



**1/08**  
Feb/Mar

# free flight <sup>of</sup> libre



**A**S YOU RECEIVE THIS ISSUE, you and clubs will be in the process of holding annual meetings, recapping the past year, and planning for the upcoming flying season. Likewise, the SAC directors and committees are reviewing the past year, planning for the upcoming AGM, and looking forward to serving the organization during the coming year.

Thanks to many hours of volunteer time by Luke Szczepaniak, Susan Snell, and Bob Lepp, a great new SAC web site is nearing completion. Gabriel Duford got the ball rolling, and club representatives have been contributing material. More details on page 4. Insurance concerns were well looked after last year by the Insurance committee headed by Keith Hay. Another favourable claims year in 2007 combined with the continuing "thirteen-month" insurance year should again result in competitive premiums for 2008. Despite frustrations in getting documents revised and published, Dan Cook and the Flight Training & Safety committee had a busy and productive year, and all safety material is expected to be ready for the start of this next flying season. Ian Grant and the Airspace committee, in cooperation with COPA, were involved in numerous discussions with Transport Canada and Nav Canada in an ongoing effort to preserve safe airspace for gliding, especially in Southern Ontario and Quebec. Tony Burton continued producing a high quality national publication. Thanks to these folks and all the committees and members that contributed during the past year.

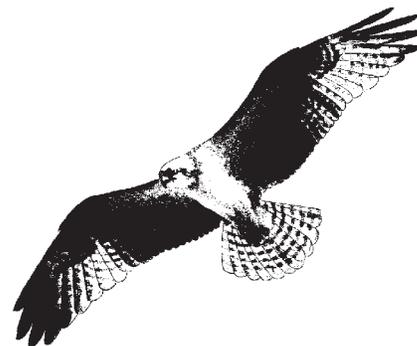
A strong team of Willem Langelaan, Dave Springford and Jerzy Szemplinski along with team coach Jörg Stieber will represent Canada at the World Soaring Championships in Lüsse, Germany, 2-16 August. Team biographies are on the website. Corporate sponsorship is needed, as well as member contributions directed to the World Contest Fund at the SAC office – Dave Springford has more team information and funding plans on page 13.

There is good news and bad news regarding SAC membership. The good news is a 2007 membership of 1131, an increase of 35 members from the previous year. There was a significant increase in adult full year members, while Air Cadet membership was down. Most clubs showed a membership increase, with York leading the way. However, two of the larger clubs showed large membership declines. The bad news is that there continues to be a high turnover of new members. Almost a third of the 2006 members, mostly regular adult members, did not return in 2007. Most of these were first year members. The membership pattern indicates that we are attracting enough new members each year to maintain and grow membership, but retention of members after the first year remains a problem. This is something that can best be addressed at the club level, as a greater effort to encourage new members to rejoin in year two would likely be worthwhile (see page 14 on "the revolving door").

The Annual General Meeting will be held on March 15 at the AME College, St-Hubert Airport, in conjunction with the CAS Soaring Seminar. Broad details are included in the announcement on page 18. Our goal is to have AGMs scheduled three years in advance; however, during the past two years there has been difficulty getting a host club. The 2007 meeting was scheduled for Southern Ontario, but when no club in that area offered to host, the Winnipeg club came forward at the last minute. Likewise, this year, the meeting was slated for an Eastern location, but there was again difficulty making plans with a local club to host, resulting in rather short notice. Thanks to the efforts of director Sylvain and the club executive, this year's AGM is being organized and hosted by AVV Champlain. The 2009 rotation is again for Ontario. As this represents a large proportion of the membership, hopefully a club will come forward. The 2010 AGM goes west and will be hosted by the Silver Star club in Vernon, BC. I will prepare an article for a future issue that will outline what is involved in planning and hosting an AGM and seminars. In the meantime, I look forward to meeting many members from the Eastern Zone in March, and encourage each club to have a representative at the meeting if at all possible.

# free flight

1/08 – Feb/Mar



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Le journal de l'Association Canadienne de Vol à Voile

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#### Cover

Luke Szczepaniak at the end of a fine cross-country last summer, completing the 302.4 km SOSA-Aylmer-Mt. Forest triangle for his Diamond Goal flight. The day still looks pretty good, Luke.

photo: Adam Oke

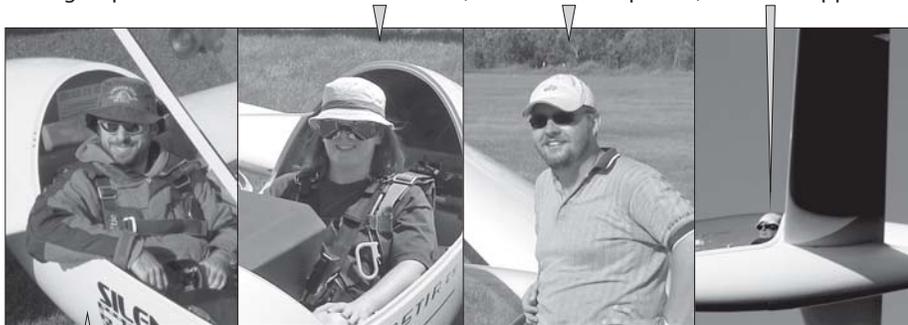
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# New national web site

Tony Burton

**E**ARLY THIS YEAR we saw the new SAC web site start up. It is accessed by the same address <[www.sac.ca](http://www.sac.ca)> as always. There is a simple one-time registration process if you want more than simple viewing access; yes, another user password, but this allows many of you participate in creating content for our new site. The previous web site has served us well, and it has been very reliable. But times change and there was a feeling a new web site could serve SAC members well, and be even more attractive to those looking for a new leisure activity. There had been various proposals including having a professional company do it (too costly) and there has been at least one false start at the process. Sometimes, all a project needs is the right moment and the happy confluence of a small group of volunteers – enter Susan Snell, and Luke Szczepaniak, and Bob Lepp.



Gabriel Duford, a member of the Flight Training & Safety committee, actually got the ball rolling when he proposed that their committee set up a web site to spread information that is otherwise available only at the SAC AGM and *free flight*. In October, he sent an e-mail to the Board about his idea of setting up a site on a different host than the current SAC one (he couldn't find information about the capabilities of SAC's provider and thought it was too expensive for what we had). Gabriel said, "Since I was to look for another provider and install *Joomla* – a web page design software package, I thought that the SAC web site could be moved as well, since the previous initiatives had died for various reasons."

He got the okay from the Board and less than a week later was explaining the idea on the Roundtable. He got replies from Luke (who set up some cyberspace at home for a test site), then Susan (who had some prior experience with *Joomla*), and then Bob (with his great sense of humour). In a couple of days these three computer experts were starting to move the content of the SAC web site to the *Joomla* test site. Over a couple of weeks they tested design templates, fine-tuned document pages, accepted a ton of suggestions, and jammed my e-mail in-box with explanations and updates.

The big difference between the new and the old is that the new site is very much more interactive – no longer is the site made up of fixed web pages put in place and rarely changed, members will be able to change it almost as easily as they can read it.

Bob said, "It was a collaborative effort over a very short period of time. It is ready to go, but will never be 'completed'. You will find all the same information and documents you need somewhere in the new site, admittedly looking very different at times. The new site uses a new tool, or concept, categorized as a "Content Management System" or CMS. Our chosen CMS is *Joomla*, a popular free tool for non-profit use such as ours."

"*Joomla* provides a structure, or template, for how material of various types is displayed. Then that content is displayed in a consistent manner in which the viewer can move within various types of content. The idea of a template is extended to the software settings for the actual design and use of colour, space and graphics on every page. Users can design and generate a new profile as a software object, and within minutes install it and the entire appearance of everything displayed changes to the new design. We sampled various templates, each had a very different look, and we settled on one which is casual yet formal at the same time. If we grow tired of it, a few minutes of work will ➔ p18



## 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 the national aero clubs. The ACC delegates to SAC the supervision of FAI related soaring activities such as competition sanctions, processing FAI badge and record claims, and the selection of Canadian team pilots for world soaring championships.

*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). 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 high-resolution greyscale/colour .jpg or .tif files. Prints returned on request.

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

Material from *free flight* may be reprinted without prior permission, but SAC requests that both the magazine and the author be given acknowledgement.

For change of address and subscriptions for non-SAC members (\$30 or \$55 for 1 or 2 years, US\$35/\$60 in USA & overseas), contact the SAC office at the address below.

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# Big changes to Sporting Code

## 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 vélivoles 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.

*free flight* est le journal officiel de l'ACVV.

Les articles publiés dans *free flight* proviennent d'individus ou de groupes de vélivoles 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.

*free flight* 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.

Les articles de *free flight* peuvent être reproduits librement, mais le nom du magazine et celui de l'auteur doivent être mentionnés.

Pour signaler un changement d'adresse ou s'abonner, contacter le bureau national à l'adresse à la gauche. Les tarifs au Canada sont de 30\$ ou 55\$ pour 1 ou 2 ans, et de 35\$US ou 60\$US à l'étranger.

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## Tony Burton

member, IGC Sporting Code committee

In 2005 the IGC Sporting Code committee proposed to the IGC that the final step be taken to no longer accept photo evidence for verification of position in badge flights but to make provision for "Commercial off the shelf GPS" (COTS GPS) position recording units to "replace the camera" for Silver and Gold badge flights beginning in 2008 (in effect 1 Oct 2007). Practically speaking, Walter Weir says that he has received only a handful of claims in the last two years that used cameras. The IGC Flight Recorder Approval committee has also pointed out that GPS altitude error can be high so height evidence will still require a barograph with COTS GPS use. So, don't toss out those Winters yet!

Each country's National Airspace Control (NAC), not the IGC, is to maintain a list of acceptable units and control their use within their area of responsibility. For Canada (and SAC) this job will likely fall to our Sporting committee.

The Sporting Code committee considered the impact of COTS GPS use and decided that it would be less confusing if the specific rules for GPS units were put into an Appendix to Chapter 4 of the Code rather than integrated throughout the text. The treatment of the data from these units is covered within the general rules. With these major changes, we took the opportunity to rewrite the current "1999 plus amendments" Code to a completely fresh version. Many rules have been moved and have new and hopefully clearer wording. Chapter 1 on definitions and Chapter 4 on verification requirements and methods are significantly different and went through many, many drafts in order to make them logically consistent and as simple as possible. (The text of the 2008 Code will be over 15% shorter than the current one.)

The new Code is not quite in a finished state as of early January when I wrote this, allowing an opportunity to incorporate any further changes which the IGC Plenary meeting in Rome in March may suggest. If approved at this meeting, the final version will be published on the FAI web site. The main changes are:

- All rules relating to or a consequence of photography have been deleted.
- Start and finish lines are eliminated, leaving the release (or stopping the motor) and a declared start point as the two alternatives for beginning a performance. For a finish, a landing and entering the observation zone of a declared finish point remain (as now) with a new "virtual" finish selected post-flight from a valid fix. This provision now gives a glider a similar finish option as the motorglider who can start the motor to finish the performance.
- The observation zone for both start and finish is restricted to the sector OZ to remove confusion that has led to incorrect application of the cylinder OZ for start or finish. It also removes an anomaly that allowed both starts and finishes to occur before the start or finish points had been attained. (Both types of OZ may be used at turnpoints and either or both may be used on a given flight.)
- The Straight distance flight currently may be done without photography, so this has been retained for badges with only a barograph as a verification instrument.
- Chapter 5 and Chapter 6 have been combined. The OO and Certification rules are more logically presented this way. While there have been no changes to duties or certification from the present there is one additional certificate that has been added. It has long been accepted that pilots are expected to fly legally, and the new certification is for the pilot to state that this was the case. This new certification has already been published for world records and is on the new FAI Record Claim Forms. It is included in Chapter 5 so as to apply to badges as well; the need for legal flying is just as applicable to badge flights as it is to world records. ❖

# mea culpa

*Cross-country confessions*



Seth Schlifer

READ WITH GREAT PLEASURE Roger Hildesheim's marvelous story "Zen, Beer & Cotton Candy" that appeared in the 5/07 *free flight*. Roger certainly has the knack for writing a very short story that conveys a very big message. However, when he mentioned listening to the voice of his instructors from "so many years ago" (*yikes, Roger!*) it did bring back pleasant memories of sitting in the rear seat as one of his instructors.

Yes, I first met Roger when he was one of a dozen Air Cadet student pilots who spent two weeks living at York Soaring while learning to fly at a training camp. At the time I, as an instructor, was becoming increasingly discerning with regards to who I would use my valuable teaching energy on in the form of that little extra effort and attention. You may read that as snobby, but that's just the point I had reached after several consecutive seasons of doing well over 300 instructional flights a year. Well, Roger fit the bill perfectly as a promising and enthusiastic protégé and it was with great care and diligence that I took him under my wing ...

While landing out on a task during the Canadian Nats is not what any self-respecting competition pilot relishes, Roger's flying wisdom is reflected in the fact that he began his land-out with a mature and healthy decision, remaining committed to his training of so many years ago (*yikes again*). Moreover, he actually found a way of gleaning something positive out of the whole affair. Beer and cotton candy indeed, but add to all that a still intact glider, the opportunity to fly the next competition day, plus a few points to boot! Life doesn't get much better than that, does it? So what am I getting at here? You'll see.

How well I remember my very first attempt at competition which was at the '82 Nats hosted by SOSA. I wish I was wiser, but alas, I just wuzn't. On Day 1 a 340 km triangle was called for both Open and 15m classes. The thermals were not streeting and were very weak – the day was characterized by 15 km cruises interrupted by 2 knot climbs and it was blue all day. Still, many pilots finished, if only just. On

the other hand, I outlanded along with a cluster of other valiant warriors. Some had landed just before the second turnpoint about 240 kilometres into the flight, others not far beyond the turnpoint. I was one of the latter, running out of day at the 280 kilometre mark.

My circuit? Well, if you can say that staying on the course until coming abeam a suitable field at 500, and then tossing in a quick base and final constitutes a fine plan, then I did quite all right. Unfortunately, my "suitable" field was several acres of not what looked like knee-high grass, but eye-high barley! My error was not realized until just before hearing the swish of the menacing crop along the underbelly, and as the glider descended to the point where the wing contacted the barley tops, the glider screeched to a stop as if caught on the arrester cable of an aircraft carrier. I nearly submarined under the straps! Thankfully the only damage was one gear door torn off, but this was repaired by Day 3; but we'll get to that soon.

Our task for Day 2 was 154 km around Hagarville and Woodstock. Again there were a large number of pilots landing near the turnpoint, only this time it was the first one! Lake effect was the culprit. Actually I knew I'd have a problem with that and so I went through the 1000 metre gate as soon as it opened and was probably the first starter on course. My timing was perfect because after clearing the gate and heading on course for a fresh building puff less than 3 km away, it was evident that at that moment the formerly cloudless sky had suddenly exploded into life. Almost directly on the course line the tiny new cloud rewarded me with a steady 8 knot climb while carrying a full load of water. I couldn't enjoy it for too long, unfortunately, because I was close to cloudbase, and about a minute later I charged off in the 1-35 at 100 mph for a healthy cluster of clouds building up ahead.

Upon reaching these clouds I was able to simply bump along, and by varying the airspeed between 60 and 90 mph I enjoyed several minutes of hard charging through an absolutely effervescent sky. A good thing too, because the headwind from the south was building steadily as marine air from Lake Erie spilled inland. All too soon the clouds ceased altogether closer to the lake and all that remained was a hazy, gloomy thin overcast and dead conditions with the Hagarville turnpoint still 15 km upwind. Having no options, I simply dialed up 70 mph and chugged onward into the teeth of what had become a headwind of over 20 knots.

I soon caught sight of Ed Hollestelle in A1 (in those days was a Pik 20B). He was some 400 feet below me off to my right and just a few seconds behind. We cruised together against the headwind and because he was flying some 5 knots faster he slowly drew slightly ahead during our glide together. I felt good knowing that after taking our photos I'd be able to ghost along behind Ed and possibly gain some help on the way out. We soon arrived at the turnpoint, and my trip time for the 37 km upwind leg was just over 25 minutes. After taking two photos I looked for Ed but couldn't find him – such is life, I'll figure things out on my own.

Here lay a great decision to be made. I could either charge on directly on course for Woodstock and take my chances with a decidedly gloomy sky but a shorter direct path, or, I could tuck my tail between my legs and retrace my path northward to return to the ginger ale sky which had got me here so quickly and easily in the first place. Being eager to make up lost points from Day 1 and realizing that the only thing certain was that the direct route was the shorter one, this do-or-die dude headed through the gloom directly toward Woodstock. After all, were there not vague ghostly shapes in the distance which looked like they might possibly be quasi-cu, or perhaps even cumulus-nebulous? Surely by distinguishing myself from all the other competitors who would chose the longer way to Woodstock, I would emerge triumphant with all my derring-do!

As a matter of fact, I soon found that my direct route lay in a region of reduced sink. At best L/D speed of 60 mph, and still with full ballast, I noticed that instead of descending at 150 ft/min I was losing just under 100 ft/min. Well, well, my L/D was now some 33% improved as a result and I worked it out to at least 48/1. Now we're talkin! I was so glad to have made such a bold and daring decision after all. This seemed to be a weak bow wave several kilometres in front of the actual sea breeze front which Ed and I had enjoyed earlier. I flew onward under the sick looking sky and varied my path slightly in either direction in the hopes of finding improved vario readings. Alas, things could not be improved upon and I gradually found myself beginning to regret my decision as I watched the altimeter relentlessly unwind.

After some 15 km of this, and losing 1000 feet in the process, I eventually relented and at about 2000 agl I turned and headed north to where the real action was, hoping I hadn't let things go too far. Now the stiff wind was a friendly tailwind and I covered the 12 km to the first cumulus with ease, arriving with about 1100 in hand. I remained very reluctant to dump the water and had stubbornly held onto it knowing that it would be of huge benefit once I recovered and got things on track again. I worked the first cu encountered but after a couple of turns and finding nothing but choppy air and pockets of sink, I headed further north to the next one along, less than a kilometre away. Same deal again, so now, from about 800 feet agl I headed further along to the next one and opened the dump valves as I headed toward it.

I reached this third cloud with less than 600 feet in hand and worked it for all I could. Unfortunately, the water had not yet finished dumping and I found myself with a real fight on my hands struggling to gain height in the ragged wind-torn thermal with almost a half load of water still on board. All the while, the landscape was drifting quickly by beneath me due to the 20 knot wind. There were a couple of nice outlanding fields alongside in case things went sour.

Finally all the water was gone but in the meantime I had fallen out the side of the ragged thermal twice and I soon found myself down to 400 with the mighty Grand River coming up fast from the east as I drifted toward it on the wind. Altogether I had drifted from field to field for some 4 km while scraping along like this until I finally tossed in the towel and dropped full flaps in order to spike myself down into a nice bare earth field which I had just finished drifting over. The wind-induced turbulence increased as I descended, and at treetop height a particularly sharp gust lifted the left wing and I felt the ship yaw to the left a bit. Everything got sorted out and I even had the presence of mind to note a low wet portion of the field and reduced the flaps enough to float beyond it in order to avoid bogging down in the soft damp soil. The touchdown and rollout was routine and I landed without incident.

As I put my parachute on the left wingtip to prevent the quartering south crosswind from lifting it, I noticed a black streak along the leading edge extending somewhat along the upper surface further out toward the tip. With a shiver I cast my eyes toward the approach end of the field and noticed that a power wire was bouncing up and down. Just then a fellow came up to ask if I was okay. He said I had struck the wire as I went beneath it. It turned out that the gust which lifted the port wing was a Godsend. That gust, perfectly-timed, had lifted the wing to just the right angle to cause the wire to simply ride over the wingtip, flicking it harmlessly over the tail, but hadn't lifted it enough to snag the wing on the wire and spin the ship around. Otherwise, the wire would have struck the tail and either cut it off, or slowed the ship enough to drop me the last 30 feet like an anvil. Either way, I would have hit the ground very hard indeed. All that just to earn 207 points and second to last place for the day. Oh, but I did come within 51 points of Peter Masak and was only 1 point behind Dave Webb. Uh, huh.

Let's see now – oh yeah – Day 3. Not one pilot finished the 170 km out and return task to Mount Forest. Here's how it went for me. I had to return for a relight, got a late start, spilled the precious contents of my water bottle and flew on in desperately hot, humid and weak conditions, in an increasingly dehydrated state, got lost for 40 km, then got on track again and struggled along until the day finally shut down and I landed at the turnpoint in a schoolyard, damaging the glider. Done. I was okay, but now out of the competition. That, dear readers, is the summary of a flight which is told in more detail in a story entitled "*Sleep late, Drink Long*," found in the ancient archives of *free flight* (4/1985). Three days of competition and three mistakes made, yet still without injury. I had beaten the odds. Usually you're out after three strikes. Oh, I learned – and the rest of my short competition career went incident free, but that was only after maturing and dialing down the rheostat on the old macho-meter.

Can we now appreciate Roger's lovely story in all its fullness? That, dear fellow flyers, is what I'm getting at. While striving hard to do your utmost, whether it be during a personal flight or in competition, there comes that specific moment in each flight where the wisest move is just to shut the flight down and go grab the proverbial beer and cotton candy... remember that. ❖

# Ridge soaring

from "Soaring Beyond the Basics" by Dale Masters at the Great Western Soaring School, Crystalaire, CA <[www.greatwesternsoaring.com](http://www.greatwesternsoaring.com)>. This is an excellent article for safer flying in the mountains.

**R**IDGE SOARING is an interesting study in contrasts. Windward slopes offer lift that is easy to work, but can also be hazardous. The air flow may be glassy smooth, or contain turbulence that is at times prohibitive. It might make cross-country flights possible for even the least experienced of pilots in low performance gliders, but usually requires operating extensively in very close proximity to the earth – in some places only moments from landing if a situation is not handled properly. Also, experience in soaring on only one type of slope could engender a confidence that is unwarranted when facing very different circumstances elsewhere. Therefore, even the seasoned pilot is wise to procure a local checkout before soaring on hills of an unfamiliar nature.

While at the basic level there seems little to it (fly parallel to the slope and be sure not to hit anything), ridge soaring at its best actually presents as many subtleties, and will reward finesse every bit as much as thermal soaring. The great advantage is that it's often possible for even the beginner to stay aloft indefinitely and advance more quickly through the learning process, whereas one small mistake is usually all it takes to shoot down the same beginner in thermal conditions.

## Reading the terrain

A number of different tactics may be used in ridge soaring. The most appropriate one for a given circumstance is dictated by the specific type of hill (its shape and size), and the idiosyncrasies of the resulting airflow. Perhaps the simplest way to analyze sloping ground for its usefulness in ridge soaring is to distinguish between sections

### **Fly parallel to the slope and be sure not to hit anything.**

of terrain that act as *collectors* and/or *dividers*. Slopes and bowls that more or less directly face the wind collect it and concentrate any available lift. But slopes angled away from the wind, or protrusions into wind, will tend to deflect or divide the flow, either ruining lift or focusing it elsewhere. Which parts of a mountain function in which way depends upon the existing conditions (primarily wind strength and direction, but also including other interrelated factors). Such relationships constantly shift with changes in the weather and sun angle.

Even a concave feature that collects and concentrates wind from a broad area may not always produce good lift. Whether it's a shallow indentation or a spectacular canyon, change in wind or sun angle can transform it from a terrific lift source to a dangerous sinkhole – or the reverse – in less than an hour. A convex feature can be even more unpredictable. It tends to divide wind flow, but if wide enough and oriented properly, might itself act as an individual ridge or thermal trigger. Depending on the vagaries of other surrounding influences, a par-

ticular mountainside could even switch back and forth from one effect to the other every few minutes.

As a slope changes shape beneath the passing sailplane, adjustments must be made on a moment-by-moment basis. For instance, even a small protrusion lying upwind, lower than the one you are working, may interrupt the lift a mile or more downwind. If you come upon such a disturbance and have enough altitude or speed to sail across it, you can probably expect a return of soarable lift just beyond. But what if it doesn't work that way? Some hills offer lift at such low altitudes that a loss of 3–400 feet means landing out, and if so, the critical decision whether to continue on or turn back must be made very quickly.

Experience will help in anticipating how a given wind might flow over variations in the surface, but, whatever your level of expertise, it is important to constantly study the route ahead and use imagination to interpret whatever data is available before flying close to high terrain.

It is usually best to first attack the nearest or highest point within reach, and then explore progressively lower areas as you descend in search of lift. A high, steep slope may sometimes provide good lift well below the crest, making it possible to arrive there low and gradually climb the hill, but it's not always that easy. When you do find yourself working lift below the top of a hill, do not assume that you'll be able to maintain one altitude indefinitely. If instead you begin to lose altitude, the slope encroaching from below will quickly shrink your usable airspace. So remember this general rule: the closer you are to terrain that extends above you, the more important it is to either climb or get away.

Also, when ridge soaring in convective conditions expect strong, possibly violent sink at any time, usually tending to roll you toward the nearby mountain. If you're too close to steep terrain without sufficient speed or room to dive away, a thermal or rotor just upwind can kill you in seconds! Always carry extra speed whenever you're very near or moving toward the terrain, and keep ample room on the windward side for diving away.

Pilots unfamiliar with slope soaring may be tempted to fly directly over the crest of a hill, and this can quickly prove to be very hazardous. If the wind is flowing from only one direction, then the crest will be where that flow levels out and starts back down; unless you find a thermal, there may be no lift over the summit itself! Meanwhile, a sailplane aligned parallel to the slope (and more or less perpendicular to the wind) will drift steadily downwind across the top, and when the sink finally

grabs its downwind wing there may be no choice but to turn the wrong way, downwind, into deepening sink. Even worse, many ridge tops are so broad and flat that gliding clear across them in this situation is impossible.

However, if a ridge has wind blowing up both sides, and especially if its sides are steep and it's sharp on top, following the actual watershed may be a most useful technique. The combination of slope lift and thermals coming from both sides may make the ridge top soarable even when there is insufficient lift of either kind on either side. Yet this is inherently hazardous stuff for several reasons.

**Carry extra speed whenever you're very near or moving toward the terrain.**

First, the crest directly beneath you is impossible to see, and it (or the tree tops on it) may rise and fall abruptly as you fly along. Also, the localized airflow might be extremely inconsistent – especially if thermals are strong – and sudden sink is a serious possibility. When the bottom drops out, you could be forced to turn away from terrain in a direction that would leave the ridge standing high between you and a safe landing. If you are not already fairly familiar with mountain soaring, save this adventure for later, and don't try it at all until someone with more experience has demonstrated that it is workable and safe on any particular hill. Too many soaring pilots have already crashed on ridge tops; we don't need more!

Even very large and/or steep mountain slopes can be useless for ridge soaring if they are serrated by multiple drainage patterns. Airflow typically reflects the shape of the hill. So in ragged terrain the most windward points act principally as dividers, deflecting the best lift so far back into sharp ravines that working it becomes dangerous. Be very leery of flying too far back into long, narrowing canyons, especially when wind is striking the overall slope diagonally. The lift may seem fine at the outer end where the canyon is wider, but as you proceed toward the head of such a canyon the spur upwind will sneak closer until at some point it dumps turbulent sink directly onto your ridge. Then, suddenly, you're descending into rising terrain, needing to turn away in very limited airspace toward the increasing sink from that other ridge. As the sink deepens, you could find yourself diving for survival, straight downstream, horribly close to a high canyon floor – beneath the lift you were using moments before. In addition to all these problems, as

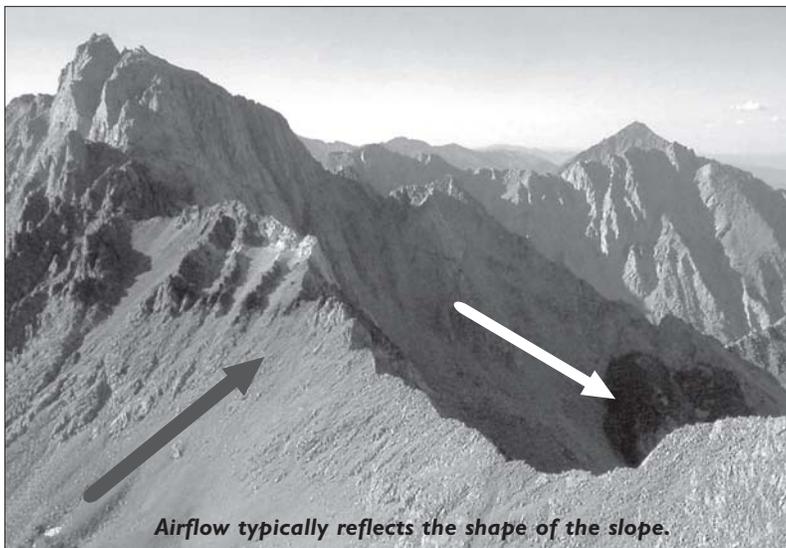
the hills rise around you they might require a circuitous and much longer route back out to the safety of open airspace – perhaps farther than you have sufficient altitude for. In seconds, this scenario can become a genuine dead end!

One real-life case in point involves all the above hazards in very big and complex terrain, made even more serious by our having never been there before ... We were at least 6000 feet higher than the valley we had come from, and climbing with ease, holding an even distance above the ascending spine of a steep ridge. Although our slope was itself quite large by ordinary standards, it was merely a secondary watershed extending almost perpendicular from the towering crags of the main summit far above. To complicate matters further, the actual wind aloft was from the far side of that enormous mountain, reaching our hill only after dumping over and curling around. The lift was weak but steady, yet the spectacle of gorgeous stair-step lakes sliding into view as we rose was very distracting. Then we rounded a bend and suddenly realized that the canyon floor had been rising even steeper than the crest of our ridge. Just ahead the slope below us dwindled to nothing, our canyon narrowing to a small alpine meadow surrounded by granite walls further up. Since we were unfamiliar with this area, not only did we lack anticipation of what lay around every rocky corner, we also had no local knowledge or feel for how the ever-higher terrain might affect our fortunes ... We immediately turned back out toward safety, but so little room was left beneath us that some heavy sink from the snowfields overhead, a bit of indecisiveness, or fear-inspired sloppy stick work could have made it a very close thing! The key to our finally soaring over the great summit lay in that timely retreat.

Other subtle hazards also lie in deep canyon terrain, waiting to trap the unwary pilot. Imagine a wide stretch of high ridge with two spurs extending out from it, not quite parallel to each other, but closer at the bottom than at the top. The mouth of the canyon, then, is narrower than the top, and wind that flows in will tend to spread out rather than converge and rise. A soaring pilot attempting to cross such a canyon from below the upper ridge could find mostly sink and be obligated to turn away for a downhill run into the wind just to escape the canyon alive!

Also, the more complex any piece of terrain is, the more likely it is to produce sudden and unpredictable changes in airflow. Think of it this way: flying near a single slope is relatively more hazardous than in completely open air space, and flying near two slopes doubles that level of hazard. But when your long-winged aircraft is actually surrounded by rocks, your freedom of movement is so restricted that even a bit of thermal sink could be very bad news indeed! Here we're talking about one of the most perilous situations in soaring, and, although it may offer tempting results, it is no time for cockiness.

So, if you don't honestly believe you're already a pretty good stick-and-rudder pilot who can fly unusual attitudes in extremely dynamic conditions without using the instruments, do us all a favour and just stay away from deep declivities in high terrain. However, if you do decide to tackle such an environment, a careful but confident aggressiveness is vital. Even so, you must earn



your confidence gradually, in various conditions, and expect many hair-raising surprises!

There are places where an entire range of mountains offers no good slope lift in the conventional sense near the surface, although we may find lift that feels more like wave a short distance upwind. (Or perhaps powerful slope lift near the surface leads directly up into this wavelike lift – plus more of the same further upwind of the mountain.) Some pundits would argue on technical principles that unless there is down-sloping terrain upwind, it cannot be an actual wave. Maybe so, but nevertheless, in terms of using it effectively, it may help to think of this sort of lift as a kind of wave. Air is piling up the way river water does on the upstream side of a bridge pier. It may be better to work such lift by facing the wind and hovering, more or less stationary relative to the hillside, rather than tacking along it. This soaring condition may remain steady all day, but it can also flow through with the wind or suddenly break. When it does, penetrate a short distance looking for another surge of lift forming upwind. If you find zero sink, circle or figure-8 in it while drifting back to where the lift was before. There, the rising of terrain beneath you might again strengthen zero-sink. If your mountain is large and steep enough and presents a wide enough obstruction to the wind, there can actually be more wave further upwind, well away from the hill (like a secondary wave, only reversed). Such a condition implies relatively stable air at that altitude, and therefore indicates a possibility of more conventional wave downwind of these same mountains.

Most pilots seem to think of density altitude as a problem only during take-off and landing, but in the high country it can be like having the Devil for a copilot. Remember that the atmosphere is about two percent less dense for every thousand feet above sea level. If you're maneuvering in the head of a canyon at ten thousand feet, you'll need another twenty percent more room to complete a turn – and considerably more if it's a hot afternoon in July with even warmer air surging up from below.

At the other extreme, even very low and shallow slopes can produce perfect ridge lift as long as they are smooth and uniform. Over terrain such as the Appalachians, it is often possible to push a sailplane all the way down to a wingspan or two from the surface, converting the stronger lift there into greater airspeed. The lower you run a ridge, the more speed you need – not only for maneuverability, but also to skip across short sections of sink. If it's a truly 'ridge-runner' day, there will be plenty of lift to make high speeds near the surface a safe and practical possibility. If not, don't try it, it is not worth the risk! There is, after all, so little air being collected by low or shallow slopes that, even in strong wind the likelihood of climbing from below the crest is quite slim. Besides, in such small terrain you might not be much above landing pattern height for long stretches of time and/or distance. Therefore, in regard to the lowest of ridges, your rule should be: don't even *try* to soar below the crest!

This last example, and our earlier story about nearly having to land in an alpine meadow, both suggest a very important point that may sound trite but is sometimes not really obvious when you're up there soaring. It's easy to be lured onto a hill where there is too little slope beneath you to provide sufficient lift. The bottom of a slope (especially the bottom of a canyon) is no place to be in *any* aircraft, especially one with no thrust!

To this we must add further subtleties about changes in the degree of slope. Whether the slope is convex or concave, either kind of inconsistency can cause the airflow to separate from the surface (just as it does due to unsmoothness in the surface of a sailplane wing) and therefore seriously weaken orographic lift. If this does happen, you could find yourself suddenly descending onto terrain directly below you at close range – terrain which is by definition flatter/wider, and therefore harder to fly safely away from. There is a potential bright side to this phenomenon; the place where upslope winds separate from the surface is just where a thermal is most likely to do the same! So, whether you're climbing by a change in slope or rushing by it horizontally, look – and *feel* – for a change in lift rate, and if it weakens, or if there is increased turbulence, look immediately upwind (away from the hill) for a possible thermal.

Always remember, too, that sloping terrain above you promises nothing; it's the terrain below you that counts! (The same is true of thermal hunting, of course; those black rocks may be hot enough to cook on, but if you're looking horizontally at them, the lift they're kicking off will all be above you and out of reach!)

Even in the absence of strong wind, the day's first lift normally will be found above some sort of sloping ground. If sun and wind are coming from approximately the same direction, lift should be easy to locate. However, if they oppose each other at an odd angle, it may be so broken or intermittent that simply staying up is a great challenge. But whether it amounts to weak thermals enhancing ridge lift or vice versa, either can usually be expected to strengthen as the sun rises in the sky.

Then, aside from any squalls or frontal-related activity, expect both thermals and wind to weaken as the sun lowers toward evening. Overconfidence from a long day of powerful ridge soaring can turn to dismay as you realize you've lost unrecoverable height, late in the day and many miles from home – with even smaller prospects for good thermals away from the hills.

#### **Visual information**

Some kinds of vegetation can provide reliable indications of wind strength on the slope itself. The leaves of hardwood trees are often turned over by strong wind, and show a lighter color. In this way, streams of air that would be felt as gusts to someone standing on the hill are visible from above (and sometimes for many miles) as swaying, snakelike patterns in shades of green flowing over hillsides distant and near. Similarly, lift is also easy to 'see' on open slopes covered with tall grass, though not from as far away. Bare trees and conifers, however, don't serve as well in this sense, their movements being visible only from much closer range. In any case, when soaring in conditions so weak that the vegetation is moving very little, if you do see an isolated patch of motion, it's announcing a pulse of stronger wind, or possibly even a thermal.

Not only can such information reveal where the lift might be stronger, a lack of it may warn the wary pilot away from certain areas of weaker lift, or even sink (in the lee of an upwind hill, for example). Similar information can be had from the ground, perhaps completely out of sight of the hill in question. If trees around your



*Hit or miss?  
At 10,000 feet you  
need 20% more room  
to complete a turn.*

airfield are moving steadily and the wind is from the best direction, the chance of finding workable lift 2000 feet up on a steep mountain is good. However, if your hill is extremely low or not very steep, then a mere breeze at the airfield may instead imply insufficient wind on top.

Birds, of course, serve as excellent markers. Indeed, they are often selective enough to cruise at only the optimum altitude and distance from a hill, and they will also stop and work individual 'sweet spots' where a concentration of flows creates stronger lift. If there are isolated clouds, watch the movement of their shadows for an indication of wind direction and strength. Remember, though, that if their bases are far above the high terrain, they may indicate an entirely different wind direction (and probably higher wind velocity) than will be found down on the hill.

**Approaching a ridge from downwind is a spooky thing to contemplate ...**

Shadows themselves can be significant factors in soaring close to a hill. Lift that is weak and barely soarable in the sun may become too weak and unsoarable when a large cloud shadow moves over. Conversely, weak, barely soarable lift over shaded slopes may quickly strengthen, and even offer thermals only moments after a patch of sunlight opens. In this way, very early or late in the day, you may find your fortunes affected by clouds that are many miles away, between you and the low sun. Such changes can be anticipated by watching the landscape ahead and the cloudscape up-sun (and upwind) for their advance. A line of cu along a ridge certainly suggests good lift of one kind or another, but if thermal activity is strong, it can also generate serious thermal sink that could render straight-forward slope lift more difficult or even unworkable.

Ideal slope lift may also be spoiled – or improved – by other rotor or wave superimposed on the terrain. These can have highly variable influences on ridge soaring conditions. Depending on their position relative to the hill, each can mean lift or sink, and if they are moving across the landscape their effects may swing from one extreme to the other in a few moments, or in only a short distance along the slope itself. Either way (and with or without clouds or shadows), if you're slope soaring in otherwise steady conditions and suddenly encounter unexpected sink, turning directly upwind can put you back in thermal, rotor, or wave lift that may be moving onto the ridge. This

might also be the best chance to escape the hill if that is what you wish to do.

When a summer shower blows through, the wind will probably either increase or decrease depending upon the stage of convection within the cell itself as it passes. Here again, wind strength is not the only thing to consider. Since the cloud is approaching from upwind, you are on its downwind side, and it could dump heavy sink on your hill as well as water on your aircraft! Also, if the cell is still gathering strength, a sudden lowering of cloud base is possible. Moreover, if the inflow of an approaching convective cell deflates your existing wind, it may leave scant time and altitude with which to get safely away. Whatever the case, expect little or no wind immediately after a strong shower. Then, if the wind does freshen again, look for its direction to rotate clockwise (in the northern hemisphere). Whether this change has a positive or negative effect on the soarability of any particular hill depends upon the slope's orientation, and therefore that too can be anticipated.

Another example of superimposed atmospheric is a standing wave from an upwind hill. If the hill is roughly parallel to the one you are on, the question is whether they are in or out of phase. Where the wave crest lies upwind of a slope, wave sink might be directed onto it, effectively canceling lift. If the wave crest lies directly above a slope, rotor could be a serious problem near the surface, yet the ridge as a whole may also serve to amplify the wave. But if the wave crest lies slightly downwind of a slope, the lift down low will almost certainly be enhanced, while the wave could be weakened (or even canceled out). With luck, though, either of these last two examples might present an opportunity to climb easily from low altitude right up into the wave! Now imagine a wave occurring about twenty degrees out of parallel with a long, straight ridge, and therefore crossing it. Each of the effects mentioned above may be present at different points along the hill! It would then be even more important to anticipate conditions at any particular place on the hill before committing oneself there.

Approaching a ridge from downwind is a spooky thing to contemplate, in view of the potential for great lee-side sink and turbulence, but it can be done safely and easily in some situations. If you have enough height (at least several hundred feet above the hilltop), it is sometimes possible to porpoise carefully across without much loss of altitude. Any large area of sink should be traversed by the shortest possible path in order to minimize time spent losing altitude. However, it's usually best to approach the ridge itself diagonally, allowing room for a diving turn away if you arrive too low in strong sink. (You also need a feasible plan for the moments after that!) If these priorities are not compatible, postpone such an into-the-wind crossing until you have better position or more height.

When approaching a slope from upwind, it's not unusual to encounter sink before reaching soarable lift – perhaps even over the bottom of the hill. Sink at such a time and place may cause some doubt about the lift expected closer in, but there should still be time to look for visual signs. Even if they are absent, by the time you near the slope itself, sink should begin turning to zero sink – that is if the lift really is working. However, once the bottom

of the slope is behind you, if you're still descending, you must quickly rethink whether you want to go any nearer. Don't forget that you are starting with a tailwind so your turn away from the hill might consume more airspace than you expect! And then, wherever you're going after that, you will be bucking a headwind ...

If you intend to glide away from slope lift and arrive somewhere else as high as possible, first climb as high as you can on the hill. If you are leaving to windward, depart from the highest point you are able to reach and porpoise directly into the wind until you begin losing altitude before turning toward your destination. It is sometimes possible to advance miles into the wind this way without significant loss of altitude while creating a better glide angle to the next objective. If departing downwind, again, get as high as possible. There will inevitably be an area of strong sink in the lee of the ridge, so take the shortest route across it (not diagonal to the wind) to minimize your loss of altitude. These considerations are especially important early or late in the day, and whenever there is little or no thermal lift.

#### Technique

It seems that most pilots who are not used to ridge soaring make the same few predictable mistakes. Some of these only impair performance, while others increase the level of hazard. When flying very near terrain, however, anything that lowers performance also raises the level of hazard.

First, anxiety about proximity to the surface tends to make those who are unfamiliar shy away from a hill by leaning in the cockpit with their upper bodies. A pilot doing this cannot see as much of the ground moving beneath the downwind wing, and in this environment that particular information is the most important. Holding such a position also becomes uncomfortable and fatiguing. Just as when people lean away from an ordinary turn, it's a sign of fear that should be dealt with earlier, on the ground, not in critical flight situations.

Banking the aircraft away from a slope while in straight flight is another common mistake; it is not only inefficient, it also requires the fuselage to be yawed toward the hill. This mistake can occur for two different reasons. One is the same anxiety mentioned above. The other is more complicated but, being mechanical, is perhaps easier to solve. When flying approximately perpendicular to the wind, your crab angle may be very pronounced, and the visual effect of the ground moving by sideways at close range prompts an erroneous response – an unconscious continual bank to windward. Meanwhile, staying in lift demands a flight path parallel with the slope, and since the windward wing is down, opposite rudder becomes necessary in order to remain near the slope.

Such a problem might sound silly on paper, but experience has shown that almost everyone does it until they are truly comfortable soaring near mountainous terrain. It is also one of those errors that seem to return with other bad habits after an extended time away from soaring. The solution lies in consciously setting up an appropriate crab angle and then keeping the wings level and the yaw string straight. Once the ship is really straight and level,

use small coordinated turns as needed to adjust the crab angle so your flight path remains a constant distance from the slope. Remember too that if the wind direction is diagonal to a slope, different crab angles will be necessary when running along the ridge in each direction.

Another mistake, which is common when the area of lift is limited, is going too far and flying out of lift before turning back. This can quickly waste all of the altitude gained on one pass before beginning the next; if conditions are weak, it could even shoot you down. Instead, anticipate where the lift will end, turn back earlier than necessary the first couple of passes, and then gradually explore further each pass. This will almost surely result in your being able to ride the slope a little higher, since no precious energy is being wasted.

**Most pilots who are not used to ridge soaring make the same few predictable mistakes.**

To maximize altitude in an otherwise static ridge soaring situation, restrict your flight path to the section with the strongest lift. If a hill is, say, a mile long, then the area of good lift will probably only be about half of that, with an even better, smaller 'sweet spot' inside of it. A quarter mile is plenty of room to maneuver and reverse directions. If such a sweet spot is found on two successive passes, anticipate it. Porpoise each time you pass through it, or perhaps turn momentarily a few degrees toward the wind. Where there is enough room, it might be appropriate to circle (being very careful to avoid both traffic and drifting too close to the hill). Such resourcefulness will result not only in staying higher, but could make it possible to reach other lift and get away.

One problem with working very weak ridge lift is that the zone of lift can be terribly narrow. When turning away, you may leave the rising air and lose more altitude before returning to the hill than was gained beforehand. In some instances a careful fluctuation of airspeed can help. Assuming you've carried some extra speed while passing close to the terrain, it's possible to trade a bit of that speed for altitude while changing directions. The idea is to achieve a smaller turn and lesser sink rate while pointing away from the hill, putting you back in lift sooner and higher. That original speed must be regained at the end of your turn to make the maneuver safe, and an awkward recovery could result in diving on the hill – that would be counterproductive to say the least.

This technique requires a delicate feel for the specific aircraft in slow, turning flight, as well as real confidence in soaring near high terrain. Moreover, it is only truly useful when the lift or terrain is marginal. Therefore, as we've said elsewhere, if you are new to this environment, leave such advanced methods for later, or perhaps ask someone who is more experienced to come along the first time you give it a try. If they demonstrate reluctance in any particular circumstance, perhaps you should too.

Anytime it's unusually rough, allow some extra distance between you and the surface (rough air usually means strong wind or strong thermals, including thermal sink, and therefore ample lift further from the slope). In such conditions, be sure to tighten your harness right down to the point of discomfort. Slamming your head against the canopy is decidedly more uncomfortable, especially if you break one of the two! ❖

# 2008 World Gliding Championship

Dave Springford, SOSA



LUESSE GERMANY

**T**HIS SUMMER from 2 to 16 August, the Canadian Team will be in Luesse, Germany to compete in the 30th World Gliding Championship. This is the first time that the Worlds will be held in different locations for the various classes. Canada will be represented in the 15m and 18m classes. The Standard, Club and World classes will compete in Rieti, Italy in early July. This split in competition sites was introduced along with a two pilot per country per class limit, intended to reduce the team flying advantages many of the European teams enjoy as well as the number of competitors at each site to improve safety for the competitors.

Luesse is located about 70 km southwest of Berlin in the Belzig area and is described as Germany's best flatland soaring site. It overlaps the same flying area as Leszno, Poland located 270 km to the east and the site of earlier world contests in 1968 and 2003. During the pre-Worlds in Luesse last summer, the daily winners averaged speeds between 90–130 km/h over distances ranging from 300 to 350 km each day. Canada will be represented by the three top pilots on the Canadian seeding list: Willem Langelaan, flying an LS10st in the 18m class, Jerzy Szemplinski, flying an ASG-29, and Dave Springford, flying an ASW-27, both in the 15m class. Jörg Stieber will be our team manager.

**Meet the Team** The team is fortunate to have Jörg as our Team Manager. A seven-time Canadian Champion, he brings a wealth of experience and knowledge to the team, having represented Canada in two World Gliding Championships: Wiener Neustadt, Austria in 1989 and Uvalde, Texas in 1991. His experience at the World level, his soaring knowledge, and German heritage will be invaluable to our team.

Willem learned to fly in Holland as a teenager and qualified for the Dutch Team in 1973. In 1974, he immigrated to Canada and settled in Calgary, flying at Cu Nim. In 1982, Willem became the Standard Class Champion and qualified for the Canadian Team. He flew for Canada at the World Gliding Championship in Hobbs, NM in 1983. After a 17-year hiatus from soaring to spend time with his family, Willem returned to gliding and contest flying in 2000. In 2007 he became the Canadian Champion and qualified for the Canadian Team.

Jerzy became a glider pilot in his native Poland when he was 16 years old. At 19 he started flying in competitions and became a junior vice-champion of Poland. By the age of 22, he had completed all the requirements for the FAI Gold badge with three Diamonds. For the next eight years he participated in national contests as one of the youngest pilots in the country and also represented Poland in various international contests. Jerzy and his family immigrated to Canada in 1985 and after a return visit to Poland in 2002 was inspired to continue soaring. He joined SOSA Gliding Club that year and took part in his first gliding competition in Canada. He has since flown six national contests and

represented Canada in contests in the USA. Jerzy holds three Canadian distance records, is the holder of a 750 km badge and has several flights over 1000 km. He is actively involved in sponsoring, supporting, and coaching the Canadian Youth Soaring Team.

Dave started gliding at the Gatineau Gliding Club when he was 12 and flew his first solo with the Base Borden club when he was 15 and has now 2300 hours in gliders. Dave has been competing since 1989 in both Canada and the US and holds 3 Canadian speed records as well as an FAI Gold badge with two Diamonds. He has been active with Canadian Advanced Soaring for the past ten years and has been a regular coach in cross-country training seminars and clinics across Ontario and Quebec.

All the members of our Canadian team are avid promoters of cross-country flying in Canada and have devoted much time to helping others develop their skills through cross-country clinics and seminars. They have also been involved with encouraging and teaching youth through the Youth Soaring Team and Junior training camps.

Most European teams receive substantial government support to train for and participate in World contests. No such funding is available in Canada and the costs are typically borne by the competitors. How can we help them? There are several ways: through club efforts, corporate contributions, and individual contributions.

It will cost each pilot about \$15,000 and a team total of about \$50,000 to represent Canada in this World contest. Air fare, glider rental, car rental, room and contest expenses make up this cost. For example, a contest aerotow is priced at 50 Euro and the entry fee is 950 Euro!

The team is working on fund-raising initiatives through corporate contacts, but without visible support from within our own Association, many corporations are hesitant to contribute. SAC has two funds available to support the Canadian Team. The Wolf Mix Fund is a capital fund where half of the interest generated each year is available to the team. This is much like the Pioneer Fund where the capital assets are protected for the future. The World Contest Fund is a cash fund where all contributions are available to the team.

**Clubs** The National Gliding Week promotion under the leadership of John Mulder is explained in detail in John's side-bar on page 17. Let's try to get all Canadian clubs involved! Membership raffles at the club level – during the club AGM or Awards Dinner, tickets can be sold to club members for a free membership in the club. The price of the ticket will vary from club to club depending on the size of the club and cost of club membership. The club executive may decide to donate the prize, or the club can be paid from the proceeds of the raffle with the balance allocated to the World Contest Fund. This is a very low workload idea that has the potential to ⇒ **p17**

# Miscellany

## SAC membership 2007

There were 1131 SAC members in 2007, an increase of 35 from the year before, bringing membership back to the 2004 level. There was a significant shift in the membership demographics with adult full year members. Total membership is off the 10 year average by 5.5%, but that is an improvement from last year when it was down by 10%.

Looking at the big changes in club membership in 2007, SOSA's is the result of a large decrease in their Air Cadet camp, so regular membership is stronger than the numbers suggest.

Club	10 yr avg.	2007 total	% avg
ACES	11.7	18	154
Alberni	11.9	7	59
ASTRA	10.6	8	75
Air Sailing	16.3	15	92
Bonnechere	6.2	6	97
Cantons de l'Est	10.7	15	140
Central Alberta	13.6	16	118
Champlain	52.9	41	78
Cu Nim	58.7	53	90
Edmonton	48.2	41	85
Erin	22.2	9	41
Gatineau	80.2	63	79
Grande Prairie	8.5	7	82
Great Lakes	23.2	30	129
Guelph	25.4	20	79
London	33.2	45	136
Montreal	91.2	76	83
Outardes	22.4	9	40
Pemberton	9.8	8	82
Prince Albert	16.2	17	105
Québec	51.6	54	105
Regina	17.1	7	41
Rideau Valley	31.7	41	129
Rockies	29.8	40	134
Saskatoon	17.8	18	101
Silver Star	13.6	20	147
SOSA	162	139	86
Toronto	19.5	17	87
Vancouver	78.8	50	63
Winnipeg	56.5	51	90
York	105	137	130
Non-club	25.6	31	121
Air Cadet League	14.8	22	149
<b>totals</b>	<b>1197</b>	<b>1131</b>	<b>94.5</b>
<i>membership in 2006</i>		<i>1096</i>	

## Slow down the revolving door

There continues to be a very high turnover, particularly of new members. Almost 30% (313) of the 2006 members did not renew with their clubs in 2007. Of this, close to two thirds of the non-renewals were regular adult members. As in past years, non-renewals were mostly first year members. The pattern shows that we attract sufficient new members each year to maintain and even increase membership, but clubs have problems with retention.

This is consistent with a study conducted by the British Gliding Association a few years ago and observed in a number of other countries. The study suggested that a fairly small improvement in membership retention would change the overall picture, and this would seem to be the case in Canada also.

Turnover drops off dramatically after the second year. So if a person rejoins following their second year with a club, there is a high probability they will rejoin in year three. If they rejoin in year three, there is a greater than 95% chance they will continue in year four. The data suggest that it would pay dividends for clubs to put in a greater effort in encouraging first year members to continue for a second year.

**Jim McCollum**

*Suppose that all clubs between them were able to retain on average just a single extra member a year over the last decade. Total SAC membership would now be greater than the heydays of the early 1990s with well over 1400 members!*

*Are your students always given encouragement and attention or are they treated mostly like indentured slaves; or perhaps there is some family unfriendliness in your operation that is the cause. Do you even know why people leave your club – have you asked them? It's YOUR bottom line that will be affected in 2008, so how much effort do you want to make to have one more student rejoin!? Tony*

## Air Cadet report for 2007

Some 230 air cadets completed the Air Cadet League of Canada's glider pilot training program and were awarded their glider pilot licences in 2007. The number of young persons in the Air Cadet program continued to climb, reaching 26,500 – exceeding the combined total for army and navy cadets.

As in 2006, the top five cadet glider pilots spent a week at the Gatineau Gliding Club, with most gaining sufficient P1 airtime to do familiarization flights with the cadet program next season, all qualified for a B badge, and at least two qualified for a C badge. The new director of cadet operations at DND is Major Bill Fox, taking over from Major Al Wardle. Major Fox is an enthusiastic person and has expressed an interest in joining a gliding club next season. He did two flights in a Puchacz during the cadet week.

The operation at Debert, NS is an interesting one in that it reflects an increasing interest in soaring by the cadets. The Air Currency Enhancement Society (ACES) is a joint club – air cadet operation that has recently acquired two 1-26s. Recent discussions that I have had with Air Cadet officials suggest that

they may be becoming more open to soaring and gliders beyond 2-33s. The cadets currently have seventy-seven 2-33s.

There were 76 air cadet members of SAC in 2007. This is down from recent years and is more than accounted for by a drop in the number of cadets in southern Ontario. Another factor is that some have become junior members of clubs, once they reached the age 19 limit for the Cadet Program.

The recipients of the SAC pilot training achievement and continuing flying awards were announced at the Air Cadet League of Canada's semi-annual meeting held in Ottawa on 23 November. Congratulations to:

Angela Day, Kanata, ON  
Matthew Swan, Fort Erie, ON  
Colin Van Es, Carstairs, AB

The recipients are selected by the Air Cadet League of Canada and the scholarships are supported by the Air Cadet Fund. In recent years this fund has received important support from a retired engineer at Boeing Aircraft who, along with Shorty Boudreault and Barrie Jeffery, was a member of Canada's first team to participate in the World Contest.

**Jim McCollum**

## Nitrogen used to fill aircraft O<sub>2</sub> systems

Airlines all over the world are being warned to check that there is actually oxygen in their aircraft O<sub>2</sub> systems after an embarrassing mix-up by Qantas Airlines at Melbourne International Airport. For ten months, crews have been filling airliner O<sub>2</sub> systems from a nitrogen cart that's supposed to be used to fill tires. The mistake went unnoticed until an observant aircraft engineer spotted service workers using the cart and asked what they were doing. When they said they were topping up the oxygen, he said, "No you're not, that's a nitrogen cart."

As anyone who works with industrial gases knows, O<sub>2</sub> tanks have different fittings than other gases to prevent exactly this kind of mix-up. However, when the crews discovered the fittings on what they thought was their new O<sub>2</sub> cart didn't fit, they swapped them for the ones on the old cart they were retiring. Officials are looking into the error and Qantas has been busy notifying other airlines that use its services in Melbourne. Hundreds of aircraft may be affected.

**Larry Morrow, WGC**

*E-mail reply from FT&SC:* Thanks Larry, I have also read recently an older SSA article on oxygen refills asking if users knew if their retailer was using 100% oxygen. Many assume it is because that's what they paid for, but most retail suppliers don't test for this. Some

wholesale suppliers were not actually providing 100% O<sub>2</sub>. The recommendations were to buy an oxygen test kit (like O<sub>2</sub> Quickstick) or make certain the retailer tests the oxygen purity; use a pulse demand oxygen delivery system on your oxygen supply, and have an oxygen saturation detector (the type that clips to your finger) in use in the aircraft when you fly on oxygen.

Dan Cook

### A "back door" Bronze badge

Last spring I got to work to renew my Bronze badge campaign. I began in March with the CAS seminar and took lots of notes. The next item on the list was a second flight of over two hours duration. The first two attempts were two and ten minutes short; so, try again.

Lift in the blue was hard to come by. Valens Reservoir north of Rockton had something; then I found a good thermal by the oil tanks east of the field that got me around 4500 feet msl. The quarries to the east were producing regular strong thermals to 6500. The thermals would cycle and I could sniff around and pick up another one in next to no time.

So I was happily camped out working successive thermals as they popped off. Then the radio informed everybody that the runway was changed to 28 and I filed that away in my mind for when I came back, but failed to recognize that that also meant that I was most definitely downwind of the field and it might be a good idea to head back home pronto after topping out the next thermal.

There I was, just completing the two hours and the quarry thermals turned off, I wasn't finding any more, and was down to 4500 feet.

Thought #1 This is *not* going to look good at the club.

Thought #2 Time to work upwind and find enough thermals to get back.

Thought #3 Start checking out the fields. Hallelujah, all sorts of big freshly plowed fields ("land in the dirt and you can't get hurt"), but the furrows are all north/south; so, we're looking at a crosswind landing. They will do, but let's see if we can turn up some east/west furrows.

Found a thermal at 3000 feet and got up to 3500 – I'll take what I can get.

Oh, there's a field with east/west furrows – let's check it out. Now for John Brennan's outlanding checklist – SSSLOW:

*Slope, Surface, Stock, Length* – all looked good.

*Obstacles* – time to look for poles– there's a row along the road and the driveway as usual. But what's that?! – a row of poles cutting a shallow diagonal from the road to halfway along the driveway. We're landing north of that. Oh yes, landing north of the diagonal pole line lines us up with a couple trees 400 yards down the field. Perhaps we could fit in between, but lots of field to stop before.

*Wind?* – reported from the west and there's a couple flags that show just that.

The field looks good and still have 2500 feet; so it's time to hang around the IP and beg for enough lift to get back home. At 1750 I've run out of quarters and it's time to land.

Fly a normal circuit; on final, line up to keep a pole in sight to make sure I stay safely over it and the wires.

Pole and wires clear, honk on the spoilers, the Junior pitches down just right. The rollout is a whole bunch noisier than on grass and I get stopped 150 yards from the pole line well short of the trees.

First I just sit in the glider and decompress. Now, it's time to get on the radio; before, I was too busy. Ian Oldaker relays for me and gives me the club phone number.

A hired hand comes out and tells me where I've landed so that I can tell them where to bring the trailer.

There is an apprehensive wait, but the first thing John Brennan, the CFI, says to me is: "George, you picked a good field!"

I'm not the first to get caught short, and certainly won't be the last. If you find yourself unexpectedly faced with your first outlanding, find a good field, check it out, and fly a normal circuit.

George Haeh, SOSA

### FAI class definition working group for the light end of soaring

The group has been established with Vladimir Foltin (chairman), Tor Johannessen, François Pin and Roland Stuck as members.

The first aim is to define a class which is below the present Club Class and which includes the PW-5. The name World Class may be maintained if it is possible. One of the proposed definitions was to have just a mass and a span limit.

The Bureau supported the idea that the group should focus on the new light gliders in order to capture them.

A report will be provided to the IGC Plenary meeting. This report will not contain a firm proposal for a new class structure. It was agreed to organize an IGC test competition for 2 classes, an expanded World class (13.5 span) and the ULM class (EASA specifications) in order to see if there is sufficient interest and if the classes are homogeneous.

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## FREEDOMS WINGS – a year in review and the year ahead

The New Year couldn't be off to a better start for the programs of Youth Flight Canada Education Fund. As was mentioned on the SAC Roundtable, we have expanded the YFC Soaring Bursary program to a total of 20 scholarships that now include the Great Lakes Gliding Club, and ACES in Nova Scotia. We are keen on seeing the success we've created at York Soaring with 15 annual bursaries of \$800, spread across the country to support youth – either home-grown or those with training from the Air Cadets.

In exchange for contributing \$50 towards a \$100 club membership, the recipient contributes one hour of work and pays \$5 per flight. The remaining \$50 of the membership fee, tow, and glider rental is at full member rates covered by the bursary.

By promoting, protecting and enhancing our sport today through investing in youth, we enhance our sport and help youth realize their dreams. The formula of senior pilot mentoring, scholarship funding and a youth-friendly environment provides youth with more experience, an introduction to soaring and helps them achieve their full potential.

It never ceases to amaze me that the more you prove you're making a positive change, the more volunteers and concerned citizens are willing to support your cause. Every year, "Merril the Bull", the mounted head of a Scottish Highland Longhorn that resided in the head office of Western Public Stockyards in Edmonton for over 50 years, and donated for auction by Charles Petersen, goes up for auction at an inter-department bidding war at Research Capital. This year's auction of Merrill raised over \$6000 for Youth Flight Canada programming.

I'm also excited to announce that ING Insurance has just committed to a \$10,000 sponsorship, which will support Freedoms Wings Canada, a division of Youth Flight Canada. Their generosity will fund hundreds of "Inspiration Flights" for people with disabilities, specifically youth. The increasing number of people wanting to slip the surely bonds of earth and be free of their health issues grew last year. In one week of Inspiration Flights alone, Camp Quality for kids coping with cancer had 40 kids flown. The Easter Seals of Ontario, Canada's largest group for kids with disabilities, is likely to join us this summer to participate at the Toronto York Soaring Chapter.

Freedoms Wings is also gathering together funding to purchase additional gliders for the Okanagan Valley and Ottawa to create permanent programs there. This is all great news long before the soaring season even starts. The success of Freedoms Wings rests with a huge number of volunteers. Each Freedoms Wings glider needs to be fitted with hand

controls so that those who can't use the rudders with their feet can still fly.

James Mewett, a D.A.R with Air Tech Canada in Peterborough, and a team of volunteers headed by Tony Firmin and Marin Sanderse took up the challenge for fabricating and STC-ing new controls on the York Soaring based Grob Twin II Astir while CHC (the Canadian Helicopter Company) in Vancouver is doing the same for Vancouver Soaring Association's Grob 103. All of them have worked *pro bono* to create the otherwise high-priced hand controls, saving tens of thousands of dollars over the course of hundreds of man-hours. What an incredible group of people.

The year ahead looks very promising for the duplication of these successes. York Soaring and SOSA, the two biggest clubs in Canada, have some creative thinking, strong youth components, and volunteer groups making a difference where the rubber hits the road. The Canadian Junior

Soaring Camp and Team, Youth Flight Canada and Freedoms Wings Canada have all been raising the profile of our sport, encouraging the next generation of keen young pilots, and making an impact in our sport. Each of these organizations has found highly effective ways to use funding to promote, enhance and protect our sport, grow club infrastructure and build capacity. Our trend of successful fund-raising efforts is continuing to grow and we will all welcome any financial contribution from the SAC general revenue.

Peter Musters

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## National Week of Soaring – and a day to support the Canadian World Team

This was the original idea as posted on the SAC Roundtable:

*There are 30 clubs in Canada. If each club were to participate in a single, common "Intro for the Worlds" Day and capture just three \$99 intros each and forward the entire amount to the team via SAC as receipted charitable donations, they could have almost \$9000. Even a 50% participation will raise a good amount. Yes, each club absorbs three tows and gives away the flying minutes, but it is a great promotion opportunity. A single well-written press release sent to every local paper would raise awareness and hopefully draw the required intros ...*

This idea was discussed at the SAC Board of Directors meeting in early November, and the Board wanted to help bring the idea to life. To support our team attending the World competition in Germany in 2008, we plan to assist clubs to participate in a National Day of Soaring with the goal of donating all or a portion of each familiarization flight to the World Team to assist them in funding their participation on behalf of Canada.

At the Alberta Soaring Council meeting in November it was decided to hold this day on the May long weekend, allowing clubs to pick one day on the weekend that would not adversely affect their operations while allowing them to hold the event. The Silver Star Soaring Association in Vernon has also committed to participate. Since that meeting, ASC will plan a National Week of Soaring and allow our clubs to choose when and how they would raise funds in support of our World Team. The week will begin on the Saturday of the May long weekend and continue to the following Sunday (17-25 May). A press release is being prepared by the World Team in support of this initiative and will be distributed to clubs for use in promoting the day, your club, and soaring in Canada.

If people would like to donate to the World Team Fund directly, forms can be provided to allow them to donate and be provided with a tax receipt. All tax laws would apply to this donation – they must be "arm's-length" – for example, a team member or crew cannot donate to fund their own participation. Questions of conflict should be directed to the SAC office.

I am requesting a representative from each club in Canada contact me directly so I may coordinate distribution of the press release info and answer any questions or provide assistance with the planning. I am also interested in other ideas that could be used to support this event. This initiative is designed to bolster interest in the sport of soaring in Canada, while also raising some funds for the World Team. I look forward to hearing from a representative from each club soonest so the planning can move to the next step.

**John Mulder**, Alberta Zone Director, <[johnmulder@shaw.ca](mailto:johnmulder@shaw.ca)>

raise several thousand dollars from the large clubs. 50/50 draws are another method that can be used at the club level to raise money for the team. These can be held at an AGM or over the summer at club socials or BBQs.

**Corporate** Individual SAC members can approach their company for support. Experience has shown that corporate fund-raising is more likely to be successful when there is a personal contact within the organization that is sympathetic to the cause. Experience has also shown that charitable donations from corporations are not likely, but that it is better to approach from the marketing or advertising perspective. In this regard, corporations can buy advertising on the team web site and other gliding/flying related web sites and publications (contact the Team for more details). They may also wish to provide services instead of cash. For example, the team can use road GPS units with maps of Germany for the retrieve vehicles, team uniforms, air fare to Europe, and anything else you can think of!

Companies may also wish to buy "Executive Team-building" flying days at a gliding club. While not all clubs are capable of providing this, the World team members will provide this service at SOSA on weekdays next summer for any SW Ontario company that makes an appropriate contribution.

**Individual** Personal contributions are eligible for charitable tax receipts from SAC for contributions to the World Contest Fund. As well as cash contributions, how many people out there have more Aeroplan points than they can use before they expire? A donation of 6500 points allows us to raise \$50 for the team. Consider using your Aeroplan points to help the team.

For more details about any of these ideas, e-mail the team at <[springfo@gmail.com](mailto:springfo@gmail.com)>. The team web site is [www.sac.ca/team](http://www.sac.ca/team). Go have a look. It includes full biographies for the team members as well as blogs that will keep you up to date with our preparations for the contest, as well as news from Luesse during the contest. We will also use this web site to advertise all of our sponsors.

Support the Team – it's ours. ❖

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# SAC 2008 AGM CAS Soaring Seminar

**15-16 March**  
**École Nationale d'Aérotechnique**  
**5555 place de la Savane, St-Hubert, QC**

directions: < <http://www.college-em.qc.ca/?8998A16A-8170-4277-AEBF-0662C860F17E> >

Accom: **Holiday Inn Longueuil – for SAC room booking:**

< [http://www.ihg.com/hld/H111/en/rates/YULLN?groupBookingCode=SA1&\\_IATAno=9980150](http://www.ihg.com/hld/H111/en/rates/YULLN?groupBookingCode=SA1&_IATAno=9980150) >

Registration 8:30 am; AGM – 9 am  
Seminar fee \$40, seminars begin 10 am

SAC Awards luncheon, Sat. evening steak-house  
get-together (all agenda plans on-going)

Saturday program:

### General

- Ottawa/Montreal/Quebec area airspace
- Forecasting the next great soaring day

### Advanced

- How to fly fast
- Post-flight analysis using SeeYou to improve your cross-country flying
- Extending your flying season at Lake Placid

### Novice

- Getting started in X-C flying
- Improving your thermalling (so you don't land out)
- Landing out safely
- Badge flying (the 5 W's)

Bronze badge pilots – bring your sign-off card as some of the topics qualify for Bronze badge training.

Sunday program: Safety & training with simulation and innovation theme, displays planned.

## new SAC web site

from page 4

give us a new look! Throughout the site, you will notice all pages have the same general look and feel – CMS takes care of that for us – we the users concentrate on content, the words and pictures. The real flashy graphic opening displays some people like are not yet in place, but we hope they will be here soon. Any ideas?"

There are many benefits, especially the ability to accept and display new content almost immediately. We should see more frequent display of new articles and recent news, that is, if we can encourage all SAC members to contribute the new articles. And Joomla will handle specific tasks such as serving up documents and files (Docman), displaying photos (Gallery 2) and classified ads (Ads Manager).

Gabriel a écrit, "Le nouveau site possède la capacité d'être bilingue. Tout contenu soumis automatiquement une version anglaise et française et donc le site entier peut être vu dans les deux langues, à condition de traduire. Un composant Joomla appelé "Joom!Fish" est installé sur le site. Cet outil permet de voir ce qui a été (et n'a pas été) traduit, ainsi que de voir quel contenu a changé depuis la dernière traduction. Pierre Gagnon a déjà commencé le travail et tous les volontaires sont les bienvenus. Il est très simple de faire la traduction d'une page ou d'un menu: quelques cliques suffisent. Avoir un site bilingue n'en tient qu'à nous."

It is only *content*, fresh and lots of it, that will make the difference in attracting and retaining eyes on a web site. Many SAC members will

## FAI records

Roger Hildesheim

49 Maitland St. Box 1351, Richmond, ON K0A 2Z0  
(613) 838-4470, <[rogerh@ca.inter.net](mailto:rogerh@ca.inter.net)>

The following records have been approved:

Pilot **Jerzy Szemplinski**  
Date/Place 28 October 2007, Mifflin, PA  
Record type 500 km Out & Return speed, Citizen, Club  
FAI Category 3.1.4g  
Sailplane SZD-55, C-GAXG  
Speed 125.4 km/h  
Task GPS turnpoints  
Previous record Tracie Wark, 86.1 km/h, 2002

Pilot **Jerzy Szemplinski**  
Date/Place 28 October 2007, Mifflin, PA  
Record type 300 km Out & Return speed, Citizen, Club  
FAI Category SAC  
Sailplane SZD-55, C-GAXG  
Speed 125.4 km/h  
Task GPS turnpoints  
Previous record Citizen not claimed

Pilot **Jerzy Szemplinski**  
Date/Place 28 October 2007, Mifflin, PA  
Record type 200 km Speed to Goal, Citizen, Club  
FAI Category 3.1.4g  
Sailplane SZD-55, C-GAXG  
Speed 127.6 km/h  
Task GPS turnpoints  
Previous record Citizen not claimed

2007 SAC competition seeding list	2005		2006		2007		Total %
	Pts	% Score	Pts	% Score	Pts	% Score	
1 Langelaan, Willem	623	28.7	3346	91.1	4438	100	97.33
2 Szemplinski, Jerzy	1339	61.7	8003	100 *	3970	89.5	92.62
3 Springford, Dave	2076	95.6	8278	100 *	3872	87.3	91.07
4 Bonnière, Nick			3571	97.2	3872	87.3	90.24
5 Hollestelle, Ed	1893	87.2	3394	92.4	3319	74.8	80.07
6 Oke, Jim					3213	72.4	50.68
7 Hildesheim, Roger	1378	63.5	2172	59.1	1742	39.3	46.52
8 Orfila, Alain					2916	65.7	45.99
9 Kirby, Kerry					2421	54.6	38.19
10 Tuck, Tim					1966	44.3	31.01
11 Kramer, Dale			3673	100			30.00
12 Grant, Ian	2171	100					30.00
13 Weir, Walter	1651	76.1	3566	97.1			29.13
14 Stieber, Jörg	1856	85.5	3541	96.4			28.92
15 Gough, Andy			3416	93.0			27.90
16 Carpenter, Jim			3330	90.7			27.20
17 Novak, Marian			2987	81.3			24.40
18 Mackie, Derek					1535	34.6	24.21
19 Mercer, Dave	1700	78.3					23.49
20 Newfield, Steve			1969	53.6			16.08

Scores from Cdn Nationals results but for 2 marked \* (US Std Nats)

be able to contribute as "authors," creating and submitting new articles using a simple menu option. Other members are ranked as "editor" or "publisher," each rank of use moves the newly-submitted article through correction of spelling and language, and then a click of the mouse makes the article appear live for all viewers. Several clubs have already contributed a news article for the development stage. All you clubs – choose an author to get your message out to the world. Each club has a web contact person, so find yours and start typing!

# Trading Post

Personal ads are free to SAC members (give me your club). \$10 per insertion for non-members. Send ad to editor. Ad will run 3 times unless you renew. **Tell me when item has been sold.** Subject to editing for length (usually 6 lines max).

## single seat

**PW-5, C-FEPW.** 653h, 264 landings, no 2007 flts. No damage history; excellent cond. \$29,000 with custom Avionic trailer, \$24,000 with alum tube trailer, \$22,000 without, prices negotiable. Ray Perino, Invermere, BC (250) 688-5052 <pw5@shaw.ca>.

**HP-14T, FAXH,** 1480 h, glider & trailer in vg cond. New MicroAir 760 with boom mike, ILEC SB8 glide computer, ELT, O2, new winglet-fences. Low maint. A/C giving good value for your dollar. \$16,000 obo. E-mail me <spencer.robinson@rogers.com> for current photos, (416) 620-1218.

**HP-18 mod, FIJY,** only 322h. Beautiful poly finish. 18m tips, centre stick and 1-piece front-hinged canopy. Proven performer, handles nicely with winglets and increased ailerons. DX-50 GPS flight computer/ IGC FR, Filser radio, Winter ASI and vario. Increased water ballast. Schreder trailer. \$28,000 Ed Hollestelle, (519) 461-1464, <ed@solairecanada.com>.

**SZD-36 Cobra, GQWQ,** 1977, 897h. No damage. L/D 38/1, A-1 condition, kept in hangar. Modified PIK-20 fiberglass trailer. Located in Toronto. Asking \$15,000. Charles Kocsis <karoly\_cobra@yahoo.com> (905) 799-9723.

**ASK-14 motorglider, FIUQ,** 1065h airframe, 155h engine, encl metal trailer, \$12,000 obo. Serge (780) 645-4034 <larchelle@mcsnet.ca>.

**Genesis 2,** 1998, 331h, 100% race ready. Excel. cond., CAI302, 303, SageCV, WinPilot, ATR720C, trailer, chute. US\$45,000. Dave Mercer, <djmrcer@telus.net>, (780) 987-6201, Alberta.

**Ventus bT, FMVA,** 1454h. 15m+ winglets and 16.6m wing tips. 17.6m wing tips incl. Solo 2350 sustainer, ~40h. Refinished with poly in 2003. Cambridge 302/303, Compaq 1500 series PDA w. arm and cradle, radio. Komet trailer with tow-out gear, wing wheel. Asking \$79,500. At Great Lakes. Call Jan Juurlink (705) 687-0158, or Mike Ronan (905) 938-5529, <juurlink@cogeco.ca> or <soarspot@zing-net.ca>.

## magazines

**GLIDING & MOTORGLIDING** — world-wide on-line magazine for the gliding community. Edited by Val Brain, <www.glidingmagazine.com>.



**SOARING NZ** — Editor, Jill McCaw. *Gliding New Zealand's spectacular new national magazine.* NZ\$122. Personal cheques or credit cards accepted. McCaw Media Ltd., 430 Halswell Road, Christchurch, NZ. <j.mccaw@xtra.co.nz>.

**SAILPLANE & GLIDING** — the only authoritative British magazine devoted entirely to gliding. Bi-monthly. £39 per year airmail, £22.75 surface. <beverley@gliding.co.uk>.

**SOARING** — the monthly journal of the Soaring Society of America. Subscriptions, US\$46 price includes postage. Credit cards accepted. Box 2100, Hobbs, NM 88241-2100. <feedback@ssa.org>. (505) 392-1177.

## misc.

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