what it was good for anyhow . . .

By the time I left school the Hitler Youth movement was well established in Germany and it is safe to say that over 90% of all teenagers belonged to the organization. The Hitler Youth (Hitler Jugend or HJ — pronounced *Ha Yot*) had three groups: the basic HJ comparable to the Army Cadets, the Marine HJ comparable to the Sea Cadets, and the Flieger HJ (comparable to the Air Cadets here in Canada). It was mostly supported by the government with small monthly fees paid by the members. Of course a lot of volunteer work and scrounging was needed to keep things going. Unlike in Canada, where there is just a little mutual support between the Air Cadets and SAC, in Germany the Flieger HJ was government supported and integrated with the Aero Sport Club that later became a branch of the Nazi party. Our instructors were from the NSFK, the *National Sozialistische Flieger Korps*. This training was done largely to groom young men for a career as Luftwaffe (Air Force) pilots. Today in Canada, the DND supports the Air Cadets with a similar objective in part of attracting teens to military aviation.

In contrast to the Air Cadets, we did very little military drill in the Flieger HJ; everything was geared to flying. Political indoctrination was very marginal — it was hardly necessary since we were all enthusiastic about a system that gave us kids the opportunity to fly. I’m certainly not knocking the Air Cadets — on the contrary, I think they are doing an excellent job and Canada would benefit more from it if a much larger percentage of youngsters joined the Cadet movement and learned some more discipline which is missing in public schools, and in quite a few homes today too.

In January 1937 I joined the Flieger HJ in Säckingen which with the local NSFK group formed one unit. We had a small shop where we worked two evenings a week repairing a

damaged glider from a last year’s mishap and we also had a new Grunau Baby under construction. I was very enthusiastic about learning to work on and build gliders.

Then, in spring of 1937, we went up into the Black Forest to a place called Gersbach where we had our hill for gliding and there was also a hangar for gliders from several clubs in the area. The hangar had a lean-to which was the “dormitory” consisting of a two metre wide trough the full length of the hangar and filled with straw. It provided lots of sleeping space for many teenagers and after a day’s workout on the slope we slept well. We brought our own supply of food and drink from home and so we spent every weekend during the summer at this place. Often I left home on Saturday after work at noon or on Sunday morning at daybreak for the two hour bike ride up into the Schwarzwald.

A training flight was as follows: the student would sit on the seat of the Zögling, completely in the open. On the tail end of the glider was a short piece of rope attached used to hold the glider back by one or two husky fellows who dug their heels in. On the front was the start rope consisting of two heavy bungee cords with another piece of rope attached to it. This rope had knots so that one could get a better grip on it. These two lines came together at the glider with a steel ring that was hooked on the front of the glider. The hook on the glider was only slightly bent back to drop the rope as soon as the tension was released. Now with the rope laid out in a “V” in front of the glider with four or five boys on each side, the command was “Ausziehen” (take up slack), “Laufen” (run) and as the tension increased the command “Los” (let go) was given and the glider took off in a catapult-like fashion. At the start of training the instructor would give the commands, later the students would do so.

With the first two “flights” one did not leave the ground. We started near the bottom of the hill and we were only sliding some 2–300 feet on the skid of the glider. If the student could hold the wings level and keep straight ahead, he would gradually be launched from higher up on the hill. The instructor would stand on the left side of the glider holding the wings level and giving some last minute instructions including the position of the elevator. After that he could only hope for the best, so in effect we started our flight training with “solo” flights. I still remember the first time when I actually left the ground, it was a “flight” of at least one metre high and about fifty metres long and I was airborne for quite a few seconds. I would talk about it all week until the following weekend when I would achieve longer flights.

Retrieving the glider was hard work; it was loaded on a two-wheel dolly and pulled back up the hill, but we all enjoyed it. After a weekend on the flying field we were tired but in good physical condition and in good spirits. Thinking of it now, after nearly 70 years very little has changed — after a day at the flying field I am tired but in great spirits! On 10 October 1937 I completed my “A” badge which consisted of five flights straight ahead of at least 20 seconds and one flight of 30 seconds.



Walter poses with his Open Cirrus “flying hammock” at Cu Nim in 2003.

During the following winter I was busy helping to repair and build gliders. Each time this required a 20 kilometre round trip by bicycle in any weather. Then in February 1938 I was sent to Esslingen for a four week course at an aircraft construction school. Early in the spring of 1938 flying activities resumed and I was as enthusiastic about it as ever. By June I had completed my “B” badge consisting of five flights of at least one minute duration with “S” turns and, of course, a smooth landing.

Now my next goal was the “C” badge which required soaring flights and had to be flown in a higher performance glider like the Grunau Baby, which had a regular fuselage with instruments in the cockpit. This type of flying could not be done on our basic training hill. We had a ridge soaring camp on the Hotzenwald just above the town of Wehr (today a well-established soaring centre is there with hangar and clubhouse with restaurant). We would go there when the wind was in the right direction and sufficiently strong for ridge soaring.

Unfortunately, the best part of the summer went by without me having a chance at my “C” badge. So I applied for a four week course at the Wasserkuppe, the “Holy Mountain” of soaring. This was granted and I went in October 1938. To my great disappointment we had a lot of fog and on clear days there was no wind for ridge soaring and it was too late in the season for thermals, so I did not get my “C” badge for my eighteenth birthday as I had hoped. However, I was able to fly different types of gliders and also we were given an excellent ground school which enabled me to easily pass my glider pilot licence exam the following year.

At the beginning of July '39 I spent two weeks at a soaring camp at the airport in Konstanz. We used a Grunau Baby as our aircraft. A big Mercedes car was jacked up, the left rear wheel was replaced with a cable drum, and presto, we had our winch. After the day's flying was done the wheel was put back on again and our instructor would drive us back to our youth hostel. Here I finally got my “C” badge and right away I applied for a soaring camp at the airfield of Baden-Baden to be held the first

two weeks in August. My parents and my employer were not too happy about all that, but I had a one-track mind; all I could think of was flying.

Now at Baden-Baden, I was flying aerotow in a two-seat glider, the Kranich. With an instructor in the back seat, only a few checkflights were needed before I was turned loose solo in a Grunau Baby behind the towplane, a Klemm 25. The towpilot, a spunky young fellow hardly older than I was, towed me up a valley in the Schwarzwald and turned me loose. I was beyond gliding range of the airport as well as any suitable outlanding spot. Of course, it being August and being over the Schwarzwald, it would take some extraordinary “skill” *not* to find lift. After an enjoyable soaring flight I made it back to the airport — almost! I landed in a pasture adjacent to the airfield with the nose of the glider only a few metres from the fence. With a few strong helpers we lifted the “Baby” over the fence, no damage was done, and the next student could take off again with it.

Several more good soaring flights followed, some ground school and finally the exam to complete the glider pilot licence. We all had so much fun and were so wrapped up in our flying that we did not recognize the dark clouds on the horizon. World War II was only a couple of weeks away. With these thermal soaring flights I got to appreciate God's wonderful world even more and I am thankful to this day that I have not lost the childlike joy and wonder of soaring, something which is given only to a privileged few. And so ended my pre-war gliding career.

Germany had a Luftwaffe by now and also conscription for a two year military service. A conscript had little choice in which part of the military he would be drafted, but if one volunteered and signed on as a professional soldier for a twelve year service, one could choose which branch to go to. I wanted to be a pilot so I signed on in the spring of 1939 to the Luftwaffe for a twelve year term and was called up in the fall. My plan was to be a Luftwaffe pilot and after twelve years try to become a Lufthansa pilot. I was much too naïve and ill-informed (thanks to effective propaganda) to see the catastrophe which the world was being led into . . .

The above are a few pages from my life's story. During the war years I was a flying instructor in the Luftwaffe. I did not fly again until 1959 and 1960 when I got a Canadian private pilot licence. Again no flying; raising a family took priority. In 1981 I took up soaring once more and have been with it ever since. In 1988 for my 68th birthday I gave myself a Grumman “Yankee” for a present, and I criss-crossed Alberta in it for the next ten years. After selling the Yankee I bought an Open Cirrus which is an ideal grandpa sailplane with its comfortable cockpit and is easy to handle, and with the hammock style seat it feels like a rocking chair. The almost 18 metre wingspan helps make up for what I am lacking on experience compared with top notch soaring pilots.

Now as long as my health is good and I can still climb in and out of the cockpit, I will keep on soaring. ❖

Everyone should have the good health and good fortune to be an enthusiastic glider pilot at 87 as Walter is. Walter completed his Gold Badge in 2006 with a wave flight at Cowley.

the Carden-Baynes Auxiliary

was this the first true motorglider?

from *Sailplane and Glider, Aug 1944*

THIS MACHINE CAN CLAIM to be the lowest powered aircraft to have lifted a man from the ground. On the bench the engine gave a max. 9 b.h.p. at 3,500 r.p.m., but we were able to use at best only about 7 b.h.p. because of airscrew speed limitations. However, in practice with sustained running we were able to maintain r.p.m. equivalent to no more than about 5 to 6 b.h.p., which in terms of thrust h.p. due to low propeller efficiency was about 2 to 3 h.p. The all-up weight was approximately 500 lbs. The power loading was therefore about 100 lbs/b.h.p., or about 200 lbs/t.h.p.

The nearest approach to these figures were Manning's *Wren*, which had an A.B.C. engine of 7 b.h.p., for a weight of 360 lbs loaded and the original Wright aeroplane with a power of 12 b.h.p. and a loaded weight of 750 lb.

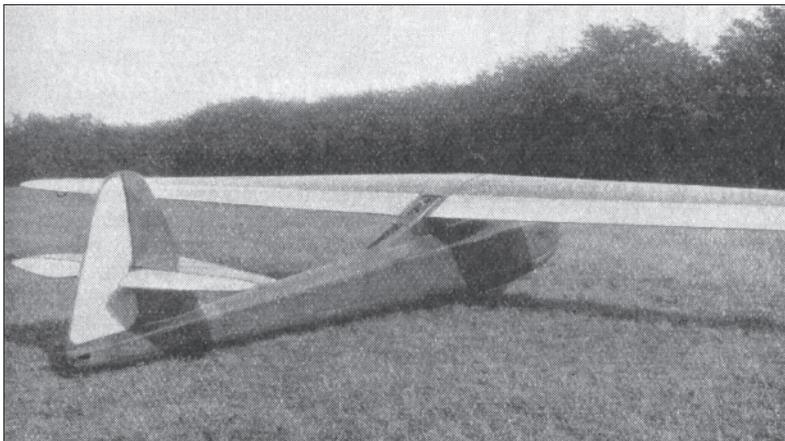
This machine first flew in the summer of 1935. The idea of having a retractable auxiliary motor was first put forward by

Sir John Carden, Bart., and the first machine embodying this principle was designed by Mr. L. E. Baynes and was constructed by E. D. Abbott Ltd., of Farnham. The engine was a 250 c.c. Villiers 2-stroke, specially modified for the purpose by Messrs. Villiers of Wolverhampton, the makers of 2-stroke motorcycle engines. The machine was first flown under power by Dr. Dewsbury of the London Gliding Club from the Phillip and Powis aerodrome at Woodlea, Reading.

The technique for the take-off was to start the engine and taxi out with the pilot walking alongside the wing tip and controlling the engine from the remote control throttle at the wing tip and then, when in a position for the take-off, to turn the machine into wind, place the wing tip on the ground with the engine still running, get into the cockpit and open up the throttle.

After moving forward for a few feet, the wing tip would come up and the machine would gather speed on its single central wheel and eventually take-off. The rate of climb would then depend on how well the engine was behaving on that day and the weather.

When sufficient height for soaring was obtained, the engine would be cut off and when the propeller had



Top Rear view with engine stowed. **Above** Engine out with pilot on wingtip remotely controlling throttle. **Right** A close-up of the engine. For a pre-war glider, this is a surprisingly nice-looking glider with an elegant engine packaging and retraction design. The cruciform tail feathers is an unusual feature.

stopped the pilot would centralize it by using the hand starting lever. He could see when it was in a vertical position by looking at it through a small rear vision mirror. He could then wind the whole motor and air screw down into the fairing by a hand-turning gear provided in the cockpit. It was estimated that the L/D ratio, ie. gliding angle, was changed from approximately 13 to 1 to 23 to 1, due to the retraction of the motor. In other words, when retracted the machine became a very efficient sailplane.

What happened to this glider? – told by R. Clear – Dec 44

It was with great interest that I read the article on this machine in the August issue of the *SAILPLANE*, and it occurred to me that many of your readers might be interested to read the sequel to that article. Unfortunately, at least for the makers, my story begins rather sadly when the C-B Auxiliary was crashed and pretty well written-off during a demonstration flight at Dunstable. The pieces were very soon “swept up” and transported back to Farnham, where they were stored for some considerable time.

Thus passed from public sight what in my opinion was one of the most amazing light aircraft that had ever been built and flown successfully. It was very soon forgotten by the *Gliding World*, and once again our Designers set to work to produce some more very high performance Sailplanes — the simple and sturdy *Scud*-type construction was soon looked upon with scorn as being old fashioned, and was succeeded by some really superb looking designs — Gull wings, Split Trailing Edge Flaps, and Cabin Top Fuselages became fashionable, and one frequently read of fantastic gliding angles of 25 to 1 and sinking speeds of less than 1.5 ft/sec. However, with all these so-called improvements one wonders just how many of these Super Sailplanes would have flown, if “motorized,” with this power loading.

It appeared to me, therefore, that this machine had never been fully developed, and I have always felt it was a great pity that, in spite of the fact that the “*Scud III*” glider was giving excellent service and had completed many cross-countries, the makers could not see their way clear to put this type into production. I decided therefore, that although it would be “out of fashion” by the time [the C-B] was rebuilt, its performance would still compare favourably with that of the modern machine. With this idea I first approached the makers early in 1937 with a view to purchasing the wreckage. After much discussion over the possibility of rebuilding it, I prevailed upon [them] to sell me the “bits” less the power unit (I was not interested in the motorized version).

From then on, however, my idea seemed doomed to failure since many of the Gliding Experts with whom I discussed this rebuilding, calmly predicted certain failure to anyone crazy enough to undertake such an extensive job without a full set of working drawings, numerous elaborate jigs, and a well-equipped workshop large enough to house the fully-rigged machine – to say nothing of the cost which was estimated to be anything up to £300.

Being at the time a mere aircraft ground engineer, these prophecies were rather disturbing, to say the least since no drawings were available, elaborate jigs were obvi-

ously impossible, and the large workshop could not be obtained.

Thus, with this rather gloomy forecast, and the help of a few real enthusiasts, the job was commenced about the middle of 1937 in the old and leaky hangar of the Portsmouth and South Hants Gliding Club. The first step of course was the complete inspection of the wreckage, and [it was considerable].

The fuselage being almost completely destroyed, and appearing to be the worst job, was started first, and after piecing together the shattered bits of formers and bulkheads the rough dimensions were obtained. I well remember that the overall length was arrived at, after much argument, by measuring the rudder cables and adding sufficient length to conform to a smooth nose curvature.

For some months the rebuilding progressed very slowly, since much of the work was carried out during the evening against almost impossible odds. Weather was bad, making glueing almost impossible in the very damp hangar, whilst the only light available for some considerable time was supplied by a battery of hurricane lamps.

By the time we had settled ourselves in the new workshop, the bulkheads and formers were completed and ready for assembly ... A simple jig was then built, securing the centre portion of the fuselage that positioned the nose formers and main bulkheads accurately. The longerons were spliced and the flat portions of the fuselage sides were covered with ply; the main controls and floor members were then fitted. Since the top and bottom curvatures were similar, the whole ply skin was spliced up over a solid wooden cove and glued as one panel over the fuselage formers.... [*long description of fuselage, tail and wing repairs omitted*]...

At long last the aircraft was ready for assembly, and all the “bits” were once more transported to a large field where the first trial assembly was made. Much to everyone’s amazement I think, (although no one admitted it) the various components mated perfectly, and we saw for the first time just how pretty this little machine looked when completely rigged. The jobs that now remained were the usual incidental ones, such as the fitting of instrument panel, wing root, tailplane, and skid fairings, and the final adjustment of all controls. These were of course child’s play after what had already been done, and after a fortnight the machine was ready for the first Test Flight.

The rebuilt glider *Scud*’s behaviour during that first flight was perfect, the feeling of absolute aerodynamic cleanliness, the silence with which it flew, and the fine “crisp” feeling of controls which is such an admirable characteristic of the *Scud* family, were all that was necessary to assure me that the rebuilding had been a complete success.

It was a proud moment, and that night it was not unnatural that the “few” were to be found in the “Local Tavern” celebrating that success after 2-1/2 years of hard work, and I am sure such was the feeling of our personal satisfaction, that even the “Experts,” had they called in, would have been invited to join in the celebration. ❖

Toronto area airspace

it's a lot less empty!

Scott McMaster

SAC Airspace member

AS ANYONE WHO FLIES IN THIS REGION can tell you, the last couple of years have seen an increase in high-speed jet traffic in the low level airspace between Windsor and Quebec City. While much of this is a result of the increases in traffic into Toronto and Montreal, the expansion of airline service into smaller regional airports like London, Hamilton, Ottawa and Kitchener is also causing significant trouble for general aviation.

This situation has not gone unnoticed. In August of 2006 Transport Canada issued an emergency edict to NavCanada to implement a "fix" which would provide better separation between low-speed light aircraft and high-speed jet traffic around the periphery of the Toronto TCA. After a hurried and somewhat superficial consultation process NavCanada developed an interim solution in the form of a large ring of Class E, transponder required airspace centred on Toronto. The 65 nm radius ring will include all airspace above 6500 feet msl up to the class B floor at 12,500. Implementation will occur on 5 July 2007.

Fortunately this airspace change will have only a small impact on soaring around Toronto. Since gliders are exempt from the requirement to carry transponders under CARS 605.35(1), soaring can proceed as if the ring did not exist. Towplanes are affected, and after 4 July they must have a Mode C transponder in order to fly higher than 6500 msl within 65 nm of Toronto. Although this isn't a big restriction

it may impact some of those early morning high tows for aerobatics or instrument test flights.

For better or worse this is not the end of this particular saga. All parties recognize that the current situation leaves NavCanada with two issues. First, the Class E ring is an interim solution that was enacted as an emergency measure and while it serves the purpose it is clumsier than would normally be desired. Second, while the situation in the immediate Toronto area was the most pressing, it is by no means the only area that needs attention if TC's concerns are to be addressed in the longer term.

To deal with both issues NavCanada has announced that it will be conducting a round of aeronautical studies aimed at determining the shape of the airspace in the Montreal-Windsor corridor for the next decade and beyond. Over the next two or three years NavCanada will be seeking input from all users of this airspace in order to design airspace structures that both mitigate the collision risks and minimize the impact on current aviation activities.

It is imperative that local pilots and clubs be engaged in these studies when NavCanada comes to their area. Over half of SAC's membership live and fly in the airspace encompassed by the upcoming studies; a negative outcome would be devastating. NavCanada will formulate their changes based on the information they get. While they may not listen to us to the degree we would like, you can be sure that if they don't hear from us, their eventual solution will not accommodate us either. The first round of grassroots consultation is to be a web-based survey for pilots in the Toronto area. It is scheduled to be live by the end of May and should be accessible at www.navcanada.ca, the NavCanada home page. Please make an effort to complete this survey. Every response from a glider pilot strengthens our case.

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This may sound depressing, but everything is not doom and gloom. While the sheer size of this summer's TCA expansion is not encouraging, there are some rays of hope. NavCanada has indicated that the large size of the Class E ring was driven by the speed of implemen- ➔ **p17**



There I was . . .

recollections from the pilot who survived this tale

THIS STORY BEGAN as the club was to transfer its sailplanes for the winter from Bromont to Valcourt in the Quebec Eastern Townships. (The distance between the two is 40 kilometres.) It started on 3 November 2002. They were late in closing the club for the winter and this Saturday announced itself as the last chance to proceed with the transfer.

It had snowed during the preceding week and the temperature on this Saturday morning was frigid. They had to scrape the snow from the gliders, and even then had to bring them into the commercial hangar to defrost them. Once all this done, Marc, an Air Canada pilot, like a mother hen, brought the four pilots together who were to do the ferrying to give them a briefing on the current met conditions, what to expect during the flight, and what to do. He was thorough and listened to carefully, but little did everyone present know what was going to happen.

The first glider, a Pilatus B4, left on aerotow as the clouds were aligning themselves in rows and then streets. The take-off was uneventful, and the formation started to climb and turn toward its destination. The ferry began routinely, with cloudbase around 4000 feet, and the flight at about 3000 – quite dull actually. So the glider pilot tried to fix his portable GPS to the dashboard with the Velcro strips already in place on it and on its portable Garmin. It took only a few seconds but when the pilot lifted his eyes, the towplane was nowhere to be seen!

Another second to refocus and the towplane appeared high above and being overtaken by the glider. A big deep loop had occurred in the tow cable. A loop too deep to correct, but correct it the pilot attempted to do by opening the spoilers. That was a big mistake; instead of slowing down and distancing itself from the towplane, the glider just preceded it while losing altitude.

The glider was now in front of the tow cable which had settled behind the wing, halfway between the aileron and the fuselage. The pilot released the rope only to see it slide against the wing towards the aileron, where it got stuck in the slot between it and the wing.

Two things now occurred: through the trapped rope, the towplane exerted a forward force on the glider which the pilot described as akin to what happens in the movies when the camera sets the scene spinning. The glider did not make a full turn however since an upward force on the glider was then experienced and the glider started to go tail over nose, and then ... the rope broke.

The glider was pointing nose to ground and starting an outside loop, and as the glider was beginning to get on its back, the pilot tried to prevent it by pulling on the stick ... and level flight was regained with, however, a significant loss of altitude. He was now at around 2500 feet and losing. The towplane came to have a look and circled him, then left towards Bromont. The pilot recalls that he had the urge to

stop and get out of the glider *immediately*, but there was still some flying to do before that happened.

Everything below was white as far as he could see. The glider still losing altitude, he noticed that his legs were shaking uncontrollably. Still, the glider had to be flown. So he checked the controls to see if they were all working properly, which they were ... Where to go? Down did not seem to be an option, however desperate he was to land and get his breath back. The only way is up. Where are those clouds?... Ah!... A bit of lift here. There's the street. Let's turn in here. Closer. Up they go, legs still shaking, and not responding, but the wool yarn was nevertheless properly aligned. He doesn't really recall how low he got, but he knows the meaning of hugging the clouds at 4000 feet. Really hugging ... until he realizes that they are not going in the right direction.

A look at the GPS, he's exactly halfway between Bromont and Valcourt. He can even see the landing strip over there. The altitude is good, better go to Valcourt. However, what about leaving these clouds here, for these clouds over there? Not something he really wants to do for a while. Losing altitude again is contrary to his instincts just now.

So he leaves the embrace of this cloudstreet for the next one and, as it had all season long, it works... legs still shaking, down and up he goes. He got to Valcourt at 3000 feet, high enough to survey the airfield and go around the circuit more than once. Landing is a piece of cake.

Denis, the driver of the retrieve car, comes to hook the glider up, looks strangely at him without a word, stares some more... off to the hangar they go ... legs seemed okay, as long as Denis didn't drive too fast. (By now, everybody on the ground knows that *something* had happened but – until the arrival of the pilot – what?)

So the debriefing starts with the people at the hangar, and others arriving to help to put away the gliders for the winter. Then the other pilots arrive, as operations resume for the day, and they want to know about the ruptured cable, and the towpilot aborting the transit, and returning to Bromont with bad news, a torn cable, and no news, and resuming the ferrying after learning that the pilot made it after all.

When the towpilot finally arrived, a real debriefing took place in private. It was the same story as with the others, except for the other side of it. As the CFI of the club commented later: they could both have been killed.

Denis said afterward that when he arrived and for a long while after, the pilot looked pretty shaken, although in his mind he thought he looked composed and in full mastery of himself.

The pilot had to retell the story the same evening to all present around a cold beer. He also had to retell it to all members of the club at the closing meeting of the season. Now he tells you so you can draw your own conclusions about what went wrong. ❖

Safety & Training

Instructional technique – the landing –

Over many years a common accident category, or trend, has been “heavy landings”. Damage and/or injuries sustained in heavy landing events range from nil to severe.

Heavy landing accidents occur under a wide range of circumstances. No particular landing technique fault or flaw has been identified as responsible and often pressure brought on by other in-flight situations can result in a decline in pilot performance levels. As the landing is a critical flight phase requiring high performance it is understandable that pilots under unusual pressure will sometimes not perform well at this time. The following advice is provided to remind pilots and instructors of good landing techniques.

THE APPROACH

The final turn to approach

The final turn should be precise and should align the glider for a straight approach to the landing area. It should be initiated early enough to avoid overshooting the centreline of the intended approach.

The final turn must be conducted at a safe altitude and at a safe speed, having regard to the local conditions. Good energy management is critical to safety, and to setting up a good stable approach from which a safe landing can be conducted. There is strong evidence to suggest that poor landings, or landings causing damage or injury, are much more likely if the final turn:

- is executed too late,
- is too close to the ground, or
- has poor energy management.

All make a stabilized approach and controlled landing much more difficult.

The early approach

Once the turn is completed, the approach speed and direction are checked, adjusted if necessary, and then maintained until the roundout. The glider’s position relative to the final approach path towards the intended landing area is now assessed. Airbrakes/spoilers should not be used until the pilot has assessed that the aircraft is beginning to unmistakably overshoot the intended touchdown area and will clear all obstructions. Airbrakes/spoilers are then used as required to maintain the correct final stabilized approach path.

A glider on the correct approach path, going in exactly the right direction at the correct

approach speed is said to be on a stabilized approach. A stabilized approach maximizes your chances of achieving a good landing.

THE LANDING

The aim in landing is to fly the glider just above the ground so that it will touch down gently at the minimal possible speed, for a smooth and safe ground roll clear of obstacles. The landing phase covers the transition from the stabilized approach, through a flare and hold off, then a ground roll, until stopped.

Late final approach

The stable approach should be maintained at the nominated approach speed. When clearance of any obstacles (airfield boundary, fence, etc.) is assured, the approach should continue ideally in most gliders at approximately half airbrake/spoiler. Any tendency to under- or overshoot the reference point should be corrected by appropriate adjustment of the airbrake settings. Any wind gradient or shear should be compensated for by reducing airbrake as necessary. At the end of the stabilized approach, when the ground ahead appears to flatten out, the pilot’s gaze should be transferred away from the reference point forward to the end of the landing path. This stage of the late final approach is used to judge the correct transition into the flare (or round-out).

The flare (or round-out)

The nose of the glider should be raised to arrest the rate of descent and prevent the glider from flying into the ground. Peripheral vision is an important element in assisting the pilot to monitor the rate of descent during this critical stage of the landing.

The hold-off

At this point (that is after the flare) the glider is flown parallel to and close to the ground – approximately one foot above it. This non-descending path of the glider after the flare is called the hold-off. The hold-off phase ought to be sustained at a steady height (about a foot from the ground) until the aircraft settles onto the ground in the touchdown attitude. This attitude is normally the classic two point angle between aircraft and ground where the undercarriage and tail wheel/skid are parallel to the ground following the hold-off.

During the hold-off, the aim is to fly close to the ground at a constant height, while bleeding off energy. As airspeed decreases, lift decreases, so gradually increasing back stick pressure will be needed to hold the glider at a constant height until touchdown attitude is achieved. The key here is a gradual increase

in back pressure to maintain a constant height, rather than a large control movement causing over-rotation or ballooning.

During the hold-off phase, instructors should tell students to look well ahead (the same sort of distance that a car driver looks ahead) in order to assist their perception of height and motion. At the same time, adjustments should be made as necessary to allow for gust induced lift or sink, crosswind drift and ground slope.

Students and inexperienced solo pilots ought to be trained not to alter airbrake settings during the flare and hold-off phase unless last minute intervention is required because of unexpected extremes of wind shear or a mis-handled flare resulting in ballooning, or because of running out of safe landing area.

Touch down and roll

In a properly executed landing, where the touch down is achieved with minimum energy the glider will settle onto the ground in the two-point touch down attitude with no tendency to bounce or resume flying. Because the stability characteristics of the glider are changed after touch down, the pilot’s priorities are to keep the glider on the ground in the touch down attitude, wings level and travelling in a straight line until it rolls to a stop. Full airbrake should be deployed once the glider is firmly on the ground and the back stick pressure gradually increased to keep the tail on the ground. Coarse aileron movements will be needed as the aircraft slows down to maintain wings level. Wheel brake should be applied as necessary and the control stick should be against the aft stop by the time the glider is at rest.

Potential problem areas

A good landing is the natural culmination of a well executed, accurate circuit followed by a stabilized final approach. Students having difficulty getting it right with landings need to be proficient in their circuit planning and final approach performance.

Failure to look far enough ahead during the final approach is the prime cause of early students being unable to judge the flare. Incorrectly judged flares generally lead to ballooning in cases where up-elevator is excessive or bounced landings where the flare is left too late. Instructors should be alert to intervene in such cases by closing the airbrakes and using the consequently extended float as a learning experience for the student.

Sometimes students and pilots may have difficulties such as PIO’s (pilot induced oscillations), or coarse deviations leading to flying onto the ground, bounces, rough or inconsistent landings. Instructors should be attentive to such signs as indicative of high pilot

stress, including high forces in control inputs, and coarse control movements. A key issue is to assist the student in relaxing, in using fine motor skills and smaller control movements as they look well ahead to monitor height and movement. A "long float" landing with an instructor is a useful training exercise.

CONCLUSION

Good and reliable landing techniques take time and practice to achieve and can deteriorate quickly with lack of currency and/or pressure brought about by difficult or unusual flight situations. The decline in personal performance levels that can occur because of fatigue, stress, dehydration, etc. should never be under-estimated.

Pilots should always be "self-critical" of their performance, and landings are no exception. It is a good idea to analyze how the circuit and landing went immediately following each flight; often deterioration in performance can be identified early and remedial actions taken.

Instructors and pilots should always be aware that high workload situations during the landing phase often lead to poorly-executed landings, sometimes with serious outcomes. Well-developed, fundamentally sound landing procedures and techniques are a good safeguard against these outcomes. Remember, launches are optional, but landings are mandatory!

Kevin Olerhead
Chief Technical Officer – Operations
Gliding Federation of Australia

The symptoms of fatigue

The greatest danger of fatigue is that an individual may not recognize its effects. In most situations the symptoms of fatigue are more readily recognized by an observer. There are several symptoms that you should be familiar with:

1. General irritability, often characterized by a short temper and impatience.
2. Low morale and possible loss of motivation, mild depression and anxiety.
3. Short-term memory lapses, such as forgetting something you have just been told (wind change, runway change, etc).
4. Making simple mistakes, such as tuning in the wrong frequency, misreading a navigation chart, having difficulty with simple calculations, improper preflight and prelanding check, forgetting to lower the wheel before landing etc.
5. Timing and accuracy loss.
6. A tendency to accept a wider margin of error than normal, such as keeping proper altitude, or flying a marginal or low circuit.

What causes fatigue? There are many causes of fatigue – such as loss of sleep, poor nutrition, noise, boredom, hangover, dehydration, physical exhaustion ...

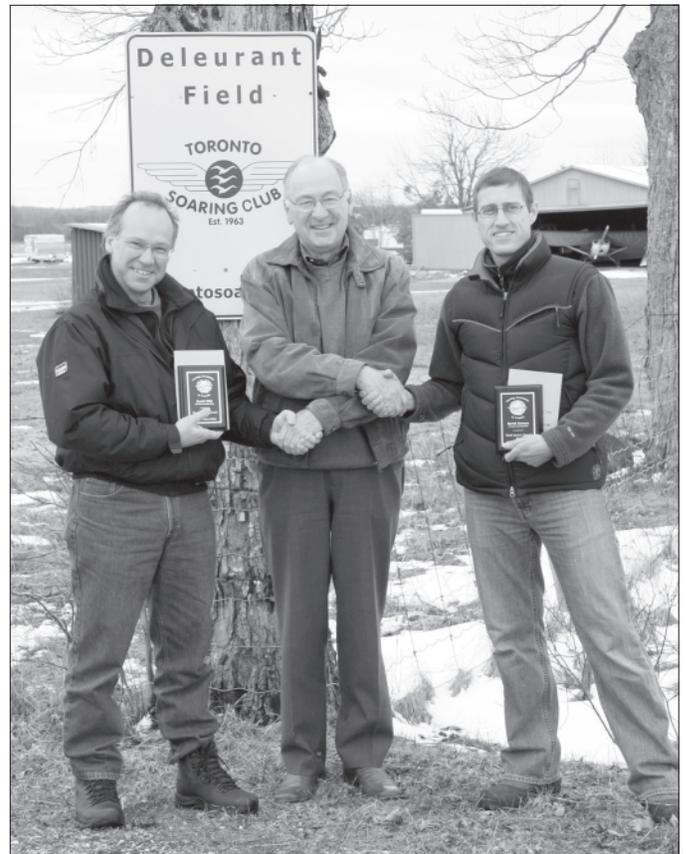
Disruption of your normal sleeping and eating patterns can upset your "metabolic clock" and induce fatigue. This is a well-documented fact among pilots who frequently cross time zones.

Visual problems and fatigue go hand-in-hand. Eye strain caused by sun glare, variations in light intensity between cockpit and the outside, and an empty visual field by scanning the sky for other traffic, all commonly contribute to fatigue.

continued on page 18



Anthony Kawzowicz receiving the *Instructor of the Year* award for his outstanding contribution to the club's training program in 2006 from outgoing chairman of the Flight Training and Safety Committee Ian Oldaker. Not only did Anthony make time to train a large percentage of the club's solos and pilots to licence standards, but he also flew a new multiplace Canadian Speed record for a 300 km triangle flight in SOSA's new DG-505.



David Ellis (left) and David Gossen (right) receiving their *Hank Janzen Safety Award* plaques from Ian Oldaker for winning this award for 2006. They worked all year to persuade a power company and the local governments to recognize the long tenure of the club on the present site, and to plan for wind turbine installations sufficiently removed from their flight paths to maintain a safe operation at Toronto Soaring's club. Another site with over 30 turbines a few kilometres away gives an idea of how dangerous these turbines would be if located close to an airfield.

Miscellany

Perception ... how it may be interpreted depends upon the position, the location, the perspective of the observer. From field level with two feet glued to the ground and rotting with envy, Kemp Ward's crew, Tom Matthews, a renowned versifier back in 1982, tells all. Perceptions ... perspectives – my noble captain, Kemp, flying his fine homebuilt Pioneer II in his first contest, sees things from a loftier view than this earthbound writer, this pragmatic toiler – his crew.

... few crew ...

*flush riveted metal
carbon and glass
disdainfully circle
what's still on the grass*

*Kemp's glider is made
of wood, fabric and glue –
to those in the know
it's a 'Pioneer Two'*

*a nod of command
crew jumps to obey
preflight all done
he's off and away*

*sigh of relief
tyrant's off on the trail
time for a brew
a long cool tall ale*

*doze and relax
with nothing to do ...
my captain breaks in
with "landing in two"*

*we do it again
but this time for real
(the first time, of course
was just for the "feel")*

*again he's away –
away and aloft
the hayfield's nearby
so sunny and soft...*

*warm breezes blowing
this crewing's for me –
an hour drifts by
then two and then three*

*soon he'll return
telling wonderful tales
his obedient crew
awaits without fail*

*dreams shatter like glass
a message, you say?
he's down in a field?
some distance away?*

*the rest is a blur
of images past
some fences, some farmers,
a fair country lass*

*a little wee field
in a field on a farm
a sailplane at rest
(it came to no harm)*

*dismantle, retrieval
down cliff and cross bog
mosquitoes, wet shoes
the peep of a frog*

*through gates, over ditches
hot, wet, hungry, weary –
(despite all discomforts
stout crew remains cheery)*

*at last at the club
and to crew's infinite sorrow
my brave captain says
"there's always tomorrow"*

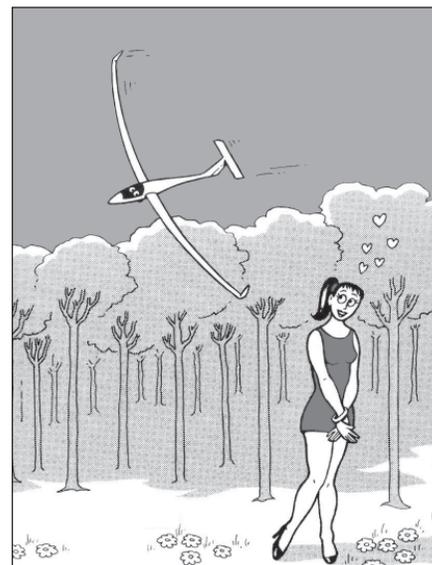
*Thomas R. Matthews
February 3, 1982*

"A Glider Pilot Bold Was He"

When I wrote my book the obvious title was "A Glider Pilot Bold ..." (see Terry Beasley's review in *free flight* 1/99). In the Surrey club we had a tradition of flying hard, drinking long, and singing hard, long, and loud. One of our members, Pat Wood, wrote the poem in 1949/1950 at a time when we were trying to write songs and the 'SODS' – The Surrey Operatic & Dramatic Society – was putting on plays (also in the book), the most famous is *Wings for Prudence*, very funny indeed! I published lots of other songs in the book and I can highly recommend all of them.

The book is still available from the British Gliding Association <www.gliding.co.uk/shop/> £10.50 or from Amazon. I do know there are copies sold to Canada, but if you want to see all the other songs and of course the text – you'll have to buy your own!

Wally Kahn



The Glider Pilot and the Maiden by Pat Wood

tune: The Airman's Lament

*A glider pilot bold was he,
A maiden unsuspecting she.
He landed one day near her home,
Requesting tea and telephone.*

*Her dainty heart had missed a beat,
Steep turns at five and twenty feet.
The field was very, very small,
The trees were very, very tall.*

*But there he was quite safe and sound,
Her dainty heart it gave a bound,
To see him stand so debonaire,
The answer to that maiden's prayer.*

*They dallied there for many hours,
Among the birds and bees and flowers,
And when at last the trailer came,
Alas, she'd lost her maiden name.*

*What followed, it is sad to tell,
He drove away as darkness fell,
And though devotion he did swear,
He soon forgot that maiden fair.*

*Till after many moons there came,
A letter headed with the name,
Of "Swindle, Swindle, Son & Sinn"
"Solicitors of Lincoln Inn".*

*Dear Sir, our client wishes us,
To state that though she wants no fuss,
5000 dollars more or less,
Will save this matter from the Press.*

*The moral you may clearly see,
The ordinary flying fee,
Is less expensive than you thought,
Compared with other forms of sport.*

SAC news from 1944

from the December 1944 *Sailplane and Glider*

The Soaring Association of Canada

We have received from Mr. J. A. Simpson, the President of the Soaring Association of Canada, a full report of the proceedings which led to the formation of the Soaring Association of Canada, for which we are very grateful. A brief report has already appeared in *Sailplane and Glider*.

An outstanding difficulty in the organisation and practice of Gliding and Soaring in Canada is the ruling by the Department of Transport, Aviation Division, that Gliding can only take place in the presence and under the control of a qualified pilot holding a commercial license. Shades of Mother Grundy! What on earth can a commercial power pilot know about Gliding and Soaring unless he is one of the elite who has graduated to power flying from Gliding. It is to be hoped that for the benefit and health of the Gliding Movement in Canada this quite arbitrary restriction will have been removed before these lines are read in Canada.

After this we shall expect B.O.A.C. to join our party any day, or shall we take over B.O.A.C? We are just about as qualified to do it as any uninstructed power pilot has to run Gliding.

The chief concern of the Aviation Department seems to be the danger to the public. We imagine they cannot have had the benefit of a visit from Captain Lamplugh, who would soon make short work of any such objections which were solved in a much more crowded country – here – than is Canada, and that some years before the war.

In Canada any instruction in flying, or flying for a fee, even Joy rides, is governed by the rules of commercial flying. Which is a bit tough on Canadians, and calculated to drive

out of their heads all joy in the freedom of Gliding and Soaring.

Polish glider leaders in Canada

One interesting fact emerges from the report which is that Messrs. Czerwinski and Stepniefski are in Canada, as members of the Canadian Wooden Aircraft Ltd. Mr. Czerwinski is the designer of the Sparrow which was featured in *Sailplane* in April.

Mr. Stepniefski was also a Polish Sailplane Designer, and was on the Olympic Technical Committee with Mr. Shenstone as the British Representative.

Accidents

During the discussion Mr. Twardowski said that few people realized the low percentage of gliding accidents involving the pilot. During three years he was instructing in Poland they had only twelve accidents. Most of these caused broken bones and two of them were fatal, but taking into account the fact that five thousand pupils went through the school the rate was very low. He found that the most serious accidents occurred during the B and C Certificate stages.

Mr. J. A. Simpson, lately of the Derbyshire and Lancs. Gliding Club, said in his experience the danger periods were:

- (i) during short hops,
- (ii) at the circuit stage,
- (iii) during very advanced competition flying.

Note: Waclaw Czerwinski became employed with AVRO and was very active in glider design first in the UK and then in Canada. He was the designer of the de Havilland Sparrow, the University of Toronto "Loudon" (see ff 6/95) and co-designer with Bev Shenstone in the UK of the 2-place "Harbinger". The story of this sailplane is in ff 4/84. Shenstone was a charter member of SAC's incorporation in 1945.

editor

† Stefan Kazimierz Brochocki

An obituary from the Montreal Soaring Council covers the recent death of Stefan Brochocki, the talented designer of the Canadian BKB-1 tailless glider. The obituary also mentioned his long service with Canadair and his involvement in the Canadair CL-41, the CL-44, CL 84 VTOL aircraft, CL-215 waterbomber, and the Challenger aircraft as a member of those design teams.

The BKB-1 was one of the very few original glider designs produced in Canada and ought to be remembered as a unique approach that really did have some surprising performance characteristics. Dave Marsden (then a Gatineau member) did the original test flights. Fred Bodek is now the only living member of the threesome – Brochocki, Kasprzyk, Bodek who built the aircraft.

A paper was written for OSTIV and presented by Bev Shenstone could be reproduced and other information, if necessary, could be extracted from the BKB-1 story, links to which are attached below.

Dave Webb

Stefan Brochocki died 26 March 2007 in Saint Eustache at the age of 89. He was a bomber pilot in the Polish Air Force during the Second World War earning the Polish Virtuti Militari and the Cross of Valor. He completed a second tour of duty with the RAF Ferry Command flying out of Dorval. He was an instructor with the Montreal Soaring Council in the fifties (according to Gordon Hicks who worked with him and knew him well), and then became a member of the Gatineau Gliding Club so that he could store his tailless BKB glider indoors as he did not have a trailer to store it in.

Décédé le 26 mars à St-Eustache à l'âge de 89 ans, il était pilote de bombardier dans les

continued on next page



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forces de l'air Polonaises pendant la deuxième guerre mondiale où il se mérita la Polish "Virtuti Militari" et la "Cross of Valor". Il compléta un second service avec la RAF dans le Ferry Command opérant de Dorval.

Il était un instructeur au MSC dans les années 50 (selon Gordon Hicks qui le connaissait pour avoir travaillé avec lui), ensuite il devint un membre du GGC de sorte qu'il pouvait y abriter son planeur sans queue BKB puisqu'il n'avait pas de remorque pour le remiser.

Sa nécrologie mentionne aussi son long service à Canadair et son implication dans le Canadair CL-41, CL-44, CL-84 VTOL, CL-215 et le Challenger comme membre de l'équipe de ces conceptions.

.....

These links concerning the BKB are of interest – the first is an extensive article on the design and controversy surrounding it.

<http://members.cox.net/rebid/Brochocki.html>

<http://1000aircraftphotos.com/Contributions/1169.htm>



Instructor courses 2007	Quebec	AVVC, weekend training over summer Contact Gabriel Duford: gabriel.duford@videotron.ca
	Central	SOSA, 9-14 July Contact Ian Oldaker: oldftsc@aztec-net.com
	Western	Cu Nim, 13-18 August Contact Dan Cook: cookdaniel@shaw.ca

Antares is too quiet!

The designers of the new Antares electrically powered motorglider faced a unique certification problem in Germany. The required noise level measurement according to German Chapter X was not possible as the noise emissions are so low that they can't be heard above ambient sound levels. But a measurement is mandatory for EASA certification! Even a modified measuring process failed to produce useable noise data for compliance purposes. It has never happened before.

A parallel problem also exists for the IGC in that all current flight recorders detect if a "Means of Propulsion" is being used through an engine noise level sensor. Current FRs cannot reliably measure this on the Antares – opening the canopy air vent makes more noise than the motor. At present, this poses a significant problem for use of this sailplane in badge/record flying and competitions. The Antares manufacturer, FR manufacturers, and the IGC GFAC (FR) committee are working towards a solution.

from Gliding Kiwi

Why we fly

... at times, the lift on Saturday (6 May) was outstanding, particularly in the hills later in the day in the direction of Mt. Tremblant where we finally connected with cumulus with 9000 foot plus cloudbases.

However, for me the highlight of the day came a little earlier, near the Ottawa River when I spotted a pair of red tailed hawks circling a little higher than I was. Normally, this results in the hawks quickly disappearing out of sight as they core the thermal and climb away. However, in this case I was able to keep up with them and even gain a little.

This seemed strange to me but I soon realized why. As I got closer to one, maybe 50 feet away, it looked at me and gave me a very clear view of his/her talons just to make sure I knew who was boss here in their domain! What a scene, a 4 foot wing span hawk threatening a 50 foot wing span glider! I actually felt honoured to be accepted in their world, even as a potential enemy.

I realized again what a special sport gliding is. In what other part of aviation could this kind of thing happen?

Ulli Werneburg

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Potential O₂ bottle recertification hazards

There is a legal requirement to recertify O₂ bottles every five years. This time limit does seem like overkill; in New Zealand for example, the recertification period is every 10 years (though a pilot informed me that it was only three for his fibreglass-wrapped aluminum bottle).

Is recertification the best thing for your O₂ cylinder? Based on observation and the personal experience of some, there is more risk of damage to the bottle and valve by submitting them to the "standard" recertification process than any danger from the bottle blowing up or cracking from fatigue in the environment in which we use them.

Most cylinder test establishments have little experience with the European fittings many of our cylinders have. They probably do not have adaptors to connect to them with so will have to jury-rig something for the test. Some facilities are unfamiliar with even the standard North American O₂ gas fittings.

An oxygen bottle *will not rust* if maintained with a positive pressure of pure O₂ (something which, of course, we scrupulously observe when using our systems). But then it is emptied and filled with water for hydrostatic testing, and may be shipped empty to a location where it can be refilled, so corrosion is quite likely to be introduced by the testing process itself, particularly if the test facility does not have breathing O₂ available on site to immediately refill, or if the cylinder is not properly dried after testing. Indeed, the place where you deliver it for transport to the test facility may empty it for "safety considerations" before sending it off for testing as the customer/service outlet may not be in the same city.

Testing becomes a "vicious circle" – testing for damage from the previous certification.

Our O₂ cylinders usually have a round bottom so they will not stand upright and will roll around when laying on their sides, so there is the added risk the valve may be damaged rolling around in the back of a truck.

I am not a pressure vessel expert, but if you can find one I'll bet that, although he will not counsel you to flout the law, he can provide even more graphic examples of mishandling by the "experts".

All this boils down to one recommendation – make sure that any certification is done by a company that sells and distributes aviation and safety O₂ as well as tests these cylinders. At least you will get a full tank of aviation O₂ when you get your cylinder back. They might also be able to assure you that they will know how to handle your cylinder in transit and during the test process.

Tony Burton

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Toronto area airspace from page 10

tation demanded by the TC edict and they will be looking for ways to reduce the size during the aeronautical studies. Another very positive note is their adoption of Class E (transponder-required) airspace instead of Class D or C extensions. This is good for us and good for them. The Class E airspace provides real collision avoidance benefits while allowing us to proceed about our business relatively unaffected. From NavCanada's perspective it does all this without requiring additional controller positions.

In the last 20 years society has become very risk averse. At the same time the technology for avoiding mid-air collisions has become more affordable and accessible. For soaring to survive in the busiest pieces of Canadian airspace we must maintain a balanced approach of advocating and adopting solutions that work for us, while fighting attempts to impose restrictions that would effectively ban sailplanes from huge volumes of airspace.

For a large portion of SAC members, the upcoming aeronautical studies will define their available flying areas for at least the next decade. We must do all we can to ensure that the final airspace structure works for all. ❖

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The following badge legs were recorded in the Canadian Soaring Register during the period 10 November, 2006 to 8 May 2007.

DIAMOND BADGE

102 Charles Petersen York

GOLD BADGE

319 Pierre Cypihot Champlain

SILVER BADGE

1008 Rob Frith Pemberton

1009 Joseph Lanoë Quebec

1010 Claude Blanchette Quebec

DIAMOND DISTANCE (500 km flight)

Charles Petersen York 504.3 Discus 2CT Seminole Lk, FL

DIAMOND GOAL (500 km flight)

Pierre Beaulieu Quebec 306.3 LS-4 St-Raymond, QC

Pierre Cypihot Champlain 300.7 Diamant Julian, PA

GOLD DISTANCE (500 km flight)

Pierre Beaulieu Quebec 306.3 LS-4 St-Raymond, QC

Pierre Cypihot Champlain 300.7 Diamant Julian, PA

GOLD ALTITUDE (3000 m height gain)

David Hocking Vancouver 3445 ASW-19 Hope, BC

Pierre Cypihot Champlain 3640 Diamant Julian, PA

SILVER DISTANCE (50 km flight)

Rob Frith Pemberton 50.5 Blanik L-33 Pemberton, BC

Joseph Lanoë Quebec 71.2 Grob 102 St-Raymond, QC

Claude Blanchette Quebec 52.6 LS-4 St-Raymond, QC

SILVER ALTITUDE (1000 m height gain)

Joseph Lanoë Quebec 1500 Grob 102 St-Raymond, QC

Claude Blanchette Quebec 1420 LS-4 St-Raymond, QC

SILVER DURATION (5 hour flight)

Alan W Grant Gatineau 5:21 Blanik L-33 Pendleton, ON

Richard Fortier Champlain 6:43 PIK20B St-Dominique, QC

Joseph Lanoë Quebec 5:23 Grob 102 St-Raymond, QC

C BADGE (1 hour flight)

2853 Alan W Grant Gatineau 5:21 Blanik L-33 Pendleton, ON

2854 Richard Fortier Champlain 6:43 PIK20B St-Dominique, QC

2855 Joseph Lanoë Quebec 5:23 Grob 102 St-Raymond, QC

the symptoms of fatigue

from page 13

Noise is a major factor in causing fatigue in tow pilots. Fatigue results from the need for pilots to pay strict attention to tow procedures and the glider on tow. There is psychological strain in towing.

Vibration in the frequency range of 18–1500 Hertz has a noticeable fatigue-producing effect. A tow pilot should make every attempt to reduce vibrations.

Wide variations in temperature and humidity are known causes of fatigue. At altitude, the air inside the cockpit is drier than what you are normally used to on the ground. Glider ventilation systems require constant adjustment to keep the cockpit comfortable.

Dehydration during long flights causes fatigue. Due to the lower atmospheric pressure, water is lost at altitude by evaporation without production of sweat. The pilot may not notice the fluid loss. Therefore, fluid intake on warm days and long flights is mandatory.

Boredom is another major cause of fatigue. One hour of boredom can consume as much nervous energy as an entire day's work. Boredom subtly induces fatigue and can cause the inability to react quickly to an emergency situation.

Glider and tow pilots cannot afford to ignore the symptoms of fatigue and its many causes because failure to recognize them may cause an aircraft accident. ❖

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4	Insigne FAI d'OR, plaqué d'or	
5	DIAMANTS pour insigne FAI	
6	Certificat FAI de vol à voile (recueil des insignes)	
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HP-11A, 1969, 200h, NDH, Winter & Filsler varios, T&B, Two radios, O2 with mike in mask, bailout bottle. Hydraulic brake, two chutes, Winter baro, hangar dolly, tie-downs, Schreder trailer, tool box, rigging clamp and miscellaneous spare parts. Best offer over \$8000. Horst Dahlem, (306) 955-0179 or <dahlem@sasktel.net>.

PW-5, C-GLDY, well cared for PW 5 in excellent cond. \$35,000 with good Avionics trailer, \$26,000 without trailer, obo. Evelyne, <evcr@telus.net>, (250) 342-9602. Pictures and more info at <http://web.mac.com/ewsflys/iWeb/PW5/PW5_Intro.html>.

PW-5, C-FEPW, 1998, 700 h. No damage history, excellent condition. Custom Avionic trailer. Asking \$29,750, negotiable. Ray Perino, Invermere, BC (250) 688-5052 <pw5@shaw.ca>.

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Jantar, C-GVTZ, 2419h, refinished in 1995. PIK encl. trailer. \$16,000. Ray Ochitwa, <nowhere@telus.net>.

Kestrel-19, C-FDZV, 1974 1300 h, owned by AME since new. New polyurethane in 2005, looks better than new. Easy rig trailer, Borgelt B-50/Winpilot. At SOSA, \$22,000. Steve <os.burany@utoronto.ca>.

ASW-20, 1982, 830h. All ADs. Good cond, fair gel-coat. Basic equip, Borgelt B40 vario, B500 final glide/nav comp, built-in GPS. Both instruments under warranty. Dittel ATR 720 with boom mike, v.g. pee tube system for in-flight comfort. Older diluter demand O2. Simple, safe Wedekind rigging fittings. Komet trailer. US\$32,000, in Quebec, (450) 647-2745 (days) or <soarsveinx@yahoo.com> (remove xx).

ASW-20, C-GGGE, 1979, 1200h, Komet trailer, refinished wings, excellent cond. Asking \$45,000. (403) 282-2723, <kevin.karin@shaw.ca>

ASW-20A, C-GTRM, 1981 Komet trailer. Offers. (604) 657-7241, <horst_pilz@telus.net>.

Pik20D, 1977, 1285h. Factory trailer, water, O2, Terra 760D, chute. This model has flaps & spoilers. \$25,000. Brian (604) 467-0020 or <pikfly@shaw.ca>.

Slingsby Dart, T51/17R, 961 h TT, new canopy, Ball vario, Microair radio with boom mike, O2, excellent trailer with good rigging aids. Owned and maintained by AME in Red Deer, AB. \$13,500 obo. Contact Blaine, (403) 886-5401 or Ernie, (403) 616-6397 for

further detail. Photos at <http://web.mac.com/ewsflys/iWeb/Dart17/DART17_Intro.html>.

SZD-36 Cobra, C-GQWQ, 1977, 897h. No damage. L/D 38/1, A-1 condition, kept in hangar. Modified PIK-20 fiberglass trailer. Located in Toronto. Asking \$15,000. Charles Kocsis <karoly_cobra@yahoo.com> (416) 908-5638.

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Super Ximango, motorglider, 1996, TTAF 266, TTEN 245. 2-place side-by-side w/bubble canopy. 57.3 foot wing folds to 33.3 ft. Rotax 912 4-cycle engine with liquid cooled heads, 81 hp. Hoffman 3-position feathering prop. Full panel. US\$98,000 (replacement cost over \$195,000) More detail on SAC Classifieds web page. <gcfinlay@rogers.com> or call Greg at home (519) 884-7973 or cell (519) 841-9221.

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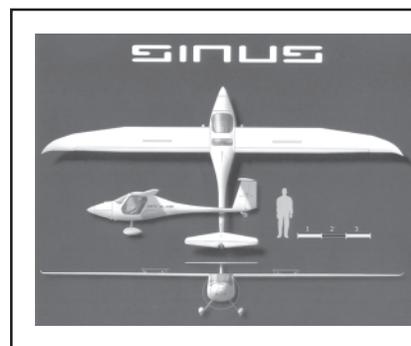


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St. Raymond A/P, QC
Richard Noël ickx@videotron.ca
www.cvvq.net
club phone (418) 337-4905

MONTREAL SOARING COUNCIL
CLUB DE VOL À VOILE DE MONTRÉAL
Hawkesbury, ON
Peter Trent (514) 739-6182
ptrent@colba.net
club phone (613) 632-5438
www.flymsc.org

Ontario Zone

AIR SAILING CLUB
NW of Belwood, ON
Stephen Szikora (519) 836-7049
stephen.szikora@sympatico.ca

ARTHUR GLIDING CLUB
10 Courtwood Place
North York, ON M2K 1Z9

BONNECHERE SOARING
5.5 km N of Chalk River, ON
Iver Theilmann (613) 687-6836

ERIN SOARING SOCIETY
7 km east of Arthur, ON
Peter Rawes (905) 838-5000
www.erinsoaring.com
info@erinsoaring.com

GATINEAU GLIDING CLUB
Pendleton, ON
Roger Hildesheim (613) 838-4470
www.gatineauglidingclub.ca

GREAT LAKES GLIDING
NW of Tottenham, ON
Craig Wright (905) 542-0192
postmaster@greatlakesgliding.com
www.greatlakesgliding.com

GUELPH GLIDING & SOARING ASSN
W of Elmira, ON
Paul Nelson (519) 821-0153 (H)
www.geocities.com/ggsa_ca/

LONDON SOARING CLUB
between Kintore & Embro, ON
Cal Gillett (519) 425-1679
info@londonsoaringclub.ca
www.londonsoaringclub.ca

RIDEAU VALLEY SOARING
35 km S of Ottawa, ON
club phone (613) 489-2691
info@rideauvalleysoaring.com
www.rideauvalleysoaring.com

SOSA GLIDING CLUB
NW of Rockton, ON
(519) 740-9328
www.sosaglidingclub.com

TORONTO SOARING CLUB
airfield: 24 km W of Shelburne, ON
David Ellis (705) 735-4422
www.torontosozaring.ca

YORK SOARING ASSOCIATION
7 km east of Arthur, ON
club phone (519) 848-3621
info (416) 250-6871
www.YorkSoaring.com
walterc@sympatico.ca

Prairie Zone

PRINCE ALBERT GLIDING & SOARING
Birch Hills A/P, SK
Keith Andrews (306) 249-1859 H
www.soar.sk.ca/pagsc/

REGINA GLIDING & SOARING CLUB
Strawberry Lakes, SK
Orlan Dowdswell (306) 536-4119
or (306) 789-3302
www.soar.regina.sk.ca

SASKATOON SOARING CLUB
Cudworth, SK
Clarence Iverson (306) 249-3064 H
cinverson@shaw.ca
http://www.ssc.soar.sk.ca/index.htm

WINNIPEG GLIDING CLUB
Starbuck, MB
Starbuck, MB
(204) 735-2868
info@wgc.mb.ca
www.wgc.mb.ca

Alberta Zone

ALBERTA SOARING COUNCIL
Phil Stade (403) 933-4968
asc@platinum.ca
Clubs/Cowley info: www.soaring.ab.ca

CENTRAL ALBERTA SOARING CLUB
Innisfail A/P, AB
Shane Cockriell (403) 346-0543
shane-o@telusplanet.net
www.cagsoaring.ca

CU NIM GLIDING CLUB
Black Diamond, AB
Al Hoar (403) 288-7205 H
club phone (403) 938-2796
www.soaring.ab.ca/free-flt/cunim

EDMONTON SOARING CLUB
N of Chipman, AB
John Broomhall (780) 438-3268
www.edmontonsoaringclub.com

GRANDE PRAIRIE SOARING SOCIETY
Beaverlodge A/P, AB
Terry Hatfield (780) 356-3870
www.soaring.ab.ca/free-flt/gpps/home

Pacific Zone

ALBERNI VALLEY SOARING ASSN
Port Alberni A/P, BC
Mark Harvey (250) 748-1050
countryroad@shaw.ca – http://avsa.ca

ASTRA
Dennis Martin (604) 220-9177
martin_dennis@precisiongutters.com

CANADIAN ROCKIES SOARING CLUB
Invermere A/P, BC
Ray Perino (250) 688-5052
exec@canadianrockiessoaring.com
www.canadianrockiessoaring.com

HOPE GLIDING CENTER
Hope A/P, BC
Fionna Bayley (604) 682-4569
club phone: (604) 869-7211
hope.gliding@yahoo.com

PEMBERTON SOARING
Pemberton A/P, BC
Rudy Rozypalek (604) 894-5727
info@pembertonsoaring.com
www.mountain-inter.net/soaring/

SILVER STAR SOARING ASSN
Vernon A/P, BC
Mike Erwin (250) 549-1397
www.silverstarsoaring.org/