

free flight • vol libre

2/03
Mar/May



WELL, HERE WE ARE AT LAST. After serving my term on the SAC Board I shall be stepping down at the AGM in Québec City. This is the last page I shall write as President, but I will continue to support the new executive as required on the insurance and finance committees. It doesn't seem like ten years have passed, not even half a life sentence! Major efforts during this period have been the purchase of the SAC office in Ottawa, strengthening of the insurance plan, focusing the efforts of the Flight Training and Safety Committee on improving the safety record, and settlement of the airspace changes that came about with the inception of Nav Canada. Many issues remain and will always be ongoing, particularly membership and its direct impact on head office finances. My thanks for the support I have received over the years.

The election process is underway, and by the time you receive this issue the new Board members for Ontario and Quebec/Atlantic will have been decided. My thanks to those who have decided to throw their hats into the ring, and best wishes for their future participation.

I have been involved over the Christmas holidays and into the New Year with the insurance renewal for 2003. As has been the case for the past several years, there was only one serious offer to deal with from the proposals that had been solicited. There had been some speculation of significant increases as I presume SAC members had experienced in obtaining other forms of insurance since 9/11. However the main increase in our insurance plan was taken care of last year. Coverage for the forthcoming year provided an overall increase of approximately 7% from the 2002 rates. Before release, all rates were checked for accuracy, and, as always, particular care was taken with the pricing for private aircraft to ensure the final rates would be competitive to coverage available in alternative markets. For those who wish to defer payment of the premium, an installment payment option continues to be available, but at a lower rate than last year.

Several changes to the insurance coverage were made in recent years and bear repeating here as queries continue to arise:

- The policy territory covers Canada, USA, Mexico and the Caribbean. Coverage is available outside these areas on application to our agent.
- War risk and Terrorism coverage is not available.
- Non-owned aircraft liability is not automatic. This applies where one may be renting an aircraft in the USA. This coverage is only available by prior arrangement with our agent and it requires a separate premium.
- \$100,000 instructor errors and omissions coverage is part of the basic policy.
- Personal injury of \$1 million (covers libel, slander, defamation of character, etc.) is now part of the basic policy.

Thanks to Doug Eaton and Keith Hay for their assistance on the committee.

Après dix années passées au conseil d'administration, je quitterai donc mon siège de directeur et la présidence de notre association. Je continuerai de supporter l'exécutif aux comités des finances et des assurances. Je veux remercier celles et ceux qui ont contribué à réaliser les projets importants de cette période, tels l'achat de nos locaux à Ottawa, la réforme du plan d'assurance, l'expansion des activités du comité de formation et la transition de la gestion de l'espace aérien du M d T. à Navcan. Au moment où vous lirez ces lignes, de nouveaux directeurs pour la zone Ontario ainsi que pour la zone Québec/Atlantique auront été élus.

Nous n'avons eu qu'une offre de service sérieuse pour notre portefeuille d'assurance. Nous avons pris soin de nous assurer que nos tarifs pour l'assurance des appareils privés étaient compétitifs avec ce qui est disponible dans le marché. Une assurance de \$100,000 pour les instructeurs ainsi qu'une couverture de responsabilité de \$1,000,000 font maintenant partie de la couverture de base. Le trésorier de votre club ou la personne responsable des assurances aura bientôt en sa possession tous les détails de la couverture 2003.

free flight • vol libre

2/03 – Mar/May

The journal of the Soaring Association of Canada
Le journal de l'Association Canadienne de Vol à Voile

ISSN 0827 – 2557

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Cover 22 December 2002, watching the sun set over the Tasman Sea to the west. We were soaring near 22,000 feet in a powerful wave above Mt. Cook and the Southern Alps of New Zealand. This was the most spectacular soaring day I have ever experienced. Lift in the wave was often greater than 10 knots and smooth as silk. No turbulence or sense of motion of any kind even while cruising at 70-90 knots. The sailplanes are Gavin Wills' *Mountain and Wave Soaring School* fleet of a Discus (in the middle) and two Duo Discus (Hawk Wing in the distance and RZ which I was piloting with instructor G. Dale).
photo: Rod Morris

Light and Ultralight Sailplanes

Piero Morelli

This article is edited from the paper prepared by the author 4 December 2002, for the use of OSTIV and the FAI. The mandate of OSTIV is described in the previous issue (6/02 page 16) of free flight.

This paper summarizes considerations and concepts developed by the OSTIV Sailplane Development Panel (SDP) Working Group on Light and Ultralight Sailplanes since the 1999 SDP meeting in Bayreuth. At the August 2002 meeting of the Working Group held in Tehachapi, California, attended by Dan Armstrong, Bruce Carmichael, Helmut Fendt, Piero Morelli and also by the OSTIV President and the SDP Chairman, the proposals contained in previous documents on the subject were slightly modified, resulting in the definitions below. These definitions were subsequently approved by the SDP plenum, the OSTIV Board and the OSTIV President.

The OSTIV-approved definitions

Light sailplane (LS) a sailplane with a maximum takeoff mass not exceeding 220 kg
Ultralight sailplane (ULS) a sailplane with a maximum takeoff mass not exceeding 220 kg and a maximum wing loading not exceeding 18 kg/m²

The term *ultralight* has different meanings in different parts of the world when referring to sailplanes. In the USA in particular, FAR 103, originally intended for hang gliders, specifies that an ultralight sailplane must have an empty mass not exceeding 70 kg. Under FAR 103, the development of hang gliders towards higher and higher performance has produced machines more and more resembling conventional sailplanes, but extremely light. A typical example is the well-known "Carbon Dragon," the prototype of which featured an empty mass less than 70 kg and, with a pilot of 90 kg, a wing loading of about 12 kg/m².

Memorable flights made by Gary Osoba demonstrated that the Carbon Dragon, combining a low rate of sink with a small circling radius and a very safe behaviour at low speed, was capable of staying aloft in weak soaring conditions at very low altitude for hours, a possibility denied to conventional sailplanes (too large circling radius) and to conventional hang gliders (too high a rate of sink). The exploitation of *microlift*, as Gary Osoba named the weak, narrow, unsteady upcurrents he was able to exploit is likely to open a new means to soaring flight. [*information on microlift can be found in two free flight articles: "Microlift", 1/95 p 20; and "The Light Sailplane", 6/99 p6. editor*] But to stimulate such a development, adequate and careful promotional action is needed. Nowadays, not all designs called "ultralight" possess the performance characteristics required for the exploitation of microlift. If the wing loading is relatively high, the rate of sink and/or the circling radius may be excessive. If the takeoff mass, combined with a low wing loading, is too large, the size of the glider may be incompatible with the requirement for a small circling radius. It is therefore necessary, or at least advisable, to define a design environment by limiting both the maximum takeoff mass and the wing loading. This is what the OSTIV definition of the Ultralight Sailplane (ULS) does.

What about those sailplanes, a number of which already exist, which are low in takeoff mass but have a relatively high wing loading, appropriate for racers rather than floaters, or for low cost? These we call Light Sailplanes. To distinguish them from "conventional" sailplanes it is therefore necessary and sufficient to set an upper limit to the maximum takeoff mass. This is what the OSTIV definition of the Light Sailplane (LS) does.

Is the capability to use microlift a possible way to discriminate between the two sailplane types? No. It has been shown and widely reported that low mass and wing loading (or, more precisely, low minimum speed in steady straight flight) are required for the exploitation of microlift. It would have been more precise to adopt the minimum speed in steady straight flight V_{min} rather than the wing loading W/S as reference parameter (thus accounting for the sailplane's CL_{max}); however, wing loading has been preferred as easier to measure. At the present time however, the upper limits of the mass and wing loading are more a guess rather than rational knowledge. It has been largely a result of actual flight experience that the exploitability of microlift has been demonstrated by a sailplane weighing less than 70 kg with a wing loading of about 12 kg/m². Presently, nobody knows if microlift exploitation is possible with a larger mass and wing loading, so one cannot set a maximum value for both to define a significant design environment — inside, microlift exploitation is possible — outside, not. ⇨ p19



The SOARING ASSOCIATION of CANADA

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

free flight is the official journal of SAC.

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. An e-mail in any common word processing format is welcome (preferably as a text file), or send a fax. All material is subject to editing to the space requirements and the quality standards of the magazine.

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

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

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Deadline for contributions:

5th January, March
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L'ASSOCIATION CANADIENNE DE VOL À VOILE

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

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

Des photos, des fichiers .jpg ou .tif haute définition et niveaux de gris peuvent servir d'illustrations. Les photos vous seront retournées sur demande.

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

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Date limite:

5 janvier, mars
mai, juillet
septembre, novembre

Winching comment

I have read George Eckschmiedt's article about winch launching gliders at Hope, BC with great interest. Like others in past years, he seems to be making a renewed pitch for winching in Canada. In support of his plea, I would like to offer the following comments.

As former CFI for the Windsor Gliding Club, which until it was dissolved in 1997, one of the few "winching only" clubs in Canada, I can say that I grew up on the winch. When I started flying gliders in 1970 with the Chatham, ON air cadets, they also had their own winch at the time and flew off the Chatham airport with a 2-22 and a 1-26, owned by the local squadron.

When I joined the Windsor club in 1972, it was again winching only. The people who founded the Windsor club all came from Europe where this means of launching gliders was the norm, especially so because of the operating economy it offered. During the 35 years it was operating, the Windsor Gliding Club made some 28,000 winch launches. At \$3 at first, and \$4 a tow later on, the launch fee covered all of the equipment maintenance and operating expenses and always provided a tidy profit at the end of the year. With a 3000 foot runway and cable and a little headwind, you got an honest 1100 to 1300 feet agl even with the two-seat Lark, certainly enough to get away when there was lift.

Over the 35 year period, we did have two or three accidents that could be attributed to the method of winch launching. In every case however, it was never the fault of the equipment but rather because of someone's error!

Our cable system had been so perfected over the years, that in the final years of operation we averaged less than one cable break per 1500 tows. Our system of training demanded a mandatory minimum of three simulated breaks at different altitudes before any pilot went solo. Because of this, during the 35 years, two pilots made safe landings on their first solo flight after the cable broke.

When our club ceased to operate in 1997, two winches were offered for sale. A Michigan club immediately bought one. The other one was offered in *free flight* until last year. We were approached by at least six different clubs over time and one or two individuals who were already familiar with this method of launching always started negotiations. In every case, as soon as the talks got serious, the anti-winching majority in these clubs killed the deal.

Sadly, at least in Canada, winching seems to

have got a bad reputation by the spreading of a lot of misinformation. Winching is as safe as any aerotow launch if people are properly trained and follow the rules. As a closing statement, please consider the following: no matter if the cable breaks at 200, 400, or 600 feet during a winch launch, if you do it right, you will always be able to make a safe landing on your own runway.

Kurt Moser

former Windsor Gliding Club

On SAC membership

The membership statistics printed on page 20 of the Dec/Feb *free flight* are very disturbing for two major reasons:

1. For over a decade SAC membership has hovered around 1200-1300 and not shown any real growth. Why? The usual rationalization is that membership in clubs, and soaring in general, is too expensive. This is nonsense. Of course it's too expensive when all a club can offer is basic training in a 2-33 and then do flights around the airfield in a 1-26. It's the equivalent of selling old wooden skis for the price of modern ones. The clubs who can offer reasonable equipment seem to be in good shape, and can afford to update their fleet from time to time. Good equipment tends to attract and keep members.

2. The largest nine clubs have 62% of the total membership and they all have fifty or more members. They are consistently the top clubs in membership size from year to year. Their fleets are reasonably modern and are available for cross-country soaring.

The next group is the 25-50 members bracket which constitute 24% of SAC's membership. Here the picture is not so rosy. Although some of these clubs have been around for years they do not grow and their equipment is getting old and outdated. Rays of sunshine in this group is Guelph, Rockies, and Great Lakes. They only started a few years ago and are in the 30 range — it shows what determination and persistence can do. No doubt these clubs will be in the 50+ member category soon. The others seems to be in a slow and steady decline.

Next is the 10-24 group, 12% of our membership. This group is fighting to stay in existence and survives mainly by the dedication and hard work of a few old-time members. When, for reasons of health, age, or just plain "soaring fatigue", a couple of these old-timers drop out, these clubs face the danger of collapse. With just a small membership, these clubs can't afford to upgrade their equipment which in turn makes recruiting difficult. ➔ p22

A dream re-lived

501.3 km – 1 August 1998

George Wilson, London Soaring

Preface Kurt Hertwig was the most dedicated, hardworking, and admired member of the London Soaring Society. From his obituary, he "leveled his wings and left peacefully". Speaking with his wife Ilsa just prior to his passing on 16 January, she told me with some regret that Kurt had never written down any details of his marvelous achievements or of the many wonderful stories about soaring which he loved to tell over and over again. Virtually everything I learned about cross-country soaring was inspired by Kurt's achievements and tales. The many rules quoted in the article which follows were essentially soaring rules I learned from Kurt. Without his inspiration, the flight I am about to describe would never have happened.

THE 500 KILOMETRE FAI Diamond distance flight with turnpoints at Hanover airport, Mt. Elgin, and Shelburne was one of the greatest events in my life despite the true level of insignificance of the achievement when viewed in the grand scheme of things. I felt a need to write down the details right after the flight because I forget details as time goes by and I wanted to be able to relive the experience over and over again. It only took me five years to get around to typing a hard copy of my scribbled notes. Release and landing were from my home base of London Soaring at Embro, Ontario.

Lake effect has been my soaring nemesis. Always lurking, always waiting to wipe out a leg. I can recall my 300 km Diamond goal flight which I flew in a Ka6. Rounding the final turnpoint required a long glide roughly 15 km into and back out of absolutely dead lake effect air without the slightest bit of lift. I remember being saved at the last minute at very low altitude by a small garbage fire at the infamous Hagersville tire dump. Forever etched in my mind will be a previous 500 km attempt in the Libelle in which I had declared 512 km. My last turnpoint was Flesherton and after gliding as far as possible into dead lake effect air, I had to turn back 3 km short at Ceylon. The seven and a half hour flight was rewarding, but you can imagine my disappointment having completed 506 km and missing the final turnpoint by 3 km.

My memorable flight really began Thursday 30 July, 1998, even though the flight didn't take place until Saturday. A weak front had just passed through with minimal precipitation and I was busy driving my family to various destinations. I did some summer reading and prepared a salad for a friend's birthday party which was to be outdoors around a campfire with lots of guitar playing and singing. I stayed late until well after midnight and when I got home and got out of the car, I could tell from the feel of the calm, cool, dry air, and the crisp look of the stars, that the next day would likely be a boomer. I should have dropped everything and planned to phone club members who might be interested in flying in the morning but it was too late. Weekday flying requires super weather and lots of advance phone calls at our club. I knew that the weather could easily deteriorate by Saturday.

In the past, I had seen high pressure areas build during the summer to cover most of the continent. These are the systems that produce 500 km flights. Ordinarily, these mid-summer highs produce the best lift the first or second day after the passage of a cold front. The late-night/early morn-

ing forecast charts showed that the centre of one of these massive highs would be over or past the area by Saturday. This was not good news since an unfavourable wind shift and a pressure drop were likely. Sure enough, Friday turned out to be what looked like a boomer of a day. I could see firm cumulus from horizon to horizon. The clouds built up early in the day and it looked like I could have flown to Hanover without turning. I spent my time driving my kids various places at great risk as I could not take my eyes off the clouds. I did some more summer reading, ordered some textbooks for preview and organized a meeting for the following week. My ritual of revising, reorganizing and acquiring curriculum materials could have and should have been set aside — it was a boomer out there!

Friday evening I went through my ritual of smoking my barograph and pulling together the multitude of items that you must have on hand if you are likely to succeed on a cross-country flight. Logs and papers, declaration board, sticky tape, camera, film, seals, glasses, air pump, tool box, parachute, lunch, water, etc. etc. etc. The sky looked great as I smoked the barograph drum. I phoned Cal Gillett and then Kerry Risler to confirm that a tow pilot and OO would be out early to lend a hand. I'll be forever grateful to those two fellows and Chuck, Karl, and Helmut for helping out that morning to get the ship launched.

On the way to the field, everything looked right. Clouds did not form too early and that was good as it can be a recipe for over-development. There was dew visible on the crops so the relative humidity looked good as well. For some strange reason the thought of meteors damaging the trailer and plane popped into my mind on the way to the field. Either I was suffering from some kind of psychosis worrying about potential snags or else I had too much time on my hands. My real preoccupation was with whether or not to use water ballast. On my two previous flights, I was unable to achieve much more than 400 km on each flight. I was convinced that water ballast had slowed me down considerably on the first flight. After the second flight, I suspected that I had experienced the kind of thermal conditions required for effective performance with water ballast for the first time ever. I had consistent thermals of 4-5 knots average for the entire first leg. Time after time on the second and third legs, I would be fooled by the appearance of a cloud only to find mediocre lift. Only after the flight did I realize that it was actually a mediocre climb perform-

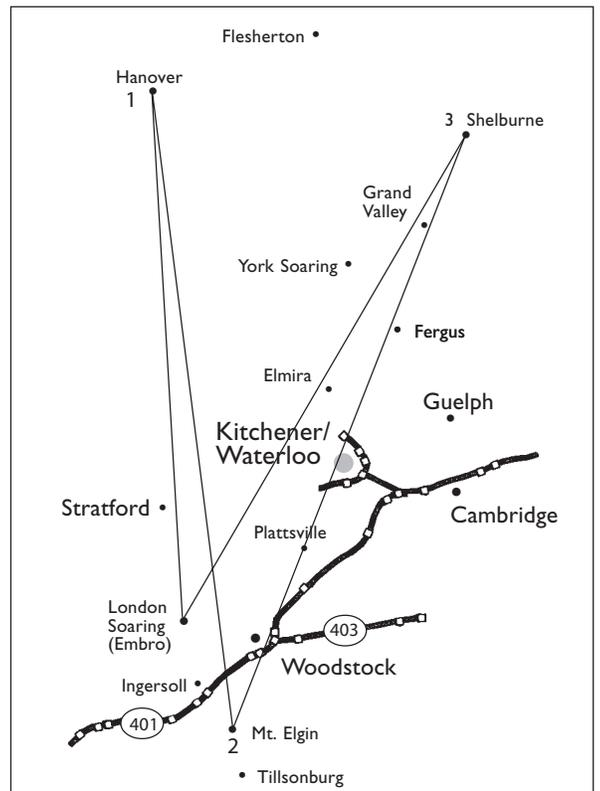
ance. I should have been able to notice this since my mechanical vario provides netto information, but it sure wasn't obvious to me when comparing my electrical and mechanical vario readings. Both flights felt sluggish and were very frustrating for me.

A surprise visit to the field by Karl Pfister the morning of the flight was to be helpful in two ways. I was able to get my Libelle rigged early with his help and, as he just happens to be an aeronautical engineer, a discussion about the merits of water ballast ensued. Karl was a co-owner of a Libelle and was very familiar with its flight characteristics. He agreed with my assessment of the merits of water. He went further and explained why. His description included the well-known fact that water reduces climb performance and increases the required turning radius in thermals. There was one other fact which he mentioned which was new to me. It explained why so many competition pilots are so successful when flying with water. Apparently, current airfoil technology not only shifts a glider's polar to the right resulting in maximum L/D at a higher speed with water on board, but it also rotates the polar so that climb performance suffers to a smaller degree than that experienced by older ships like the Libelle. This was information that I needed to hear! It cemented my resolve to make the flight without water. Thanks, Karl!

I'd flown so many 500 attempts that I would be ashamed of the number if it weren't for the fact that many of them ended up being 300 km triangles returning to the home field. A good number of the flights resulted in distances of 420 to 506 km minus a final turnpoint, but with awesome pictures, experiences, and memories to go with them. My preflight procedures were well-honed. Kerry did the honours as OO dotting all the I's and crossing all the T's.

I found myself on the line with time to spare. Lift started to form right on time while I was on the roll. I always try to be airborne as close to 1130 as possible to allow for a lengthy flight. Release went smoothly just south of the field at 3000 feet (all heights agl) and I headed straight out on course as it seemed convective on tow. Down, down, down I went into a hole with absolutely no lift. The Libelle felt slow without water and I couldn't believe that I was below 2000 feet and scratching for any possible sign of lift. Thoughts of a 500 km flight were vaporizing and I was beginning to consider the possibility of an early outlanding on a day with obvious promise. I began to scrutinize fields while looking for lift. A meager climb to a modest 2500 feet forced me to follow the law of *"Leave weak lift as soon as possible"*. I continued on course to find somewhat better but still disappointing climb, altitude and speed.

Fifteen nautical miles on course I could see the last thing I wanted to see. There was a huge area of at least 30 nm with no cloud. It looked like the dreaded lake effect that so often plays havoc with flights to the north of our field. As if to tease me, promising clouds were visible beyond this blue hole. A decision had to be made whether or not to abandon the task. This was a critical point in the flight and based on the performance so far and the prospects for the next 30 nm, abandoning the flight was the most reasonable decision. Having flown the leg many times before, I knew that I could reach the middle of the blue hole without lift and that an excellent grass strip was waiting north of Atwood. I climbed as high as legally possible and headed out on a long, slow glide reaching that all-too-familiar 2000 feet.



Before reaching the grass strip I found some lift in the blue just barely worth circling in. Well beyond the strip I could see a small puff of cumulus forming out on course. Stretching the limits, I headed for it finding very weak lift when I arrived having flown at best L/D. It was low and slow for the balance of the course through the blue hole.

The other side of the blue hole was another world. Well-formed cu and strong 6-8 knot lift to 6000 greeted me. I was moving and got to the turnpoint smartly. I turned on the radio and broadcast my position report to home field hoping that someone was listening. Radio off to conserve the battery, I headed out on the second leg.

I was surprised to be ahead of my benchmark time after rounding the northern runway threshold turnpoint at Hanover airport. Having attempted the 500 km flight many times with a zig-zag course line, I have been able to complete individual legs with good to excellent soaring conditions in 1-1/2 to 2 hours. The first leg had taken me 1:42 hours — well within my acceptable standards despite the problems I had encountered.

With turnpoint #1 having been photographed with minimal altitude loss, I was immediately confronted with a decision that often determines the success of a flight. There was a nearby cloud close to course line for leg 2. The next good clouds seemed rather far off so I invoked the famous rule of thumb: *"Get high and stay high!"* I chose the nearby cloud and while circling I searched for the centre of lift while checking for landmarks with the course line on my map. My concern escalated rapidly as I realized that the cloud was more east of the course line than I would have liked and the lift was not reaching my expectations. Out on course, I did not like what I saw. The clouds did not look strong and the blue hole I had struggled through on my way north lay ahead to the south as large as ever. After a couple of more turns in lift which I



Kurt Hertwig is hooking up the Libelle C-GCJK with pilot George Wilson ready for takeoff. The picture was taken prior to one of George's many failed attempts at the Diamond distance.

knew would not result in the kind of climb I needed to make good time on course, I shelved the *"Get high and stay high"* rule in favour of the *"Only stop for good lift"* and *"Fly straight"* rules. I would have to sacrifice altitude and fly a conservative speed.

Even though I have a speed-to-fly indicator, I tend to refer to it only for suggestions rather than follow what it says. On a strong day, if I am low, I fly slower simply because it is too risky to get even lower where the lift is often disorganized. If I am high and I have just had a terrific climb and a nearby cloud looks great, I will often push the interthermal speed much higher than suggested by the speed-to-fly ring. So I headed straight and slow back to the courseline on leg 2 hoping for favourable lift off in the distance. Fortunately, 6-8 knot lift to 5000 feet was waiting for me and I was able to move quickly as I reached the edge of the blue hole with good altitude. This time there was just a hint of a tailwind which really helps with the effective L/D in a long glide at conservative speed.

The second time through the blue hole would be different as the courseline passed right over the town of Listowel where I found moderate lift coming off the town in the blue and I was able to continue right on course. There were now clouds within reach but they did not look promising. The cloudbase appeared to be lowering and the air appeared hazy. This was worrisome, but having jumped the blue hole twice and with home field 30-40 nm ahead, I had no intention of stopping now. The cloudbase did get progressively lower and the lift remained moderate at best so I held a fairly moderate interthermal speed thus conserving altitude and climbing only when I felt I had to.

As I approached the Woodstock/Ingersoll area nearing my second turnpoint, my heart sank. The sky looked awful. The clouds were turning black and cloudbase was down to 3000 feet. There was considerable overdevelopment and it looked dark. Between Woodstock and Ingersoll, I was forced to cir-

cle under black clouds in 1-2 knot lift to fight my way back to 2500 feet. Making the Mount Elgin turnpoint was going to be a stretch to say the least and I began to consider abandoning the task again. If I had been flying locally, I would not have been flying away from the field, but I was in cross-country mode psychologically.

Looking at the area which I would have to fly through at the start of the third leg, the conditions were much the same. Far off to the west the conditions looked much better. The overdevelopment seemed to be a local condition in the Woodstock/Ingersoll/Stratford area. Would it spread? Would the sunny sky I could see off on the horizon degenerate as the day wore on? I decided to go for broke. I headed straight for the second turnpoint hoping I wouldn't be burned badly with altitude loss. If I did lose too much altitude rounding the turnpoint, I would be able to land out at Tillsonburg airport. I had myself "wishfully convinced" that I would be able to reach Woodstock airport should I not be able to find additional lift under the horrible looking clouds that lay ahead.

I snapped the turnpoint picture at 14:45, just 1:40 hours after turnpoint #1. Again, I was within my benchmark times and was actually doing better than on any previous flight. This was of very little consolation to me as I was sure the flight was coming to a dismal end with my altitude down to 2000. Dreadful clouds lay ahead and I had to choose one of two options. I could fly straight on course and hope like hell there was lift ahead since reaching Woodstock airport was little more than a pipe dream, or I could call it a day and land out at Tillsonburg airport which was easily reachable. I decided to "hope like hell" and live with a high risk of an outlanding.

Heading out on leg #3, the stretch from Mount Elgin to Innerkip was low and slow with several stops in weak lift to avoid getting dangerously low. From Innerkip to Bright and Plattsville, the clouds began to improve and I was at long last able to get above 3000. I had absolutely no intention of sticking around as what lay ahead was absolutely awesome looking. The clouds on the edge of Kitchener were breathtaking. They were high, solid, immense, and seemed to continue for the rest of the third leg. Little did I know that I was about to find out for the first time in my flying career what the upper limit of my averager was. I set off at modest speed and altitude toward the first of these clouds and waited to see what I was in store for. At first I encountered sink as expected and I had already sped up to minimize the time spent in it albeit at the expense of some very valuable altitude. The payoff was waiting as I expected but it was much more than I had ever experienced before. My mechanical and electric variors were pegged! The lift was in excess of 10 knots and my averager was at the limit of 9.9 knots! Based on how long I felt the vertical acceleration in the seat of my pants after the variometers pegged, my best guess is that I was climbing at 15 knots and cloudbase was above 7000. Needless to say, things began to move. Climb, then cruise — fast! Even a dry Libelle can move under these conditions and I took full advantage of it.

I very nearly made a serious navigational error as I was about to leave a thermal on this wonderful stretch on the third leg. While topping up a monster thermal, I had checked my courseline on the way up and spotted what I *thought* was the lake at Fergus. With that lake sighted,

I prepared to head on course at the top of the thermal. Fortunately with less than a turn left before leaving, I realized I had sighted the lake at Guelph! An error of that magnitude with the interthermal speed I was about to unleash would have taken me a long, long way off course. It seemed to take no time to get to Grand Valley where, to my dismay, I would have to leave the monster thermals behind. They simply came to an end and all that lay ahead was overdeveloped, dark clouds similar to those at the second turnpoint. Fortunately, I was high and not at a dismal 2000 feet as before.

With the final turnpoint in sight, an immediate shift of gears was in order as Shelburne was 12 nm away. That meant that I had close to 25 nm of gliding in order to get in, get the turnpoint photo, and get out. I knew it was going to cost a lot of altitude and it did. Despite a very conservatively slow, smooth glide, I lost 5000 feet while watching a 747 off on the horizon making an approach to LB Pearson Airport. A few circles after taking the turnpoint pictures proved fruitless and I headed out on course for home base with what would be a very unsettling descent approaching 1000 feet. Minutes before, I had been dashing from cloud to cloud and now I was prepared, if need be, to land out at Grand Valley airport. The clouds looked like they might still be active and yet they had that look that they get in the late afternoon when lift begins to diminish and I was still a long, long way from home.

I totally concentrated on survival soaring. I waited for the slightest sensation of lift and watched like a hawk for a wing rise. Experience had shown me too many times that a turn in the wrong direction would almost guarantee a landout when you get this low. Fortunately, after having just figured out a suitable approach to Grand Valley, I found a weak bit of lift and curled in and kept it centred each and every turn climbing at an agonizing 1–2 knots. Realizing that it was getting late and I was still over 100 km from home, I began the *“fly straight and climb in weak lift only when absolutely necessary”* routine until I could see a glider from York Soaring a fair distance off my course line. It was much higher than me and climbing. This was the perfect time for a marker. I climbed only as much as I thought I needed and headed straight for the thermal marked by the glider. The thermal was solid, but not great so I climbed to about 4000 but it was taking too long so I headed back on course. Similar clouds laid ahead. Fortunately, I was able to climb while I cruised and one good thermal brought me to a comfortable 6000 feet near the Arthur gliderport. I was beginning to think that the elusive 500 km task which I had tried so many times might actually be within my grasp.

Back on course now on the final leg, I flew a very conservative speed as it was obvious that convection was subsiding. The clouds were shrinking and were far less numerous. There was no guarantee of another good thermal. The glide was once again a very unsettling one as there did not appear to be any lift under any of the clouds. As my altitude diminished, I was approaching Elmira. I could see the gliding club but it looked like they had packed it in for the day! I was down to 1800 and once again worried about such a wonderful flight falling short of the final goal by about 40 km. Experience had shown me that late in the day thermals could be found redeveloping over towns. I made what I knew could be my last wide turn of the flight before setting up for a

landout at the Elmira club. I guided the Libelle over downtown Elmira and felt a nibble, tightened up the circle, and was able to maintain altitude. This appeared to be no more than just a tease. As I turned in the zero sink and looked out on course, there was a good 15 nm of very sparse-looking clouds and further off toward the Embro field it looked terribly overdeveloped with low, dark clouds just as it had on the second leg. After an eternity, the zero sink slowly turned into a weak thermal and, to my surprise, continued to strengthen until I was climbing a steady 4 knots to about 5500 feet — almost enough to get me home.

If the air was calm, I might just make it back to home base but the black clouds ahead had me worried about sink. Sure enough, about 20 nm from home I entered an area of sink and I cautiously sped up to get through it. It was not until I was about 15 nm out under very dark overdeveloped clouds that I was able to find some very modest lift that put me far enough above a final glide that I knew I would make it home. The darkness and overdevelopment was so ominous looking that I barely had the confidence to report, *“Embro Ground, this is Juliet Kilo seven miles out. It looks like I’m above final glide with 500 km behind me.”*

The acknowledgement and congratulations from Mike Kapple Jr. were wonderfully welcome words. Mike had acknowledged my position reports throughout the day and is a terrific soaring pilot. I was also pleased to receive congratulations from Tillmann Steckner. He was probably the only pilot still airborne as he was conducting research on thermal development in a marathon flight that had begun before mine. I was able in the last mile or so to speed up to 100 knots and overfly the field at more than 1000 feet. It had been 6:13 hours from release to the flyover. The average speed had been 78.7 km/h over 500 kilometres dry after numerous attempts over a nine year period. I was a very happy camper!

As I circled overhead the field to check out the field conditions, I noticed that the surface winds had shifted to the south opposite to those at launch. The circuit and approach were smooth and serene as most convection had subsided. Although I flared perfectly, I touched down right at the notorious bump at the north end of the field and bounced about a metre before coming to rest at 17:59. I was surprised at how comfortable and relaxed I felt after six and a half hours of war! It never ceases to amaze me how the sailplane is suddenly completely at rest after hours of dynamic soaring. I guess I have picked up that trait myself after so many years of soaring.

The biggest and most memorable surprise of all awaited me as I removed the canopy. Kurt Hertwig was walking toward the sailplane. Kurt is “Mr. Soaring” — period. He inspired me more than any other to fly cross-country and he provided me with my initial conversion from power flying to soaring. His handshake was the icing on the cake which was a long time in coming. The numerous times he went through the arduous task of signing and sealing my camera and barograph, checking declarations and helping to rig makes Kurt a perfect candidate for an award of honour for making 500 kilometre flights possible. Kurt had stayed the whole day in case of a landout!

⇒ p21

Memories of Bob Gairns

Ulli Werneburg, Gatineau

A fine Scot through and through

I FIRST SAW BOB GAIRNS in 1966 at the Canadian Soaring Championships in Regina, when I was crewing for my brother Hal. I can't say we "met" because I don't think we were ever formally introduced. To me, at that time, Bob was one of those older guys flying a Ka6-CR — a glider which was then considered high performance. The first contest task was a 300 kilometre downwind task from Regina to Melita, Manitoba. The wind was blowing at about 20 knots from the northwest and with many of the sailplanes flying then being the Ka6, K-8, L-Spatz, Skylark, 1-23 and 1-26, it was just as well that it was a downwind task. Although the weather looked great, with magnificent prairie cloudstreets all over the sky, there were obviously some problems because as we drove down the road some 200 km from Regina we spotted several gliders quite low, including Norm Tucker's Skylark and the Sisu 1A. Finally we saw a Ka6 in a field and it turned out to be Bob's. We stopped and made sure he was all right and were met with a cheery hello. He sent us on our way with a quick, "of course I'm all right", and so off we went to collect Hal who had actually made it to Melita in his and Peter Trounce's K-8B. That was the first time I saw Bob.

The next time Bob and I intersected was a couple of years later when he was editor of *free flight*. I had gone solo in 1967 and now, in 1968, was attempting my first cross-country flights in the SOSA 1-26. One good-looking Saturday I won the toss and got the 1-26 for the day. I chose to try to fly to the Air Sailing club northeast of Fergus, about 55 kilometres away. After a bit of a struggle, I managed to get there but was dismayed to find that the barograph had malfunctioned on the way. Nothing to do but turn it on again, get it sealed and signed and try to fly back. I released at a 1000 feet and got away. This time the flight was much easier with the use of the lift from a lake front off Lake Ontario. I made it back in just over an hour. Somehow Bob found out about these two flights and mentioned them in the next issue of *free flight*. I was so proud that I was afraid my chest would never stop expanding. Bob's small note was a great encouragement and helped push me to greater achievements.

In 1970 I met Bob again at the Nationals in Carman, MB. Again I was crewing for my brother, this time flying his new Std. Cirrus with which Wolf Mix had won fourth place at the World Championships that year in Marfa. By now Bob was flying his new Open Libelle, CF-XGE. This time we spent quite a bit of time chatting, mainly because the contest was rained out. Because of lots of rain and fields made impassable by Manitoba gumbo, we only managed two official competition days. It was during this contest that I first realized what a dedicated aviator Bob was, with a vast knowledge of all airplanes

and gliders, and of the great enthusiasm he had for flying. Several times he expressed dissatisfaction with the cancellation of the task and proceeded to drag his glider through the mud to the launch point to see if he could get a tow after all. I also became aware of his frugal nature and marvelled at his ability to live comfortably in the worst hotel in town.

The next incident that stands out happened in 1975 when we went out west again to fly in the Nationals at Claresholm. This time I was a competitor, teamed with Frank Vaughan in our RS-15. We had built the glider during the previous two years and were anxious to see how it would perform in a top competition. Bob also came out

What to do with the old set of spark plugs?

west, again flying the Libelle. However, he was a bit delayed and mentioned that his car, an old Plymouth, was acting up so that he had not been able to drive much faster than 50 mph for the whole trip. Since time was short and the weather was good, he decided to fly a practice task day right away and not worry about the car. So, he flew while a couple of friends who knew something about cars promised to have a look at it while he was up. This they did, with the quick discovery that the plugs were completely fouled and worn out. A new set which were duly bought and installed, and the car ran like a dream!

What to do with the old set of spark plugs? ... knowing Bob's parsimonious nature, they decided to get rid of them for good and threw them up on the roof of one of the big old WW II hangars. When Bob came back he immediately inquired about the car and was told that it was running great with the new spark plugs. Immediately Bob asked what had happened to the old ones. No one told the secret but later Bob somehow found out and was spotted climbing a rather shaky and dangerous ladder to retrieve the old plugs. Fortunately he did not fall off the roof and descended in triumph, dirty old spark plugs in his pocket.

In 1976 we met again at the US Nationals in Bryan, Ohio. We were the only two Canadians entered and so felt a bit like the Canadian team at World Championships. Unfortunately, we both goofed up on the first day. I flew too aggressively into the last turnpoint (which was under some cirrus) and promptly landed there. Meanwhile, Bob got lost on the first leg and went way off course. Finally, he got his bearings and flew some distance down the second leg. Somehow we met up while on the road and decided to have dinner together. Bob ordered his customary low budget dinner but I decided to drown our sorrows a bit and got a bottle of wine for the four of us. Bob accepted a glass of wine and we made the best

of our misfortune. On the next day that we had dinner together, Bob decided to reciprocate and bought not one but two bottles of wine and graciously mentioned how much he had enjoyed the wine on the first day. For the rest of the contest we did better and in the end I managed to get into the top half. At the closing dinner, Bob was asked to make a few comments from a Canadian perspective and mentioned my much improved flying after the first day. His truly generous nature was never more obvious.

At this same competition Bob, as usual, decided to stay in inexpensive accommodations in a large old hotel in downtown Bryan. It was pretty much dilapidated, far from its glory of many years ago. When Bob inquired about the price he was disappointed, having hoped for

Bob started speaking Cantonese ...

a real bargain. Finally the clerk mentioned that he could have a less expensive room on the second floor, which had been closed for a while. "But I should tell you that some people think there's a ghost

up there", added the clerk cautiously. Bob thought about it for about one second and said, "I'll take it and never mind the ghost!" As far as I know, no ghost showed up, undoubtedly scared off by Bob's indomitable spirit.

The next year, 1977, we met up again at the 1977 Canadian Nationals at Hawkesbury. I had just bought a brand new PIK-20D for the competition and hoped to do well. The weather was fair although we only got five days in. I was doing reasonably well until we had a Cat's Cradle day. Flying west near Winchester I got myself into a blue hole and scratched around at low altitude. Finally, I spotted Bob in his Libelle a little distance away, and although low, flew over to him. I arrived there with about 1000 feet and Bob was at about 1200. Slowly Bob climbed away while I gradually got lower and finally had to land near Winchester. Bob went on to win the day and the contest, thus becoming the first Canadian 15m champion.

A couple of years later I sold the PIK and was temporarily without a glider. However, I wanted to keep my hand in flying. Speaking to Bob at the beginning of the season, I found out that he now owned two gliders, the Libelle and a 17m Kestrel which had previously been owned by Dave Webb and a couple of other MSC pilots. True to his generous nature Bob soon offered me the Kestrel for the season for just the insurance money. I had a great time with it, enjoying its performance and handling.

In August 1979 we decided to go to St. Raymond to participate in the Quebec Provincials. The weather was very weak, with hot and humid conditions. On the second day I found myself low some 60 kilometres southwest of St. Raymond and picked a long field to land in. At the last second I realized that there was a low crop in the field and also a depression running along the length of the field in its centre. There was nothing to do but continue landing, but shortly after touchdown, one wing caught in the low crop, resulting in a severe ground loop. My heart sank when I got out — I had broken the tail! Bob took the news like the real gentleman he was, making encouraging noises about how this could happen to anyone and that it could be fixed quickly. Indeed, the Kestrel was quickly and expertly repaired by Albie Pow and then sold into the USA.

In 1981 I qualified for the Canadian team to fly in the World Championships in Paderborn, Germany. Bob showed interest in coming along and he became my crew chief. We had a great time there and Bob got plenty of opportunities to show his crewing expertise since I made a total of seven outlandings during that competition. Everything worked out well in the end and I managed to place 11th, making Bob proud. The only incident occurred when Bob's enthusiasm got the better of him one day when pushing one of the wings into the trailer. There seemed to be some sort of obstruction so Bob pushed harder. This resulted in a splintering sound as the top of the ASW-20 trailing edge got bashed against the top of the trailer. Bob apologized profusely and soon got busy with epoxy, files and sandpaper to repair the damage.

As the years went on I gradually learned more about Bob, including his years in China with the Quaker ambulance service. This I discovered one day when we were having dinner in a Chinese restaurant and, to my utter amazement, Bob started speaking Cantonese to the waiter. The waiter was amazed too!

In 1987 I was a member of the team to go to the World Championships in Australia. Bob knew how much money this would cost and decided to go all out in a fund raising effort around MSC. He did a great job badgering and bullying everyone at MSC and made a sizable contribution himself. This resulted in significant financial help to the team which was greatly appreciated.

I saw less of Bob during the nineties, mainly because he stopped competing. But, whenever I went to Hawkesbury he was inevitably there, telling me about what was happening at the club. Bob had strong views which he didn't mind sharing with people. Sometimes he disagreed with the way things were running at MSC or with SAC, and his concerns usually centred on what he regarded as unwise expenditures. He usually made very strong, well reasoned arguments and was not adverse to giving dissenting opinions.

Occasionally he would come to Ottawa on a Scottish dancing mission or to visit his friends David and Sheila. Then he would call and we would sometimes get together and catch up on the news, particularly about gliding. The last time I saw him was early July last year when I went to Hawkesbury to get a part for my ASW-20B. Of course, he was there and characteristically immediately dropped his own restoration work on the PIK-3 to give me a hand.

I have many other, more incidental, memories of Bob, including his penchant for oatmeal breakfasts, his love of older, well-used cars, his urgent reminders never to slam the doors or trunk lids of his cars, his habit of driving around any town he happened to be in until he had found the least expensive gas station, his excellent writing skills, and his unconventional and often successful investment ventures. But the main memory is of an inevitably courteous, generous gentleman, always ready to help anyone who needed it. In some ways Bob was eccentric, but his overriding humanity and love of life shone through everything he did. Bob died in the crash of his PIK-3 in 1999. He was a great friend of soaring and aviation generally and we will all miss him a lot. ❖

Fading, but never forgotten

a first Diamond flight

Kurt Moser

I HAD TRIED TWICE BEFORE and failed, attempting my first Diamond goal, a 300 kilometre flight in south-western Ontario. Our field, just north of Dresden, was often in lake effect from either Huron or Erie, both relatively close by. This can and would often affect soaring conditions, most of the time adversely.

In the mid-1970s there was a group of keen and eager pilots in our club vying to be the first to accomplish this seemingly unreachable goal. More than one of us had attempted it the only way possible from our field, which was to fly east to some prominent declared landmark. Fibreglass had not yet made its way into our fleet and most of the attempts were made in K-8, Ka6 types and the two Finnish wooden homebuilt PIC-3's in the club at the time. Typically, many weekends in the early 1976 season had poor soaring conditions and I decided to try on the next good soaring day during the week.

Tuesday, 11 July 1976 was one of those days when a strong cold front from the northwest had moved dryer air into the area and a cross-country day could be expected. I had managed to talk my oldest son Paul into taking a day off school and another club member who could winch launch me in my Ka6 but could only stay long enough until he was sure I had got away.

The first weak cumulus clouds started forming at approximately 1030 in the morning. Having made all the necessary preparations, I took a winch launch to about 1100 feet altitude only to be back on the ground 10 minutes or so later. I decided to wait half an hour until the lift strengthened. At 1106 I was once again launched and immediately caught a much stronger thermal to just below cloudbase at about 3000 feet. I had a radio on board but could not talk to anyone as no one else was flying mid-week. I could tell that conditions improved by the minute and decided to head out on course using my map, carefully prepared over the long winter months. Following recommended practice, I had allowed myself seven hours to make this flight and had marked the map at significant landmarks as to where I should be every half hour. My declared turnpoint on this out and return flight was the eastern intersection of the triangular runways at Brantford.

Henry Preiss was our club CFI at the time. He knew that I was attempting the flight on that day and he promised to contact me with the radio in his car during his lunch-break at work in Windsor. About 1205 I got his call and he asked how I was doing? I responded that all was going well, flying along Highway 401 near Dutton at the time. He gave me encouraging words and urged me to keep pushing all the time. It felt so good to be able to talk to someone who knew what I was going for and I promised to comply.

Flying with a quartering tailwind sure helped my ground speed and my progress was better than anticipated. Being still largely inexperienced as far as long cross-country flights were concerned, I would not allow myself to get lower than 4000 and I looked for the next thermal as soon as I had dropped to this altitude. Conditions were still improving and cloudbase was now 6000 feet agl.

At about 2 pm, I spotted the unmistakable shape of my goal up ahead. There was plenty of strong lift and I remember making two circles, well beyond the turnpoint, to take my pictures before setting course for home. I was now facing the quartering headwind and my progress was becoming painfully slow.

It was getting close to 5 pm and it had taken me almost two hours to struggle back to the vicinity of London and once I looked ahead I saw nothing but blue sky, no cu to mark the lift on the way home. Would this be another unsuccessful attempt, I wondered? Now down to 3500 feet, I picked the odd bit of lift only to be pushed back to the shoreline of Lake Erie every time I had gained back some altitude. The still very strong airflow from the northwest had pushed colder lake air from Lake Huron inland which took much longer to heat up near the end of a waning day and the lift became harder and harder to locate.

I had struggled back to the vicinity of Thamesville (25 kilometres from home) when two club members intercepted me in a Cessna 172. They offered all kinds of encouragement on the radio and finally left to fly back to Sarnia where they had set out. Luckily, the wind had eased somewhat at lower altitude and at 1500 I found a nice thermal back to 3000 feet. I could see our field and my heart jumped with joy and exhilaration for I knew now that I would make it home. I landed on our runway at 7:08 pm having flown 315 km and been in the air just over 8 hours. I was happy, stiff and more exhausted than I realized.

Having circled so many times during the eight hours of flying, the bed started to spin as I finally drifted off into a deep sleep that night. The emotional high I experienced the next day and the huge sense of accomplishment subsided only very slowly in the following days. Although I would make many other long flights and milestone achievements in years to follow, this particular flight remains in my memory as one of my greatest personal lifetime successes.

The desire to share my joy with colleagues at work was quickly dampened by responses of the "so what" and "big deal" variety. I realized then that the joy was mine alone — it could only be appreciated by those who had achieved the same goal. ❖

Vache

Jacques Faribault, Aéroclub des Outardes

Bromont, samedi le 13 juillet 2002

CE DEVAIT ETRE UN JOUR GRANDIOSE. Les cumulus se développaient déjà bien vers 10h30. Gerry en revenant de faire son tour d'exploration nous annonça que ça pompait des briques, donc de s'envoyer en l'air.

Premier arrivé, premier servi. Je pars avec le Blanik L-33. Gerry m'amène au-dessus de la montagne sous les nuages et je largue dans une bonne pompe. Mon plafond est à 2500 pieds. Je décide d'aller de nuage en nuage vers le sud. Malheureusement, à une certaine distance de l'aéroport, je commence à descendre sérieusement (chuter quoi). Je me retourne, figurativement parlant, vers l'aéroport, et me trouve soudainement bien loin (comme dans trop loin?).

Le choix: soit l'aéroport, soit les nuages. J'opte pour l'aéroport juste assez longtemps pour réaliser que ce choix venait de s'évanouir, comme les ascendances.

Tant pis pour l'amour propre. Ma destination sera plus champêtre et moins problématique. Je relève quelques champs qui semblent appropriés. Puis j'ai maintenant le temps pour les nuages au cas où je pourrais m'en réchapper. En passant j'annonce mes intentions à la base.

Malheureusement le ciel est contre moi. Je raffine donc mes options terrestres. Ce champ-là est bien mais d'accès difficile par la route, l'autre est un peu loin, mais ce champ-ci, près de la route, d'accès facile, semble satisfaire mes hauts standards, alors que mes options s'éliminent petit à petit.

Francis, en vol à ce moment, me contacte pour obtenir ma position, que je décris avec exactitude comme étant en face de la montagne au sud du mont Gale.

Mon champ est en pente montante dans le sens du vent (orientation 05), parfait. C'est le temps de faire mon circuit, comme à l'école ou dans les livres, sauf que l'altitude diminue drôlement vite. Je tourne en finale assez bas, merci. J'arrondis et me pose comme une fleur. C'est raboteux, je

pense aux pierres, mais il n'y en a pas et ma course au sol est assez courte de toute façon.

Attention, on m'observe de la route. Un petit signe de la main pour leur dire bonjour. Puis j'appelle Francis qui me demande ma position. Je regarde en l'air et il va passer à ma verticale, bien sur qu'il ne me verra pas. Il fait un tour, puis s'en va.

J'ai le téléphone qui fonctionne très bien mais celui de la base est éteint. Pratique! Alors j'attends. C'est long attendre, environ 15 à 20 minutes, très long.

Enfin on arrive avec la remorque. Pas trop tôt, ou si, peut-être un peu trop avec ces visages souriants de Robert, Francis et Marc qui ne présagent rien de bon.

Le planeur démonte et charge sur la remorque, suit une brève et instructive conversation sur l'importance des traditions (c'est bien le moment). Retour au terrain, le planeur remonte, toute l'opération a duré environ une heure à compter de ma vache. Sauf que l'atmosphère a changé, on sent qu'il va y avoir de la bière en fin de journée, mais par délicatesse, personne n'y fait allusion.

Rétrospectivement, voici ce que je retiens de cette aventure: Tout d'abord, une fois que l'on a repéré un champ vachable où l'on va atterrir, et que l'on se tient en local de ce champ, ce n'est pas très différent que d'être en local de l'aéroport. Une fois la décision prise de vacher, le stress de l'éloignement disparaît et on se retrouve en situation normale de vol, où l'on fait les mêmes calculs et on étudie les mêmes options que d'habitude, on est en terrain connu.

Le vol à voile est vraiment un sport d'équipe et ceux qui le pratiquent méritent toute la considération du monde pour tous les services qu'ils se rendent mutuellement de bon cour.

Enfin, et c'est un à côté, comme j'étais bas en virant en finale j'ai ressenti très vivement l'illusion de la vitesse qui augmente rapidement alors qu'on se rapproche du sol. C'est tellement saisissant que l'envie de tirer sur le manche est presque irresistible et la volonté inverse de pousser sur le manche pour la contrer, permet de maintenir la vitesse. Mais ce n'est qu'après que ces impressions me sont revenues. Comme quoi les bonnes habitudes sont importantes. ❖



Hangin' up one's wings

Phil Stade, Cu Nim Safety Officer

Each of us hopes that we will be able to fly safely until our last day of life. The evidence, however, indicates that most of us will have to make what today may seem like a difficult choice: is now the time to hang up the wings? I've asked three octogenarian pilots living in Alberta, George Dunbar, Walter Mueller, and Hugh McColeman, for their take on this subject. Their opinions were not only sought because of their age but because of the love of soaring they have demonstrated over many years. Each of them has reached a different stage in the decision to fly or not to fly: one chose to step out of active flying last year, one is expecting to quit soaring in the next year or so, and one is looking forward to more seasons of great flying.

Is it time to hang up your wings? As we begin a new season of flying, I encourage you to take the advice of these pilots.

Count your "Y-did-I's" – George Dunbar

MY FIRST CONTACT WITH GLIDING was with the gliding club at McGill University about 1940. I remember doing bungee launches from some of the lower levels of the ski hills at St. Saveur in the Laurentians. My total time there was approximately ten seconds! After McGill, I was still interested, and started the Gull Gliding Club in Dartmouth, NS. We built a Slingsby Cadet, which was flown for some months, until I was moved to Sarnia. There I flew with SOSA, then moved to Calgary in 1964, where I flew at Cu Nim until last year.

We are sometimes surprised to see reports of skaters or other athletes announcing their retirement at ages of 35, 25 — or even younger. In business, the "standard" retirement age is usually 65. In our sport we are more fortunate and many of us can continue our activity some years beyond even this latter figure. However, we all grow older — after all, we do want to avoid the alternative! How long can we or should we continue to fly? Those unfortunate to have a physical impairment should generally discuss their condition with their doctors. How about the rest of us?

I suggest we count our Y-did-I's.

What are these? Well, they are situations where we say, "Why did I" How many times have *you* gone out to the kitchen for something then had to ask, "Why did I come out here?" when you got there. A more serious example might be starting your takeoff roll and finding the canopy not secured, or the spoilers not closed ... "Why did I miss that in my checklist?"

Memory fades with age. Have you ever met a friend whom you last

saw three days ago, but now can't remember his last name? This is certainly embarrassing, but less critical than giving a position report of, "I am over ... ????" two miles from your home field.

People differ. I won't offer a suggestion for a maximum number of YDI's for you. But I do say that we all, young or old, should give thought to these changes that may be affecting our gliding.



Hugh McColeman has been soaring since 1968 but his love of aircraft dates back to 1919 when he saw a WW1 biplane fly over his parent's farm.

Hanging it up – Hugh McColeman

In 1949 I had a commercial flight in a DC3. In Montreal, we made occasional motor trips to Ottawa and enroute we passed by the Montreal Soaring Council airfield at Hawkesbury. We always paused for a while to watch with interest those beautiful sailplanes in action. On an October afternoon in 1968 I finally ventured through the gate and had my introductory flight in the big Schweizer 2-32. I promptly joined the club and started training in 2-22's. After nearly ten happy years in the club and 38 good years with the Aluminum Company of Canada (now Alcan), I retired in 1978 and my wife and I moved to Edmonton where our two daughters were then living. I promptly joined the Edmonton Soaring Club and have been an active member there for nearly 25 years.

Now 89 years young, with almost 35 years of nearly continuous glider flying, I realize that I cannot go on forever and must plan for the inevitable termination of flying. I now have an annual medical which I have passed with a Category 3 rating. The decision to continue flying therefore remains within my own control. I know that my physical strength and mobility have decreased markedly over time and I must rely on the good will of other members to rig and move my glider. This has not been a seri-





ous problem. What I consider to be a more important concern is the subtle silent deterioration of the mental process. It can be similar to the hypoxia that follows oxygen deprivation. It happens without your realization or appreciation.

So at what point does it become so serious that, in spite of your keen desire to con-

tinue, you must act responsibly and fold up your wings?

It becomes important to watch the simple things even more carefully: the walk around, ballast requirements, the altimeter setting, the gear position — the list goes on. If you note that you are missing more of these than you used to it is surely sending a message you must respect. In addition to the usual spring checkflights, take some extra dual flights with instructors whom you trust to give you an honest evaluation.

Never let matters slide to the point that your long time friends are forced to tell you that you must cease flying. These comments apply to pilots of any age. They may meet all the official criteria but must still make a personal evaluation of their flying capabilities.

In spite of the above comments I find that I have great empathy with the ancient Alberta farmer who was being interviewed by a bright young TV reporter. When asked, "Have you lived here all your life," he paused briefly, then with a twinkle in his rheumy old eyes he replied, "Not yet."



Walter Mueller started flying primary gliders when he was about 16 years old. His instructing career started shortly thereafter in the Luftwaffe and today is CFI of the Grande Prairie club, so in many ways he's seen it all.

When is it time to quit flying? – Walter Mueller

With more and more pilots reaching an age where contemporaries are happy playing shuffle board, whist and floor-curling, the question, "When is it time to quit flying," is becoming acute. Since I am an octogenarian myself and still happily flying (when the weather is good and I can get a tow), my own musings on the subject are probably skewed in favour of prolonging the unavoidable decision time. However, in order that the paper this is written on is not wasted, I shall try to be as objective as possible. What, then, should be the criteria to terminate one's flying career? Here's my opinion.

Mental Fitness

On top of the list is Enthusiasm. If that is missing, go no further, just quit and go bowling. My reasoning for this is, if a pilot is enthusiastic about flying, he or she will gladly continue to do all the things that are necessary to be safe. If on the other hand one is only lukewarm about it, then some vital points may be overlooked and the re-

sults are often an insurance claim or worse. Remember: examining your mental alertness if you are still an active pilot requires strength of character.

Physical Fitness

The Class 4 medical self-declaration was a step in the right direction, but like most "bargains," there is often a catch somewhere. You must be honest with the declaration and not omit something or stretch the truth. Remember: it is for your own safety and not to please Transport Canada. The Class 3 Medical is valid for five years for the glider pilot's licence. This is okay for younger pilots, but in later years a more frequent examination would be appropriate. We can compare this with the annual inspection of our aircraft. I like to know something is wrong while it can still be fixed.

Flying Skill

An aging pilot should never get the idea that he knows it all; when one has reached the point where one can not learn anything any more, that is definitely the point to pull the release and call it quits. Having problems staying behind the towplane, poor circuit planning, and misjudging landings are sure signs that the flying skills need upgrading. My recommendation is that the annual checkflight be done with the CFI and if the pilot does not fly often enough, another checkflight later in the season should be done. On these checkflights, special attention should be given to coordination, quick reactions, and judgment.

Currency

"Practice makes perfect," is nowhere more applicable than in piloting an aircraft. With our long winter lay-off it is imperative that one gets his spring checkflight as soon as possible and after that fly often to stay in practice. This is, of course, applicable to any pilot, but more so to the senior.



One should also be receptive to constructive criticism and be open minded to suggestions from one's peers.

When is it time to quit flying ? Here are the guidelines that I have set for myself — it's when:

- I have lost my enthusiasm,
- I don't feel sure of myself anymore,
- I don't feel comfortable in the cockpit any more,
- The doctor tells me to quit, based on physical facts,
- My checkflight instructor tells me to quit, based on deteriorating flying skills,
- And last, but not least, when I have enough common sense simply to know that the time has come to quit flying and go fishing.

In the meantime however, I hope to have many more enjoyable hours in my "rocking chair with wings," the cockpit of my Open Cirrus. ❖

Incident report Spoilers on downwind check

Ian Oldaker, chairman, Flight Training & Safety committee, and Dr. Mark Voisey, FRCP(C).

This incident occurred on an instructors' course late in 2002. It is being shared as widely as possible because several interesting teaching points arise.

We were very busy preparing for a demonstration of how to plan the circuit, having been busy with not much height at release doing a previous exercise. We were approaching the airfield (ahead of entering the downwind leg), the height was decreasing and there was a certain urgency to the situation. We started the downwind at which point the instructor trainee, 2iC, said we had to do the SWAFTS check. This was started (and then interrupted by the PiC instructor, questioning the timing of the checks, and consuming important time in a critical phase of the flight (also see note 1 below).

Because of this, the checklist was rushed (which was the topic of PiC's comments), and at the "spoilers" item, the flap handle slowly came back as 2iC said "spoilers". The following comments were then exchanged as best PiC can recall:

"You sure the spoilers are open?"

"Yes, they are open."

"I can't see them, will you confirm they are open."

At this point the flap handle moved further back! We could then hear the change in airflow noise. 2iC was still sure they were open. Then:

"Are they open?"

"—Oops!"

The handle moved forward to close the flaps, and the spoilers were selected (note 2).

Why did this occur? First, the heavier workload plus the need to talk aloud as the circuit was to be demonstrated set up the pilot to make this error of choice of handle. Second, he did not catch the error because of two possible factors:

1. 2iC did not confirm by looking that he had hold of the correct handle; see note 3.

2. 2iC was not used to habitually checking the spoilers open. Hence when he was asked to confirm them open, he did so by checking the wing, did not see the spoilers so he moved the handle further back in an attempt to open the spoilers so that they would be visible — then the "Oops!". The visual check lead to the relatively rapid diagnosis of the problem (total time less than about 15 seconds). Would this have happened if he had been flying alone? Probably not, for example,

if the other person in the airplane was an intro, ie. no authority-deferential factor would have been operative. See also note 3.

Three teaching points come from this:

1. We should teach that the pre-landing SWAFTS check is to be completed *before* entering the downwind leg. This reduces the high workload that occurs at the end of every flight. We need to space out what we have to do, and not cram it all into a short time. By completing the checks before the downwind leg, we have more time to plan a good circuit. Think of the student trying to sort out when to enter the circuit, especially when there is a higher than usual wind and an unfamiliar runway is being used, as was the case here.

2. The correct handle should always be confirmed visually (we should teach this) when the hand is placed on it; in the case of the L-13 Blaniks, this is a problem and a different shape or feel of the handle does not always work, especially when thick gloves are in use (yes, we were flying in very cold weather). Having said this, we should also continue to teach pilots to look at the spoilers, again to confirm that they are indeed holding the correct handle.

3. The opening of spoilers affects the trim of the glider, and the open brakes can often be heard, and these effects are clues that can be used by pilots. We should train ourselves and our student pilots to hear our flying environment as well as to see and feel it. These are a more subtle form of feedback but are valid if we sensitize pilots. For example, the airbrakes sure make a very noticeable noise when they inadvertently open on takeoff! We can use all our senses to keep us out of trouble. An attitude of unfocussed, freely-rambling attention is desirable and useful in many circumstances, and has saved all our bacon at various times. It comes under the heading of "there's something not right here".

Note 1

The trainee was placed in a deferential loyalty position — follow the PiC (which he was not) task of flying the aircraft, or deferring to the instructor and engaging in dialogue and answering the instructor's questions. In this situation many people will defer to the person of authority rather than to the task demands. Instructors must be aware of interruptions like this, possibly adversely affecting the outcome of the immediate task.

Note 2

2iC *in his own words*: I looked out at the wing hoping to see the spoilers, but could not see

them. Since they were only slightly open I tried to open them further to see if that would make them more visible — it then became clear that at half-extension or so (of the handle), they were not extending. My next impression was that either the rod had broken or that they were somehow glued/stuck shut, but the resistance on the handle didn't feel right. The instructor had directed me to visually attend to seeing the spoilers. Upon checking the handle, I then realized that I had my hand on the flaps, and immediately realized that in my checklist (SWAFTS) I had pulled on the flap lever (which I, as usual, intended to extend in any case) but because I was rushed and under pressure and over-focussed, I announced as "spoilers!". I immediately retracted the flaps and extended the spoilers, and made an acceptable (flapless) landing.

Note 3

There is another factor that sometimes occurs but was not operative in this case; however, it is mentioned for completeness: when a pilot expects a result from an action, he or she can believe the correct response has occurred — the pilot looks at the spoilers and sees them open, because he or she expects to see them open. This is known as *expectation* — the old "green lights" syndrome — a pilot expects to see the green lights after selecting undercarriage down, so sees green even though the lights were red.

There's lots more to say — design ergonomics, standardization of gliders, cockpit workload considerations, checklists, instructor deference in students, teaching points/styles, and so forth. These are subjects for another time perhaps! ❖

7 types of lookout

There are seven (7!) basic types of lookout, and scanning technique is the basis for performing all of them. They are when a pilot is:

- about to change direction to make a turn,
- as above but at the same time climbing to slow into a thermal,
- climbing in a thermal,
- about to leave a thermal,
- in the circuit,
- flying straight and level, and
- about to perform a height-loss exercise.

Though looking in the direction of the intended turn is a no-brainer, looking to the opposite side is not so obvious. However, another glider or possibly a faster-moving powered aircraft may be approaching from that side, and as the glider is rolled into the turn, the high wing may obscure this approaching aircraft. Hence take a good look to the other side as well.

Midair collisions have occurred when climbing into thermals, so looking directly above

and ahead before rolling must finish all lookouts. Thermal flying increases the cockpit workload; this can lead to neglect of other search areas as the pilot concentrates on any gliders that can be seen! Looking behind and under the high wing for following gliders as well as behind and over the low wing in the turn direction are both important. Expect others to join you in a good thermal so keep a good lookout! Seeing a glider early is going to avoid the, "where did that come from!"

When leaving a thermal, the lookout must include looking behind and under the high wing for another glider and on the inside of the turn and then straight ahead and above and below, before rolling straight. This lookout technique is applied also during circuit flying, when it is important to be aware of other gliders and towplanes approaching the airfield plus other gliders that may be in the circuit ahead and behind. The lookouts must be to the outside and inside of all turns as well as on the opposite side of the runway, and on a long final.

During straight flight the main areas of concern will be in a narrow arc to the front, from about the 11 to the 1 o'clock positions but not to the exclusion of the 9 to 3 o'clock areas. Bear in mind when cruising between thermals or on a mountain ridge, other gliders could be following closely or approaching in the opposite direction at fast closing speeds. More careful attention also to airways and jet and other commercial traffic close to major airports is still required because it is the experience (worldwide) that most collisions occur away from thermals!

Finally, the lookout is an essential part of the CALL check that is performed before height-loss exercises such as stalls and spins. The lookout must concentrate on the areas below and ahead, and in the case of spin exercises the pilots should make sure no other aircraft are below in an area all around the glider. This lookout must be performed again if the exercise is protracted.

Ian Oldaker

Advice on getting advice

Last summer, I decided to take Mike up on his generous offer to fly his ASW-19 (after checking with his partner Drew). So cleared for takeoff, I proceeded to get some advice on this new type of airplane.

It has a C of G tow hook, very sensitive on pitch and poor aileron control at low speed. Takeoff consists of partial spoilers and very active use of rudder to keep her straight. When Mike and Drew first bought the -19, there was lots of talk around the club on the handling characteristics and great concern of groundlooping on takeoff.

I proceeded to milk my fellow club members for all the advice they had to offer and it was plentiful!

- "Use full back stick to keep the tail on the ground, that will keep you tracking straight until the rudder is working",
- "Don't worry about closing the spoilers too soon, with our 260 hp Pawnee, you could take off with the spoilers open",
- "She likes to jump off the ground, PIOs will be your biggest problem",
- "Don't pull back on the stick, think back on the stick and she will take off",
- "Tow in a high position, if you go on a low tow you will be all over the sky",
- "Don't retract the undercarriage until after you release, the tow hook is inside the wheel well; besides, the extra drag will help you keep the rope taut",
- "Don't forget to lower the wheel for landing, make sure it is in the detent",
- "You will lose sight of the runway when you flare", and yeah,
- "Have fun!"

After a couple of delayed attempts (I did not feel 100%), I decided that my birthday would be a good day, my car had other ideas. Two

weeks and one radiator later I was strapped in and ready to go. After spending a good 20 minutes in the cockpit getting familiar with all the controls (fun toys that beep and chirp), I had worked out how to squeeze my 6'-2" frame in. Lined-up for takeoff when another glider enters circuit for landing. I decided not to be rushed and we pulled back.

Back on the line, I now had another glider off to the side of the runway but pushed well back. I decided to leave the spoilers out until after I was past this glider; I did not want to drop a wing and "meet" it.

With full power (we usually keep some in reserve) we were quickly rolling, and I mean quickly. Full stick back, half spoilers, dancing with the rudder I passed the parked glider. I checked the ailerons, they responded very well and I could feel the ship starting to lighten. Time now to close the spoilers and she leapt into the air (okay, observer accounts say I was already airborne). Stick forward to correct and bounce! Wow, she is pitch sensitive, back into the air, over-correcting and BOUNCE! Hard but no damage, with all that advice floating around in my head I forgot the most important thing of all, fly the airplane. I think I experienced a brain fart that was cleared by a good solid encounter with terra firma.

After my third "takeoff" I stabilized and flew an enjoyable (and uneventful) flight. On radioing joining the circuit, there was a friendly reminder to lower the wheel (thanks Gerry, already done). It is great to have such a supportive and knowledgeable group to draw on, but sometimes too much advice can be a bad thing. I over-analyzed and forgot that I need to feel it and figure it out on my own.

So my advice on transitioning to a new ship (especially higher performance): read the manual, talk to people who have flown it, familiarize yourself with the cockpit, don't rush, and most of all relax, think and fly!

Dave Donaldson, Great Lakes

DG-303 Elan Club/Standard	1:41.5/43, acro +7, -5g
DG-800S 15/18	1:46/51.5
DG-808B 15/18 SOLO 53hp	1:46/51.5
DG-505 ORION 17/18/20	1:acro/40/44
DG-505 MB 20/22 SOLO 64hp	1:44/47
DG-1000 18/20	1:acro/43/46.5



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Canadian Decentralized National Contest (CDNC)

The 2002 CDNC was sponsored by Canadian Advanced Soaring and used the On-line Contest as the scoring platform. The use of the OLC had a huge impact on the number of competitors, rising from 19 to 130 competitors in 2002. The advantages of using the OLC format include instant access to daily scores via the internet and an ability to compare your flight with those of other pilots who flew in your region. There are several classes in the contest:

Open scores the best 6 flights from anywhere within Canada and the continental USA.

Novice scores the best 6 flights from any pilot who has not previously achieved their Gold Distance.

Junior scores the best 6 flights from any pilot under age 25 at the start of the season.

Senior scores the best 6 flights from any pilot over age 60 at the start of the season.

The contest also breaks competitors down based on the geographical region in which the flights were flown.

Dave Springford

Points	Name	Club	Best Flt (km)	# Flts
Open class				
6113.39	Tim Wood	SOSA	870	30
5855.28	Mike Glatiotis	Canadian Rockies	875	20
5808.55	Larry Springford	SOSA	1078	9
5701.09	Hans Binder	Canadian Rockies	701	37
5021.22	Alan Spurgeon	Canadian Rockies	634	31
4718.91	Jörg Stieber	SOSA	623	15
4478.14	Vaughan Allan	Cu Nim	650	13
4400.67	Richard Mamini	Canadian Rockies	694	46
4127.15	Dave Springford	SOSA	491	13
3978.87	Ian Spence	SOSA	568	10

Novice Class

3085.90	Mel Blackburn	Canadian Rockies	314	19
2284.73	Mark von Roeder	Great Lakes	296	14
1873.21	Charles Petersen	York Soaring	303	9
1758.85	Evelyne Craig	Canadian Rockies	240	17
1467.46	David Rolland	Cu Nim	203	8
1464.09	Denis Moore	Pemberton	175	10
1327.09	Marc Schostek	Canadian Rockies	165	10
1326.58	Martin Jones	Canadian Rockies	186	23
1015.19	Allan Wright	Pemberton	136	7
947.86	Pierre Brousseau	CVVQ	215	3

Junior Class

1327.09	Marc Schostek	Canadian Rockies	165	10
694.70	Gordon Grant	Pemberton	57	9
623.82	Chris Hurlburt	Pemberton	47	16
526.84	Neil Gegenbauer	Vancouver Soaring	216	2
467.39	Richard Snow	Vancouver Soaring	97	6

Senior Class

6113.39	Tim Wood	SOSA	870	30
5808.55	Larry Springford	SOSA	1078	9
4400.67	Richard Mamini	Canadian Rockies	694	46
3284.74	Josef Gegenbauer	Vancouver Soaring	469	12
3225.46	Otto Doering	Montreal Soaring	512	11

Regional Champion – (best 6 flights in a geographic region)

BC/AB	Tim Wood	SOSA	870	30
SK/MB	Roy Eichendorf	Saskatoon Soaring	234	5
ON/QC	Dave Springford	SOSA	491	11
Maritimes	unclaimed			
USA	Larry Springford	SOSA	1078	9

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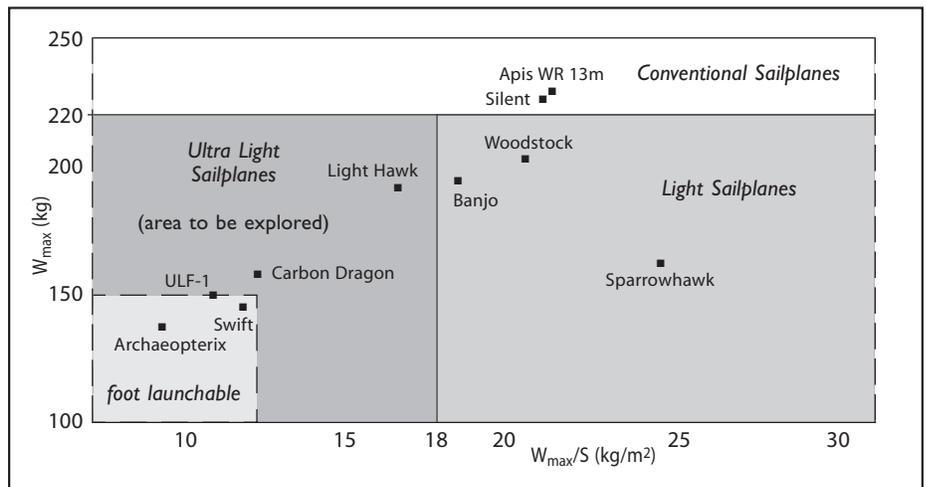
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"A touch of heritage glass" C-GAZO, a Phoebus C, on its last flight of the season on 5 October 2002. The photo was taken over the South Saskatchewan River near Birch Hills, SK thanks to Mel Klassen and Kobus Steyn. Owners Ross Taylor and Don Klassen purchased it from the Saskatoon Soaring Club in the spring of 2002 with the dreams of badge and cross-country flights. The glider was built in 1968 and was flown by many pilots in western Canada to collect many cross-country and badge flights. C-GAZO has been to Invermere, Cowley, and the 1993 Nationals in Swift Current, and also many zone and provincial contests. Ross and I hope to keep the history and tradition alive for this old glass ship.

For this reason, the design environment of the ULS corresponding to the OSTIV definition is kept deliberately large. It is unlikely that a sailplane having a mass of 220 kg and a wing loading of 18 kg/m², although complying with the OSTIV specification, would be able to exploit microlift, or is far from the optimum in this respect. On the other hand, much more freedom is given to a designer to make choices.

The figure opposite clearly illustrates the design environment and where well-known ultralight and light sailplanes fit. (As part of W_{max} , a pilot weight of 90 kg is assumed.)



It should be understood that the lower the limits of mass and wing loading, the higher the difficulty, complication and cost of the construction. It would be a most welcome result for a particular design to show the same capability of the Carbon Dragon to exploit microlift but with a higher mass and wing loading. This would simplify the structure and lower the cost of production. In addition, the sailplane could be less fragile in ground handling, a detail of not secondary relevance for such light construction.

Such benefits could be very relevant for the development and the promotion of this new scenario of soaring flight. As a matter of fact, the small number of ultralights presently existing (the Carbon Dragon being the more popular) are homebuilt from plans by skilled builders taking thousands of manhours and using expensive materials.

It is evident that for the promotion of this type of soaring, ultralight sailplanes should be available in the market in a completed form at a reasonable price. Moreover, given that microlift has been exploited by a very small number of pilots so far, it is obviously necessary that the peculiar piloting technique (in conditions often requiring a sort of dynamic soaring) is understood and acquired by more pilots. OSTIV and FAI may play a decisive role in this development.

The OSTIV concern Being the recognized international scientific and technical organization for soaring flight, OSTIV has the competence to suggest definitions. This is done here. Once the definitions are approved within OSTIV, the necessary basis is provided upon which design guidelines can be developed for the new ultralight category of sailplanes.

The term “guidelines” is used, not specifications, requirements, or standards, since in this phase of sailplane development, ample freedom should be given for designer’s choice. On the other hand, the attention of designers should be focussed on those features and characteristics of ultralight sailplanes which make them differ from conventional sailplanes from an airworthiness point of view.

OSTIV could contribute to the development of simplified airworthiness standards for a now more uniform class of light sailplanes. In some countries, like the Czech Republic and Germany, this process is already underway.

The FAI-IGC concern In the current FAI Sporting Code for gliders, an “ultralight” is a glider with a maximum takeoff mass not exceeding 220 kg. This definition mixes gliders with relatively high wing loading like the Apis, Silent, Russia, Woodstock, Sparrowhawk, Banjo, etc. (properly called light sailplanes in the USA), with gliders with very low mass and wing loading, like the Carbon Dragon, Swift, Light Hawk, ULF-1, etc.

In other words, ultralight sailplanes (ULS), designed or potentially capable of exploiting microlift, are put together with sailplanes designed for the exploitation of the same soaring conditions as conventional sailplanes and behaving like real racers. This gives practically no chance for ULS to compete with LS sailplanes for distance and speed records as currently recognized by FAI.

The OSTIV proposal would separate ULS from LS — maintaining the FAI definition of ULS, but naming as LS the sailplanes complying with that definition.

Thinking of future competitions for ultralights, the fact should be acknowledged that most light sailplanes are typically “racers”. As such, the same tasks as for conventional sailplanes would fit them too. Ultralights, on the other hand, can’t help being “floaters”. This characteristic suggests adopting a different philosophy for ULS tasking in addition to speed and distance. Perhaps tasks specifically designed for ULS could be appealing to the general public, a much cherished possibility. Who knows? This is an open matter.

Conclusions If the definitions proposed by OSTIV were adopted by the FAI, several advantages would follow:

- due to the reputation and influence of the two international bodies, OSTIV and FAI, the actual confusion of names and defini-

tions would probably and hopefully be gradually eliminated,

- the separation of the two classes, *Light* and *Ultralight*, would stimulate achievement of FAI records for ultralight sailplanes, a possibility presently denied,
- the design and construction of sailplanes for microlift exploitation would be stimulated,
- competitions for ultralight sailplanes, and records too, could be envisaged on the basis of new task philosophies,
- the potential scenario of a new type of soaring flight which more people could afford and enjoy, would come closer. ❖

The OSTIV-SDP Working Group on this subject have been Dan Armstrong (USA), Bruce Carmichael (USA), Eric de Boer (The Netherlands), Helmut Fendt (Germany), Daniel Howell (USA), Piero Morelli (Italy, coordinator), Gary Osoba (USA), and Dieter Reich (Germany). The following documents have been produced by the group:

The Development of Ultralight and Light Sailplanes, P. Morelli – SDP meeting in Bayreuth, August 1999.

Ultra Light (ULS) and Light Sailplanes (LS) – Report No.1 – SDP meeting in Prague, October 2000.

Ultra Light Sailplanes – Considerations on their Definition and Development – SDP meeting in Aalen-Elchingen, August 2001.

Definition of Light and Ultralight Sailplanes: Background for the Use of OSTIV and FAI, P. Morelli – presented by Prof. LMM Boermans on behalf of the author at the OSTIV Seminar, Mafikeng, South Africa, December 2001. A later version, including a chapter coauthored with Tor Johannessen, was circulated at the IGC meeting, Lausanne, March 2002.

Ultralight Sailplane Design and Regulations, P. Morelli – SDP meeting in Tehachapi, CA, August 2002; Sailplane Homebuilders Association Workshop, Tehachapi, CA, Aug/Sept 02.

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2002 Annual Report

It has been quite a year for Canadian records. However, to Tony's credit, he quickly offered to double my salary! Here are statistics for 2002:

Claims Received:	26
Claims Rejected:	2
Claims Approved:	25 (24 in 2002, one from 1999)
Claims Pending:	2

As you can see, Canadians have been busy in Australia this year. Tracie's 752 km Free Out & Return Distance claim is of special note as it exceeds the existing citizen records for Feminine, Club and Open categories. I believe that this is the first time that has ever happened. Well done!

My own personal award for most complete, neatest and concise claim of the year goes to Tim Wood. His claims remind me of what my grade school teachers tried to guide me toward, but never really succeeded!

As our local 2003 season draws closer, now is the time to check the calibration date of your flight recorder and reread the FAI Sporting Code if you planning to break records this year. It is important that you understand the rules and prepare in advance of the day of your flight. If you have any questions, please drop me a line and I will try to get you a timely answer. After two years as your records chairman, I'm actually starting to be able to answer most questions without digging through my "well used" copy of the Sporting Code. It has been a continuing pleasure to be your Records chairman.

Let's all hope for a safe and truly magnificent soaring season for 2003.

The following new record claims have been received:

Pilot	Pat Templeton
Date/Place	6 Jan 2003, Corowa, Australia
Record type	Out and Return Distance, Club, Citizen
FAI Category	3.1.4e

Sailplane type	LS8-18, VH-ZBI
Distance	525.5 km
Previous record	Tracie Wark, 441.4 km, 2002

Pilot	Pat Templeton
Date/Place	6 Jan 2003, Corowa, Australia
Record type	Free Out and Return, Open & Club, Citizen
FAI Category	3.1.4b
Sailplane type	LS8-18, VH-ZBI
Distance	602 km (525.5 km Club)
Previous record	Spencer Robinson, 529.9 km, 2002 (Open) Spencer Robinson, 462.6 km, 2002 (Club)

Pilot	Dave Springfield
Date/Place	5 Jan 2003, Corowa, Australia
Record type	300 km Speed Triangle, Club, Citizen
FAI Category	3.1.4h
Sailplane type	LS4, VH-GOB
Speed	92 km/h
Previous record	Not Claimed

Pilot	Dave Springfield
Date/Place	6 Jan 2003, Corowa, Australia
Record type	300 km Speed to Goal, Club, Citizen
FAI Category	SAC only
Sailplane type	ASW-27, PH-1178
Speed	97.5 km/h
Previous record	Not Claimed

Pilot	Spencer Robinson
Date/Place	7 Jan 2003, Corowa, Australia
Record type	200 km Speed to Goal, Open & Club, Citizen
FAI Category	SAC only
Sailplane type	LS8-18, VH-ZBI
Speed	145.1 km/h (126.7 km/h Club)
Previous record	Walter Weir, 143 km/h, 1995 (Open) Not Claimed (Club)

Pilot	Tracie Wark
Date/Place	7 Jan 2003, Corowa, Australia
Record type	Free Out and Return, Open/Club & Feminine, Citizen
FAI Category	3.1.4b
Sailplane type	ASW-27, PH-1178
Distance	752 km (661.7 km Club)
Previous record	Spencer Robinson, 529.9 km, 2002 (Open) Spencer Robinson, 462.6 km, 2002 (Club) Tracie Wark, 320.2 km, 2002 (Feminine)



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CURRENT CANADIAN RECORDS (as of 5 Feb 2003)

C indicates a record by a Canadian citizen originating outside the country.
T indicates the corresponding record set within Canada. (These are noted only when a greater "C" record exists.)

RECORD TYPE	OPEN	CLUB	MULTIPLACE (OPEN)	FEMININE
DISTANCE (km)				
3.1.4a Free distance	Marsden/Apps 1093 1984	Mike Glatiotis 480.6 2002	Chester Zwarych (R Adam) 495.0 1986	Ursula Wiese 607.0 1986
3.1.4b Free out & return	Bruce Friesen 315.4 T 2002 S Robinson 529.9 C 2002	Bruce Friesen 425.8 T 2002 S Robinson 462.6 C 2002	Charles Yeates (K Yeates) 259.9 C 1999 Trevor Florence (J King) 689.0 2002	Tracie Wark 320.2 C 2002 Sue Eaves 508.7 T 1995 Tracie Wark 592.6 C 2000 A Williams 305.0 C 1975
3.1.4c Free 3 TP dist.	Tim Wood 871.9 T 2002 Brian Milner 1394.0 C 1993	Mike Glatiotis 869.3 2002	C Zwarych (H McColeman) 310.0 T 1984 J Proudfoot (G Fitzhugh) 304.0 C 1981 Dave Marsden (E Dumas) 421.5 1979	Tracie Wark 320.2 C 2002 Sue Eaves 508.7 T 1995 Tracie Wark 592.6 C 2000 A Williams 305.0 C 1975
3.1.4d Strt dist. to goal	Marsden/Apps 707 1984			
3.1.4e Out & return dist.	Tony Burton 652.3 T 1993 Brian Milner 1128.9 C 1999	Tracie Wark 441.4 C 2002	John Firth (D Webber) 510.4 T 1986 C Yeates (K Yeates) 510.2 C 1989	Ursula Wiese 328.0 1984 Tracie Wark 510.3 C 2002 Jane Midwinter 317.6 1988
3.1.4f Triangle distance	Hal Werneburg 803.7 T 1982 Peter Masak 1007.0 C 1987	Tony Burton 365.2 2002		
SPEED, Δ (km/h)				
3.1.4h 100 km	Kevin Bennett 131.1 T 1989 Dale Kramer 168.1 C 1999	Pat Templeton 99.6 C 2002	Dave Marsden (M Jones) 98.1 T 1975 P Templeton (D Springford) 112.7 C 2002	A Williams 54.5 C 1976
SAC 200 km	John Firth 110.6 T 1984 Charles Yeates 116.3 C 1994	Dave Springford 95.9 C 2002	Lloyd Bungey (T Burton) 76.0 T 1983 D Springford (P Templeton) 108.5 C 2002	Tracie Wark 99.9 C 2002
3.1.4h 300 km	Kevin Bennett 113.1 T 1988 Peter Masak 148.9 C 1985	Tony Burton 78.2 2002	Dave Marsden (E Dumas) 69.9 T 1975 Ian Spence (J-R Faliu) 128.5 C 1991	Tracie Wark 99.1 2001
SAC 400 km	John Firth 99.0 T 1987 Charles Yeates 119.7 C 1994	Tracie Wark 82.2 C 2002		Tracie Wark 95.0 C 2002
3.1.4h 500 km	Walter Weir 105.7 T 1991 Peter Masak 151.2 C 1985		John Firth (D Webber) 88.8 1986	
3.1.4h 750 km	Willi Krug 108.8 1982	Dave Springford 94.6 C 2002		
3.1.4h 1000 km	Peter Masak 106.5 C 1987			
ALTITUDE (m)				
3.1.4i Absolute altitude	Bruce Hea 10485 T 1981 Walter Chmela 12449 C 1974		Bob Shirley (P Campbell) 9083 T 1961 W Chmela (VanMaurik) 10390 C 1975 Bob Shirley (P Campbell) 7102 1961	Deirdrie Duffy 8986 T 1991 A Czervenka 9772 C 1969 Deirdrie Duffy 6575 1991
3.1.4j Gain of height	Dave Mercer 8458 1995			
SPEED, O & R (km/h)				
SAC 300 km	Hal Werneburg 115.2 T 1983 Walter Weir 191.3 C 1989	Bruce Friesen 113.6 2002	Walter Chmela (H Rominger) 65.0 C 1976	Ursula Wiese 59.6 T 1984 Tracie Wark 132.3 C 2000 Tracie Wark 99.6 C 2002
3.1.4g 500 km	Kevin Bennett 126.3 T 1992 Walter Weir 150.9 C 1996	Tracie Wark 86.1 C 2002		
SAC 750 km	Walter Weir 145.0 C 1994			
3.1.4g 1000 km	Brian Milner 147.0 C 1999			
SPEED, GOAL (km/h)				
SAC 100 km	Larry Springford 125.1 T 2001 Walter Weir 147.7 C 1992	Tony Burton 93.3 T 1999 Tracie Wark 101.1 C 2002	Trevor Florence (N Marsh) 105.1 2000	Tracie Wark 106.4 C 2002
SAC 200 km	Kevin Bennett 125.9 T 1992 Walter Weir 143.0 C 1995	Tony Burton 113.2 2002	Trevor Florence (J King) 91.5 2002	Tracie Wark 129.1 C 2000
SAC 300 km	Wolf Mix 108.6 T 1966 Walter Weir 145.9 C 1994		Jock Proudfoot (G Fitzhugh) 70.2 C 1981	
SAC 400 km	Tony Burton 81.5 1990			
SAC 500 km	Dave Marsden 97.1 T 1970 Walter Weir 138.4 C 1993			

A dream re-lived

from page 9

Most glider pilots never attempt the Diamond distance. Of those who do, many who give it their all still fail to complete the flight. I've heard that the odds of completing the flight are much greater with a current generation 15 metre glass ship equipped with GPS, and the new 18 metre ships are supposed to make it easy. Personally, I'll savour having completed the task in a dry Libelle with a good old camera, barograph, and map!

Now a 500 kilometre FAI flight is never over until it's over. It really seems to go on forever while busy recounting the experience with friends and family and preparing documentation to prove what you have accomplished. Breaking the news to my wife Debbie was just plain fun. It went something like this when she asked, "How'd it go today?" All I said was, "Oh, not bad." I could tell that she immediately sensed that my answer called for another question. "How far did you go?" I answered simply "500 kilometres." Her look even beat Kurt's handshake.

Postscript The following day, I was giving the president of my school's PTA a glider flight. I had donated the flight as a prize for the school fund-raising carnival. The cloudbase was still high at 6000 feet but it had become much hazier. I remember looking down at the field and being startled by the fact that the grass was brown. I have taken pictures regularly when soaring and the last time the field was brown was in 1987 when I completed my 300 km Diamond goal in the Ka6. There's no doubt that great soaring conditions in Ontario are rare. ❖

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2002 Annual Report

Last year at this time I wrote in my annual report: "The table of statistics presented herewith shows that we are up a bit from last year but still quite a bit down from most of the nineties. Let's try to make 2002 a record year!"

Well, it happened! Take a look at the table of statistics below. In 2002 we broke ten year records in most of the categories, and by huge amounts in some cases. Since the weather wasn't anything extraordinary, and I can't think of any other good reasons for the increase, I'm willing to take all the credit.

SAC Badge and badge leg statistics 1993 – 2002

	93	94	95	96	97	98	99	00	01	02	5 yr avg	% of avg
1000 km	1	1	0	2	0	0	0	1	0	2	0.6	333%
Diamond	3	1	2	4	1	0	3	2	1	2	1.6	71%
Gold	1	2	4	6	3	2	4	5	5	5	4.2	119%
Silver	3	11	12	16	8	17	17	7	8	19	13.6	140%
C Badges	44	55	42	39	30	34	33	15	38	57	35.4	161%
Badge legs	45	87	93	91	79	87	79	67	71	111	83.0	134%

But seriously, the credit for our success has got to go to all those (such as Dean Toplis of Great Lakes and Harold Kirschner of Vancouver, to name just a couple) who made a special effort to promote badge flying in their clubs. I have noticed that the more successful clubs are prolific badge earners and I am sure there is a correlation. Actively promote badge flying and your club will thrive. I just hope we can sustain this level for 2003 — and maybe even achieve a bit of an increase.

For those who are interested in calculating task distances I wrote in *free flight 6/02* about the new oblate spheroid earth model adopted by the FAI as of 1 October 2002. Distances which have to be accurate can no longer be calculated by a relatively simple spherical trig equa-

tion on a hand calculator. I have updated my Task Planner program with the new calculation method and at the time of this writing neither *See You* or *Strepla* offers this capability. It's interesting to enter a task and then switch between the spherical and spheroid earth models to see the difference in the distances.

By the time this report is published the program should be available on the CAS website at <www.sac.ca/cas/resources/resource>. You can download an update file if you've had a previous version or the whole installation file if this is your first. If it's not there, e-mail me at <waltweir@ca.inter.net>.

Letters, etc

from page 5

Then there are the real problem clubs, the under-10 group which are 2% of the SAC membership. Most of them haven't realized that they are already dead (two report no members). A heroic effort *may* save some from extinction.

Okay, so what do we do about it?

First, SAC (that's all of us) must realize and accept that we can't go on like this. We must go all-out to help the clubs in the 10-24 group to move up to the next range within no more than three years. Healthier clubs in the same geographical area have an obligation to help them by encouraging cross-country visits and serious discussions of the smaller club's individual problems.

The 26-50 group clubs should make every effort to move up to the 50+ group. What is so important about 50 or more members? Any professional study of business survival, as applied to gliding clubs, will show that 50 members is about the minimum number to sustain a healthy club with modern equipment, good instruction, and a healthy inflow of new members, and ensure long term survival.

Of course, an exception to all this is a club of ten wealthy private owners of self-launching sailplanes who neither wish to grow nor go into ab-initio training and don't need any club equipment. Now who's dreaming! My New Year's wish is that in 2003 all the clubs will examine their unique problems and move positively towards the 50+ category.

Al Schreiter, SOSA

SAC SUPPLIES FOR CERTIFICATES AND BADGES

Order through FAI badges chairman – address on FAI badges page

Items 4 and 5 not stocked – external purchase approval is given

1	FAI 'C' badge, silver plate pin	\$ 5.00
2	FAI SILVER badge, pin	\$45.00
3	FAI GOLD badge, gold plate pin	\$45.00
4	FAI GOLD badge, 10k or 14k pin	
5	FAI DIAMOND badge, 10k or 14k pin and diamonds	
6	FAI Gliding Certificate (personal record of badge achievements)	\$10.00
	Processing fee for each FAI application form submitted	\$15.00

Order through SAC office

70	FAI 'A' badge, silver plate pin (available from your club)	\$ 3.00
71	FAI 'B' badge, silver plate pin (available from your club)	\$ 3.00
72	SAC BRONZE badge pin (available from your club)	\$ 3.00
74	FAI 'C' badge, cloth, 3" dia.	\$ 6.00
75	FAI SILVER badge, cloth 3" dia.	\$12.00
76	FAI GOLD badge, cloth 3" dia.	\$12.00

SAC forms (downloadable from SAC web site forms page)

FAI badge application, Official Observer application, Flight trophies, FAI Records application, Flight Declaration form

Please enclose payment with order; price includes postage. GST not required. Ontario residents, add 8% sales tax.

ARTICLES ACVV POUR CERTIFICATS ET INSIGNES

Disponibles au président des prix de la FAI

Les articles 4 et 5 ne sont pas en stock – permis d'achat externe

1	Insigne FAI 'C', plaqué argent
2	Insigne FAI d'ARGENT
3	Insigne FAI d'OR, plaqué d'or
4	Insigne FAI d'OR, 10c ou 14c
5	Insigne FAI DIAMANT, 10k ou 14k et diamants
6	Certificat FAI de vol à voile (recueil des insignes)
	Frais de services pour chaque formulaire de demande soumis

Disponibles au bureau de l'ACVV

70	Insigne FAI 'A', plaqué d'argent (disponible au club)
71	Insigne FAI 'B', plaqué d'argent (disponible au club)
72	Insigne ACVV badge de BRONZE (disponible au club)
74	Insigne FAI 'C', écusson en tissu, 3" dia.
75	Insigne FAI ARGENT, écusson en tissu, 3" dia.
76	Insigne FAI OR, écusson en tissu, 3" dia.

Formulaires ACVV

Formulaire de demande pour insignes FAI, Observateur Officiel trophées, records FAI, formulaire de déclaration de vol

Votre paiement devrait accompagner la commande. La livraison est incluse dans le prix. TPS n'est pas requise. Les résidents de l'Ontario sont priés d'ajouter la taxe de 8%.

Trading Post

Personal ads are a free service to SAC members (please give me the name of your club). \$10 per insertion for nonmembers. **Send ad to editor**, not to SAC office. Ad will run 3 times unless you renew. Tell me if your item has been sold sooner. Subject to some editing for length.

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Tern, CF-BWA, 195h, basic instruments, enclosed metal trailer, chute, all drawings & manuals, one man rigging dolly. \$5500 obo. Walter Mueller (780) 539-6991 <walterm@telusplanet.net>.

Duster, #45, 110h, encl trailer, chute, radio, 2 varios. Easy to rig, nice to fly. In good condition. Asking \$5000. <jdsapala@shaw.ca>, (250) 881-0044 cell, (250) 743-7998 (H).

PW-5, C-FEPW, 150h. Seeking good home for well cared-for PW-5. Has earned me a Gold badge and two Diamonds and can do the same for you. Excel cond, always trailered or hangared. VW900 electronic vario, MicroAir 760 radio c/w PTT, EDS O2 system. Avionic clamshell trailer. Hangared at Invermere. Asking \$40,000. Mel Blackburn 403-282-0547 (eves) or <black.bug@shaw.ca>.

Std Jantar 1a, C-GXTS, 540h, all ADs done, no damage, basic instruments, ATR 720A transcvr, boom mike, two total energy varios with audio, trailer and ground handling gear, wing & canopy covers, solar charger, camera, chute. \$28,000 (\$US18,500) obo. Al Sunley <alsunley@shaw.ca>, (780) 464-7948.

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LS-4, ZT, 1981 #4094, 1260h. Refinished '93 by Gehrlein, seals and turbulators, Filser ATR 720 radio, Winter and Cambridge varios, MNAV, Garmin GPS and recorder, Niagara Chairchute, Winter baro, Komet trailer repainted in 2001, tow-out gear, CoA, all A/Ds and current annual. Pendleton, ON. US\$30,000 obo. Ian Grant (613) 737-9407, <granti@igs.net>.

Std Libelle, CF-QJS, 877h. Basic instruments plus radio, audio vario, computer, encl. trailer, wing and canopy covers, tail dolly. All ADs done. Fresh annual. Asking \$22,000. Doug Munro, 416-232-6515 days, 416-466-1046 eves, <munro@interlog.com>.

Std Cirrus, instruments include Illec SB8 vario with speed director, Garmin 55 GPS, Bonnière NMEA-recorder, Cambridge elec vario, radio, O2. Eberlie trailer. US\$17,000. Hans Berg <hberg@mnsi.net>.

ASW 24, C-FPMV, 720h, factory & Nixon winglets, GPS-NAV/L-NAV, Cobra, groundhandling, Udo, 3 batteries. \$75,000. Ian Spence, (416) 924-5725 eves, (416) 946-3572 days. <ian.spence@utoronto.ca>, <www.psych.utoronto.ca/~spence/asw24.html>.

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Blanik L 13, C-GVXS 3500 hours, no radio, basic instruments. Always hangared. \$11,000 obo. Sale subject to club members' approval. Montreal Soaring Council Roland Niklaus p/f (514) 694-6785.

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Citabria 7GCBC, C-GBDP, 1972, 2030 TTAF. Basic panel plus radio. All ADs done. Fresh annual. Asking \$32,000. Doug Munro (416) 232-6515 days, (416) 466-1046 eves, <munro@interlog.com>.

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airfield: 24 km W of Shelburne, ON
Alex Foster (905) 773-4147
www.aci.on.ca/~boblepp/tsc.htm

YORK SOARING ASSOCIATION
7 km east of Arthur, ON
(519) 848-3621 airfield
(416) 250-6871 info
www.YorkSoaring.com

Prairie Zone

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

REGINA GLIDING & SOARING CLUB
Strawberry Lakes, SK
Jim Thompson (306) 789-1535 H
(306) 791-2534 W
www.soar.regina.sk.ca

SASKATOON SOARING CLUB
Cudworth, SK
Brian Galka (306) 652-7966 H
(306) 956-7200 B
www.ssc.soar.sk.ca

WINNIPEG GLIDING CLUB
Starbuck, MB
Susan & Mike Maskell (204) 831-8746
www.wgc.mb.ca

SWAN VALLEY SOARING ASSN
Brian Tigg (204) 734-5771

Alberta Zone

ALBERTA SOARING COUNCIL
Tony Burton (403) 625-4563
free-ft@agt.net
Clubs/Cowley info: www.soaring.ab.ca

CENTRAL ALBERTA SOARING CLUB
Innisfail A/P, AB
Brian Davies (403) 318-4577 H
ve6ckc@ccinet.ab.ca

COLD LAKE SOARING CLUB
CFB Cold Lake, AB
Tim Woods (780) 594-2215
club: (780) 812-SOAR
twoods@cablerocket.com
www.clsc.homestead.com

CU NIM GLIDING CLUB
Black Diamond, AB
Al Hoar (403) 288-7205 H
(403) 569-4311 B
www.soaring.ab.ca/free-ft/cunim

EDMONTON SOARING CLUB
N of Chipman, AB
John Broomhall (780) 438-3268
www.freenet.edmonton.ab.ca/soar/

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

Pacific Zone

ALBERNI VALLEY SOARING ASSN
Port Alberni A/P, BC
Doug Moore (250) 723-9385
www.island.net/~rambo/

ASTRA
Harry Peters (604) 856-5456
petersh@uniserve.com

BULKLEY VALLEY SOARING
Smithers A/P, BC
Leif Jorgensen,
newpro.elec@telus.net

CANADIAN ROCKIES SOARING CLUB
Invermere A/P, BC
Al Spurgeon (250) 342-3332
Mike Glatiotis (403) 282-6121
ews@soartherockies.com

PEMBERTON SOARING
Pemberton A/P, BC
Rudy Rozspalek (604) 894-5727
www.mountain-inter.net/soaring/

SILVER STAR SOARING ASSN
Vernon A/P, BC
Malcolm Rhodes (250) 547-9507
mrhodes@workshopbc.com

VANCOUVER SOARING ASSN
Hope A/P, BC
David Clair (604) 739-4265 H
club phone: (604) 869-7211
www.vsa.ca