



free flight • vol libre

3/84 May-Jun

MUSINGS

Last issue I thanked you for your trust in the board, the National Office staff and myself as we worked our way through a difficult year. In this issue too, I must thank you for electing me to serve for two more years as Director-at-Large, and your board for electing me to be your President for another year. I'll do my best to sustain your trust. While there will be more detailed reviews elsewhere of board meetings and, of course, the AGM, I would like to comment on four items for emphasis and personal perspective.

SAC FEES The good news is that, thanks to Jean's initiative, the 1984 SAC fees are now income tax deductible, save for an "apparent" subscription value for **free flight** of \$18. Remember please that starting in 1984 the old universal \$100 medical/charitable deduction that we all could use is gone. Repeat – gone. So your SAC fees will help to keep your disposable income at least constant, all other things being equal.

The reason we had to increase fees at the last minute is essentially due to things going wrong at the last minute. For example, the second class mail route through COPA was blocked by the Post Office. Your Board also felt that directors needed insurance to protect their personal assets (company law can hold us personally liable for many things – the most important are negligence and staff relations), and in truth, our accounting system made it easy for us to overlook a couple of items until the last minute. We now know where most of the pitfalls reside. I believe we'll be free of this kind of error from now on. Jean is revamping our accounting to ensure our presentation and understanding is clearer than before.

INSURANCE No surprises this year; some rates are down, the deductible is down, and the rest did not go up. I just insist that you look carefully at the data in Al Schreiter's report in the annual report bundle (two copies will be at your club soon). If you want a personal copy – write, it will be sent. The report outlines the erratic and increasingly expensive accident experience we had up until 1983.

I was able to show graphs at the AGM, and Tony Wooller of Johnson & Higgins commented further, that on the basis of two years detailed evaluation, there was no pattern to the value-class of gliders that had accidents. I say this even though claims from the lowest value-class of gliders in 1983 exceeded their premium income and in 1982 they had a good whack at it. Two years is just not enough time to make a case. We may have a special article on insurance data in a later issue of **free flight**.

Remember please, that the basic principle of all insurance is shared risk and experience. Because we are an association of clubs, we look at what is good for the clubs first, the individual owners next. Above all if you can find a better deal elsewhere, won't you share your facts with the rest of us? I know that the Insurance committee and Tony Wooller would love to know who can do better. In fact, if you think our scheme is poor, consider this:

- The best rate for full insurance for an aircraft in an RCFCA club is, we understand, 4%. It goes as high as 9%. Liability is additional.
- The rate quoted in the March 1984 issue of "Canadian Aviation" for a 500 hour pilot with no retractable time to insure the hull on a privately-owned \$40,000 Arrow was \$2200 (5.5%). For the same pilot, the fixed gear \$36,000 Cessna 1982 rate was \$1600 (4.4%). Can you imagine the rate for a minimum hour, freshly-learned pilot? The article noted too that after 250 hours on type, presumably with no accident, the \$600 spread would come down to \$150. That's 750 hours experience of which 250 are on type to get a 4.25% hull rate on a \$40K aircraft. Need I say more?

I'm not trying to say that there is no better deal than the one we have; every activity has room for improvement – especially when earned. I do believe however, that we have a better scheme than is often acknowledged. And, once again, if you know of a better deal, let's hear the specifics; the who, where, what aircraft, how much and please be sure that all benefits are the same. Finally, I must note that despite invitations, not one alternate broker, agent or underwriter (including our previous broker), provided a written bid. There were promises, but nothing on paper.

TRUSTS Your Board recommended to your representatives at the AGM, and they agreed, that the best use for the \$9000 or so that we should receive as a refund on the 1983 insurance premium is to deposit it in the Pioneer Trust. The income from the trust will be a benefit, I hope, for as long as soaring is a sport in Canada. Elsewhere in this issue there will be an article on trusts that will review the purpose and operation of the four we now have. If you have questions or concerns about trusts, or any other matter, please write or phone your Zone Director. If you are in Toronto and want to chat, phone or stop by the house. Coffee is always on and there is usually beer in the fridge.

PEOPLE After many years of service to the Association in a variety of roles, Dave Marsden has chosen to not renew his tenure as Sporting committee chairman. He will serve until a replacement is found. Thanks Dave. I hope you have many happy hours in the Spectre. Linda Essex resigned in March for personal reasons. Not being selected as the replacement for Jim Leach was, I know, a major disappointment for her. Thanks for past services Linda, and good fortune in your future tasks. Susan Gély has now joined the SAC office; welcome Susan, we hope you will enjoy "secretarying" with us.

When this issue reaches you, we should all be flying. Remember please there are crocodiles out there – waiting. Let's starve them all. Fly well, fly often, fly safely!

PS Let the Manitoba Soaring Council show us how fine a Nationals contest they can run by having many entrants in all classes – Club, Standard, 15 Metre, and Open. Virden looks like an interesting spot.

"We have seen others swallowed by crocodiles,
and we have learned from their mistakes."



...the late King Sobhuza II of Swaziland

AFTER LICENCE WHERE?



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 Royal Canadian Flying Clubs Association (RCFCA), the Canadian national aero club which represents 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, issuing FAI badges, record attempts, and the selection of a Canadian team for the biennial World soaring championships.

free flight is the Association's official journal.

Material published in free flight is contributed by individuals or clubs for the enjoyment of Canadian soaring enthusiasts. The accuracy of the material is the responsibility of the contributor. No payment is offered for submitted material. All individuals and clubs are invited to contribute articles, reports, club activities, and photos of soaring interest. Prints (B & W) are preferred, colour prints and slides are acceptable. Negatives can be used if accompanied by a print.

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 SAC Zone Director. Directors' names and addresses are given elsewhere in the magazine.

All material is subject to editing to the space requirements and the quality standards of the magazine.

The contents of free flight may be reprinted; however, SAC requests that both free flight and the author be given acknowledgement on any such reprints.

For change of address and subscriptions to non-SAC members (\$18.00 per year) please contact the National Office.

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5 Deadlines for contributions
5th day of each even month

Ian Oldaker
Erin

A cursory look at our membership figures over the past few years shows that our Association is in real trouble, unless we can reverse the current trend. We have an alarming 25% decline in membership since 1979, a compound annual rate of just over 5%. This is one member lost per annum for every twenty club members. Which way will we go in 1984?

Just to maintain our 5% loss, we will need to mount the same sort of membership drive for 1984 as we had in 1983! To stop the decline we will need to double our efforts, and to reverse the decline – well, it is perhaps not so simple.

Why have we had this decline? We are not alone and other organizations are affected. For example, the BGA experienced a decline in UK memberships starting in 1978⁽¹⁾; and the USA, with their current drive for new members, show they have recognized this as a problem as well.

There are several possible reasons for declining numbers, such as:

- a limit to growth, the club has limited facilities
- poor club management
- competition from other sports
- the recession
- a declining willingness to work at the sport

In 1983 the Kawartha club recognized⁽²⁾ their serious situation, decided to do something about it, recruited several new members, bought another Blanik and had a great season. In 1985 they are looking at perhaps 60 members, up from 15 in 1983⁽³⁾! **Positive thinking and a commitment to a goal can make it work.** I am sure others have similar stories, but I have not been made aware of them. Limits to growth can be overcome in other ways; for example, the Winnipeg club have purchased a new field several times the size of their old one. We wish them luck with establishing themselves at the new location this year.

Club management – good management is clearly better than poor management – has been discussed elsewhere⁽⁴⁾.

Competition from other sports could be a factor; however, I believe we cater to a different breed of cat than does hang gliding or microlight flying. We forget sometimes that the power flying clubs are a great source of potential glider pilots – we should be giving more thought perhaps to how we “convert” a power pilot into a glider pilot.

The recession – yes, but how do you explain Kawartha's experience?

We are all getting older and are less willing to push gliders around. My answer is, well, let's go out and get our sons and daughters and friends more involved. Let's make it attractive for the younger ones to join. In Germany, fully a quarter of their members are students under 21⁽⁵⁾. These people provide the base for the sport in the future years (even allowing for a period of non-gliding while they get settled into jobs and families – they'll return). I'll need all the help I can get in another 20 years, so I intend to get some youth in my club now! *[To all you private owners: it is in your own self interest to actively seek out members. It is the student which provides the most income for most clubs — without them, would you have the facilities to do your own thing? Tony]*

Looking at some other numbers, for example, we achieve one Silver C badge per year for every 50 members. The UK pilots achieve one Silver C per 35 members per year. It would be interesting to see the German figures but I don't have them. I would like to think that we have rather more opportunity and space to fly cross-country than do the UK pilots – yet we seem to soar less. Are we developing too much into glider pilots and not soaring pilots.

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L'ASSOCIATION CANADIENNE DE VOL À VOILE

est une organisation à but non lucratif formée de personnes enthousiastes cherchant à protéger et à promouvoir le vol à voile sous toutes ses formes sur une base nationale et internationale.

L'ASSOCIATION est membre de "L'Association Royale Canadienne des Aéro Clubs" (RCFCA – Aéro Club National Canadien), représentant le Canada au sein de la Fédération Aéronautique Internationale (FAI, administration formée des aéro clubs nationaux responsables des sports aériens à l'échelle mondiale). Selon les normes de la FAI, l'ACC a délégué à l'Association Canadienne de Vol à Voile la supervision des activités de vol à voile telles que tentatives de records, sanctions des compétitions, délivrance des brevets de la FAI, etc. ainsi que la sélection d'une équipe nationale pour les championnats mondiaux biennaux de vol à voile.

vol libre est le journal officiel de l'ASSOCIATION.

Les articles publiés dans vol libre sont des contributions dues à la gracieuseté d'individus ou de groupes enthousiastes du vol à voile.

Chacun est invité à participer à la réalisation de la revue, soit par reportages, échanges d'opinions, activités dans le club, etc. Un "courrier des lecteurs" sera publié selon l'espace disponible. Les épreuves de photos en noir et blanc sont préférables à celles en couleur ou diapositives. Les négatifs sont utilisables si accompagnés d'épreuves.

L'exactitude des articles publiés est la responsabilité des auteurs et ne saurait en aucun cas engager celle de la revue vol libre, ni celle de l'ACVV ni refléter leurs idées.

Toute correspondance faisant l'objet d'un sujet personnel devra être adressé au directeur régional dont le nom apparaît dans cette revue.

Les textes et les photos seront soumis à la rédaction et, dépendant de leur intérêt, seront insérés dans la revue.

Les articles de vol libre peuvent être reproduits librement, mais la mention du nom de la revue et de l'auteur serait grandement appréciée.

Pour changements d'adresse et abonnements aux non membres de l'ACVV (\$18.00 par an) veuillez contacter le bureau national.

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5

OPINIONS

STORY SHORT CHANGED?

Having participated as a crew member of the Canadian Gliding Team in the last two World Championships, I am firmly of the opinion that such experience is invaluable to those participating – the pilots invariably say that they had no idea that so much could be done in a glider and that they learned a great deal. I also believe that the gliding 'public at large' should benefit as much as possible from this, learning of different strategies and philosophies of cross-country flying, as well as of the workings of international competitions. 'Free Flight' is one of the logical media to convey this information to our dispersed population, so it was with a feeling of being honoured that I agreed to write an article on the competition at Hobbs ... and with a feeling of intense embarrassment that I saw the final result.

After going to great lengths to be as brief as possible, omitting a multitude of details and anecdotes, I was appalled to find that due to space considerations, the map of the contest area, as well as most references to place names and much of the information about the tasks had been deleted. Very few scores were presented, and none of a large number of fine, high contrast, black and white photographs were printed, which I had asked David Palfreeman to take for the story. Immediately upon receiving news of this editing I telephoned to request postponement of printing of the article until it could be presented in its entirety, only to be told that I was too late. All of this occurred in spite of a specific request that changes be made only with my consent. I believe the net result of this was to over-emphasize the 'fun' side of the competition, making our efforts appear frivolous. After this experience I can easily understand others' reluctance to write, when they have no control over the end product.

Meg Sears

Meg's letter provides the perfect platform to acquaint everyone with the effect deadlines have on what appears in free flight.

First, a little background. Sept-Oct 83 was to be the contest issue, having accounts of Hobbs and both Canadian Nationals. I had contacted the Team Manager to ensure that someone was chosen to write about Hobbs, and passed on the deadline date (look at the bottom of pages 2 or 3). After deadline, I have less and less freedom of choice in the preparation of the magazine – both the local typesetter and later, the Ottawa printer, have their own separate work schedules to maintain which I must accommodate myself to; it is entirely possible that if I am late in the layout on just the wrong day, it could "ripple" into a week by mailing time.

Whatever the reason, Meg's write-up did not get into my hands until well after the normal deadline. Meanwhile, the layout proceeded, and by the time I got it, the magazine was largely completed except for three remaining blank pages, which I had saved. I was committed to both using the story and to editing it down to fit. I make no apology for that. By the way, in keeping with the priority editorial policy of having free flight as topical as possible, I had no intention of placing a contest story in the Christmas issue. If this story (and those of the Nationals) had got to me in good time, it is entirely possible that I could have expanded the magazine an increment of four pages to allow the inclusion of more material.

In editing Meg's manuscript, I did my best to maintain her style while keeping in a maximum of "Canadian" information. This meant dropping the contest map (and direct references to it) and the photographs supplied (my regrets to David Palfreeman). I assumed that those pilots with a very strong interest in all aspects of the world contest would get other information from other magazines.

On re-reading the article, I must dispute Meg's claim that the tone of the story became frivolous as a result of the editing. If anything, it was drier than the original since much of the non-contest "colour commentary", the fun stuff, had to be cut.

In conclusion, I will always attempt to honour the requests of free flight contributors, but they must also respect (and I hope now understand) the time limitations placed on me. In order for your offerings to receive tender-loving-care, they must be in my hands early. I get more sleep that way, and everyone is happy. Tony.

KSANDER'S KOLOUR KOVER

Just a short note to say thank you for the pleasant surprise, all of us at Kawartha Soaring are very pleased to have made the first colour cover on our free flight magazine.

With some luck, we will send you more "good ones" this season.

Hermann Ksander

How short are our memories! Apologies to a past editor, Bob Nancarrow, who used a colour cover on the May-June '78 special world contest issue. So Hermann and I both must swallow our pride, alas ... I can't even say the second colour cover for sure, not having a complete set of magazines at hand to inspect, but I think it is. Tony.

continued on next page

OPINIONS

SAC FINANCIAL STATUS 1983 A POLICY QUESTION?

The membership at the 1984 SAC Annual General Meeting passed the following motion raised from the floor:

"That the SAC abide by the federal government's South Africa policy in order to become eligible for federal government funding."

The motion was passed by a 91% majority. Implied in the motion was that SAC, in accordance with present government policy, would not sanction a team at international competitions in which South Africa participated.

At the previous SAC Annual General Meeting in 1983, with the USA Internationals only a few months away and the feasibility of sending a team at much lower costs than normally required for participating overseas, the majority of the membership was prepared to accept the risk of loss of government funding for three principal reasons — first, because much of the membership disagreed with the South Africa policy condition associated with the receipt of government funding; second, because the SAC had not been informed explicitly that funding for its general program would cease if the SAC sanction participation; and third, because some members of the Board of Directors believed that adjustments could be made to retain a balanced budget and that "participation would not cost the general membership one extra cent." Not all members were in agreement with this decision because of their concern for the non-competition programs of the Association and several resigned from important positions.

Following this AGM, the international team did participate at Hobbs, and the federal government did cut off funding from the general program when it learned of the Association's action. However, the membership did not receive information on what the new priorities were and how they were being pursued by the Board of Directors to adjust to the changed financial circumstances.

The membership, as part of the notice of the Annual General Meeting, dated 9 January 1984, received its first communication from the Board on the Association's finances. Unfortunately, only cash flow information for the calendar year 1983 was presented and this provided little insight into the financial performance of the Association relative to whatever revised budget the Board was using for the fiscal year which ran from 1 April 1983 to 31 March 1984. Clarification of the Association's financial health was badly needed, and ensuing discussions with the new Executive Director resulted in a revised budget and fee structure being presented to the delegates at the 1984 AGM. Even though the fees were increased by 6%, and it was

assumed that a growth in membership of 5% would occur (compared with a loss of 10% in 1983), and advertising income would be doubled to unprecedented heights; a government contribution of \$10,400 on anticipated total SAC expenses (excluding competition and insurance) of about \$120,000 would still have been required to achieve a balanced budget for a program which was reduced to less than bare bones and which made absolutely no allowance for greater expenditures on programs to increase membership and to provide those services which would make the question of "what is the SAC doing for me?" be asked less persistently. Merely maintaining the services of 1983 and accepting the projections of the budget for increased revenues would have resulted, without government funding, in a deficit of about \$16,000.

A serious situation was obviously facing the Association. Moreover, analysis of the financial performance during the 1983/84 budget year gave no cause for comfort. It is estimated that a deficit on operations of about \$13,000 occurred, and this despite a couple of significant favourable factors from the financial point of view, namely, a government grant of \$3,300 before funding was cut for the rest of the year, and a saving on salaries of \$5400 due to the position of the Executive Director being vacant for several months.

What has the effect of 1983 been on the Association's reserves? The books are closed on 31 December of each year, and an audited statement is provided for the membership at the AGM. Expenditures between 1 January and 31 March are about 38% of the annual expenses (approximately \$40,000 for 1983-1984) and the only offsetting income is that from government grants and a little from "Free Flight" advertising. A graph of the members' equity on 31 December (actual) and 31 March (estimated) is shown in the figure in terms of the months that those reserves would last into the next budget year, based on the average annual expenditures, excluding insurance, since 1977. The Association was down to funding for about ten days of

operations at the end of the last budget year compared to a peak of just under eight months of funding on 31 March 1980. It was clear that the Association could not afford a further loss in equity this year! Moreover, the indications from the proposed budgets were that the Association would be in the red after about ten months into the 1984/85 budget year if it received neither government support nor revenue from markedly increased membership fees.

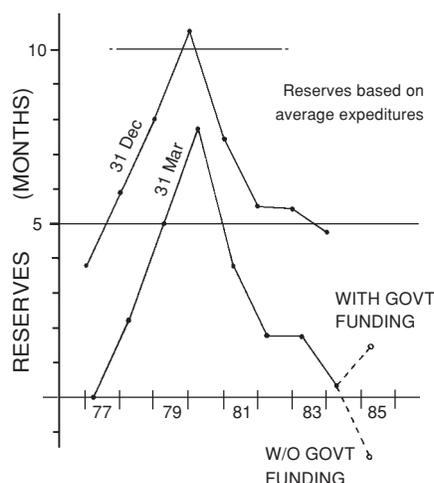
What were the options available? Only three. First, a drastic reduction in some of the services of the Association, a move which was generally considered as leading to a set-back by several years to the programs of the national movement. Second, a major increase in the membership fees, generally considered to be unacceptable in the present economic climate. Third, the acceptance of the terms and conditions associated with the receipt of government funding. The latter was the only option that gave any scope for tackling some of objectives of growth and enhanced performance in the sport, although it did lead to the potential inability to field an international team in Rieti, Italy, in 1985 if South Africa were to participate there.

To assess the penalty of this, it is worth taking stock of the performance of Canada in international competitions since 1978. Despite occasionally strong performances by individuals, the overall team performance has slipped steadily since 1978 (from 6 to 21). It is apparent that other nations are being more effective in achieving depth and consistency in their teams' performances. As in other sports, it is clear that consistency is only achieved through persistent and frequent practice in a competitive environment. Our team has been unable to accomplish this by virtue of lack of financial support and perhaps of time by the top competitors. It can be persuasively argued that what is needed to achieve enhanced performance is a solid batch of domestic and other North American competition practice which is properly funded and in which an entire team squad can participate, rather than just sending an incompletely prepared and underfunded team to fly in international competitions on the basis of having participated in only one competition per year in Canada. We go to win and the current methodology is not allowing us to achieve this aim. A properly supported training program (yes, with federal government funding) aimed at the Australian Internationals in early 1987 in which South Africa is unlikely to participate, may do more to enhance a Canadian team's performance than would an underfunded program of flying both in Rieti and Australia without government support.

It is for the above reasons that I believe that the delegates demonstrated wisdom in choosing to support the referenced motion at AGM 1984. Not only does this resolution give the general program an opportunity to be effective, but it could also provide a solid foundation for improvement in the performance of Canada's top competition pilots. The opportunity should not be wasted.

Karl Doetsch

SAC ESTIMATED EQUITY
IN MONTHS OF RESERVES



ROLLING YOUR OWN

You are never too old to learn. Terry admits that his story was written partly as a prod to those who are allowing weeds to grow on their soaring skills.

Terry Macartney Filgate SOSA

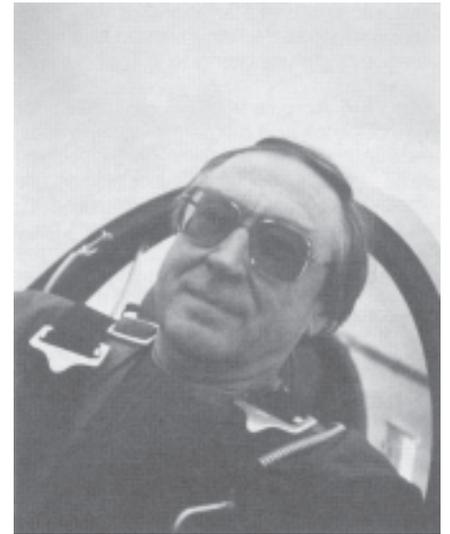
It was the summer of 1981. For two years a clipping about introductory glider rides had hung yellowing on my pin board. In a few weeks I would be 57 and felt I ought to treat myself to something I had put off for so long.

The introductory flight at Erin Soaring was on a turbulent day. I decided that this was something well suited to my temperament and settled down to learn how to fly gliders. My first instructional flight in a 2-33 ended in a blinding rain storm with the instructor hanging his head out of the cockpit trying to see the runway. I put in an hour over the next two weekends, and though this was good for the adrenalin, I decided that with "time's winged chariot" on one side and sailplanes on the other, I should speed things up. I went down to the Schweizer Gliding School in Elmira, and two weeks and 46 flights later had 9:44 hours solo in my log book on the 2-33, 1-26 and 1-36. I

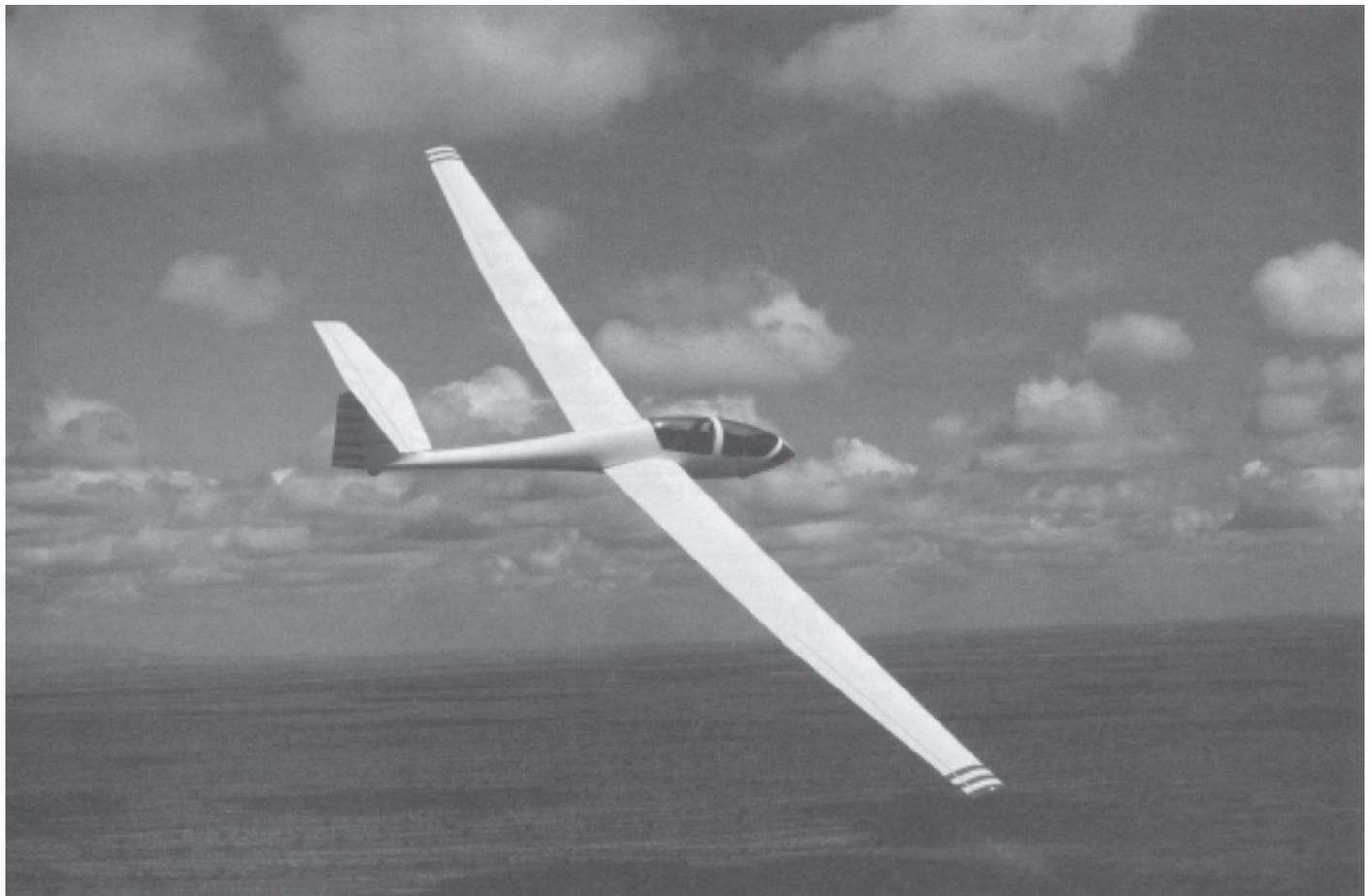
could now come back to my club and start on the serious part of learning to fly – gaining experience.

This brings me up to January 1984 with some 344 flights in my log book and having worked my way club fashion through the Blanik, Lark, Grob Twin, Grob 102, Hornet and sundry other sailplanes. It's my 60th year and I obviously ought to celebrate it. I had seen an advertisement in SSA's SOARING magazine on learning aerobatics at Estrella, Arizona. This looked like just the activity to keep the blood circulating and tone up the old nervous system. A phone call to Les Horvath at Arizona Soaring and I was off in February to deep blue skies and warm desert days. Estrella Gliderport is 35 miles southwest of Phoenix, and 7 up a dirt road from Maricopa. A large, well equipped hangar contained, amongst other machines, two lovely Grob 103 Acro Twin II. The Acro's

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Terry flies SOSA's Grob Twin



handling is the same as the Grob Twin Club: very docile, a slow roll rate and great vision and comfort for the pilot. *[The Acro has been strengthened for aerobatics, principally by a beefed-up spar, and steel push-pull tubes rather than aluminum in the control system. Tony]*

After a checkride and demonstration of a "slack line" release, and nosing along the Estrella ridge – a fearsome range of giant rocks to be treated with great respect – I was ready to get down to the serious business. I got a detailed briefing from Les on aerobatics with explanations of why controls are reversed when inverted and what we were hopefully going to learn.

Out to the Aero, a walk round, check for small pebbles and dirt on the cockpit floor, headrests as far as they can go; then chute, straps, cockpit check, hook up, canopy locked, thumbs up, waggle rudder American style, and off we went on a 5000 foot tow. Estrella's Pawnee towplanes take the Acro off much faster than we can do with a Citabria on the grass field at my home club.

After release we did a double clearing turn and then we were ready for business. Only the front cockpit has a G-meter so I was asked to call out the reading as a loop was demonstrated. Les, who is a very precise instructor, had told me where to stow my left hand during aerobatics: three fingers on the cockpit ledge and thumb and forefinger loosely around the dive-brake handle. Nose down 45-60 degrees, 100 knots on the clock, then pull back progressively to 4 g's and up we went. Then head back to watch for the horizon, ease back pressure on the stick, then downwards with back pressure and about 2 g's on the pull-out into a steep climb, levelling out just before stall. You should not lose more than 150 feet in a loop.

Another loop, but instead of completing it we carry on at the top in inverted flight. I hang there in my straps – a small stone falls past my nose en route from cockpit floor to canopy. My glasses want to fall up my forehead (I wore a sports headband after this). Now's the time for the adrenalin and sweaty palms. The difficulty of unlearning habits with controls reversed becomes apparent; you have to push the stick to raise the nose above the horizon to reduce speed and conversely, stick back, nose drops and speed increases. The glider flies inverted in what seems at first a considerably nose-up attitude. As you push the nose up, of course you move further back in your seat and the stick seems inordinately far away. To turn, you move the stick in the opposite direction, stick to the right turns you left. Almost total mental blockage and confusion is beginning to take over.

"Turn right", Les says, and I turn left.

"Must sort that one out," says part of my inverted brain.

"Reduce speed", says Les, "inverted flight is best around 70 to 75 knots, stall is somewhere around 60 knots – there is less lift with the flatter side of the aerofoil uppermost."

"Don't hang on the stick as a handle – you're not going to fall out." I still don't quite believe him but there we are flying around with the desert passing above my head and it does not seem far to fall to. He demonstrates how to roll out: speed about 75 to 80 knots, stick firmly to one side, then forward to prevent the nose dropping and the speed build up, full opposite rudder to correct yaw, and stick back as we come out of the half roll to control attitude and airspeed, and rudder centralized to again correct yaw. I feel much older already and that familiar "Why-am-I-doing-all-this?" feeling seizes hold of me.

But, there is no engine to let us waste time in the skies, so now a half roll into inverted flight is demonstrated. Nose down to 100 knots, pull up until it is just above horizon, pause an instant to lock that position then stick firmly over to the left. As you roll past vertical, a little top rudder and stick progressively forward keeps the nose above the horizon. All this is coordinated of course. The small stone bounces back into the canopy roof and now more inverted flight. Some turns and I try an inelegant roll out. I try another loop: head back and levelling wings on the horizon, I ease off the stick a little too much and we hang in our straps before dropping into the pull out. Les explains that however much I may like this, it is what it looks like from the ground that matters. Some more rolls into inverted, one more loop, then wingovers down to 1500, and in to land.

In the immediate debriefing, Les suggests not holding the stick in my fist as arm muscles tighten and presto, you unconsciously pull on it, and if upside down, the nose drops and speed builds up. "Hold it", he says "in the crook between thumb and the rest of the open hand, so you can push without unconsciously pulling back. It also stops you hanging on to it as a handle when inverted. Now go away and think quietly through all your maneuvers to set a pattern in the mind rather than mechanically doing things." An excellent suggestion. I have found that when not flying, 'thinking' my way on tows, in and out of spins, around circuits and landings, is a very good way of setting good but unconscious flying habits. I had a release fail in a Blanik on my last flight in 1983 ... I had turned and was on a downwind landing with flaps out, dive brakes on, trim and speed set before I even consciously thought about it. I had flown that situation in my mind many times before.

Next flight, more of the same, and a demonstration of a cloverleaf loop. My turn; I goofed my first loop badly as I did not ease off at the top and came out 5 knots below Vne – shudder in the glider and me – calm advice from the back seat. Rolls are taught by rolling into inverted flight, let everything settle down then roll out, eventually putting the two halves together in hopefully one smooth maneuver. Oh yes, I also learned to watch the yaw string upside down and other little details like that. I was taught that whatever the attitude, if there was speed build up, to use the dive brakes to get out of trouble ... a bit of learning put to use very soon.

After nine instructional flights Les said, "OK, you can try it solo now", and tied down the straps in the rear cockpit. "Have a nice one", says the line boy, and it's up and away to 5000 feet. A slack line release, a clearing S-turn, a deep breath. Nose down to 60 degrees, 100 knots, pull back, one eye on the G-meter to 4 g, head back, watch the horizon come over, level the wings, release back pressure on the stick, then down and recover, and up up up in a steep climb, only 150 feet lost. I try another loop, then pick a point on the horizon and roll inverted – my speed's too high – push forward on the stick and watch it slow down to 80 kts. I think I'll reduce it further, but then I'm below 70 and do a very sloppy roll out due to lack of speed and coordination. Try it again – a little better this time as I do a complete roll, but yaw badly on coming out. Do another, much better, then a couple of loops and wingover down, first right then left trying to keep lined up on a desert road.

Every pilot is familiar with that learning curve where suddenly things flatten out or even regress. I was on the regression the next day on my second solo aerobatic flight. A loop for warm-up, fine. Now for a smooth roll: nose down, 100 knots, nose above the horizon, stick smoothly over to the left stop, right rudder, and what's gone wrong!! I'm belting along inverted at well over a 100 knots ... continue the roll and speed is building up. Heart rate, adrenalin, mortality-feelings all going up ... also the ASI needle towards the red Vne mark. I open the dive brakes; it's a bit like flying through a rather solid wall of marsh-mallow. The speed drops much faster than my heart rate as I sort out everything into normal flight. Next time I cautiously roll inverted, check speed, fly along a bit hanging in my straps and roll out. Another roll, some loops to restore morale, then thankfully wing over my way down.

Time for more dual. I am entering the rolls nose too high, letting it drop as I pass through 90 degrees and building up speed. Les cleans up and explains my flying deficiencies, and then it's back to solo again. I do four more solo flights and can now do a passable roll and fly upside down to my quivering heart's content.

.....

Someone asked me what, at my age, I got out of all this. Certainly not feelings of youth; on the contrary, all exciting flying brings on feelings of mortality. What aerobatics have done for me is to hone my flying ability and give me a strong sense of confidence that whatever happens in a sailplane, I can handle myself and get the machine from unusual and potentially frightening positions. Also, there is the satisfaction of learning something new. Good flying is sometimes handling fear in a creative way. You never finish learning any skill. The day you know it all may well be the day it's all over.

Of course, I hope that if my club ever gets around to aerobatics, I will be there, doing beautifully coordinated rolls with the green fields of Ontario revolving smoothly around the canopy. □

Bumble and the Gremlins

Eric Newsome

Part 4 The Case of the Reluctant Release

With good reason Bumble hates tow ropes and all the sundry means of attachment and release that goes with them. Collectively they are awkward and untrustworthy and a prime attraction for the gremlin clan. The *Rope Ravellers*, for instance, can tie knots in ropes faster than Bumble can untie them and the *Short Link Stealers* have a seasonal appetite which is prodigious.

Sometimes the gremlins give Bumble a laugh instead of a hard time. When he does remember to check his release mechanism, no sooner has his assistant got his full weight on the rope, a gremlin leaps in and yanks the release, sending the unfortunate sprawling, to Bumble's great delight.

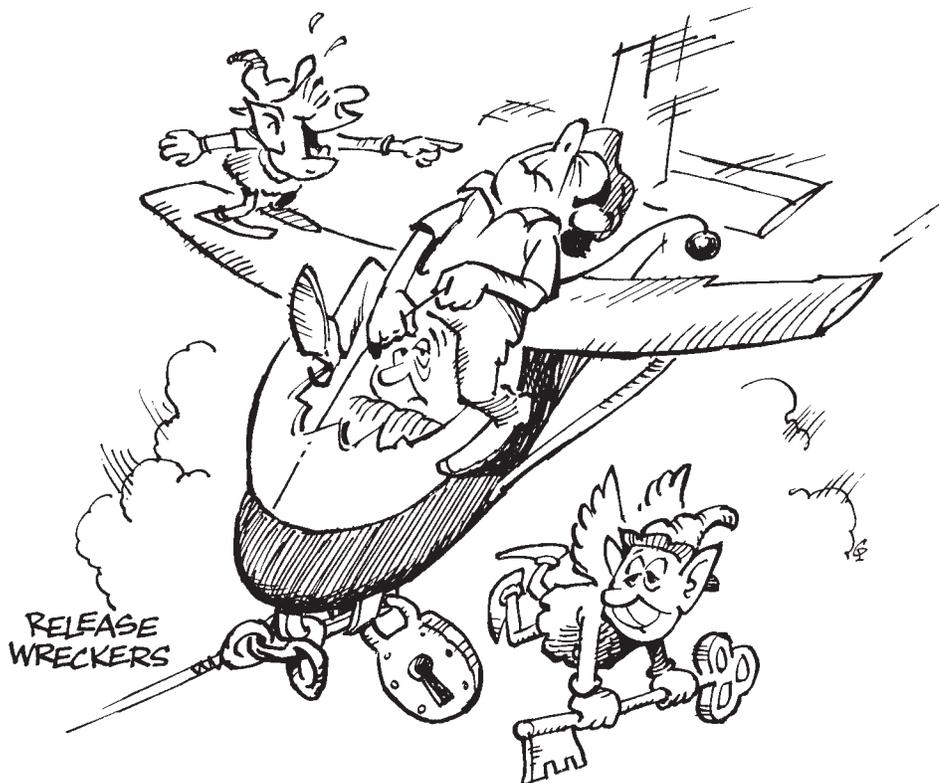
Decency bids me to pull a veil over the tow, except to say that the only time the tow rope is straight is when the *Levering Louts* have turned it into a bar with the solidity of steel. By pushing on it, they are able to lever Bumble into embarrassing positions in spite of his contrary control movements. But Bumble is only mildly disturbed, for he knows that the good thing about tows is that they end. At least they always have done to this point.



At two thousand feet Bumble nonchalantly pulls the release knob and with great elan peels off and up to the right. Suddenly something feels not quite right. Looking far down to his left he sees the towplane at an odd angle and from it the rope stretching up almost vertically towards the glider's nose. The *Release Wreckers* have been at it – he is still firmly attached. Bumble pulls on the release knob and sweats. He pulls and sweats some more. No use, the release is jammed.

Bumble skitters back into some kind of tow position with a loop of rope floating in the region of his left ear as he dives. He has visions of the towpilot diving away to land while he, firmly attached, sheds pieces of the glider into the slipstream. The towpilot will not dive, he has just recovered from a dive caused by Bumble's, tail-jerking antics. He would just like to fly straight and level and most of all he would like to get rid of Bumble.

He waits impatiently for the emergency release signal from Bumble. He is likely to wait a long time for Bumble, never being one for cluttering his mind with useless junk that he will never need, doesn't know what the signal is. Directly over the airport the towpilot finally reaches for his release and gives it a swift tug. Bumble remains in the same place in the rearview mirror. Now he cannot get rid of Bumble. He pulls again and the *Senior Release Wrecker* who delights in arranging for multiple release failures, for once relents and this time Bumble drops back with two hundred feet of rope trailing behind him. All might yet end well if Bumble doesn't try one of his famous low approaches and snag a fence. □



ANNUAL GENERAL MEETING

Al Sunley

MORNING SESSION On Saturday morning after registration, Phil White, of the Gatineau Gliding Club, officially opened the meeting. President Bob Carlson welcomed visitors H. Faust and Bill Knott of the Canadian Sport Parachuting Association, Howard Goldberg from the RCFCA, Paul and Ginny Schweizer from Elmira, New York, and Walter and Helen Piercy (SAC life members) from Kingston.

The chair reviewed the past year's operation and reported a small loss of membership in the last year and possible losses in the coming year, with the real concern it is causing due to loss of revenue. Clubs must generate programs to increase membership, both for their own benefit and ultimately for the SAC as a whole.

Safety was stressed by the chairman who reviewed our insurance history of large losses in the past few years, but noted the decrease of insurance claims in 1983 and requested equal diligence from the clubs in 1984.

Goals need to be set for the next year's operation regarding the size and direction of the sport. SAC needs input from the members on the support they want from SAC.

Don Dunn, Treasurer, reported on last year's revenue and costs, and gave a review of the 1984 budget. He stressed restraint, and reported the loss of general funds normally received from the government, held back due to SAC participation in the international contest. Loss of membership caused further reductions in revenue. Don presented figures showing \$73.70 of direct income per member against \$77 in expenses. There is a proposal to increase dues \$5 per member; this is with the anticipated \$9000 from FAS which will not be available if we do not accept government sports policy.

Karl Doetsch gave a clear presentation on the loss of equity SAC has suffered since 1979 [see Karl's analysis of SAC'S financial health on page 4]. Changes to budget at the last moment showed a decrease of \$16,000 either in net equity or loss in services (this, with a "balanced bare-bones budget), and SAC support. This should not be an acceptable position.

The members were told they must determine what the association's course in the future will be regarding funds and services provided. The chairman indicated further discussion in the afternoon meeting.

Ian Oldaker, chairman of Training & Safety committee, also stressed the decrease in membership, and noted the small number of younger members in SAC compared to Europe. Indications are, we are losing members before they obtain their licence – in other words, they are not getting hooked on the sport. He recommended the acquisition of modern two-seaters to decrease the gap between the trainers and the glass ships, need instructors who are soaring pilots capable of instructing and motivating the students on soaring. Ian introduced Terry Valeriotte from the Canadian Association of Coaches, who addressed the meeting on the National Coaches Certification Program and reviewed the program in other sports. CAC also have restricted funds and stress higher performance areas, causing decreases in lower levels of coaching funding.

Dave Marsden, chairman of the Sporting committee, reported on 1983's operations in the Nationals. There were a total of 38 contestants plus three outside of Canada, which was an increase from the previous years. He requested support from SAC for Nationals, noting the 1984 budget has no funds for the Nationals. Provinces have given support. The 1984 Nationals are to be held in Virden, Manitoba. The Sporting committee should become more involved in coaching the sport and in selecting the sites and organizing, and should become more involved in selecting team members. Dave is stepping down, and the chairman thanked Dave for his contribution to the committee for the past five years.

It was announced that members will now be able to claim income tax deductions for SAC fees. Also, national competition pilots could have expenses claimed as a tax deduction. An announcement will be made on this later.

The Insurance committee report was given by its chairman. He noted the decrease in claims for 1983 and showed that a review of premiums and claims did not support the premise that low value aircraft supported claims of the high value aircraft. Bob Gairns raised the question about dropping of Ron Wyatt Agencies as Insurance Broker. The question was answered by Tony Wooller. The Erin club asked that the Insurance committee be as such, as there were volunteers to serve on this committee. The chair indicated this is the intention that will be followed in 1984. There was a question from the floor why liability was tied to gliders and not to members. This was answered by Tony Wooller, that the underwriter requested this setup. Tony Burton asked why, in a group policy, the rate structure cannot

be modified to satisfy the majority of the group as long as the underwriters receive the total premium they see is required for the risk exposure. Tony Wooller said that he would be happy to go to the underwriters with our requests, and that the more information he has on our wishes, the better a job he can do for SAC.

Paul Sears reported on the Internationals. Paul reported on the change in the start gate operations, using the ground clock with no height restrictions. He indicated that there was a problem with the gaggles forming at cloud base of aircraft waiting to go through the start gate. On the question of justification for going, Paul thinks pilots should be sent to the Internationals; if you fly in competitions, improvements are developed in cross-country techniques. The information goes down the club level to encourage low level pilots.

AFTERNOON VOTING After lunch the meeting resumed with a request for proxies to be verified and a self-introduction of members.

Ursula Burton (Wiese) was given a vote of thanks for contributions in editing **free flight**. There is a motion to accept all the directors' and committee chairmen's reports. Seconded and carried.

Notice of motion regarding Bylaw No. 2: an amendment to change the wording was defeated. Bylaw No. 2 carried unanimously. Notice of Motion No. 1 Membership fees: there was considerable discussion on the fee structure. Before the vote, Karl Doetsch moved that the motion be tabled pending further discussion of the SAC budget. This passed. Then there was a motion by Karl Doetsch seconded by Don Dunn, that whereas SAC is faced with a substantial deficit if federal funds are withheld due to SAC'S competition policy of last year, it is moved that SAC abide by the federal government sport policy to become eligible for federal government funding. Karl stressed grave concern that we would not be able to support our services to members without government funding. There was considerable animated discussion. When the recorded vote was taken, it carried; 1369 for, 132 against. The motion on membership fees was then untabled, the 1984 fees were increased \$5 for all flying members, associate members were decreased by \$5, corporate members remained the same, Air Cadets and affiliated members increased by \$5.

There was a motion from the chair that the \$9000 refund from last year's insurance premiums be invested in the Pioneer Trust

fund. There was a recorded vote on this: 1073 for; 359 against. The Pioneer Trust has been newly established by SAC to generate a continuing source of general operating revenues.

As a result of the elections: Bob Carlson was re-elected Director-at-Large, Dave Hennigar was re-elected Director, Prairie Zone; Harald Tilgner was re-elected Director, Pacific Zone; and Ton Dienen was elected Director, Alberta Zone.

WORKSHOPS Due to their popularity, workshops were held on Saturday afternoon after the business session, as well as on Sunday. Jim Short from Schweizer, and Paul Schweizer gave reports on the new 2-37 motorglider, and Dave Marsden gave a report on his variable geometry sailplane.

Dr. Wolf Leers, chairman of the Medical committee, gave a report on the new booklet from Sport Canada regarding drug use and doping in sports. He indicated these drugs are of no use to the sailplane pilots; the only ones that should be considered as useful would be caffeine or amphetamines. Wolf's committee is mainly involved in obtaining restricted licences for pilots who have had their licences suspended for medical reasons. He gave a report on the eyesight requirements (very broad), and contact lenses have to be used at least six months without problems. On a question regarding sunglasses, he reported that the plastic ones let ultraviolet through; glass ones are satisfactory, and he recommended the non-polarized type with a neutral grey or green tint.

Phil White gave a discussion on club membership. The Gatineau Gliding Club increased its membership when other clubs had been losing members. The club found that mall displays and member nights do increase members. The club put on a flying weekend with news releases, radio and TV announcements, posters, etc. The flying weekend was successful (but does depend on weather), and it is well to have an alternate weekend arranged. When past members were questioned as to why they had left this sport, answers received were: had traumatic training, getting married, have young children, no social events, were fed up with quarrelling in the club, had tried the sport and were not satisfied, etc.

The first Sunday morning workshop was presented by Faye McEvoy from Transport Canada. She discussed Air Regs and enforcement. The balancing of freedom and safety is the philosophy of the department; educating and training is the best method of reducing violations. A new document combining air regulations and aeronautical navigational orders is being prepared.

During question period, the problem of reporting outfield landings as an incident was clarified. Ian Oldaker reported that a letter from Transport Canada indicated this was not necessary. All clubs are to receive a copy.

Phil White ran the second workshop on club finances. He went through financial statements, balance sheets, and lists of revenues and expenditures and the procedures of calculating depreciation costs

for buildings and aircraft. Those people interested were able to obtain a copy of this lecture.

Chris Purcell and Dick Vine ran an informative workshop on winch launching. They presented the cost figures, the runway lengths and the approximate heights of tows compared to the length of winch cable, etc. A very important point was the alertness of the pilot on winch launching. Regarding safety to winch launching, an engine failure on the winch is equivalent to an aircraft failure on an air tow at low heights. It is important there be very good communication between the winch operator and the take-off line; there can be a telephone, but lights are required for safety.

The workshop on competition flying for the beginner was given by John Firth. He stressed that it was very important to read the contest rules. He gave the minimum requirements and instrumentation. He discussed taking turnpoint pictures and surviving in weak weather. It is very important to practise in weak lift. Another suggestion was to practise flying as long as possible at the end of the day. Weak weather is a great leveller of gliders, and should be welcomed by the new pilot.

The final workshop was on towplane operations presented by John Bisscheroux from the Montreal Soaring Council. MSC now has three L-19s. John gave a report on the maintenance history of the L-19s, the problems they had with engine overheating, cracked cylinders and fouled plugs. The airframe problems have been the flap handle bracket on the cockpit floor, and the landing gear box. The total tow costs for 1983 was \$7.80 per tow. The club was concerned with the increasing costs to maintain aircraft with the resultant increase in tow costs. All clubs are being faced with the increase in towing costs and some will be seriously considering the initiation of winch launching.

BANQUET Phil White introduced the head table: the guest speaker was C. Z. O'Conner; Bob Carlson, President; Mr. and Mrs. Paul Schweizer; Bud Crandell of the Air Cadets; Russ Flint, Past President; Captain and Mrs. Bob Pearson; Co-pilot and Mrs. Quintal; Alex Krieger; Karl Doetsch; Howard Goldberg of RCFCA; and Gordon Bruce.

Zeke O'Conner, President of the Sir Edmund Hillary Foundation, gave a very interesting talk illustrated with slides on the Foundation's involvement in building hospitals, clinics and bridges, in the Sherpa country of Nepal near Mt. Everest. Zeke also discussed the Sport Federation, a national sport umbrella body which acts mainly as a lobbyist for sport to government. □

AWARDS A description of all trophies and awards can be read in **free flight** 1/82 p14 and 2/83 p7, Soaring Site Directory "Awards and Trophies", and the SAC Procedures Manual.

Significant Flight Certificates
Air Canada Captain Bob Pearson and First Officer Maurice Quintal for their outstanding performance in controlling the world's largest glider, a Boeing 767, on a flight from 27,000 feet and a distance of 60 miles to an emergency landing at Gimli Airport.

Alex Fulton, Gatineau Gliding Club, who at the age of 72 years, completed the gold distance flight, thus being the oldest Canadian pilot to ever achieve a Gold badge.

Certificate of Honour
Brian Milner, Kawartha Soaring, for his excellent 1000 km flight in the USA; Hal Werneburg, Cu Nim, for his high standing in the Internationals at Hobbs.

Canadair Trophy – Mike Apps 3315 pts
Runners up:
Dave Marsden, ESC 2818 pts
Kevin Bennett, Cu Nim 2563 pts

BAIC Trophy – M. Apps and D. Marsden 1230 pts
Runner up:
Jay Beattie, Regina 710 pts

200 Trophy – Dave Franks, RVSS 1313 pts
Runner up:
Rick Zabrodski 1292 pts

Stachow Wave Trophy –
Jay Beattie, Regina 9854 m
Runner up:
Kevin Bennett, Cu Nim 8842 m

Roden Trophy - Bluenose Soaring Club
Ball & Chain - Brian Milner, Kawartha
SOSA Trophy - Gilles Boily, Quebec
Elemer Balint - Hal Werneburg, Cu Nim
Dow Trophies - DaveWebb, Std. Class
- Mike Apps, 15m Class
Instructors - Kevin Bennett, Cu Nim

PROVINCIAL ASSOCIATIONS MEETING

Al Sunley

A major provincial associations meeting was held concurrently with the AGM, chaired by Mike Apps of the Alberta Soaring Council. It began at 1400 hours on the Friday afternoon.

Bruce Nicmans reported for the BC Soaring Society. BCSS is not registered at present, but they hope to be by April '84. They have not been able to acquire funding as a result of being non-registered. Bruce reported that low membership and a large territory are the main problems. The largest club is the Vancouver one with 60 members. The BC clubs are Port Alberni, Okanagan, Smithers and Fort St. John. It can be seen, the clubs are widely dispersed and the topography is difficult for novice members. The BC clubs are not competition oriented and appear to be decreasing in size. There is concern about this problem, and 'safaris' appear to be one way to encourage membership to become more involved in flying.

John Toles and Harry Hoiland reported for the Soaring Association of Saskatchewan. This association is just getting involved with government funds and the need to get the clubs together to utilize the grants. At present there are only two clubs, one in Regina and one in Saskatoon. There are several private owners not in clubs which need to be persuaded to become members. Funding regulations are relaxed and the government youth and cultural grants have no strings attached. The problem was to obtain sufficient people to use the grant money.

Fred Sharp reported for the Manitoba Soaring Council. This council started in 1970 to coordinate the two existing clubs. It was further built up by bringing in the Air Cadets to improve grant applications and increase funds. They are also a member of the Manitoba Sports Federation, which channels funds to sports. There has been a change in grant procedures to allow for equipment purchases. The association has been mainly involved in trying to build up regional areas, such as at Swan River and Virden.

Harry Thomson reported for the Ontario Soaring Society. It has been slow in building and needs to achieve cohesion between the clubs instead of rivalry, which at present exists. A meeting of all Ontario clubs has been organized and is hoped to be held in April. The Ontario government

has changed procedures for the distribution funds. Funds will not be given in lump sums, but must be approved for each separate project. Ontario government officials have been very cooperative and the society is hoping to obtain funds for the meeting which is being set up in April.

Robert DiPietro reported for the Fédération Québécoise des sports aériens. This sports aviation organization has member clubs ranging from 150 down to 10 members. The government allowance for all air sports is \$150,000. Of this 7% to 10% goes directly to the athlete. The association is provided with an executive director and a secretary. Funds are related to projects such as instructing, provincial competitions, elite competitions, and assisting small clubs. It is possible that soaring will obtain less funds in the future because it is not

an Olympic sport. Because of the large amount of paperwork involved in applying for funds, it is a problem to get people to process it. Accomplishments last year have been: improved cooperation between the clubs, instruction as per set program, French manuals being developed, and a standardization of rules for provincial contests. Of future concern is the problem that Quebec clubs are having in obtaining land for airfields. They must have government approval via local approval boards, and this is very difficult to obtain. This could restrict growth of soaring in their province.

Chris Purcell for the Nova Scotia Soaring Association reported that there has been very little membership growth, therefore funding has been small. The association will concentrate on assistance to clubs. Air Cadet liaison did not turn out well, so

NOW WE'RE TRUSTWORTHY!

Bob Carlson

For several days I've been trying to write an article on trusts, whilst following the KISS principle (Keep It Simple Stupid). I've had no end of trouble - I'm too close, I think. Anyhow here goes.

Trusts are sums of money set aside for a purpose. Only the interest earned is used for the purpose of the trust. Trusts grow through income tax deductible donations, bequests from estates, or reinvesting some of the interest (which we will). Each of our trusts was started by a donation. Three people administer the trusts - the President, Treasurer, and Executive Director. Each trust has a set of rules called a Trust Deed. These rules say how each trust is to be used; any change in use of the funds has to be approved by you, the member. If you want a copy of any Trust Deed write and ask.

Okay. Now the big question. Why? Independent income is the reason for two trusts, a prize is the reason for the other two. Specifically:

Jessie Glynn A memorial trust for the purpose of assisting an Air Cadet to learn to soar. Each year the Air Cadet League will nominate a cadet to receive a certificate from the fund that will be redeemable, for a stated value, to the SAC club of the cadet's choice for the benefit of the cadet.

Elemer Balint A memorial trust that provides a prize of money to the SAC pilot who achieves the highest standing at a World soaring championship.

Wolf Mix Memorial A memorial trust that provides income to assist the cost of sending a team to a World championship.

Pioneer Trust A trust for the general purposes of the SAC. Each year half the interest earned will be included in the general revenue of the SAC.

It follows that next year we should have around \$450 revenue from the Pioneer Trust as half the interest (assume 10%) on the \$9000 or so rebated from last year's insurance premium. If we received \$9000 insurance rebate for each of the next 11 years, in 1995 we would have \$118,000 from which to receive income provided our net compounded interest was 5%. If each of us flew very safely and also donated \$20 each year for the same period (including this year), we would have capital of \$515,000 compounded at a net 5% rate. There would be interest too, each year, to offset SAC costs. Obviously other interest rates would create different growth rates. There are, as you know, no guarantees in the investment business.

Well, that's it. The whole point of the Mix and Pioneer trusts is independence of income. The point of the Glynn and Balint trusts is reward for doing well.

If you think these trusts are worthwhile then fly safely (I hope you have other reasons too), so that we maintain or increase our insurance rebates which, on your approval, could be added to the trust. If you have dollars to spare, send them to the National Office (as a cheque please); we'll put them in the trust of your choice and send you an income tax receipt. Each year our auditor and our financial statement will report on the status of each trust.

That's it. If you have questions, write or phone your Zone Director, Gordon Bruce, or myself or the National Office. Cheers. □

Chris will discuss with the Manitoba Council results with their Air Cadets. The association has worked with the Quebec clubs in regards to wave flying.

Mike Apps reported for the Alberta Soaring Council. This council has had problems similar to the other councils, but has been successful with the approval of funds that have been increasing each year. Other funds have been approved by Sport Alberta, and the Recreation and Wildlife Department. The total of all grants was \$24,000, which allowed funds to accrue for future capital equipment. ASC processes the funds from the clubs to SAC to show the actual money spent by the soaring community in Alberta.

The chairman expressed the problem of clarifying the roles of the provincial councils with the national body and what areas have

to be addressed. He expects provincial bodies to back up the national body in programs and interact between clubs and the national body. The position of the zone director and the Council vice-president can be combined. Do we recommend provincial associations get involved in the Sporting committee or in the insurance programs? Strong recommendations were made that all correspondence to the clubs also be given to the provincial councils.

There was discussion on the liaison with Air Cadets. How do we encourage the future involvement of the individual Air Cadet into the soaring movement? Could there be a mailing list of Air Cadets obtained to encourage clubs to introduce cadets to soaring flights? Councils can find former Air Cadets who have transitioned to act as interface with the clubs. □

There was discussion on provincial involvement in competitions, such as assistance to clubs hosting provincial competitions (including transportation to and from contests). What assistance is given to the clubs sponsoring the Nationals? What support is given to contest pilots to the Nationals? Are there different plans in different provinces? What consideration has been given to bringing in outside expertise?

The meeting was brought to a conclusion Sunday morning with a session on safety programs at the provincial level. There were discussions on having safety programs, on having safety officials for the clubs, on developing incident and accident reports, and on what involvement will be required from the provincial councils. □

DIRECTORS MEETING

Tony Burton

This year, two meetings were held over the weekend to cover the additional business to be conducted. The first meeting began at 2 pm of the Friday to go over necessary pre-AGM work, and the usual post-AGM meeting was held on Sunday.

FRIDAY MEETING

Insurance 1984/85 In the absence of the chairman, Bob Carlson reviewed last year's statistics. It was suggested that, in view of the apparent lack of understanding regarding the SAC plan, communications with members should be improved. A motion by Tony Burton was carried that the new Insurance committee be given, as part of their terms of reference, the obligation to present to the membership an accounting of insurance figures or statistics of interest to the members in an appropriate and timely form during the year.

Budget 1984/85 The budget which had been presented at the January meeting required a good deal of rework by the Finance committee as a result of the additional expenses identified since then, and of a review by Karl Doetsch (a past president and the past Secretary-Treasurer) who had done much work on previous years' budgets. It was agreed that the minimum budget would require a five dollar increase in fees for next year, given the expenses and projected conservative membership totals, and on the assumption that no government funding would be forthcoming.

Procedures Manual Amendments The first major revision of the SAC Procedures Manual is still being worked on. The terms of

reference for the combined Flight Training & Safety committee and a new Safety Appeal Board, prepared by Alex Krieger, were adopted.

Second Class Mail This was one major item which affected SAC expenses. Unfortunately the Post Office turned down our application to mail **free flight/vol libre** second class. The plan was to have the magazine distributed through COPA, using their mailing privileges.

Competitions 1984/85 The 1984 Nationals work was presented by Dave Hennigar, and the Manitoba Soaring Council have things in hand. CVV Québec is prepared to host the 15m/Open class contest in 1985, but the location for the 1985 Standard class contest is unresolved so far.

Tax Exemptions Jean Matheson informed the Board that membership fees will now be tax deductible (less \$18 for **free flight/vol libre**). Receipts will be mailed to clubs with membership cards for distribution.

Membership Attendance at Board Meetings A Motion by Tony Burton was carried, that at least once a year a SAC member or members in the local area of a Directors' meeting attend and participate in the meeting to a degree determined by the Board. The basic restriction would be that these "corresponding member(s)" could not vote. The idea is to increase the visibility of Board activities, add local input to Board decisions, and to allow interested future directors to get a preview of the national work which is conducted.

Information Brochures The SAC Information Brochures have been written off the books. Clubs may request them for publicity free of charge.

SUNDAY MEETING

Election of Officers Bob Carlson was re-instated as President, Harold Tilgner as Vice-President, Don Dunn as Treasurer, and Jean Matheson as Corporate Secretary.

Committee Review The usual review of committees and parcelling out of jobs was done. The chairman of the Sporting committee will change with Dave Marsden stepping down after five years, and likely candidates for the position are being approached. The Technical committee is being restructured by Alex Krieger and Gordon Bruce: the plan is to have a committee chairman with subcommittees of Technical, Airworthiness, Radio/Electronics, Instrumentation, and Meteorology.

Insurance The Board expressed concern that the two new members of the committee be worked in soon in order to effectively replace Al Schreiter when he leaves. The committee has been tasked to investigate the concerns of the membership expressed at the AGM. The full committee is to meet prior to 15 April and make recommendations to the Board prior to their fall meeting. The new committee is requested to produce a consistent set of statistics for the membership, and investigate other insurance companies and policies for the Board.

Safety Review Board There was further discussion on the constitution and mandate of this Board. It is expected that it will contain five members. Further amendment to its terms of reference will be undertaken by Alex Krieger and Gordon Bruce. □



Jim is strapped in for his maiden (?) flight in the Monerai

MONERAI

A tale of how “Somfay & Fryett”
(partners in Architecture)
erected their own flying machine

Jim Fryett
York Soaring

3 years ago, when I initially decided that constructing a home-built glider would be a worthwhile pursuit, I began investigating the various kits available. One of the kits which appeared most attractive was the Monerai. The manufacturer’s published information indicated quick and easy construction, low cost, good aesthetics and flying characteristics. Suspicious that these claims might be somewhat optimistic, I continued to investigate further. A flight test published in SOARING and a builders report in **free flight** began to dampen my enthusiasm. It became apparent that the craft was less than easy to fly having a tendency to be very pitch sensitive, poor brakes, lack of glide path control and so on. Builders reports indicated that plans were sometimes difficult to follow, especially for an inexperienced builder such as myself. As a result, I postponed any thought of building a glider until a more suitable kit could be found.

Early in the fall of 1982, I decided to visit the Homebuilders Workshop in Elmira NY,

which coincided with the completion of the SSA Design Competition. In addition to some very sophisticated examples of the homebuilders art, two samples of the Monerai were present at the workshop constructed by Virgil Pagen and Jim McCulloch. (Jim is now editor of the Northeast Monerai Newsletter for builders and pilots.)

After closely examining both Monerai’s and discussing the construction and flying process with Virgil and other builders present, it became apparent that my earlier concerns were ill-founded. Both aircraft were extremely well constructed and cleanly finished as a result of good detailing in the design and, of course, good workmanship. While the builders agreed that for the most part the plans were well-drawn, some uncertainties were apparent during the construction. Questions were usually resolved immediately through a phone call to the factory, which always provided a quick response where additional information or parts were required, or through the com-

spring at which time work resumed on the Monerai. Although we did not record the actual building time, we have since established that 900 to 1000 hours were spent on the kit. The plans were extremely well conceived and supported by the manual and subsequent newsletters published by Monett and later by the Northeast Monerai Newsletter. Some ingenuity was required along the way, making the kit challenging and interesting, but at no point were the tasks insurmountable. Despite a lack of welding experience I was soon fitting and tacking the airframe and controls together. Once ready, the final welding was completed by a neighbour in just 12 hours (this portion of the kit can be obtained from the factory and would no doubt reduce the construction time substantially). The rest of the kit was constructed of aluminum with the fuselage pod of fibreglass.

During the construction of the kit, two inspections were required by the Department of Transportation: at the completion of the basic structure prior to closing in, and at final completion. Despite the initial anxiety about this aspect of the process, the experience turned out to be very helpful, and beneficial to the overall safety of the aircraft and our own peace of mind.

Work proceeded sluggishly through the summer as most of our spare time was spent flying. When August arrived, all of the sub-assemblies were complete with only the final assembly now required. The rule that the last 10% of the work takes 90% of the time seemed to be proved during this last stage of construction. Many an afternoon was spent labouring on final assembly while the cu drifted overhead. Nevertheless, we prevailed and exactly one year after purchase, Serial #167, now registered as C-GOLL, was assembled on the field ready for final inspection and that all-important first flight. The inspection now completed, we only had to wait for a break in the weather...

B.E. Fryett

1 week later, weather suitable for a test flight finally arrived. As our own experience was limited to 1-26 and 1-23 with little flying during the past month, we enlisted the help of Seth Schlifer for the first flight. After careful preparation and briefing of both Seth and the towpilot, CGOLL was hooked up to the recommended 400 foot tow rope. Given the all-out, both towplane and CGOLL were soon mere specks in the sky. The first tow was planned for 5000 feet to allow for a long glide back to earth. With a sink rate of 2.8 ft/sec, this should have yielded a thirty minute flight; however with the benefit of early morning thermals, Seth managed to stay aloft for just under an hour. Needless to say, we were exhilarated. Following some minor adjustments to the stick throw, a second test flight was performed by Seth before my turn came. Nervousness soon gave way to concentration the moment the canopy was latched into place. The take-off roll began and very quickly, due to the light weight and low drag of the Monerai, I was airborne. There was no tendency of the glider to respond to PIOs, and the climb-out was very smooth and short. After release, I soon settled down getting the feel of the new ship. Pitch control was very easily achieved. Roll rate seemed much slower

than the 1-26, however the wing fences had not yet been installed. Very little pressure was required on the rudder pedals, in fact yaw control seemed the most difficult because of the very small "fin" profile and lack of back pressure.

After climbing in weak thermals for a short time I was soon down to circuit height and began the downwind leg. Landing was the greatest concern to me as I had only very little flap experience (in the Blanik) and had always relied on spoilers or side-slipping for glide path control. The Monerai has two thirds of its span in flaps, (which travel from approximately -10 to +90 degrees), no spoilers, and has been reported to be ineffective in the sideslip. Turning onto base, 45 degree flap was pulled on giving a sink rate similar to a 1-26 with 50% spoilers. Now on final with a landing spot picked, 90 degree flap was gradually pulled on producing a very steep but remarkably comfortable and controlled approach right onto the chosen spot. Flaring out, the plane gently touched down, at which point the flaps were eased off eliminating any desire of the plane to spring back into the air. A short roll-out and the flight was over, and I was elated. Coincidentally it was my birthday, and this first flight was a wonderful present.

Subsequent flights during the now waning gliding season took place during less than-ideal weather conditions. Two flights occurred with 90 degree crosswinds of 10 to 15 mph. Again, the Monerai had a reported reputation to groundloop in crosswinds, however I found no difficulty maintaining control of the aircraft both during takeoff and landing. I was soon flying with a standard length tow rope and on one flight found myself being hauled up by the towplane at 75 mph indicated and the vario pegged at 1000. This was a very short and dramatic tow after the previous ones which occurred at the usual 55 mph.

With the new season coming, we are about to complete some minor tasks including painting the wings, installing wing fences and adding foam strips to the inside of the wing skins as recommended by Monnet. This last modification is in response to the occasionally loud and continuously annoying oil-canning of the wings which particularly occurs in turbulence (ie. thermals). Beyond that, I am thoroughly satisfied with the Monerai both as a product of our own efforts and as a flying machine. All of my earlier apprehensions have dissolved away through experience and the support of both Monerai newsletters and the factory staff during construction. The plane is ruggedly designed and very practical to handle on the ground. Daily inspections are straightforward with little or no maintenance required on a daily basis. Transitioning to the Monerai is no more difficult than with any other aircraft, while the performance, though not yet measured, appears to be significantly better than our club's 1-23.

In summary, I can highly recommend the Monerai sailplane as a fine kit plane and personal glider, and would certainly not hesitate to undertake a similar project again. □

pany newsletter. Also, modifications had been incorporated in the design in response to some of the earlier criticisms of its flying characteristics. These included: extension of the tail surface area to increase rudder authority, addition of tabs on the tail to decrease pitch sensitivity, and the performance-improving wingtip extensions.

Armed with this new information, my business partner and I decided to take advantage of an unstarted Monerai kit (#167) which was in the country and for sale. We purchased the kit on September 17, 1982 and took delivery a month later. During that time the drawings and manual were studied in detail, parts checked, and in a small corner of my basement (ten feet by twelve feet) I set up a work area in which to construct the steel tube fuselage frame and the controls. Large assemblies, such as the wings, were made after hours in the work shop of a local university. Work on the kit began in earnest in November and continued until late January '83 when professional commitments took over until late

Over My Shoulder

An aging soaring philosopher ponders a certain diminution of his sky lust. Is he losing it? Not necessarily. Less can be more ...

Gren Seibels
from SOARING

not always happiest) hours have been spent going cross-country – in quest of badge legs, cloud-hopping, and flower-watching with a gaggle of friends, or (best of all) in competition. To this day, when I turn tail-feathers towards home base and scuttle off in search of lift, I always sense that little edge of tension which promises that the next few hours will inflict no boredom. None at all.

ART? SCIENCE? BOTH?

From the cold-eyed, “scientific” viewpoint, the definition of a soaring flight (or any other experience) could be reduced to absurdity: “The interplay between a series of external stimuli and internal responses.” Of course, if we left it at that and nobody knew any better, the sailplane market would collapse overnight. Halfbaked descriptions like this always leave out the really important stuff, like the secret but satisfying rewards of self-discipline; the joy in mastering a skill; the way things look from 7000 feet; and just plain fun.

I will string along with the sorters, classifiers, and tabulators only so far as to concede that our lovely game offers attractions both internal and external. External, as I see it, might embrace the sport’s endless sensory appeal, especially for the eyes: a cobalt West Texas sky flecked with cu streeting at 18,000; riding the wild crest of an Appalachian ridge, like skimming a dinosaur’s back; working a rough-and-tumble thermal up into the eerie smoothness of wave, the transition as sudden and total as when one escapes the blare and glare of a street carnival, stepping into a hushed, serene chapel (the cloud that normally defines of ceiling eventually gleaming thousands of feet below)...

Way back yonder, there was a time when being aware that I was sustaining flight through pure solar energy was enough to make a memorable day (and even now, there are times when I yearn for such simple pleasures, as when falling out of the sky in the middle of a longish triangle). But a surcharge on the price of experience is the loss of innocence: “How’re you gonna keep ‘em down on the farm after they’ve seen Patee?” The thrills and chills of cross-country, once tasted, spoil the palate for the elementary gratifications of tracing lazy circles above the airport acreage. If it ain’t good enough to go somewhere, it ain’t good enough to fly!

In this connection, I suspect that when freed of the-show-must-go-on pressure of a contest, we tend to underrate the soar-

truth. In fact, I would vigorously question whether there can be a single master key to unlock the mystery of what attracts us to motorless flight. Certain aspects of the sport no doubt exert an almost universal appeal – at least, among those of us who love it; but even within this rather select assemblage, we find such a hodge-podge of different characters and personalities, any attempt at generalities becomes pointless. The game may be played, literally and figuratively, at almost any level, from Sunday afternoon puttering around the pattern to heroic assaults on world records for distance, speed, and altitude. In between, there’s something for every taste. Thus, the special areas of soaring that intrigue me might bore you clean out of your flying booties, while reducing another pilot to white-eyed panic. “One man’s meat, etc.”

There are pilots with hundreds of hours – perhaps thousands – who rarely venture much beyond an easy glide back to the home strip, and nurture no envy in their hearts against those who do. And I say, bless ‘em! Many of them gravitate toward instruction, transfusing vital new blood into the sport; without their patience and dedication, within a generation the game would be fading memory. Of course, there are others who faithfully instruct whenever they’re not busy flying in a contest. I tried my own hand at alternating dual with solo one season.

It was not a wild success. While a mixed bag of students flogged away at stick and rudder, violating the simple pattern and assaulting the grass at Bermuda High Soaring School, near-terminal ennuui would descend on the instructor’s berth, relieved only by occasional alarm when some neophyte with an experimental bent would try landing on the wingtip instead of the wheel. Also, as at any proper training school, student-thermalling in the Chester pattern was sharply disapproved by the management; whenever we flew through something particularly exuberant, I had to grit my teeth and physically restrain the instinct to climb. My CFI rating soon lapsed.

Looking back over some 15 years of quiet flying, I realize that my most interesting (if

Gren, a resident of Columbia, South Carolina, has written often about the sport with a patented twinkle in his eye. The author of “A Gaggle of One” and “Pilot’s Choice, a Soaring Odyssey”, he will fly anything, as long as it is useless and photogenic.

WHY FLY?

There was a time (until they learned better) when non-aviating friends used to ask me why I futzed around with sailplanes when there were gobs of regular flying machines at hand for lifting body and soul from hither to yonder. Had I been blessed with the wit and wisdom of ‘Satchmo’ Armstrong, I should have answered, “Man, if you gotta ask, you’ll never know.”

But no; vanity and foolishness prevailed, and I would eagerly undertake to explicate the inexplicable: It’s so quiet and peaceful (especially when all the electrics go dead); it’s challenging (in spades); you work with nature instead of against it (that’s the theory, anyway). Of course, I never kindled a spark of comprehension. Why are groundlings so insufferably obtuse?

Those were – and are – the standard clichés of the sport, and like all prepackaged savings, they contain a certain nucleus of reliable truth, but not necessarily the whole



begins. There's nothing more sickening than arriving at your goal only to find the barograph was not running!

Now you are finally ready! The towpilot knows where you want to be let off, the crew, car and trailer are on standby, the declaration has been signed, the barograph is on; you give the signal; the rope tightens and you're off to a new adventure. You release and climb – should you leave the airport? I usually try to work at least two thermals before I commit myself. That first one may be the only one! You should also be able to get to cloud base with a couple of tries. You should also set some minimum height as a criterion; 4000 feet agl is marginal, 5000 is better, and 6000 is super. Advise the crew that you are leaving the airport. They should leave immediately and try to stay close if you are planning a distance flight. If the course brings you home and the radio contact is good, they can stay behind.

As you turn your back on the airport you'll have some misgivings, but that will soon pass and you'll begin to enjoy it. It's just like soaring around the airport without the restriction of having to keep in range. This gives you more freedom to try that little cloud over there, or that big black field. Be patient, keep working and get as high as you can; staying up is more important than moving out with speed. If there are clouds, fly towards them with the wind and fly well under them, even out the back if no lift is encountered. Then turn upwind on a different track. Search for lift under the clouds, but remember it may no longer be active so be prepared to head for another one. Blue thermals are more difficult to find. One technique is to fly directly downwind from the last thermal. These thermals tend to "street" even though there are no clouds to mark them. If you get low, head for a big black field; a thermal is sure to be starting there.

How about landing? No problem for prairie pilots with unending airports, but during the flight however, you should continually assess the terrain. Don't fly over any unlandable areas unless you have enough height to get past them. Then whenever you're down to 2000 feet have two or three fields in mind. Summer fallow fields are most reliable, but try to pick one that has not been freshly worked. Colour is your best clue; whitish or greyish tones means the land is dry and fairly firm. Pasture should be avoided because of cattle, rocks and a rough surface. Grain fields can be used before mid-July but you may incur the wrath of the farmer. In any case when you do land, try to find the owner and settle any possible damages. No one has ever had a problem with landowners in this area, so a little courtesy is all that's necessary.

After landing, all you need to do is wait for your crew. If you have to leave to phone, make sure the glider is tied down if there's any wind at all.

Although the effort to make a cross-country flight is considerable, the achievement of a good one brings a wealth of satisfaction. I urge you all to give it a try.

Harold Eley Regina Soaring "Cloudstreet"

Cross-country flying is the essence of soaring flight and everyone should try this as soon as they are able. You'll find it to be a most satisfying experience which will rate right up there with your first solo.

Before attempting a cross-country glider flight, especially in a club sailplane, you must satisfy the Chief Instructor that you are "ready". This is just common sense and means that you are relatively competent at staying up if there is lift around, and that you can put the glider down pretty much on target.

A number of flight tasks can be selected according to the day and your optimism; a goal flight, triangle, out and return, or a downwind dash. For the first flight, I recommend the downwind flight and perhaps a stated goal. However, you should be quite prepared to abandon the goal if it tempts you to a point of unsafety.

A number of things have to be looked after before you are ready for the flight. Most important of all is the "crew"; one person is usually sufficient, but a second person is even better. Make sure your car is ready to go, then turn the keys over to the crew (keys have been known to stay in the pilot's pocket!). Give credit cards or money to your crew for gas or problems, and give them instructions in case of difficulties. Make sure the trailer is ready; licence, tires, safety chains, glider mounts, rigging, pins, ropes as required, aileron and rudder locks. Check and double check everything.

Another must item on a cross-country is a tie-down (preferably three). Landings are

sometimes made just ahead of a squall and you may have to leave the glider to phone, so be prepared. Make sure you have short ropes and tie-down rings. Stowing the tie-downs is always a problem, but a place must be found.

How about maps? You should obtain the 1:500,000 aeronautical maps from a flying club. Often, two or three maps are needed to cover the possible flight route. They give you information on the topography, vegetation, forests, landmarks, obstacles and ground elevation as well as essential assistance in navigating.

Communication is also an important item. A good working radio in the glider and the retrieve car make crewing a lot more fun. So check these out before setting off. A back-up system is a "must"; make sure you and the crew agree on one or two phone numbers where messages can be left in case radio contact is lost. This often happens after you land.

Flight documentation is an important part of any serious soaring attempt and is required if flights are to count for FAI badges or records. Many instructors are also Official Observers and can assist you with your flight declaration and other requirements. These forms should be available from the CFI and should be carried with you on the flight. When you land, have local spectators sign as a witness to your 'arrival'. A barograph must also be carried on every official flight; perhaps your club has one available for you. Make sure it contains sufficient chart paper, is fully wound, and is making a trace, then have it sealed by the OO and mount it securely in the glider. Turn it on a few minutes before the flight

SAFETY

CLIMBING THE BUSY THERMAL

Last month we mentioned how to enter a “used” thermal; now we say something on sharing it safely.

Lloyd Bungey, VSA

Because of the similarities of performance of most gliders, the usual way of outclimbing another sailplane on the same level is by slowly gaining a few feet at a time while positioned 180° opposite on the same circular path. Occasionally, however, the situation arises where the other pilot is unable or unwilling to fly as steeply or as slowly as (you think) is necessary to get the most out of the thermal. What should one do in this situation?

In the many years I have been soaring, I have never seen this question answered in print, rarely heard it discussed in hangar flying sessions, but occasionally seen it performed in flight.

The safest way of rapidly outclimbing a pilot, who is unwilling or unable to fly in the manner needed to get the most out of the thermal, is to go off and find another thermal once you have climbed up to his (her) level.

The most dangerous way to climb past another glider not using the same circle as you is by ignoring him and bullying your way through. Pilots adopting this policy should be quickly educated by the other pilots in the club (out back behind the barn, if necessary) before they do, literally, thermal through somebody.

The problem with maintaining a smaller diameter circle as you approach a glider

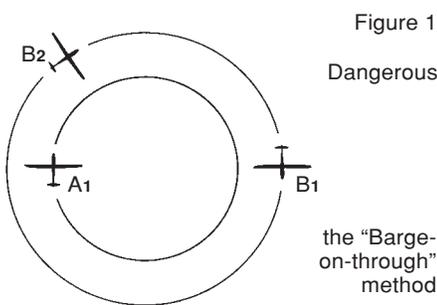
utilizing one of a larger diameter is that, unless the second glider is flying very much faster, it is impossible to maintain visual contact with the aircraft flying the wider circle and you will very rapidly be placing blind faith in his seeing and avoiding you (see Figure 1).

What you should be doing, however, is enlarging the diameter of your circle as you approach his altitude and arranging things so that you will be opposite him while in his altitude band. If the thermal is not properly centred, then it is possible to use variation of speed to milk a little extra from the better portions of the thermal and thus outclimb the second ship. If you can succeed in gaining a couple of hundred feet separation in this manner, then it will be safe to resume your original narrow diameter circle.

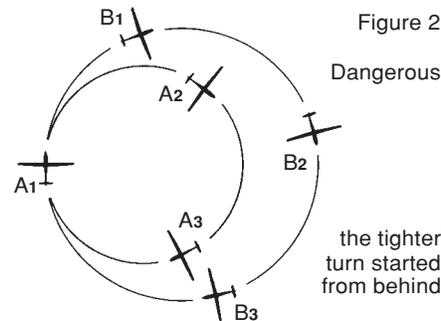
It is possible, with care, to use a tight turn or two through the core of the thermal to get the extra height needed. Too often, however, I have seen this maneuver started from the wrong position, leading to a highly dangerous situation where the overtaking glider cannot see the glider he is trying to pass and relying on the other pilot to avoid a collision (see Figure 2).

In order to carry out the maneuver reasonably safely, it is necessary first to get yourself in a position where the other glider is flying on your tail (see Figure 3). Not literally on your tail, but in such a position that it is approximately 120° behind you. In this po-

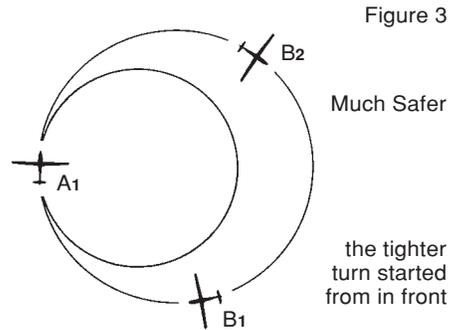
sition, you will still be able to see the other glider prior to steepening up your turn and will be able to maintain two way visual contact for about a full turn by which time the other glider will be positioned about 120° ahead. At this point, you should resume the wider circle, since to carry on further, you will be placing yourself out of the other pilot's area of vision which could lead to unpredictable maneuvers on his part as he attempts to regain visual contact.



Glider A is flying a circle of 2/3 the diameter of glider B and is not prepared to move out of the stronger core lift to adjust for B's shallower (less confident) turn. Although opposite B when A is at A1 and B is at B1, by the time A has turned 360° and is back to A1, B is on/2100 around his circle and is at B2. In this position A cannot see B as B is under his nose (the aircraft is banked). He is thus relying entirely on B for collision avoidance.



At A1, A finds that he is catching up to B who is at B1 so he steepens his turn intending to utilize the core of the thermal to outclimb B. By the time he is at A2, B is at B2 and has disappeared under A's nose. A must hold steady his turn as any change could result in a collision with the unseen B. This situation worsens by the time he is at A3, since B (assuming he has blithely held course) is now at B3, directly under A.



When at A1, A can still see B over his shoulder at position B1. By tightening up his turn, the relative positions will improve throughout 360° until A is back at A1 while B has moved around to B2. Both aircraft have maintained visual contact throughout.

If A has not gained enough height separation to continue his tighter turn (and adjust it more centrally), then he must resume the shallower turn favoured by B, slow down and attempt to drift back to the starting position (relative to B) and repeat the maneuver.

Quite often it will be necessary to make three or four of these tighter turns until sufficient separation to go your own way is achieved. Usually you will need to fly quite slowly for two or three complete circles to get the position you need to initiate the steeper turn through the core.

Now some advice to the victim of the process. If somebody manages to climb up to your level in a thermal by adopting a steeper angle of bank, then maybe you should try flying steeper too. Of course, it may be that you have a heavy load of water aboard and he does not, in which case he is going to get by you without any trouble, and without the need for the maneuvers described which are only needed when the gliders are similar in performance. If, however, you should be victimized by a pilot performing as shown in Figure 1 or Figure 2, you do have a means of revenge – trying rolling out and disappearing from position B2. He cannot see you but is expecting you to reappear in his vision in a turn or two. When you don't show up when he expects, he hasn't a clue where you are and daren't make any adjustments for fear he will fly into you. All he can do is hold his turn and pray – Heh, Heh, Heh. □

EXPERIENCE IS SOMETHING YOU DON'T GET UNTIL JUST AFTER YOU NEED IT!

CLUB NEWS

BONNECHERE 1983

The 1983 season, while not fantastic, was a reasonable one. The club was busy early in the season working on improving the field by removing encroaching brush and grading the windrows to give us a little more room on each side of our strip. Some of our members were able to rebuild a large roller that we were given, and an ongoing program of smoothing the lumps and bumps is being carried out. It seems to be helping. This coming year we hope to pour a narrow 100 foot concrete take-off strip to solve the soil erosion caused by the towplane. We also tried digging for water – three 25 foot holes with a hand-powered post hole digger and nothing! (*You're lucky, on the prairies you have to dig at least 200 feet to get nothing. Tony*)

Our new maintenance logs for our gliders that were devised to help us keep a more systematic schedule have worked well and have helped us avoid maintenance-related problems.

Two of our members, John Melvin and Alain Dombrowski, went solo in the fall. We look forward to them doing lots of soaring in '84. Roberto Haddad earned his licence before his return to Argentina last year, and we wish him the best, and hope that our new pilots will put the 1-26 to work once again. We obtained a new member from Lahr, Germany and he brought his L-Spatz 55 "Lady Jane" with him – we hope the army doesn't post Ken away too soon. It was nice to see that we could stuff yet another glider into our hangar.

Peter Walmsly, our past president, is leaving, which is our loss but the Peterborough area's gain. Peter has been instrumental in carrying out many technical tasks for the club such as the hangar building, doing his share of instructing, and a myriad of other club jobs. His presence, and son Sean, one of our solo pilots, will be missed. We wish them the best in their new location.

Once again we had a very limited season of cross-country soaring but hope to see more this year. Perhaps this is an area where people might feel SAC could do more. Any time basic XC soaring is mentioned at the SAC level, it seems to get the word "competition" tacked on – this could put people off. Not everyone wants to be a competition pilot, even though I know the skills and knowledge are the same. SAC has a syllabus for basic training, but doesn't have one for more advanced training for the recreational pilot.

Bonnechere Soaring is looking forward to a good 1984 season.

Iver Theilmann

LONDON SOARING SOCIETY

Our AGM was well attended. We hope that this is an indication of increased enthusiasm for the coming season. We made only a marginal profit last year and therefore it was agreed to increase the membership fee to \$350 per year. Tows will remain \$6 for 2000 feet, and glider time is still free. The one bright spot for the treasurer was the performance of the refrigerator. Sales of pop and "grounding-fluid" produced a healthy profit.

Our average flight time for all gliders during the 1983 season set a club record at 47 minutes. Even our 2-33 (rather unkindly nicknamed "The Cow") turned in a respectably average flight time of 21 minutes.

Our award for the member making the most flights went to Ingolf Asche. He kept the Blanik, 1-34 and Skylark III busy and was presented with the George Czuma trophy, a hand-carved wooden glider, complete with an oversized pilot.

We are planning several activities to increase our number of members, including advertising, newspaper articles and introductory packages.

Several pilots are heading for the ridge in early spring. It always makes a pleasant change to fly among some hills, and the fleet of glass ships at Julian looks enticing.

We are holding our annual film night in XU Aviation's hangar at London Airport on 12th April. Our films and slides do not change much from year to year, but it does give the older members a chance to expand upon past triumphs. These however do seem to become more heroic as the years go by. Our longest day picnic is scheduled for 24th June and our flying week for 16th July.

Dave Miller

A VSA RUBBER DUCK

A footnote to "The Order of the Flying Flounders" (ff 1/84, p17):

While VSA developed "The Order of the Flying Flounders" to accommodate those who achieve a 'water' outlanding, our friends of the Seattle Glider Council created the "Rubber Duck Award" to commemorate similar achievements. Two of these trophies were awarded in 1983, one of which was received by the VSA pilot who had distinguished himself in such manner.

This trophy, now residing in the Vancouver area, displayed its sailplane-like characteristics recently, when the glue holding the Rubber Duck to the wooden base of

the trophy proved inadequate and the proud owner of the trophy decided to put the duck to use by floating it in his hot tub. The duck promptly took on a load of water ballast and headed for the bottom!

Lloyd Bungey
VSA

A BORDEN SUGGESTION

The 2/84 colour front page is a terrific improvement...but does the front pic have to be a glider feature always? Gliders don't go anywhere without guiders. The guiders have to be taught how in the first place – which gets us to the long-suffering instructors who turn 'Bumbles' into pilots, which is a form of alchemy.

The photo below, taken last summer on the BBSG flightline, must be typical of hundreds of similar poses enacted each year. How about being brave and featuring such a pie on a future cover?

Allen Smith BBSG

Thanks Allen, your photo and comments are so good that I thought I would squeeze you into this rag somewhere, even though I ran out of room up front in the "Opinions" space. First of all, sure I would put people on the cover, but it would have to be a great photo in its own right. They are hard to find. Second, and this is for everyone out there, don't hold your breath until the next colour cover appears. It will be sporadic for the meantime, until we get regular colour ads on the back page to offset the higher-than-we-can-afford price right now. Thanks to Bob Carlson, who arm wrestled the DuPont carpet people into submission for this last one. Tony.



"There I was at 6000 feet in the Camel..." Veteran instructor Keith Smith of the Borden club, illustrates a point to Air Cadet students Steve Everton and Joe Marcelli.

BLUENOSE NEWS

Tom Foote and Doug Girard were the first of our people to taste the wave when they both took a week off work to go up to Baie St. Paul last October. They both made it into the wave, but conditions were not good enough for either to get their Gold height.

Doug had a close shave when the tow rope broke at about 150 feet over the St. Lawrence River, heading away from shore and in totally unfamiliar territory. A quick turn got him pointed back towards the strip, but a 25 knot tailwind made the prospect of a downwind landing look more than a bit hairy. At the last minute, a gust gained him an extra 50 feet, and the Skylark proved herself a real lady as he eased her around the final 180 for an almost normal landing!

We're lucky at Bluenose in having Stanley airport (a former RCAF training base) as our home field. As most of you know, we run a winch operation here and the 5000 foot runway that we use most of the time gives us heights of 1500-2500 feet off the wire. That gives you plenty of time to lace into the nearest thermal. Conditions are especially good in May, June and early July, and it's not uncommon to see two or three ships soaring over the field at 7000-8000 feet or more.

We set a new club record in 1983 by flying 636 dual flights in the 2-22 and the K7. The club is considering the idea of setting aside a week in the spring and doing nothing but training – giving those new students who can take a week of vacation a concentrated dose of flying that should set them well on their way to going solo early in the season.

Gordon Waugh

SET YOURSELF A GOAL

Last year was a tough one for the club but somehow we have managed to pull through. My only regret is that it seems to be the same group of people who are always having to carry the load. In these times we really need everyone to contribute. If you have kind of been on the fringes lately, I would ask you to really look at your involvement in the club and get back in with both feet. We are hoping this will be a good year, but to really take advantage of this opportunity, we need everyone pulling hard. This is a great soaring country – much to good to be wasted.

If you feel that perhaps you are losing interest, try setting some type of goal for yourself this season. Maybe just to solo. Perhaps to get your licence. Or maybe to spend a lot of time with an instructor doing spins, so that the mere thought of them doesn't strike terror in your heart. Maybe you will try for some badge legs locally. I tried this last year and it really made my flying (what little there was) much more enjoyable because there was a purpose to it. My goal last year? To get my Silver C. Give it a try; you'll be pleasantly surprised.

Marty Slater, Grande Prairie

Campbell

Printer ad,
Ottawa

COMING EVENTS

Apr 30-June 25, Glider Pilot Ground School at Mount Royal College. 8 sessions at 2 1/2 hours each for 20 hours total. Covers all material for MOT exam plus other material such as cross-country flying. Register at Mount Royal College. Instructor Kevin Bennett, CFI Cu Nim Gliding Club.

May 13-18, Eastern Basic Instructors Course Gatineau Gliding Club, Wolfgang Weichert. (613) 936-1317 H, (613) 933-0528 B.

May 15 -Jun 2, Invermere Camp, organized by VSA, great mountain and ridge soaring at a beautiful site. Contact: Chuck Wilson (604) 987-1363.

May 19-21, Innisfail May Meet (Alberta Provincials) sponsor: Alberta Soaring Council. Contact: Hal Werneburg (403) 238-1916 (H).

May 28-June 1, ESC Flying Week (on the best XC flying week of the year). Andrew Jackson (403) 435-3328 (H).

Jun 25-Jul 1, 1984 National Soaring Week.

Jun 23-Jul 2, Winnipeg Gliding Club soaring week at Starbuck Gliderport. Contact club phone (204) 895-0481.

Jul 3-12, Combined Nationals at Virden, Manitoba. Host: Manitoba Soaring Council. Contact: Dave Hennigar, (204) 837-1585 (H)

July 28-Aug 6, Cowley Summer Camp. Host Alberta Soaring Council. Contact Ken Palmer, 23 Baker Cres NW, Calgary T2L 1R3 (403) 284-1396 H.

Aug 4-12, Hope Summer Camp. Contact: Monty Williams (604) 929-1749.

Aug 11, 4th Annual Kawartha Pig Roast. It's getting famous. Room for tie-downs and camping. Come and enjoy our hospitality. Jim Beattie, 644 Percival Court, Oshawa, Ont. (416) 728-6886:

Aug 25-Sept 3, Winnipeg Gliding Club soaring week at Starbuck Gliderport. Contact club phone (204) 895-0481.

Aug 25, ESC Extravaganza. Flying, incredible party & BBQ, prizes, music, raffles, etc. Strangers welcome. Chipman airfield. Andrew Jackson (403) 435-3328 (H).

Sept 9-14, Western Basic Instructors Course, Cu Nim Gliding Club, contact: Kevin Bennett, (403) 253-0063 (H), (403) 298-6875 (B).

Oct 6-8, Cowley Wave Camp. Host: Alberta Soaring Council, facilities usually open a few days before the "official" weekend date. Contact Ken Palmer (403) 284-1396 (H).

CROCODILE CORNER

One last claim for the 1983/84 year: \$2000 in damage to the RHJ-8 in transit from Winnipeg to Ottawa. Fuselage improperly secured in transport vehicle.



AFTER LICENCE – WHERE?

continued from page 2

We all know how many people “drop out” even before they get their licence. Last year (using what figures we did get from clubs) the number of two-seater flights per licence was about 475! Did you make that many yourself? We should look at this number carefully because it suggests many of our pilots are flying the two-seaters too much! Why don't we advance them to the single-seater faster – get them moving up in performance sooner. Yes, there is a widening gap in performance. If a pilot is adequately trained, he or she achieves soaring success, or do they? The instructor must get them “hooked on soaring” while he has them in the two-seaters.

As I pointed out in my presentation to the AGM in Ottawa, I firmly believe that we need to “fill out” our soaring training pyramid – we tend to let our pilots “flub around” on their own after licence (after solo?). Unless they are already hooked on soaring, many will leave for other “more exciting” sports.

Many clubs derive considerable income from basic training, however the strength and health of our sport depends on keeping people, not losing them after one or two seasons. I believe we have to get them soaring more in these initial years.

How do we do this? First we need well-instrumented sailplanes which are soarable in typical conditions at our clubs. Many private owners have the basic MacCready ring on their vario, why not add one to your club's trainer? It should certainly be there in the 1-26, or whatever you have for a first solo machine. You could later upgrade to an audio vario. Second, we need to develop instructors who are themselves soaring pilots, so that they are capable of motivating and instructing their students. Let's give them the good equipment to fly!

The SSA have recently introduced a Bronze badge as an encouragement to bridge the gap between the C and Silver C badges. It is a sort of cross-country pre-requisite and deserves a close look. How does it compare to your cross-country pre-requisites, for example?

Soaring ability is part of what separates a soaring pilot from a glider (or power) pilot. This skill should be there when (s)he is licenced, and needs to be further developed and nurtured through the first years of soaring. Let us develop our club programs and encourage cross-country flying, and to put **soaring** up front – we want to develop and keep soaring pilots, not lose glider pilots. □

References

1. W.G. Scull, “The Development of Soaring – a comparison of the sport in the USA, UK and Europe.” Paper presented to SSA Convention March 1984.
2. A. Kirby, “Membership Drive Pays Off”. Letter to free flight 1/84.
3. A. Kirby, discussion at AGM 1984.
4. “MSC, How one successful club works”. Fred Rose, free flight 1/82 p19.
5. Coaches Conference, Reno, March 1983.

ANOTHER COUNTRY'S CONCLUSIONS

Sailplane & Gliding, Dec '83 - Jan '84

Three members of the British Gliding Association prepared a paper analyzing recent membership problems in the BGA. We could profit from their recommendations.

... Apart from considering the lack of growth, they emphasize that private ownership has increased substantially while the number of club gliders have grown much more slowly. In fact there are now fewer club single-seaters [than in the maximum membership year of 1976].

The UK gliding movement is traditionally based on clubs and depends entirely on them for launch and other facilities, but the authors wonder whether this move to private ownership will effect the financial viability of clubs.

They admit that there is little firm evidence to show whether the stagnation is coming from established members deciding to give up gliding or a drastic slow-down in recruitment. If it is the first reason, then there is obviously a significant loss of revenue but the latter cause could create bigger problems in the future.

Costs have increased significantly since 1976 – administration, fuel, insurance, repairs, equipment etc. – but there are only the same number of members paying. This obviously forces more people out and may have already increased the cost of starting the glide to a point where it discourages newcomers. Certainly, if membership remains static or decreases further, it's going to cost us more annually. If recruitment is slow, it won't be long before we feel the effect on income by less usage of the training fleet and early solo machines, which are usually club owned. This will effect some clubs more than others with perhaps the big ones suffering most, but it will be bad news for us all.

The authors think it would be valuable to have a view of each club on recent trends on membership, the attitudes of their members on the cost of gliding and how close they are to being under sufficient financial pressure to make it impossible for them to continue.

The next point they raise is the significance of the changing club glider/private owner ratio.

While agreeing that to some extent the move is inevitable with the emphasis now on cross-country flying and training and a keen determination to exploit the few days of the year, they wonder whether private ownership threatens the viability of clubs. We all need clubs whether we fly club aircraft or not since the UK system is based on club sites, hangarage and launching facilities. This means that all private owners are also club members and it is in their interest to keep these clubs viable. But, the authors stress, if club fleet usage dimin-

ishes, then clubs may well have to increase their income from private owners to cover the overall costs – not forgetting that private owners do need the club to have two-seaters for check flights and further training facilities.

The authors pinpoint another alarming trend. With the increase in private ownership, often soon after training, clubs now have smaller single-seater fleets which restricts those who can't afford a share in a glider. This may well mean a move back to an older membership and a narrowing of the broad range of pilots now in the sport.

They conclude that we must have clubs and their facilities and it could be that a greater percentage of the money will have to come from private owners. It is vital to retain the ab-initio facilities and a high level of training expertise. The single-seat club fleet is most at risk, but there will always be a demand if costs can be kept well below those of private ownership.

Clubs will have to keep a watch on their finances and be flexible enough to change policies or charges annually. It is worthwhile encouraging the use of club single-seaters by reducing the costs at certain times and encouraging private owners to fly them at a reduced membership fee (again with a limited use), so providing extra income when it isn't worth rigging.

Other things that can be done, are:

- More information from clubs is needed to find out whether there is a general trend of fewer new members or whether the average figures mask a widely differing situation for each club. Also to find out whether the clubs that are financially better off are of a particular type: big, small, private owner or club fleet oriented.
- They expect the private owner trend to continue but want to ensure that this doesn't threaten facilities by reducing the income to clubs. This should be discussed within the gliding movement so that all views are aired and to emphasize the responsibility private owners have to their clubs.
- They contend that training and two seat gliders do remain a vital part of all clubs and we must take advantage of any public interest we can generate. Single seater club gliders need to offer an obvious financial advantage over private ownership, and fleet size must be flexible. Too few club gliders discourages interest or encourages private ownership, whereas too many club gliders are expensive since under-utilization could put a club in serious financial pressure in just one season.
- They stress that recruitment is important, and we should consider whether a BGA recruitment promotion would be more effective than the present methods and decide how this could be made practical financially. □

HANGAR FLYING

MoT REQUIREMENTS FOR POWERED GLIDERS

A powered glider must meet the following requirements:

- **glide ratio** (without the use of spoilers or other landing configuration devices) – not less than 20:1;
- **glide ratio** (in landing configuration) – not greater than 8:1 at 1.4 Vs;
- **stall speed** (Vs landing configuration) – not to exceed 45 knots (80 km/h);
- **take-off weight** – greater than 1985 lbs (900 kg).
- **take-off distance** – not greater than 600 metres to 15 metres height from smooth, dry concrete at maximum permissible take-off weight and under standard conditions at sea level;
- **rate of climb** – not less than 300 metres in 4 minutes at maximum permissible take-off weight under standard conditions and in take-off configuration at sea level; and
- **maximum power loading** – not greater than 1 HP per 20 pounds maximum permissible take-off weight.

An endorsement is required to a Glider Pilot Licence for each type of powered glider to be operated. For the initial endorsement of a powered glider, the pilot must have

- satisfactorily completed the Private Pilot (Aeroplane) Licence examinations;
- acquired not less than 15 hours flight time in gliders or powered gliders including not less than 5 hours in powered gliders. The flight time in powered gliders shall include not less than 1 hour solo flight time

and at least 10 take-offs, 10 landings and 10 air starts; and

- submitted a satisfactory recommendation from a qualified gliding instructor who is endorsed for instructing powered gliders.

For subsequent endorsement of a powered glider, the pilot must have completed not less than 1 hour flight time in the type of powered glider to be endorsed on the licence, including one flight as sole occupant of the glider, and submitted a satisfactory recommendation from a qualified glider instructor.

Powered gliders will be restricted to a radius of 25 nautical miles from a recognized glider training unit and must not enter any portion thereof which is designated as a control zone. For unrestricted flight

- a powered glider shall be equipped as other aircraft with no waiver of requirements respecting instruments, emergency locator transmitters, radio, etc; and
- the pilot shall have acquired, in powered gliders, not less than 45 hours flight time which shall include solo, dual and cross-country flight time requirements similar to those required for the issue of a Private Pilot Licence (aeroplanes).

A pilot who is licenced for powered gliders may operate a powered glider outside the restriction area of 25 nautical miles from a recognized glider training unit, provided the following conditions have been met:

- the pilot licenced on powered gliders also holds a Private Pilot Licence or higher on aeroplanes; and
- has acquired not less than 15 hours flight time in gliders or powered gliders includ-

ing not less than 5 hours in powered gliders. The flight time in powered gliders shall include not less than 1 hour solo flight time and at least 10 take-offs, 10 landings and 10 air starts.

Complete details to be found in the ANO.

LEAD BALLOONING

An observation on a remark made in "Small Club – Big Event" (free flight 2/84, p9): "Record breaking tasks on days that hot air balloons can't stay up may be stretching criticism a bit far", says Robert DiPietro.

In fact if such a day arose, Robert just might find that the Met man recommends just such a task. Strangely enough, a hot air balloon is quite likely to sink in a thermal due to the lowered buoyancy in the warmer thermal air mass. Therefore, a day when a hot air balloon could not stay up could quite possibly be a day of booming thermals eminently suited to stupendous tasks.

Lloyd Bungey, VSA

GROSSE RESETS 500 RECORD

On Dec 14 at Alice Springs, Australia, Hans Werner Grosse bettered the 500 kilometre triangle speed record of 151.9 km/h (set by G. Eckle of West Germany) by completing a 505.9 km triangle from Alice Springs with turnpoints at Utopia and Indiana at an average speed of 153.6 km/h. [I would love to see what the Australian outback version of Utopia looks like!] Feeling he could improve this time, Grosse repeated the flight on 20 Dec at 159.6 km/h.

Grosse was flying his ASW-22 which he bases at Alice Springs for his record attempts. He is planning at 1400 km triangle to increase the existing triangle distance record of 1307 km.

LIBELLE MODS APPROVED

A West German company has recently started to manufacture and install two very interesting Libelle modifications: a removable wingtip extension to 17 metres, and a split flap. Ten Libelles have been modified to date.

Comparison flights have shown a performance increase of 10% at 45 knots and 2% at 80 knots with the tip extensions, and it can be flown with the same wing loading as the 15m. The split flaps enable the Libelle to come in on a steeper approach path and much more slowly. The use of both the independently operated upper (dive brake) portion of the split flap in conjunction with the flap results in the glide path of only 4:1 at 45 kts.

The empty weight is increased 18 kg and the ballasted gross weight is decreased 23 kg. The max L/D is upped to 40:1 from 36:1, and the min sink wet is improved from 124 ft/min to 112 ft/min (min. sink dry is unchanged).

NEW AIRSPACE PLAN OFFICIAL MAY 10

The *Canada Gazette* of March 21, 1984 officially announces the implementation of the long awaited national airspace plan. After several years of problems, this new airspace classification system will come into effect on May 10, 1984.

Essentially, this classification system raises the floor of controlled airspace to 2200 feet and does away with block airspace. The ceiling of uncontrolled airspace becomes 12,500 feet across Canada. The other change is that airspace is classified as follows:

A Airspace	from 18,000 to 60,000	- controlled airspace	- IFR only
B Airspace	from 12,500 to 18,000	- controlled airspace	- IFR and DVFR
C Airspace	Airport Control Zone	- controlled airspace	- IFR and VFR
D Airspace	Airways	- controlled airspace	- IFR and VFR
E Airspace	Uncontrolled Airspace		- VFR
F Airspace	Special Use (military)	- special rules	- VFR

Complete details on specific airspace requirements will be found in the Designated Airspace Handbook, available from Energy Mines & Resources. Hopefully it will be on the VFR charts as well.

FAI BADGES

Boris Karpoff
24-1/2 Deloraine Avenue
Toronto, Ont. M5M 2A7 (416) 481-0010

The following badges and badge legs were recorded in the Canadian Soaring Register during the period January 18 to March 24, 1984.

DIAMOND GOAL

Brian Bennett Montreal 313.6 km DWB 2 Hawkesbury, ON

GOLD DISTANCE

Brian Bennett Montreal 313.6 km DWB 2 Hawkesbury, ON

GOLD ALTITUDE

Edward Fisher Vancouver 3353 m Jantar Std Hope, BC
Morvyn Patterson Edmonton 3575 m 1-23 Cowley, AB

SILVER DURATION

Gerhard Schaefer Edmonton 6:02 K8 Chipman, AB
Grant Graham London 5:02 1-34 Embro, ON

C BADGES

Christian Brière	Cold Lake	2:27	Bergfalke 3	Cold Lake, AB
James Moreira	Bluenose	2:30	K8	Stanley, NS
Shirley Dashper	SOSA	3:50	1-23	Rockton, ON
Gregg McCreedy	York	1:34	1-26	Arthur, ON
Wolfgang Thiele	Rideau	1:57	1-26	Kars, ON
Grant Graham	London	5:02	1-34	Embro, ON
Fred Guest	Cu Nim	1:05	1-26	Black Diamond, AB

FAI RECORDS

Russ Flint
96 Harvard Avenue
Winnipeg, Man. R3M 0K4 (204) 453-6642

1983 Annual report

In the five year period from 1976 to 1980, Canadian glider pilots averaged two records per year. In each of 1981 and 1982, there were seven new records set, and in 1983 ten records were set on seven flights. One of these flights was actually a "double" flight resulting in a joint record.

One record deserving special mention is the first 1000 km flight claimed by a Canadian. It's just too bad that Brian Milner had to go to the US to do it; but he leaves the way open for a Territorial 1000 km flight in 1984 [*I know several people in Alberta having serious planning underway. Tony*] Two of the records fell into previously unclaimed categories, both of these set on one 300 km triangle flight by Ursula Wiese (Burton).

It is interesting to note that three of the records were set on the ridge in Pennsylvania and seven in Alberta. The majority of the records were set in Standard class sailplanes.

The current records are detailed below.

CURRENT CANADIAN RECORDS

RECORD TYPE	OPEN	FEMININE	MULTIPLACE (OPEN)	MULTIPLACE (FEM)
DISTANCE (km)				
4.3.2.1 Straight distance	RM Cook 724 (C) 1971 DJ Marsden 676 (T) 1968	A Williams 305 (C) 1975 A Williams 209 (T) 1973	J Proudfoot/G Fitzhugh 304 (C) 1981 L Bungey / D Lovick 253 (T) 1981	not claimed
4.3.2.2 Str. Dist. to goal	DJ Marsden 676 1968	A Williams 305 (C) 1975	J Proudfoot/G Fitzhugh 304 (C) 1981 R Shirley / J Juurlink 153 (T) 1959	A Williams/E Bell 76 1979
4.3.2.3 O & R distance	M Apps-DMarsden 615 (T) 1983 B Milner 1001 (C) 1983	U Wiese 328 1984	D Marsden/E Dumas 422 1979	not claimed
4.3.2.4 Triangle distance	H Werneburg 804 1982	U Wiese 307 1983	not claimed	not claimed
SPEED, Δ (km/h)				
4.3.2.5a 100 km	RM Cook 113.4 (C) 1970 D Marsden 111.3 (T) 1982	A Williams 54.5 1976	D Marsden/M Jones 98.1 1975	A Williams/M Stone 31.0 (C) 1970
200 km (not FAI)	R Mamini 91.6 1973	M Barritt 68.7 (C) 1970	L Bungey/T Burton 76.0 1983	not claimed
4.3.2.5b 300 km	R Mamini 110.1 1973	U Wiese 55.6 1983	D Marsden/E Dumas 69.9 1975	not claimed
400 km (not FAI)	J Firth 77.9 1974	not claimed	not claimed	not claimed
4.3.2.5c 500 km	R Mamini 101.8 (T) 1973	not claimed	not claimed	not claimed
4.3.2.5d 750 km	W Krug 108.8 1982	not claimed	not claimed	not claimed
4.3.2.5e 1000 km	not claimed	not claimed	not claimed	not claimed
ALTITUDE (m)				
4.3.2.6 Gain of altitude	W Chmela 8321 (C) 1974 J Beattie 8153 (T) 1983	A Williams 5898 (C) 1969 U Wiese 5720 (T) 1982	R Shirley/ P Campbell 7100 1961	Williams/Kossuth 2987.(C) 1970
4.3.2.7 Absolute altitude	W Chmela 12449 (C) 1974 B Hea 10485 (T) 1981	A Williams 9772 (C) 1969 U Wiese 8035 (T) 1982	Chmela/VanMaurik 10390 (C) 1975 R Shirley/P Campbell 9085 (T) 1961	Williams/Kossuth 4206.(C) 1970
SPEED, O & R (km/h)				
4.3.2.8a 300 km	P Masak 171.6 (C) 1983 H Werneburg 115.2 (T) 1983	not claimed	Chmela (Rominger) 65.0 (C) 1976	not claimed
4.3.2.8b 500 km	M Apps/D Marsden 88.5 1983	not claimed	not claimed	not claimed
4.3.2.8c 750 km	not claimed	not claimed	not claimed	not claimed
4.3.2.8d 1000 km	B Milner 94.7 (C) 1983	not claimed	not claimed	not claimed
SPEED, GOAL (km/h)				
100 km (not FAI)	D Band 59.4 1975	not claimed	W Chmela/R Zimm 47.0 1971	not claimed
200 km (not FAI)	J Firth 70.0 1970	not claimed	not claimed	not claimed
300 km (not FAI)	W Mix 108.6 1966	not claimed	J Proudfoot/G Fitzhugh 70.2 (C) 1981	not claimed
400 km (not FAI)	not claimed	not claimed	not claimed	not claimed
500 km (not FAI)	D Marsden 97.1 1970	not claimed	not claimed	not claimed

C indicates a record by a Canadian outside the country.

T indicates the corresponding record set within Canada. These are noted only when there is a greater "C" record.