2012 Winter

free flight vol libre

Priorities

David Collard, SAC Treasurer

The Canadian Team for the 2012 Worlds has been selected and consists of Dave Springford, Jerzy Szemplinski, Nick Bonnière, and Derek Mackie. The Board of Directors is aware that some of our members question the financial support given to those participating in the Worlds. The SAC's annual budget is used in supporting its goals and objectives. Two of these goals are growth and retention, and to these ends SAC currently supports a Youth Bursary Program and funding for world contests.

When considering retention, may I suggest that great value be given to the fact that our clubs and SAC are sustained by the countless hours put in by volunteers at all levels of our sport. They are its backbone and by their efforts help keep our costs to participate reasonable. If the only goal in gliding was to stay aloft within eyesight of the airfield, interest would be quickly lost and another member would depart our sport. Many of those most active in cross-country, entering competitions, seeking records, supporting causes such as *Freedom's Wings*, *Soldier On*, and youth programs, are the very persons who put in these numerous volunteer hours to our collective benefit. The example they set encourages others to follow and by so doing helps keep many in the sport who might otherwise drop out.

SAC is also beneficial when our contest crews are soliciting donations. A national body providing financial support to the world teams is often a prerequisite to obtaining matching funds, and it tells donors that the request is for a purpose endorsed by the national organization.

The biographies of the 2012 team and some of their volunteering activities in support of our sport is noteworthy. Each has made significant contributions to our sport in Canada and to their clubs:

- *Dave Springford* is currently the president and treasurer of SOSA Gliding Club and has spent seven of the last nine years on the SOSA Board of Directors. He is also the president of Canadian Advanced Soaring and has been instrumental in teaching cross-country soaring through CAS clinics and seminars over the past twenty years. He has been the contest manager for several Canadian Nationals since 2001.

- *Jerzy Szemplinski* got back into soaring in 2004 after a nineteen year hiatus after emigrating from Poland. Jerzy started and funded the Youth Soaring Team at SOSA, is a towpilot, instructor, and assistant CFI. He has also contributed to many soaring seminars and cross-country clinics.

- *Nick Bonnière* has served on the Gatineau Gliding Club Board of Directors and continues to work on the accounting for his club. He has also been involved with the GGC *MayFly* contest for many years as well as cross-country seminars and clinics in the Ottawa and Montreal areas. Nick was half of the design-and-build team for the Varicalc line of variometers and final glide computers as well as the early tracking system that was deployed at many of our national contests. He also designed and built the NMEA flight recorder to ease Canadian contest pilots into GPS based scoring systems and wrote the scoring software for Canadian contests for many years.

- *Derek Mackie* is the Chief Towpilot at the Toronto Soaring Club, an instructor, and past safety officer. He is a member of the SAC Sporting committee and has been a driving force behind the cross-country momentum at TSC. He has organized the Ontario Provincials at TSC several times over the last few years. He also spearheaded the recent overhaul of the team seeding procedure.

The SAC Directors recommend the continuance of the current funding model for supporting world contest pilots/crew, if a motion is presented at the 2012 AGM. It is our belief that the possibility of being part of these world teams is a magnet to youth when considering our sport and as such is in harmony with the efforts to have more youth involved in soaring.

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2012/1 – Winter

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The new K-21 (C-FYSK) arrives at York in May and is about to be rigged. Peter Rawes (to the left), overlooks the rigging team.

photo: Roberto Centazzo

DEPARTMENTS

Saving the poor badge pilot

the Sporting Code comes to the aid of human (and inhumane) error

Tony Burton

THE MOST EFFECTIVE WAY of getting the novice pilot started on developing the skills that define soaring as a sport has been the badge hierarchy of cross-country achievement. For *"aeronauticus vulgaris"*, our garden variety club pilot, this is the prod and the good answer to the question, what do I do next now that I have my licence? Many decades ago, the Silver badge requirements and onward were established to certify your growing skill level.

A little history

The Sporting Code was written to establish the rules of flight evidence to be followed: a declaration, photos of your turnpoints, a barogram to establish height and continuity of flight – what could be more straightforward. Yeah, right! Nothing stopped the annual parade of mistakes made, failure to read the rules, failure to operate the camera or barograph properly or, more sadly, failure of the equipment itself.

The people who make the rules, the International Gliding Commission (IGC) delegates from each country, are almost exclusively old hands who have long-forgotten their Silver distance flight, and spend much more meeting time discussing the selection, time, and place of international competitions than of badges. Code changes have always tended to lean more towards accommodating records and competition. The IGC Sporting Code committee's job is to craft the changes as clearly as possible into the Code (rarely, it will also propose a rule change to the IGC for approval). As a committee member, I have the background to comment here on the Code, but the following opinions are strictly my own.

When rule changes are made, the presumption at the outset is that the rule followers will do it correctly. Unfortunately, human nature (common stupidity, misinterpretation, brain fade) or the perversity of inanimate objects regularly interferes. Rules also tend to start out applying to everyone with equal force. However, the rules on evidence gathering and its security are followed by two sets of users: the record and competition pilots for whom no slackness can be tolerated since their actions effect every other pilot, and badge flyers who are simply trying to exceed a given level of performance that effects no one but themselves. The rules ought to better accommodate this difference.

When complaints against a provision in the Code become persistent, it is often modified to better reflect the world in which glider pilots actually live. It won't change to account for stupidity, of course, but the IGC does recognize that making things difficult for the Silver distance pilot is not effective policy in the long run because it hinders rather than advances the goals of the sport.

The Code is complex because of the many ways evidence can be gathered – it can scare off a lot of badge hopefuls and people willing to consider OOing. It is a document that has had layers of requirements added with each change of evidence-gathering methodology. For example, position evidence has moved from eyeball to camera to GPS, with the Code gathering up paragraphs along the way to accommodate all methods. (The demise of camera and most eyeball evidence did shorten the text about 15%.) Now we accept only GPS evidence, with a few exceptions like the eyeball for a Silver duration.

What really should be done to the Code is to strip it of *all* rules and options that were tailored to the needs of past evidence acquisition methods – that's the only way to simplify it effectively. For example, the sector observation zone was devised for TP photography, the start/finish line to accommodate eyeball-and-clock. The "we've done it this way for years" conservatism is about the only reason they are still around. A good way to focus on a goal of simplification is to ask, "if you were writing the Code today from scratch, what would you put in it?" Perhaps then the SAC badge application ⇨ **p26**

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, published quarterly.

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.

Photos: send unmodifed hi-resolution .jpg or .tif files. Photo prints are acceptable and are 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 communicate with their Zone Director.

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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 publié trimestriellement.

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.

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Pour un changement d'adresse ou s'abonner à la revue, communiquez par *sac@sac.ca*. Le tarif d'abonnement est de 30$ pour 1 an et 55$ pour 2 ans. Pour l'extérieur du Canada, le tarif est de 35$US pour 1 an et 60$US pour 2 ans. La revue est disponible gratuitement, en format "pdf" au *www.sac.ca*.

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a SAC Board meeting

here is how it went this November

John Mulder, Alberta Zone director

RATHER THAN REVIEW THE MINUTES IN DETAIL, I thought I would describe how the Board of Directors met in November. Normally we set the date very early on to allow for seat sale travel to reduce the costs. The Eastern (Sylvain) and Ontario (Eric) zone directors usually drive, take the train, or otherwise find the most economical and efficient method for travel. The directors from the west have to fly but try to combine it with other business or travel at times when the fares are the most reasonable. Because of all the travel variables, David (Pacific), John Toles (subbing for the Prairie zone), and I arrived in Ottawa Thursday evening and we started "meeting" over dinner Thursday and breakfast Friday. Sylvain arrived in time for lunch Friday and we then met with COPA Friday pm.

During our meeting with Kevin Psutka, the president of COPA, we discussed the ongoing relationship between SAC and COPA, reviewed the contracted services and levels of performance to ensure our needs continue to be met going forward. The meeting was very productive and it allowed us to reaffirm what we need from COPA and that we see the relationship continuing. There was an opportunity to discuss future improvements on how our member database functions and what we can do to make it more productive and accessible to our members. We hope to have a dynamic and sortable database available sometime in 2012. Standby for further information as it becomes available.

Eric also arrived Friday and the Board gathered for dinner. Since we had received the agenda prior to our arrival in Ottawa we started to discuss some of the issues while also sharing stories of our season and how active the clubs were in our zones. The discussion over dinner allows us to spend less time discussing the minutia of issues during the "official" meetings and instead focus on the decisions that need to be made to allow us to move forward.

Saturday started with coffee and a muffin at Tim Hortons on the corner, then back to tackle the agenda. Lunch was at the Tim Hortons again (there is a distinct lack of reasonably priced lunch options in downtown Ottawa on weekends). After lunch Safety Officer Dan Daly, who lives in Ottawa, brought the FTSC report to the Board in person. Keith Hay called in via Skype and provided the insurance report and allowed the Board time for some questions and answers. We continue to work through the agenda and try to wrap up at 5 pm to allow a few minutes to refresh and reorganize before dinner. Dinner Saturday evening allows the opportunity to review the day's topics and informally discuss and brainstorm ideas for fund raising, marketing, club and member support, and how we can promote soaring to Canadians.

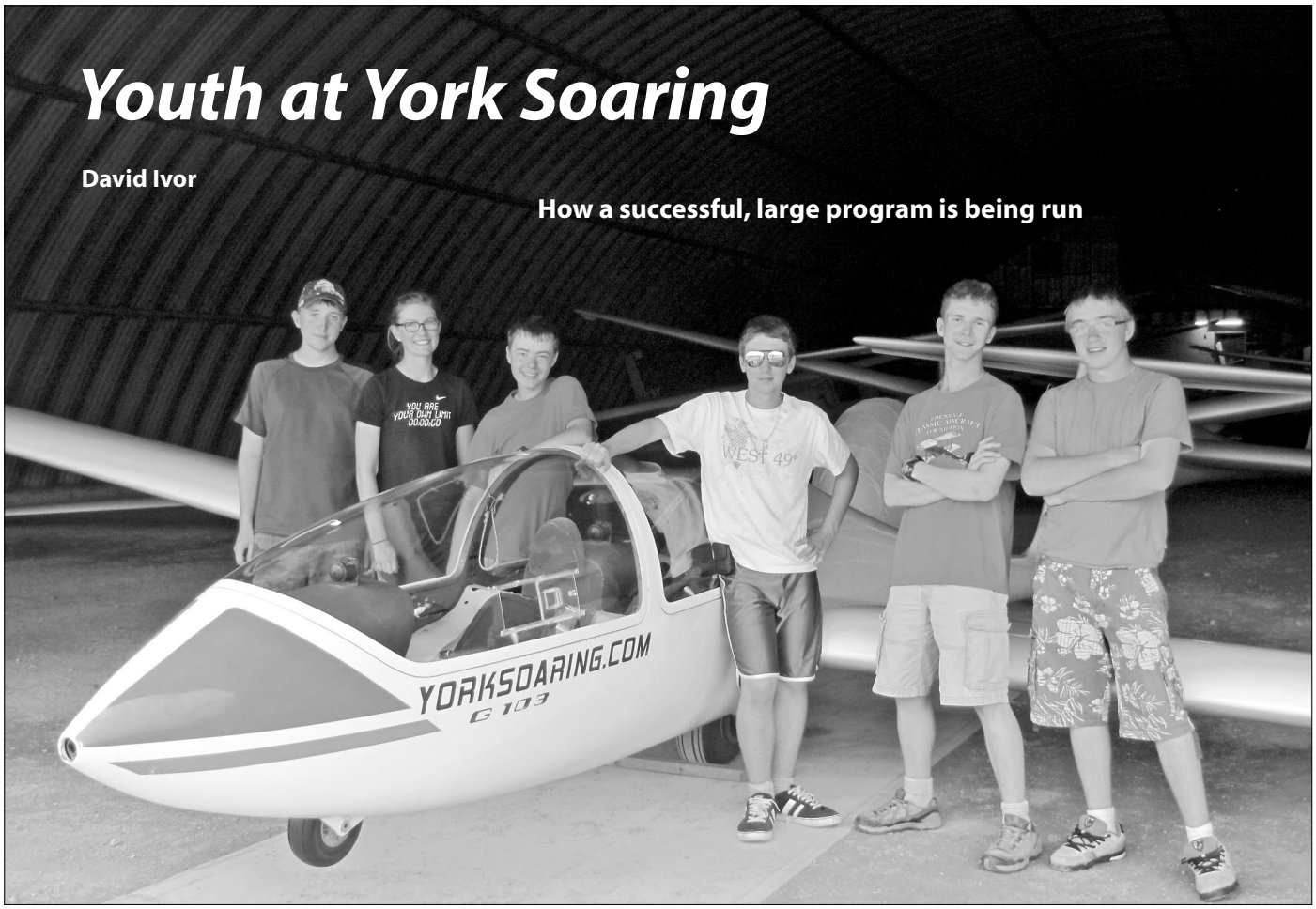
Sunday morning sees us continuing to discuss the items on the agenda. The final items usually involve where the next AGM will be held, which committees each Board member will liaise with, and what needs to be accomplished in preparing for the AGM. We wrap up the discussion shortly after noon and the western directors make their way to the airport (on public transit this visit) to check in for their flights home. Sylvain and Eric also depart via car, train, plane or motorcycle depending on weather and convenience. The next several weeks are spent compiling the minutes, completing the action items arising from the minutes, and acting on some of the proposals made during the discussion.

Elsewhere in this issue you will read a report concerning the youth funding this season (page 30), a response to Kerry Kirby concerning his recent submission to the Board (page 24) and information on the SAC AGM (page 24). Soon after you read this, if not already posted, the minutes from the meetings will be placed on the SAC website with a link placed on the Roundtable. ❖

Youth at York Soaring

David Ivor

How a successful, large program is being run



Henry Baillie-Brown

YORK SOARING ASSOCIATION (YSA) is committed to involving young people in soaring. It is even stated as an objective in our bylaws – "to recruit new members to the sport of soaring flight with particular attention to the introduction and encouragement of youth in the sport". This mission has been taken very seriously and in 2006 Walter Chmela was given the recognition he deserved for services to youth aviation over a period of 45 years when he was inducted into the Canadian Aviation Hall of Fame.

YSA has run courses for many years resulting in over 600 youth obtaining their gliding licences. In the past these catered primarily to Air Cadets but efforts are now being made to expand the attendance to include other youth.

Young people go to summer camps for all kinds of activities and it seems logical to offer a camp for soaring. The cost of a camp is often much less than parents are prepared to spend on other activities but it seems the thought of learning to fly is not considered, possibly because the general public is not aware that the opportunity exists or believes that flying must be too expensive to warrant consideration. They may have in mind cost of a private licence which is now generally in excess of $12,000. However, the cost of getting a glider pilot licence is only about a quarter of this and is obviously much more affordable. What is the best way to connect with this group? We are looking into how best to accomplish this but it almost certainly will involve one or more of the internet social communication sites.

We currently offer a youth training camp at the beginning of the summer. While the basic camp lasts two weeks, participants who do not get to licence stage in that time can continue until they do. For a fixed fee the camp provides up to 28 flights to solo, 20 solo flights with three dual checkflights, licence and Transport Canada examination fees. A ground school takes place every day between the morning and afternoon flying activities. If extra flights are required they are charged at normal rates. The basic membership fee of $100 is included in the course fee (2011 rate), but graduates are encouraged to continue flying afterwards without any additional fee. They can also purchase block time for aircraft rental. Course members can take advantage of on-field camping facilities and a fully equipped kitchen, showers and washrooms. We have a classroom with overhead projection and a flight simulator for ground based training activities.

All licensed young club members are encouraged to apply for a bursary from the Youth Flight Canada Education Fund. Bursary recipients pay $50 towards their membership fee and $5 per flight with the bursary paying the balance. Recipients are required to do one hour of volunteer work for the club for every flight. For detailed information visit <*www.youthflight.ca*>.

For the past ten years, YSA has provided a scholarship of a 10-flight package to an Air Cadet selected by the Ontario Provincial Committee of the Air Cadet League

of Canada. YSA has also been able to assist a number of Air Cadets who have fallen behind to complete their flight training. We offer them full membership benefits at a membership fee of $100 with flying being charged at normal rates.

In 2011, YSA hosted fifteen licensed Air Cadet Gliding Program (ACGP) members (five instructors and ten instructor candidates), for an Advanced Soaring Program run under the auspices of Regional Cadet Air Operations, CFB Trenton. This provided up to 20 flights and unlimited flying time during a two week period. Nominal fixed fees for membership and flying were provided and tows were charged at normal rates. The equipment requirements for this course (two 2-seat gliders of which one must be aerobatic, two single-seat gliders, and two towplanes) are such that only the larger clubs are likely to be able to provide them without unduly affecting the availability of aircraft for their regular club members. During the camp, three Bronze Badges and ten C Badges were completed. We hope to accommodate the ACGP again in 2012 with an advanced soaring course for ten participants.

To help encourage the younger generation, YSA offers reduced membership rates for people under 24 and for full time students. Unfortunately, that is only part of the cost of flying and they need to find the money to fly as well. To help, we offer block time packages, and the opportunity to purchase blocks of pre-paid tows, and ab-initio students can also purchase blocks of pre-paid flights, both at a discounted price.

But the financial cost is not the whole story. Getting to the airfield is a big obstacle for some and to help overcome this we encourage them to make use of our web-based Forum whereby they can arrange a free ride or a carpool. We also provide bunkhouse and camping facilities so that they can have extended stays at the field if they wish. We encourage young members to attend our regular Saturday evening dinners and annual banquet by providing them at half price.

Since 2009, YSA has hosted small groups of Officer Cadets from Hong Kong. Groups of five have been trained to solo standard with some getting their licence. In general, they took longer to reach solo stage and this might have been at least partially attributable to language issues, although poor weather also contributed. Unlike course members from Ontario, the Hong Kong groups were on vacation from their jobs and had fixed airline schedules and did not have the option to extend their stay. So in 2011, at their request, the camp was split into two, the first part up to solo and the second part up to licence. Each was then able to select either the first stage or both as best suited their time and pocket book. The feedback from those attending was extremely positive and although similar groups have been to other countries, they look very favourably on their experiences with a club like ours in Canada. We found them to be an extremely cordial group and it was a pleasure to have them stay and fly with us.

Perhaps the most challenging aspects of running courses is the availability of instructors. While at YSA we have 29 instructors "on the books" only 20 are considered "regulars". Of these, ten are retired and have more availability but of course are not always at the field. The remaining ten have to take vacation time to be there mid-week so on average only 7 or 8 are available, and they have to look after the regular students, intros, and other field duties as well. With students completing 4 flights a day, a student to instructor ratio of 2:1 is preferred with 3:1 being considered a maximum. The availability of sufficient towpilots has not been a problem for us, but it's essential to have at least two available per day.

Generally, course flights are limited to four per day per student (two before noon, two after) although weather may require some extra flights to enable the fifty or so flights within the course period of 16 days. Running a course requires an upfront commitment from instructors and towpilots to ensure that there are enough resources available, with some backup availability as well. If weather conditions preclude adequate flying, or if the appropriate standard cannot be reached within the allocated time, participants are permitted and encouraged to continue at their convenience.

In 2010, we had a visiting young licensed glider pilot join us from France for two months. He was provided with accommodation and a free membership. In exchange he assisted in the office and did many of the introductory flights under the *Freedom's Wings* program, particularly mid-week when there were fewer regular members available to do these flights. Word on this opportunity has spread through his own and other clubs in France and we have another person lined up for a similar experience next summer. We feel this type of opportunity helps get recognition for gliding at our club in particular and in Canada in general and helps to foster goodwill amongst the international gliding fraternity.

In 2011, YSA did 3303 flights, of which 841 were course flights and 521 were by YFC bursary recipients and other youth members. So youth flights made up 41% of our flights this year, a very important component of our flying operations, and a significant part of the income necessary to enable our club to operate and grow.

Most gliding clubs around the world struggle with declining membership and are looking for ways to reverse the trend. The pressures of other opportunities and the time commitment that gliding requires can make this a difficult activity to sell, but sell it we must. There seems to be two key times that people get involved – either early in life or late, and we at YSA are trying hard to get youth involved. We also try to motivate them with ongoing opportunities through a mentoring program, instructor training, aerobatics training, bursaries, and regular social activities like campfires and dinners. We recognize they may not stay around long as they get on with the other aspects of their lives, but we hope that many will come back later. The incentives given to get youth involved in gliding should be looked at as a long term investment in our sport. We at York Soaring continue with Walter's vision of enabling as many young people as possible to obtain their licences and enjoy the sport of soaring. ❖

GPS vs pressure altitude

Mike Borgelt

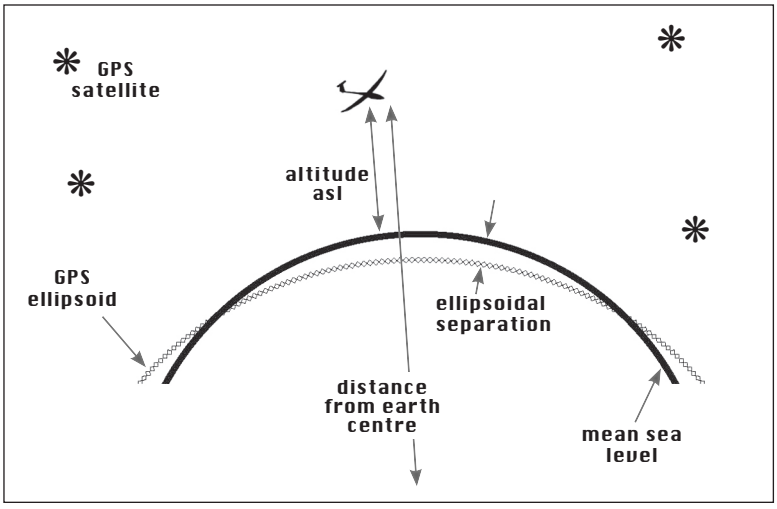
This article originally appeared in *Gliding International* reprinted with permission

WHAT IS THE DIFFERENCE between GPS altitude and pressure altitude and why and when should you use one or the other? I've written this article to make it clear what both are and what differences you can expect to see. It is by no means a complete discussion, just a relatively simple explanation of the difference.

Let's begin with GPS. For a 3D fix (latitude, longitude, altitude) at least four working satellites need to be in view of the GPS receiver antenna. For any reasonable accuracy to be achieved at least one satellite should be somewhere near the vertical, overhead. Fortunately, thirty or so GPS satellites make up the constellation and this condition is usually easily fulfilled, especially in a glider cockpit where the view of the sky is essentially unobstructed. Modern receivers use all the satellites in view and compute the best solution.

Not all GPS receivers are the same, though. The particular type of GPS receiver does matter. Most commercial GPS mouse type units are usually optimized for surface navigation and ground vehicle dynamics: rate of turn, 2D vs 3D navigation, acceleration and rate of change of acceleration, dead reckoning during signal loss, etc. These may not work as well as units that were designed and are able to be configured with aviation use in mind.

Since SA (Selective Availability) was disabled in 2000, GPS horizontal position accuracy is usually well under 10m and vertical accuracy of the order of 10–20m is achievable. Any discrepancies are due mainly to the passage of the GPS signals through the atmosphere – mainly the ionosphere – because the speed that radio waves travel through the ionosphere can vary with its density, and GPS works out the range to each satellite by measuring time and assuming a fixed speed for the radio waves. Civilian receivers will eventually use two radio frequencies and even these errors can then be corrected for in the mathematical processing in the receiver. In areas where WAAS (Wide Area Augmentation System) is available and the GPS receiver can use it, even smaller errors are possible.



The GPS solution will tell you how far you are from the centre of the Earth. This isn't what you want to know so the GPS system incorporates a mathematical model of the shape and size of the Earth called the "ellipsoid". The distance of the ellipsoid surface at your position from the centre of the earth is subtracted from your distance from the centre of the earth giving your altitude above the ellipsoid surface. The ellipsoid is a good approximation to the earth but not perfect so the difference between mean sea level (msl) and the ellipsoid is refined by something called the "geoid" for that area. There may be small differences between msl and the geoid – in Australia this is only around a metre or so. As the GPS receiver knows your two dimensional position it can correct for the [geoid – ellipsoid] difference with its stored model of the geoid for your location. The GPS altitude that is reported by the receiver is the altitude above mean sea level already corrected for the [ellipsoid – geoid] difference, although this difference is also reported in the GGA serial data message. This assumes the NMEA (National Marine Electronics Association) data standard has been implemented correctly by the GPS manufacturer.

The result is that the GPS altitude is a good approximation to *geometric* altitude above mean sea level accurate to 10 to 20 metres or so. The number can jump around a little from one fix to the next but there are no installation, pressure or temperature errors.

Pressure altitude (PA) is measured and referred to in length units (feet or metres), but these units have a variable length! Why? A pressure altimeter measures *pressure*. This is converted to altitude only by applying various assumptions and corrections, and only under certain specified conditions will the "feet" of PA equal the feet we usually use which don't vary.

Let's take the case where we want to know the altitude above mean sea level using a pressure altimeter. The first thing we know is that the surface pressure varies due to weather systems as we've all seen the surface pressure charts with lines of constant pressure called isobars. The average surface pressure over the entire earth over the

year is taken as 1013.25 Hectopascals (hPa). If our altimeter at the seaside is adjusted so that the reference pressure is 1013.25 hPa on a "standard day", the altimeter will read zero feet above mean sea level. As the pressure varies this reference pressure needs to be adjusted so the altimeter still reads zero feet msl, then the current value for the sea level pressure can be read in the sub-scale window.

Now suppose the sea level pressure happens to be 1013.25 hPa and the altimeter reads zero feet. If we now move our altimeter up to where the pressure is 697 hPa (rounded to nearest hPa), the instrument will now show that we are at 10,000 feet. However, we must add that this is 10,000 feet *pressure altitude*. Only under certain circumstances will this also be the geometric altitude. Consider the column of air between 1013.25 hPa and 697 hPa. If we heat it, it will expand; cool it, it will shrink. Therefore, how far above the 1013.25 hPa level the 697 hPa level is depends on the average temperature of that column of air.

Years of atmospheric observations show us that the average pressure at sea level is 1013.25 hPa. Likewise the average temperature of the surface is close to 15°C and the average lapse rate is 2°C per thousand feet in the lower atmosphere (troposphere). This "average atmosphere" is called the International Standard Atmosphere (ISA) and aircraft performance calculations and measurements are referenced to this also. Only when the average temperature of the layer between 1013.25 hPa and 697 hPa is equal to that in the ISA (in this case 5°C) will our pressure altitude and geometric altitude be equal and both be indicating 10,000 feet.

How important is this? Well, let's take a hot day at Waikerie with a sea level pressure close to 1013.25 hPa. Waikerie is close to sea level and let's assume the surface temperature is 42°C and we're soaring in thermals, so the lapse rate will be very close to dry adiabatic (3°C/1000 ft). At 10,000 feet pressure altitude the temperature will be 12°C, and the average temperature in the layer to 10,000 feet PA is 27°C.

How do we figure out our *geometric* altitude? Remember those Ideal Gas Laws from high school physics? The volume of a gas at constant pressure is proportional to its absolute temperature. In this case we have a constant pressure difference (1013.25 - 697 hPa) and a column of constant cross section – say a square metre, so the column height will vary according to absolute temperature. Degrees C are converted to degrees Kelvin (absolute temperature) by adding 273.15, so the temperature in the ISA layer is 273.15 + 5 = 278.15 K and the temperature in the layer on our hot day at Waikerie is 273.15 + 27 = 300.15K. The height of the layer will have expanded by 300.15÷278.15, or 1.079 – close to an 8% increase or 800 feet! Therefore, our GPS receiver which measures geometric altitude will read 10,800 feet plus or minus the 35 to 70 feet possible error.

From the above example it is possible to formulate a rough rule of thumb for the difference between pressure altitude and geometric (GPS) altitude: for each 10°C above ISA (the mean temperature in the air layer), geometric altitude is around 3.5% greater than pressure altitude.

You've just discovered why final glides on hot days have a built in margin because your glider cares about geometric altitude when it comes to the distance you can glide at a certain glide angle, not pressure altitude (the distance units don't change and neither do pressure altitude feet and 40:1 is always 40:1), and also why your GPS will report a greater altitude than your pressure altimeter on most warm days. Of course we mostly fly gliders in summer when even in Europe the temperature is usually above the ISA value, so it isn't surprising that flight recorders which record both GPS altitude and pressure altitude will on average show that the GPS altitude is greater than pressure altitude.

Careful consideration of other errors in pressure altitude such as: static port errors (can easily be greater than 50 feet especially if cockpit static is used in flight recorders), instrument error due to temperature changes in the instrument (30–50 feet), and diurnal pressure changes, convince me that a GPS altitude error at 35–70 feet is superior to pressure altitude for soaring performance purposes and this should be used for calculating final glides. Just be careful adding your safety margin as you no longer have the "pad" that you didn't know was there on warm days when you used PA. The Garmin 35/B50/B2000 combination used GPS altitude for final glides as does the B500 and B800 and we've had no complaints about this.

Other branches of sport aviation such as ballooning convert measured pressure altitudes to *geometric* altitude for record purposes. Soaring doesn't, although there is a move to use GPS altitude for altitude records above 15,000 metres (~49,000 feet) where the change in pressure with altitude is around 1/6 of that at sea level. A pressure altimeter good to +/- 2 hPa error at sea level, equivalent to about +/- 56 feet, is good to only about +/- 340 feet at 15,000 metres.

For air traffic control airspace compliance and collision avoidance, all of aviation uses pressure altitude. That this doesn't always match geometric altitude doesn't matter as everyone is using the same standard and it is important to keep using pressure altitude for these purposes. It does matter for terrain clearance when using a pressure altimeter for the reasons above, and lowest-safe-altitude calculations must take into account the most severe environmental conditions to be encountered plus any desired margins. ❖

Mike is the designer and engineer for Borgelt Instruments, manufacturers of sailplane instruments since 1978. He is a former Australian 15m class National Soaring Champion and holds qualifications in physics and meteorology as well as a private power licence and has 3500 hours in gliders, motorgliders and powered aircraft.

Driving to the Nationals

John Mulder, CAGC

WEEKS OF PLANNING had been completed when the night before, while checking on flooding in North Dakota, we discovered that several roads along our route had been closed as a result. Several e-mails were sent between the three of us from the Central Alberta Gliding Club who were going to the Nationals: Leo Deschamps (Nimbus 2), Tim Radder (Dart), and I (Genesis 2) to discuss options. We settled on plan A, meet at Strathmore, Alberta and decide there. Tim introduced me to *Google Latitude* for my phone, which would allow us to track each other on our phones. I arrived at Strathmore first, so I started up the program and found out that both Tim and Leo were within a few klicks of my location.

A short discussion and we decided on crossing the border south of Medicine Hat at the Wild Horse border crossing. We were well on our way to the border when Tim spotted a sign, "Next Service, 180 km", which was just outside of our fuel range so a U-turn was needed to backtrack and fill up. The small resort community with narrow roads and tight turns was a little awkward with three glider trailers in tow. The renovations at the gas station and no public washroom within a reasonable distance were also a little awkward.

We arrived at the border crossing with Tim in the lead. There were some tall concrete posts dividing the lanes into two sections, the right side for cars and the left for trucks, RVs and vehicles with trailers. We waited several minutes for an agent to appear and Tim pulled up past the stop sign to get a better look. I was watching the agent and it appeared from my vantage point that he was using a remote system mounted in the concrete post to talk to someone, so when Tim pulled forward, I started to pull past the stop sign also so I could talk to the post.

Concentrating on the post, I didn't notice the border agent on the right side of my vehicle yelling stop, but eventually her shrill screams penetrated the closed windows and I came to a stop. I then backed up slightly so as not to be over the stop line. Leo was marshalled into the right lane and the inspection began. The Customs and Border Patrol officer told Tim that he had crossed over the stop line and set off an alarm at some remote location that could not be reset so we would have to wait several hours for the warning to expire before we could proceed. I think that was his idea of a joke but the sternness of the officers stopped us from laughing! Several more minutes of inspection and we were on our way.

The drive from this point was uneventful until arriving at Bismarck, ND at midnight to find rooms for the night. The first stop and a few questions informed us that there was a baseball tournament and flood relief and evacuees from the area around Minot so there would be no rooms here. The manager suggested a place a bit further down the highway, a mom and pop motel near a truck stop just off the highway. We pulled in there close to 2 am and indeed they had two rooms and a motorhome available. Leo and I took the rooms; Tim skipped the motorhome and slept in his van instead.

The next morning after a hearty breakfast we were on the road again. We hoped to get through Chicago by the end of the day and stop once we were clear of the city to the east. Along the way we saw some wildlife – several deer, two pheasants (only one survived our passing), coyotes, a fox, a snake, and a turtle. The snake was sunning on the shoulder of the highway and to notice him while cruising along at 100 km/h indicates how large he was! The turtle was also sunning – right in the centre of our driving lane! His head and legs were out when Tim and I went by but Leo said they were rapidly retreating into the shell as he passed over.

Chicago at 11:30 pm on a Saturday night is a peaceful and quiet city … NOT! On the Interstate through Chicago we were being passed by all types of vehicles travelling at speeds in excess of 150 km/h. The little sports cars that would dart off the on-ramps and cross six lanes of traffic while accelerating through spaces between vehicles barely large enough for them to fit reminded me of some video games I have seen.

Good driving habits when pulling a trailer dictate looking in the mirror to check it is clear, selecting your signal light and checking again before changing lanes, but with all these racers cruising along extra caution was needed, which is why I decided changing across four lanes to make our exit in the short warning from the signage was not going to happen with three glider trailers in tow.

What I hadn't realized was Leo had used his truck and trailer to block so I could have made the lane changes. It's a brave man who blocks traffic on a Chicago freeway at 11 pm on a Saturday night! In the dark and the traffic I couldn't see the path Leo cleared and instead I slowly started the process of getting across to the right and chose the first right exit so we could turn around.

I wouldn't say the neighbourhood we ended up in was the worst I have seen, but the way the locals looked at us and with the sound of a car backfiring (I'm sure it wasn't a gunshot), time was not something worth wasting. As I explained my plan by running back to Tim's van for a quick discussion, a car full of teenagers went by and one yelled, "is that a glider in there?" Of all the guesses we had heard on this trip, these teenagers packed into a little Toyota driving by were some of the very few that got it right!

I had planned to turn to the right down a neighbourhood street when I noticed it was a one way so instead completed the U-turn in the middle of the street. Tim followed close behind but then the traffic increased, Leo had to wait for an opportunity to break in. Three glider trailers completing U-turns on the busy street caused a brief traffic jam but I'm sure everyone is back on their way by now. After getting back on the freeway, completing one more course reversal and getting off at the correct exit we were sailing on again.

Shortly after that we found ourselves at another toll booth so off the side of the road again to gather together our cash. While waiting, one of the two booths closed and traffic started backing up creating many horns and a few shouts from the drivers in line. About this time, Tim realized the keys were locked inside his running van. He started calling AMA while Leo and I found some tools and a coat hanger to break in. The police helicopter circling nearby and more sounds of cars backfiring, or maybe gunshots, had us motivated to break in and get going. Tim thought we were going to break the window but Leo and I managed to pry it back enough to get the coat hanger in and accomplish the mission while Tim looked the other way.

On the highway south of Estevan, Saskatchewan.

Back in the vehicles, the next challenge was to break into a line of cars beeping their horns while waiting to get through the toll booth. Just at that moment, the second booth opened and the folks in line were very courteous and let us in. Through the toll booth and we were on the road again. The road construction that we had to traverse for the next several miles had us zigging and zagging and our trailers became airborne at times due to the uneven pavement. It was so dark you couldn't see the bumps until you were flying over them! Construction and tolls were a challenge.

We went through eight tolls, paid over $20, and stopped prior to each toll to pool our money. At one point we pulled off to the side of the freeway to fuel up and on our re-entry to the freeway, had to pay the toll again!

After all the Chicago adventures, it was time to find a place to rest for the night. Once again, finding three available rooms was a challenge but we managed to accomplish the task at the third stop. Tim was ready to give up on sleep and drive on through but Leo and I didn't think we would make it past sunrise so rest was the option we chose.

The next morning, after another short five hour sleep, I left my room to throw my overnight bag in the truck before heading for breakfast. As I walked to the trailer I could see Tim and Leo talking with a gent who was curious about what we had in them. Leo and Tim's plan was to make sure all the pieces were still in about the same place as before we flew through the road construction around Chicago. It was worth the effort as some bits had shifted and needed to be re-secured.

The gentleman owned the Greek restaurant whose parking lot we had selected to park our convoy. After giving him a quick tour of the trailers we went in and had breakfast. The remainder of the trip was mostly uneventful until within ten kilometres of SOSA. At that point we realized we didn't know exactly where the field was located. A few minutes with maps, a GPS, and cell phones and the final navigation for the trip was complete and we turned into the club in time for dinner.

… We spent the next two weeks retrieving each other from the fields of southern Ontario. Talking about the contest later, we all agreed the drive was well worth the effort and we enjoyed the opportunity to fly in new territory with different conditions than our 10,000 foot thermals in Alberta and landscape that in no way remotely looks like central Alberta! The farmers were pleasant though, especially the fellow who politely asked me to request we task north the next few days as he had retrieved enough gliders out of his fields the previous few days. For the record, he farmed near Tillsonburg!

Thanks to SOSA and all the volunteers that made the adventure worthwhile and created a contest environment that was memorable in many ways. ❖

Aerobatics

Gary Hill, ESC

ONE OF OUR MEMBERS at the Edmonton Soaring Club says that flying aerobatics is like shooting off fireworks. I think I know what he means but I think it might be a little more addictive than the crash-boom-bang.

A couple of years ago I was fortunate enough to be able to take aerobatic training at Arizona Soaring at the Estrella sailport south of Phoenix, Arizona. The ten-flight training course spread over four days just didn't seem like enough of a good thing so I came back the following week and took another nine flights.

My wife has a *Mary Kay* seminar every January in the USA and it had been rotating between San Diego, Houston, and Phoenix so I was looking forward to going back to Arizona in the third year for some more flights in the Fox. Then I ran into a couple of soaring pilots from "down east" at the National Soaring Competition in North Battleford and they told me about the glider aerobatics program at SOSA. It just so happens that *Mary Kay* also has a summer seminar every year that we go to at the end of July – in Toronto. How good does that get, especially after they moved the Phoenix rotation to Atlanta?

In 2009 I was hosted by a towpilot I met at the Nats who was kind enough to guide me through back country roads from Toronto to Rockton for a very quick flight with Andrea Kuciak. We have a Puchacz at Edmonton, so of course if I am to learn to fly aerobatics I want to fly in the same so I can come home and practise.

We started off by me showing Andrea what I remembered from Arizona. I flew lines and did loops, 1/4 cloverleaf loops, wingovers and the simple things, but I wasn't comfortable with rolling maneuvers as I had not done any in the 'Puch'. Then she said try these, and executed a snap roll half loop. "What just happened?" I thought, and then I said, "Do that again" – we never did that in the Fox! After a couple more I had a pretty good handle on them and we continued on for the rest of the flight with hammerhead stall turns, and more lines and angles and aerobatic turns at the bottom end. Like a good fireworks show, the flight didn't last long enough – they never do – but I had to leave with a great memory and a promise to return the next year.

This summer when my rental car rolled up to the SOSA clubhouse on a Friday evening we were immediately greeted by a bubbly member who introduced herself as Margaret. She explained that she was a newer member who was camped out here with her husband and wanted to know how she could help us enjoy our visit. She offered to show us around and was thrilled to hear that we were visiting from Alberta and had been to SOSA the year before and that I was going to be taking aerobatic training for the next week so that I could become an aerobatic instructor.

A short time later I found myself being introduced to Joe Stubbs at the famous flightline bus. He offered to take me up for an aerobatic flight right then because he knew I was there to learn. I got the preflight briefing and the parachute and away we went. I will admit that this was more of a fun ride than an honest learning exercise. It seemed that I had been travelling all day coming from Edmonton, picking up the rental car from "Dirt Cheap Rental Adventure International", and checking into our room in Cambridge twenty minutes or so down the road from SOSA.

After the excited part-sleep the night before, the flight from Edmonton to Pearson and the "center of the universe", I admit I was a little bit below my game. But, that is what instructors are for: compliment the student on something that they did well, identify areas that need improvement and how that can be accomplished, and finish with another encouraging compliment. Dan Cook tells me that it is the "sandwich technique" of instruction. So, I take my sandwich and head off to the hotel with a promise to return at eight the next morning.

We are pushing out gliders and towplanes at 8 am for their daily inspection; by nine we are ready to go. In a very short time "Andrea the Spin Queen" is making sure that I have the stick centered all the way back and that I know what vertical looks like from the top and the bottom of the trip (vertical recovery). The second flight I experience what into-spin and out-of-spin aileron does to a nicely developed spin (don't try this at home, kids).

Joe Stubbs steps up to the plate the next day to start inverted recovery, loops, hammerheads, wingovers and aerobatic turns.

Scott McMaster runs me through the rest of the syllabus for the rest of the week and we settle into a great little routine. Up early to have breakfast with my wife Mary Lou, head off for some aerobatic training, maybe help around the field for awhile, then back to the motel to pick up Mary Lou and head off in a new direction to discover new things in the car for the afternoon. We would probably pick up some fixings for supper and then set the GPS to head back to SOSA to fire up the BBQ and toss around some stories with the crew.

I think that Scott left some of the best fireworks for the last day when I confirmed that I would be back next year to learn what he just did while my brain was overloaded. Soon I hope that I can have the SOSA aerobatics crew come out west and try out the first Perkoz to be delivered to Canada and I look forward to their help in getting aerobatics training developed in Alberta.

Thanks again for all the great times we had at SOSA – we'll be back! ❖

2012 World Gliding Championships

Dave Springford, SOSA

Here's some background

THE 2012 WGC for the 15 metre, 18 metre and Open classes will be held in Uvalde, Texas from 28 July to 19 August. This is the first time the World Championships has been in North America since 1991 when it was also held in Uvalde. The 2012 World, Club and Standard Class WGC will be held in Adolfo Gonzales Chavez, Argentina in January 2013.

According to the IGC rules, each country is entitled to one pilot per class and additional pilots may be added until the contest is full. Additional pilots are allocated to countries based on the country ranking on the IGC Pilot Ranking List. At the moment, Canada is ranked 23rd, up a few places from 2010. We also have some hope that this position will improve when the 2011 US contests and pre-World contest scores are submitted to the IGC.

With the large expense of travelling overseas to attend a contest, we are hopeful that many of the European countries will send small teams to Uvalde and that this will allow us to field a team of four pilots, two per class, for this contest. If this is possible, the Canadian Team for the Uvalde contest will be:

18 metre - Dave Springford – SOSA
18 metre - Jerzy Szemplinski – SOSA
15 metre - Nick Bonnière – Gatineau
15 metre - Derek Mackie – Toronto Soaring
Team Captain – Ed Hollestelle – SOSA

We are very happy that Ed has volunteered to be our Team Captain as he has represented Canada at many World contests over the last twenty-plus years, including Uvalde in 1991. He also has extensive contest experience in Uvalde, having flown many US Nationals at the site. His knowledge of the site and his experience at previous World championships will be invaluable. Ed will be very ably assisted by his wife Anne Marie during the contest, also a veteran of many contests.

Individual Canadian soaring pilots have volunteered to come to Uvalde and crew for the team. This will be extremely helpful in the Uvalde heat. During a typical contest day in Uvalde, the gliders are rigged around 0800, watered, weighed and towed to the grid. All of this is done while it is still a nice cool 90°F to avoid the scorching 100-plus temperatures as the sun moves higher in the sky. The pilots' meeting is held at 1030 and grid time is between 1130 and 1200 with the first launch scheduled for 1215-1230. The soaring conditions don't usually get good enough to start until about 1400 so there can be a long wait in the air before starting the 4 hour task. After landing, submitting flight logs and de-rigging the glider, it will be close to 1900 before we leave the airport and head home for a shower and dinner. After a few days of this routine, it can get pretty tiring and affect your in-flight decision making. So, we are fortunate to have enough volunteer crew that they will be able prepare and grid the gliders, allowing the pilots to conserve their energy before the flight. Some of these crew members will drive to Uvalde and others will fly and this is where we plan to use the donated Aeroplan points to ease their financial outlay while volunteering for the team (see page 25 for the donation form).

Fielding a team in Uvalde will still require significant funding. The hotels in town have raised their rates during the contest to around $165 per night and it is safe to assume the restaurants raise their prices too. For a 26 day contest period these costs are not trivial for a team of four pilots plus crew. To help offset the cost of representing Canada at the contest, the team plans to hold many fund-raising events to minimize the funding that is provided by SAC. We are also seeking corporate sponsors to advertise on the team website or make donations to the SAC World Contest Fund. We also plan to hold a Team Cross-country seminar in the Ottawa/Montreal area in late March or early April 2012.

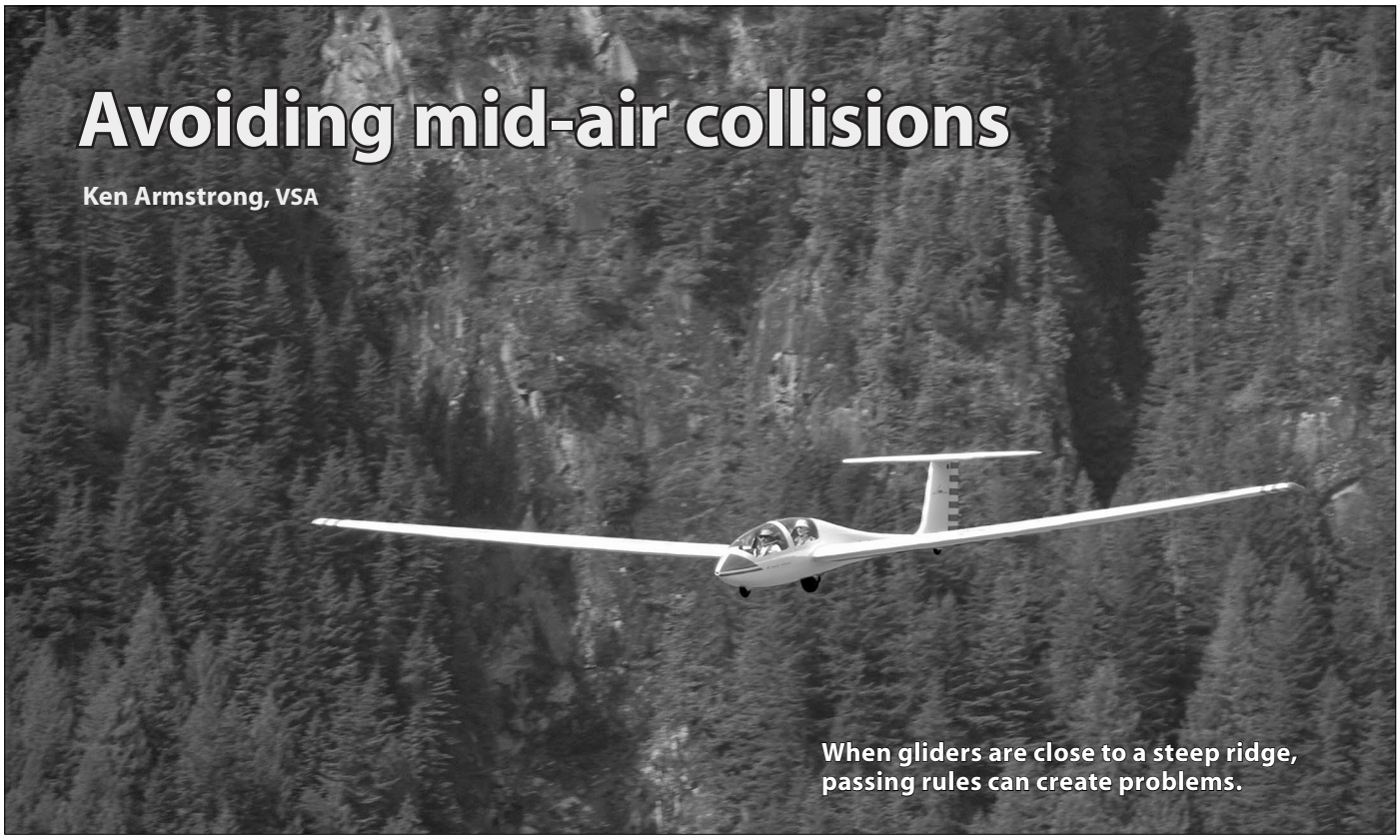
To keep everyone informed about the team and our activities, the team website can be found at <*www.sac.ca/team*>. The website contains information about the contest, the team members, our sponsors and how you can help the team. We have heard from many people that the blog was very popular during past contests and was the starting point of their daily surf. We will continue to use the blog to report our preparations for the contest and happenings at the contest several times a day during the event to keep everyone at home up to date and involved.

At this point in our preparations, everyone has secured accommodations for the contest and we are starting to update the website for 2012. Logistics for the team are much simpler with the Uvalde venue as there are no rental glider or car issues to worry about. Small details such as puncture proof-tires for tail wheels and tail dollies are important though due to the mesquite thorns on the airport. One of the organizers had a thorn go through the side wall of their truck tire this summer. Small details like a flat tail wheel could actually ground you for a day if you are not prepared.

If anyone is thinking about coming to Uvalde as a spectator during the competition, start to make plans now as many of the hotels are already sold out. You may have to find a hotel in one of the neighbouring towns 40-50 miles away, or even in San Antonio, 80 miles away. It is always great to see friends from home during the contest so if you are there, make sure to find us and say hi. ❖

Avoiding mid-air collisions

Ken Armstrong, VSA



When gliders are close to a steep ridge, passing rules can create problems.

Ken Armstrong

WHILE THIS TREATISE is triggered by the September 2011 mid-air collision of two gliders near Invermere, none of the following discussion is meant to relate to that tragedy whatsoever as I have knowledge of the causal factors .

Flying mostly out of Hope with the Vancouver Soaring Association, I have been very concerned and have frequently voiced my uneasy feelings about the possibilities of overlapping two gliders. At Hope, the situation is perhaps more threatening than at other locations because we may have eight or more gliders in the air struggling to climb in the four "lifty" areas near the airport. Once a few thousand feet are acquired, the gliders fan out more and the risk of comingling parts is greatly reduced. Or so it would seem…

Like some other venues, the simple rules of avoiding close encounters often are not adequate because a lot of our flying is along ridgelines. Rudimentary regulations such as, the glider with the hill on its right wing has the right of way, and never fly directly under another glider, can pose challenges. For instance, it can be all too easy to pinch another glider against the "cumulo-granitus" hillside when it is necessary to overtake above due to a considerably higher min sink or faster best L/D speed. Moreover, if you do not have an adequate (safe) clearance to pass on the right, should you pass on the left and pin the glider with the right of way against the hill? No, sometimes following a rule or guideline can create a safety issue – and there are a lot more examples – as became obvious during a VSA safety discussion! The suggestions for joining thermal cores and orbiting are essentially straightforward, but significant differences in glider performance can close up margins to unsafe levels.

It seems recommendations for soaring in wave would be similar to ridge soaring; however, since the legs are so long once established in the wave, it is unlikely that one would see much traffic in the immediate vicinity.

However, my closest near miss this year was in uncontrolled airspace where I was flying northbound along the edge of a well-defined lennie. A few minutes previously one of the high performance gliders reported several thousand feet lower and southbound from a location ten kilometres north over the Fraser River. *Gertrude* (perhaps a suitable name for a 1700 pound motorglider) and I were shuttling roughly north/south upwind of the lennie and quite close and radioed our position to the other gliders. As the southbound glider pilot rounded the lennie, we were both very surprised and speechless when we nearly melded wing tips at our closing speed of 200 km/h.

What can we do to take the edge off this deadly risk? Truth to tell, I am hoping my fellow glider pilots will have some constructive suggestions to mitigate this all-to-real threat. Quite frankly, it is my greatest fear and I am

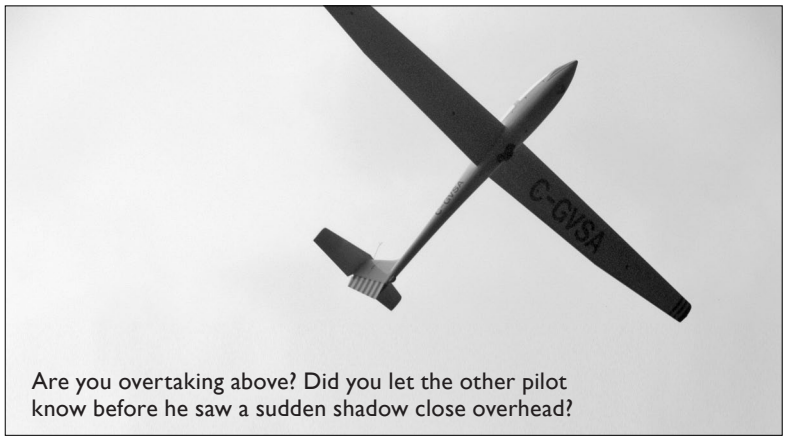
hoping readers will send in their observations with suggestions as to how to improve our "clearances" and therefore safety margins.

The above noted close call created a lot of circumspection on my part. Did the initial altitude difference of 2000 feet create a false sense of separation? Obviously, the southbound glider climbed quickly as he flew along the wave lift towards me. Equally evident is the fact we could have communicated more on 123.4 with updates on position and altitude. On my part, I might have been more conservative by flying farther out from the cloud edge where I was attempting to maximize the lift.

Suffice to say, each near miss commonly has many contributing factors. One common contributor to close calls is radio procedures. This can include factors such as: not switching to the same frequency used by the other pilots in the area (we use both 123.3 and 123.4 at Hope), not transmitting one's location and altitude frequently, transmissions that are mumbled into the mouthpiece, non-standard terminology that leads to confusion, or heavy accents that are difficult to decipher (I say this with the greatest respect for those soaring pilots from the "old countries" that brought us this delightful pastime and realize that if I was "over there," it would be me with the accent).

Other causal considerations include: non-standard circuit procedures (always presenting increased risk), not adhering to the guidelines of group soaring near ridges or in thermals and the biggie – inadequate look out. Almost all of us are guilty of the latter because we are generally quite busy centering lift as well as maintaining airspeed and clearance from fixed obstacles.

Perhaps some of us are guilty of believing a collision is highly unlikely and it won't happen to them. Think again! The potential of an accident is directly related to exposure. Essentially, the more you fly, the more likely you will have near misses – or worse! So far, after 45 years of flying, I can recall over a dozen very close calls that created adrenalin rushes. If one wants to attribute fault, about half of those incidents were avoidable on my part. The others belong to ATC and other pilots overtaking or not following procedures.



Are you overtaking above? Did you let the other pilot know before he saw a sudden shadow close overhead?

If you harbor the belief that a parachute will always save you after another aircraft meets your gelcoat, think again. You may be unable to exit the aircraft for several reasons. You may be incapacitated by the impact, the canopy may now be jammed, the glider can undergo violent spinning with a missing wing or portion and the resulting centrifugal forces may pin you in the cockpit. Moreover, loss of tail surfaces can cause tumbling and "g" forces which immobilize you.

Other possibilities precluding a silk letdown would include mid-airs that are close to the ground such as final approach. The same applies when flying along a ridge whereby inadequate time would be available to exit the cockpit and deploy the parachute quickly enough to arrest your rate of decent. Moreover parachutes don't always open and as someone who has taken the training and jumped, I can tell you the terrain below isn't always satisfactory in terms of avoiding major injuries, and windy conditions can keep the chute inflated on landing and drag you across the terra very firma.

If I can start the ball rolling on ideas, I would suggest we need to use our radios more often to advise other aviators of our position. This is an area where I can improve considerably. My philosophy for decades has embraced being a pilot of few words to leave the frequency open for emergency calls. However, having been surprised on several occasions by an unannounced shadow flashing over my cockpit, I have become more verbose.

Perhaps your call should indicate the geographic/physical position, altitude, whether climbing, level or descending. If you are moving elsewhere, your next destination should be given – as a minimum. Of course it doesn't hurt to give a report on lift/sink/turbulence conditions, but *please*, plan on what you want to say before pressing the button!

We are quite a mixture of individuals in the soaring community. There are cadres of long in the tooth professional pilots at one end and younger folks at the other who are used to focusing their entire attention entirely on computer monitors. We are probably relatively equal in our failures to maintain an adequate lookout. And who can see the glider that just turned behind us…?

So, how do we minimize this risk in the future? Hopefully, this article will result in others expressing their opinions on methods they use to avoid collisions. We all need to consider the above aspects and more to ensure that the only two wings that touch our fuselage are our own. ❖

Junior World Gliding

Selena's version

THE DAY AFTER THE CANADIAN NATIONALS WERE FINISHED I got on a plane to begin my world-level gliding adventure in Germany. I spent the first week getting used to the time change, seeing old friends, and organizing the glider, car, and caravan for the contest. I was relieved when I was finally able to pick up my team captain and crew Chris Gough from the Stuttgart main train station – now the flying could really begin!

The pre-World competition I registered for in Klippeneck was meant to be a good preparation for the World contest. Poor weather coupled with a fatal accident limited any serious training and familiarization with the area, although a few good flights were had. However, the time was most usefully spent working out a few glitches in my glider, studying maps, and talking as much as possible with local pilots about the conditions. Before I knew it, Chris and I were driving towards Musbach and the World Contest I had spent the previous two years preparing for and visualizing!

The practice days and the first few days of the contest were filled with rain. An Australian friend sent me a message saying, "Where in the world are you flying next? Because I don't want to be there! Bad weather seems to be following you around the world this year." The words seemed all too true, and I found it difficult to maintain a positive attitude when all I wanted to do was be up in the air!

As one would expect, I found the first few days of flying very difficult. Never before had I flown in an area where previous knowledge of the area was so advantageous. Many of the European competitors, especially the Germans and Swiss, had flown here often. I also feel that I made some tactical errors throughout the contest which reflect my low level of experience, errors that I hope to have learned from and never to make again.

The strongest day I flew was contest Day 4, a 238 km racing task. After unsatisfactory performance the first few days, I took some time to rethink my strategy and prepare for the day. The first thing I decided was to stay away from the Black Forest. I think the first few days I got caught in the downward cycle of wave from the Black Forest. The second thing I focussed on for this flight was advice from my dear team captain: *Stay with the gaggle*! With these two points in mind I cautiously set off for the day.

I left the start gate following behind a decent-sized gaggle. When the gaggle split into two groups I was determined to stay with the group that veered away from the Black Forest. This ended up being one of the best decisions I made all day. I managed to cruise along at cloudbase as I heard the Aussies getting lower and lower. They think that they got dumped in the lee of the wave that was created by the Black Forest, and after having the vario pegged at 10 knots down, found themselves in fields with several other gliders.

The radio got pretty boring after that – I didn't have the heart to tell them, but as they were landing out I joined the Belgian Niel Deijgers (DC) in a thermal that averaged 8 knots to 4500 feet agl (normal conditions were more like 3 knots to 3000 feet). I flew along with the now much smaller group to the first turnpoint. We managed to duck into the circle and head back along the clouds to the second point. I saw DC low around the first point and I was a bit worried that he may have landed out. Ten minutes later he joined my thermal with the group higher than me! The cloud street we followed to the ⇨ **p18**

Championship

Selena Boyle
Chris Gough

Chris' side

I FIRST MET SELENA when she attended the 2008 SOSA Junior Camp. At that time I was getting myself ready to fly the 2009 Junior Worlds in Finland and was about to head to Australia for a winter of soaring and towing. She followed my flying closely and when she told me a year later she wanted to fly in the Junior Worlds herself I was not too surprised. I told her she had a long way to go to get herself ready for the competition.

She really showed me she was committed in 2009 when she decided to put her schooling on hold and travel to Australia to train for the winter. I had offered to be Selena's team captain when she first mentioned her interest. There was only a limited amount of time to get Selena ready for the Worlds. One of the first pieces of advice I gave her was to fly as many contests as she could. It does not matter how well you fly cross-country, if you do not learn the tactics of competition, you will not do well at a contest. She set out a schedule of contests to fly over the two years. I gave her as much advice over the phone and in e-mails as I could during her first contests in North Battleford and Australia.

Selena arrived one month early in Ontario to practise for the 2011 Canadian Nationals. The weather was poor for most of the time and she had an unfortunate off-field landing in a borrowed Club Libelle. The glider required repair and would not be ready for the Nationals. There was a group who believed she should not be flying in the Nationals because of the incident but I think after her Nationals and World performances she proved to everyone that she can fly safely. This was one of the many roadblocks that Selena persevered through and really shows you what a strong individual she is.

To continue fostering youth in soaring we need to face these roadblocks and help young pilots (or any pilot) the whole way. Bill Cole really helped her out by lending her his SF-27 just before the Nationals.

One of the most important aspects of flying in a world contest is funding. Selena did an excellent job with the raffle and various other fund raising activities as she raised sufficient funds to complement the SAC funding and cover all costs. She has agreed to help out with fund raising for the next junior team heading to the Worlds. In addition to the fund raising, Selena borrowed a glider and car for minimal cost which kept the expenses very low for this level of contest.

⇨ **p19**

Selena's version

second point was beautiful and we went fairly quickly. A few times we got lower in the working band, but I managed to always stay within it with the group.

We all shared times leading out, but when I did, I made sure that they were still on my Flarm behind me. Nearing the second turnpoint the strong part of the group got about 200 feet above me. I decided to continue following them despite my lower altitude in order not to lose them. However, they slowly drifted further and further ahead and I drifted a bit further away from cloudbase. It worked out that a few other gliders joined in behind a bit lower, and we stuck together again. We all opted to follow the cloud street back south. Initially this led us 10 degrees off track, then 20, 30, 60. However, towards Musbach was a huge blue hole with a few despairing cu scattered in it. The cold front was moving in, taking a lot of energy, and leaving big areas with no sun getting through to the ground. Eventually I ran out of energy and landed at an airstrip with six other gliders. My performance was still good enough to earn me tenth place for the day.

The end of the contest seemed to come quite abruptly. I would have loved even just a few of the cancelled flying days from the beginning of the contest to have been added on at the end. I really feel that I improved and learned tons throughout the contest. Considering my previous experience, I am incredibly proud of what I accomplished at the World contest, and how much I have improved over the past two years.

International contests serve a unique purpose in the soaring community. I would like to highlight the objectives of the World contest and describe how I think these objectives were met:

1. Select a champion in each competition class. The Club Class Champion was Tim Kuijpers from the Netherlands and Standard Class Champion was Felipe Levin – the first Junior to ever defend a world title.

2. Foster friendship, cooperation, and exchange of information among soaring pilots of all nations. Flying at the World contest provided the opportunity for pilots to connect with others from around the world. I found it fascinating to hear stories of flying the Föhn, flying in the Italian Alps and the Finnish plains… It was also an eye-opening experience to hear first hand about the soaring communities around the world and some of the advantages and difficulties faced by each country.

3. Promote worldwide expansion of the public image of soaring. Leading up to the competition pilots and crew expanded the sport of soaring in their home countries. Throughout the contest most pilots kept blogs to keep people at home informed on the contest. Gliding was promoted locally as pilots had interactions with locals.

4. Encourage technical and operational development of the sport. For me one of the most incredible parts of the flying in the World contest was being able to interact and learn from such a high calibre of pilots. Watching them in the air and talking to them on the ground provided many opportunities for learning and inspiration!

5. Encourage the development of safe operational procedures, good sportsmanship, and fairness in the sport of soaring. The contest safety man was internationally respected Brian Spreckley. I think that Brian did an excellent job in maintaining a safe flying environment (except for the fighter jets that kept buzzing the contest area). His safety briefings were informative and relevant. I think most competitors demonstrated safe flying and sportsmanship throughout the contest.

Returning home I found myself in a bit of shock as reality hit. I stayed a few days at the SOSA Junior Camp, flew back west to catch a few days of the ESC Junior Camp. Then my days were filled with packing, moving, catching up with family and friends, a few weddings, and starting back at university.

Sometimes my experience at the World Juniors seems like an incredible dream that can't have possibly been reality. But then I realize some of the things that I have learned over the past two years and through the contest and I realize that it must be true because I am a different person. Never before have I pursued a goal with so much focus, determination, and hard work. Returning to university I have been able to apply these characteristics to my schooling. Through flying I have learned to persevere through challenges and not give up even when the situation is extremely daunting (reference getting home after getting very low). I have learned to be competitive in a much friendlier and enjoyable manner. And I have had a unique opportunity to make many new friendships that I hope to maintain for the rest of my life while having some amazing people take the time to mentor me along the way.

I am so grateful to everyone who has helped me over the past two years to make my far-fetched dream a reality. Many people have mentored and guided me on and off the gliding field both here in Canada and overseas. Many have generously offered me their gliders, making it possible to get the air experience that I needed to fly at the Worlds. Others generously offered me their cars and caravans. I was overwhelmed during my fund raising efforts at the incredible financial support I received from people in many different parts of my life. Above all, thanks Chris – I never would have made it to the World Juniors without your support.

I have been asked many times since getting home if it was worth it to put so many other things in my life on hold to pursue my dream of flying at the World Junior Championships. Every time this question is asked, I don't need to hesitate. *Yes!* For more detailed stories and photos please check out: *www.selenapb.blogspot.com* ❖

Selena is 24, a U of A student, has been going cross-country since 2009, and flies with Edmonton and SOSA.

Chris' side

I arrived in Germany at the end of July. Selena had already picked up the glider and had a flight. We rented a trailer for the month, which was very convenient because we could keep all our things at the airfield and it was much more comfortable than a tent. It also kept out the mice that seemed to infest the rest of the campground. Selena first flew a contest in Klippeneck. The weather was poor prior to the contest. On the first official day there was a fatal accident from an off-field landing in a motorglider. The contest was officially cancelled but they carried on with some unofficial tasks. The weather never really improved anyway, something that continued right through the World contest period.

The contest organizers had held a number of large contests at Musbach over the years including the European Junior Championships in 1997, and the World Club Class Championships in 2002. At first I did not believe it because of the problems we encountered. We could not drive our cars anywhere on the airfield to avoid tearing up the grass. This was especially difficult for our team of two because we were forced to push the glider everywhere on soft grass. The Standard class gliders were full of water – pushing them to the grid was especially hard.

The internet was unreliable most of the time which made blogging and checking weather a hassle. Some of the teams got mobile internet but it was also not very reliable. During the first few team captains meetings, the issues of the internet, water filling, and gridding were discussed. The organizers insisted that everything would work out, which it did, just not as smoothly as everyone would have liked.

Selena did not have a great start to the contest with a few early landouts but really picked it up at the end including a tenth place finish on Day 4 and fifteenth on the last day. I was particularly envious of her Day 4 placing because my best finish at the Worlds two years prior was twelfth. The winner in her class was Tim Kuijpers of the Netherlands. He is a very friendly and approachable guy who kept everyone entertained at night with his guitar playing and singing. I think many of the people at the contest were cheering for him in part because they wanted to see someone other than the Germans on the podium.

As a team of two, we encountered some difficulties. At a world contest the main duty of the team captain is to represent your pilots at the daily team captain's meeting. This was usually not so onerous but on some days where the gridding was postponed it became a rush for us to get rigged quickly and push to the line. There was one field that Selena landed in that was soft dirt but luckily, I borrowed one of the British crew that day and we had some help pushing the glider on to the trailer and derigging. Without him it would have been impossible for the two of us.

Before the start line opens it takes someone dedicated on two radios to listen to the contest frequency and the team frequency and relay information to the pilots. Ideally someone would stay at the radio as long as the pilot was on task but I rarely managed this as I was completing other tasks like updating the blog, checking weather, getting groceries, preparing the trailer etc. The current Canadian rules for funding pilots for World contests includes a crew for each pilot except if there is only one pilot. I think this is a mistake as a single pilot entry is already at a disadvantage. Ideally at a Junior contest we should be sending potential Junior Team pilots to crew so if they fly a Junior Worlds themselves they will know what to expect. This is already done by most European countries.

A few controversial issues that came up over the contest. A member of the USA team was removed from the contest by the USA Team Committee. On an internet message board the team member was accused of being removed for excessive partying and drinking but the USA Team Committee has not confirmed this. It would be a surprise to me as I did not see him drinking or partying any more than the other pilots on the field.

Having spoken to both parties, from my perspective the issue seemed to be a personality conflict between the team captain and team member. In the USA, the team captain has the last say over its team members. I do not like this model as it allows a team captain to enforce his or her own ideas and morals instead of focusing on getting the best results out of the pilots. I hope this type of thing could never happen on a Canadian team.

Ben and Ali, the writers of the unofficial British Team Contest blog and who paid their own way to Germany to crew for the British team, also helped out the contest management. They were so well-liked at the contest that the Contest Manager asked them to organize the late night parties that were being held. Their blog was quite graphic in its content which angered some of the British gliding crowd but amused many others. I believe the negative responses from outside of the contest really take away from what actually went on at the contest. The future of gliding was there together and they had a serious contest and a lot of fun. I believe this is something the competition scene needs to encourage if we are going to see any real growth over time.

The next Junior Worlds will be held in Leszno, Poland. We have two juniors who flew in the most recent nationals who will be eligible to compete there. I hope we can send a team of two again to continue the growth of the Junior Team. Having a Junior Team gives the young pilot something to aspire to and develops stronger pilots for the future of the Canadian gliding movement. Most youth do not know how to start along this path but there is plenty of help around.

You as a SAC member can start to help encouraging youth by giving them a ride to the airport, taking them for a flight, arranging a glider for a contest, or just passing on your knowledge. ❖

Peripatetic gliding

Anon. from *Vancouver Soaring Scene*, 1974

TRAVEL AROUND THE WORLD A LITTLE and you will often find great differences among gliding clubs. Some warm to the visitors and are convivial in spirit, adding much enjoyment to the soaring sport. But some are terribly tense and emotional, and make one think of the expense involved in gliding instead of the fun to be had.

However, the greatest variation to be found among soaring centres is in ground facilities available. The mixed bag of aircraft flown doesn't change much from place to place, nor do soaring techniques vary a great deal, although flying standards may be higher in one place than another. It is in the area of creature comfort that the differences can be strong, striking and even stupifying at times.

I was invited to fly one Sunday as a guest of the glider club located about 55 kilometres north of Milan – a car would collect me before breakfast and I could dine before take-off, I was told. It was the first time I felt I should have turned up in a tuxedo, instead of the jeans I am used to. The head waiter at the gliding club informed me the chef would personally attend my table to discuss the preparation of my "Eggs Marnier". Meanwhile the wine steward was chilling a half bottle of his own selection. (I wonder how the Italian flight regs read?) Coffee, it was gently suggested, would be served in the pilot's lounge. (I hoped for a short flight at this point.)

The lounge sported its own room steward who moved his finger in a "no-no" fashion each time I approached one of the many comfortable looking armchairs. I guessed they had become sacred, but each belonged to one pilot or another. A hard little wooden perch was kindly brought for me from the kitchen. When the waiter arrived with his tray, he looked horrified and held an excited whispered conference with the steward, from which the name Count Caproni floated from time to time. Suddenly my little perch was whisked from under me and I was allowed to approach and actually sit in one of the armchairs. Soaring had become great!

I thought of my previous week at a commercial operation in Southern California. The flight line was efficiently manned by the fellow who was The Final Authority Regulating Take-offs – one of the few officials in the United States who does not initialize his post in the great alphabet soup of abbreviations. The planes were assigned in fair order and on a first name basis, and all was right with the world, with five towplanes dispatching pilots as fast as they could be assembled. After a few hours of sparking around in a rented 2-32, hunger and thirst compelled a landing. The true spirit of democracy then made itself felt. The fellow in charge of the mobile canteen, the sole source of creature comfort within fifteen miles, half-heartedly offered sandwiches and pop. He said, "Dunno wuz in 'em. Sumen mixed 'em up las' night, sixty cents, pop's forty. Take it or leave it!" My present head waiter probably would not have been impressed with this service. It didn't add much to the day's enjoyment.

In eastern Europe, soaring centres are not usually far apart and I moved from one to another as a self-invited guest. As the language problem was a real barrier, I would have the head of one club phone of my impending arrival to the head of the next. This saved long explanations each time, in broken English, French and Italian as to my name, where I came from, and so forth. Welcomes were always warm, long, and sometimes wet, if a little incomprehensible at times.

For example, in the small city of Celia in north-central Yugoslavia the airport sports only three gliders, a towplane that doubles as an air taxi, a government hangar with a small office that serves as club room for several members, and a very large beer dispenser. (Very large!) Max is the man in charge; very warm and friendly, very competent, couldn't care less about money as long as operations can survive, and considers everyone who flies gliders to be of his personal concern. On my arrival the field was wet and pilots were sitting in the sun waiting for it to dry.

"Aha," said Max, "You must be Mr. Safeway!" (OK, close enough.) "Welcome, welcome … have a beer." Smiles all around. Later I showed them some copies of SSA's *Soaring* magazine (only Max could speak some English). It was their first time to see an issue and much interest was shown, so I gave them the few copies I carried. Another beer in celebration. I showed them a copy of our own *Vancouver Soaring Scene*, which made a remarkable impression, especially when I said its editor is a beautiful young lady. When I also added all members get a free copy each month, one of the pilots present was sufficiently moved to muster all the English he could remember at the moment: "Canadians … rich", he stated. Beer again in celebration.

By this time the field was dry, if not the pilots. In honour of my having visited Vršac (although these pilots lived close by and much wanted to see the event, at least for one day, none could afford the trip), I was graciously assigned their Blanik and was told to use it all day. ⇨ **p28**

safety

I...

- I am responsible for my own actions.
- I need to make some changes in the way I fly.
- I need to tell other people when I observe some operation that I think is unsafe.
- I need to look inward, not outward, to find ways to make flying safer, not just safer for me, but safer for everyone.
- I am the source for the safety culture that exists.
- I am 84 years old; should I still be flying?

Just a few years ago, I drove my thirty-years-younger son around my area while he was researching a new business opportunity. At the end of the day he said something to the effect of, "Hey, dad, you take too many driving risks by always changing lanes." Guess what! I rode around with him shortly thereafter and he drives just like I do! He needed to say what he did, but he needed to look inwards also.

I drive a car I've had for 50 years, a 1960 VW Bug, which originally had a 36HP engine. I replaced it with a neck-snapping 40HP engine at around 350,000 miles 'cause my mechanic said he was having trouble getting parts for the engine overhaul he was doing. A 10% increase in power wasn't much, so I pretty much work hard to try to keep up and go with the flow. A few months ago, because I don't want to drive my 'baby' too far from home, I got a used Ford Taurus, with 260HP. Unfortunately, I sometimes think I am now capable of driving the Indy 500, weaving my way through all those little old lady drivers from Pasadena that populate the freeway.

At first, I couldn't believe I was actually burning rubber as I started out, using the accelerator like I did in my VW, where it was necessary to floor it just to move. It is kind of sad to realize it took me 84 years to learn how to burn rubber on starts. If my son drove with me now, maybe he wouldn't. There are many people and lots of material out there to tell me how to drive more safely, just like there's lots of material and people out there to tell me how to fly more safely.

However, it's up to me to take the action about my own driving. And most importantly, what this item is about, is my own flying, because the latter is what defines the safety culture of this sport I love so much. That means I need to tell my towpilot no more 60° banks on tow to stay in the thermal for this old pilot; to tell my club president that his low passes at the end of each flight don't help our instructors much when they have to tell their students not to fly like the club president does; and I need to tell the old-timer (me) who once in a while did it too. It's up to *you* to tell me my flying sucks!

The reason we called for a safety "stand-down" at our club recently was not to preach safety again, as we all do all the time. There's really nothing new to be said. The reason for calling such meetings is to work with people to get them to recognize that the culture that exists is of their doing. Whether they are the lowliest mechanic who only washes aircraft or whether they are a Commanding Officer, it's their doing if the culture is good and there are no accidents, and it's their doing if the culture is bad and there are many accidents. I am the source of good, and I am the source of bad. It is I who must take responsibility on a personal level.

For an important topic like safety, some may think this is too short an item; we tell our SSF authors to provide about 800 words each month on safety for our column. This item is under 800 words. How many words does it take to get my attention to do all I can to add to a safe flying culture for soaring?

Bernald Smith, trustee,
SSA Soaring Safety Foundation

A Nationals contest safety proposal

The new European Aviation Safety Authority (EASA) has entered into discussions with various aviation groups including the International Gliding Commission (IGC) to improve flight safety. The IGC has asked OSTIV to develop safety initiatives and has recently decided to begin by looking more closely at contest safety. The IGC wants to be more proactive than reactive to risks associated with competition. Also, recent accidents at world contests have brought this issue more to the forefront and it is felt that starting with safety initiatives at the competition level will have a ripple down effect into other areas of soaring safety.

The OSTIV Sailplane Development Panel has been investigating various safety equipment and systems that can be incorporated into sailplanes, with a means to reward their use in world contests through allocation of contest points, for example. It is largely supply and demand that will determine the manufacture and commercial availability of safety products. FLARM has been popular in Europe with pilots because it has reduced the number of mid-air collisions and it has therefore become more commercially available. The challenge is to now expand the use of safety devices and other systems in contests to create a market demand for safety products.

The OSTIV Training and Safety Panel (TSP) has also been asked to look at proactive measures for contest safety. The current chairman, Ian Oldaker, and the TSP are developing a risk management systems approach to international contest safety. The FTSC has been discussing with the SAC Sporting committee and contest organizers ways to improve our own contest safety and move to more proactive measures. Our own contests have not been free of accidents or incidents. The Sporting committee has gone a long way to incorporate excellent well thought out contest rules and task organizing that are proactive safety measures. We feel strongly that additional proactive organizational measures can be taken in the interim until the ripple down effect from IGC is available.

We agree that contest safety is first the pilot's responsibility but there are organizational factors that can be introduced to help reduce hazards and help pilots to help themselves. Often said is that "to err is human". It is difficult to change human behaviour but relatively easier to change organizational factors.

Some time ago, Tony Burton wrote the "Contest Cookbook", the manual to help organi-

zers plan a contest, and it has done a lot to improve contest safety by capturing necessary organizational information. We recommend at least two additions. One of the easiest safety measures is to introduce a "Contest Safety Officer" to the organizational structure. This person would work with the Contest Manager (CM) for planning, then with the Contest Director (CD) for execution, and to provide safety continuity for the contest. The position must not be paid lip service but be given sufficient authority on behalf of the organizing club to stop a contest, if necessary, until a safety problem is resolved with the CM or CD and/or pilots – depending on the phase of the contest. The Contest Safety Officer would be an integral part of the contest organization. This should be reflected in the organizational charts of the "Cookbook".

The second step we would like to see is key members of the contest organizing team have a safety meeting at least a month or more ahead for national contests to review key elements of the contest and the site, to examine hazards and assess risks (Risk Management). They then could make recommendations for the CD and CM.

Our competition rules have gone a long way to make contests safer, but the CM and CD have the discretion to make things much safer by giving site factors greater consideration. Many clubs have implemented similar contest practices but they are not collectively reflected in the "Cookbook".

Operations are looked at closely at most contests by the Safety committee, but hazard assessment should include: detailed terrain factors as it relates to the contest location for off-field landings, communications, airspace factors, local weather phenomena, potential mass return to the field, missing pilot routine, the emergency response plan, turnpoint safety factors, task type selection factors, and fatigue management policy, to add a few.

Map overlays should be produced to help the analysis and future pilot briefings. This will help greatly with sharing local knowledge for safety. We feel that we can share more local knowledge with contest pilots than we have been doing. There's nothing worse than discovering half way through a contest that the local pilots don't cross a certain area less than 3000 feet agl because of the many landout accidents there, or of the single landout area available near a turnpoint! Details on these hazard factors to assess will be included as a planning annex for the "Cookbook".

Lastly, the responsibility structure for safety needs to be better understood. The club, once they agree to host a contest, is responsible for overall organizational safety. The CM and then the CD are responsible to the club for contest safety. The Contest Safety Officer can function as the watchman, but is responsible to the CM and then to the CD during the contest for execution of safety.

Pilots are *always* responsible for their own safety but it is the club's responsibility to minimize the organizational risks and understand the pilots in a contest may push themselves beyond their own reasonable limits because *it is* a contest. Safety should not be a competitive issue considered part of the completion. Those of us not competing but organizing can make things much safer by creating the environment to facilitate safety by anticipating pilot failures.

Dan Cook

Bad batteries

I hate it when we just don't learn. Many of you will recall that we lost a very nice Discus and trailer to a fire not too long ago. An article was written, saying that using batteries with open terminals is a problem that cost us about $60,000 in insurance.

I wandered by the charging station in the workshop at the Nationals, and saw a number of different levels of workmanship. Here are two: *Battery 1* – open terminals, no stress relief, no fuse. *Battery 2* – terminals covered with connectors and silicone, stress relieved, fused, shrink-wrapped wires. The amount of power in a 12 volt sealed lead acid battery is huge. It is a dangerous thing to have with uncovered terminals.

There is a good article on the *Wing Rigger* web page, under "extra soaring content" in the lower right corner. It's, *"Wiring a sailplane battery for reliability"*. Why not take advantage of this off-season to sort out your battery wiring and connectors? I'd hate to have to receive another hugely expensive accident report that is totally preventable with a couple of dollars and about an hour's effort.

Dan Daly, SAC Director of Flight Safety

New aircraft structural material

At a *The Wing Is The Thing* (TWITT) seminar, two of the speakers were asked to explain their theory for a new, lightweight material.

This turned out to be a helium filled foam for composite sandwich construction. They noted it was hard to manufacture since it keeps floating up to the ceiling, and many of the shipments simply float away.

One advantage is that when you do ship it, all you pay for is the shipping container. If enough material is in the container the shipping company would probably have to pay you since there would be a negative weight to be shipped.

This new material would result in a barn door being able to have an excellent L/D ratio, thereby reducing the cost of equipment necessary to be a competitive soaring pilot. The power requirements would also be minimal, with the note that a good Mexican dinner might be all that is necessary for launch.

Unpretentious

In days when forest felt no threat,
With fibreglass unheard of yet,
They built of things that lived and grew,
Like spruce and birch and casein glue.

Folk who flew then knew their place,
Yes, they knew the urge to race,
But did not claim by word or deed,
To split the sky at breakneck speed,
But rather by pace more modest-like,
More befitting the average bike.

Drifting downwind, enjoying the view,
Seemed more the proper thing to do,
Without undue, unseemly haste,
Which would in truth be in poor taste.

"Wood has soul" will oft times pass
The lips of those without the brass
For super high-performance glass.

So we flew what could be afforded,
Thankful to do so, and so applauded,
As any sailplane pilot should,
The unpretentiousness of wood.

Tony Burton *(adapted from a poem by Bernard Reeves on www.sifowpedia.com)*

Looking in the sky for my lift

Picture yourself in a glider near sunset
Sinking t'ward trees and leaving the skies
The vario calls you, you bank left quite slowly
A cu forms before your own eyes

Tiny clouds growing, at first they're unseen
Towering over your head.
Look for the lift with the sun in your eyes …
Then it's gone.

Looking in the sky for my lift
Looking in the sky for my lift
Looking in the sky for my lift

Sinking on down to a field by a mountain
Where picnicking people eat burgers and fries
Everyone smiles as you drift o'er the corn stalks
That grow so incredibly high.

Some welcoming wisps appear on the right
Waiting to lift you away
Maximum sink pulls you down from the clouds
And you're done.

Looking in the sky for my lift
Looking in the sky for my lift
Looking in the sky for my lift

Picture yourself in a bean field at sunset
With darkness a-coming and no help in sight
Suddenly someone is there with the trailer
The crew has arrived, it's all right.

a tribute to the Beatles from The Bald Eagle

Facts about gliders

- It's not the engine that makes an airplane, it's the wings. Your car has an engine, too – does *it* fly?
- Power pilots rely on their engine and will panic when it quits. Glider pilots have an engine called the sun and know it's not going to quit anytime soon.

…alternately…

- We don't have to worry about the engine quitting. It already has.
- Airplanes fly against the weather, gliders fly with it.
- Airplane pilots have ETA, NAV, COM, ATC on the brain. Not glider pilots: gliders are never on schedule, never on course, never at the same height or speed for more than an instant. Their focus has everything to do with flying and nothing to do with transportation.

A Chinook Arch originating over the Continental Divide graces a good wave day at the Cowley fall camp on October 9. Arel Welgan is flying ESC's L-33 Solo in the primary at about 16,000 feet.

Arel Welgan

SAC AGM

17 March, 2012

Hamilton, ON
Canadian Warplane Heritage Museum

10:00 Doors open

11:00 NavCan Airspace and Safety Seminar

12:00 Lunch and SAC AGM

13:30 SAC "Best Practices" Round Tables

A. Club Presidents and Treasurers
Finances & Administration

B. CFIs & Senior Instructors
Flight Training & Pilot Development

C. All Instructors – Safety

D. All Pilots – The Season Ahead,
Ready to Fly Again,
Ready for X-C & Badges

15:30 Guided Museum Tour

2011 Nationals Rules Question – Board Decision

The SAC Board of Directors was contacted by member Kerry Kirby regarding certain events that occurred at the 2011 Canadian National Soaring Championships. The Board provided the following response:

Dear Mr. Kirby, thank you for your correspondence of 14 October 2011. The SAC Board has reviewed this together with the 2011 National Soaring Competition Rules and Regulations.

Section 10.1 of the rules permit a competitor to make a protest regarding any decision taken by a competition official. It is the Board's understanding that at the initial pilots' meeting where the issues regarding contest rules were discussed you did not participate in the discussion. Subsequently, you withdrew from the competition without raising these issues or filing a protest as permitted under the Rules. Consequently, the SAC Board is precluded from formally reviewing the matter.

At the same time, it is clear that the 2011 Nationals presented an unprecedented but positive situation of having more competitors than anticipated. Important matters arising from this have been raised by pilots including yourself. The Sporting committee is currently considering revisions to the Rules to further address these issues. We would encourage all pilots with an interest in these matters to contact any member of the Sporting committee to provide input into the proposed amendments. The amendments will be publicly available and the SAC Board will also be reviewing them prior to their taking effect. Once they are available we would welcome any further input that you or any other pilot may wish to provide to the SAC Board.

We hope that this provides a way forward that respects the contest rules in place at the time but also allows the issues raised to be reviewed for future competitions.

SAC Youth Bursary Program recipients for 2011

The SAC Board of Directors thank those clubs who have supported the program in 2011 and hopefully more will see opportunities to use the program in 2012.

Vol à Voile Champlain
Simon-Pierre Dupant – age 25
Yannick Côté-Prud'homme – 18

Canadian Rockies Soaring Club
Charlie Pastuszka – 15
Bennett Leong – 15

Vancouver Soaring Association
Nicholas Propp – 16

SOSA
Jacob Christie – 16
Robert Zachemski– 15

Gatineau Gliding Club
Luba Goyaniuk– 19

York Soaring Association
Robert Carmon – 17

Edmonton Soaring Club
Jordon Stefaniuk – 16
Daegan Banga – 16
Rhodielyn Padila – 19
Justin Harrison – 17
Shane Underwood – 18
Jacob McKinley – 16
Ajay Sahai – 17
Danielle Fish – 16

Rather than applying for three bursaries at the usual $500 each, ESC decided to give a flying credit of $200 to each of the eight applicants in order to allow more youth to benefit from an equal matching amount from the SAC Youth Bursary Program.

If your club wants to explore the approach taken by ESC please contact me at *dacollard @telus.net* or toll free 1-866-745-1440. I welcome your call to discuss ways in which we can expand the SAC Youth Bursary Program.

David Collard, SAC Treasurer

Raffle winners Junior World Gliding Contest

WestJet tickets - Liz Zatelny
Via Rail tickets - Karen Wagner
Paintings - Doug Scott
Gift Cards - John Broomhall, Jim Carpenter
Gift Cards - Wayne Selzler, Jim Carpenter

Aeroplan's charitable pooling program

Pooling Aeroplan Miles in support of local charitable initiatives

Aeroplan is happy to facilitate the transfer of miles to support the Canadian Soaring Team

Donations will be accepted 1 February to 1 March

Donated Miles will be used by the team members to travel to the USA to compete in the 2012 World Gliding Championships in Uvalde, TX

I (please print name here) _____

would like to donate _____ Aeroplan Miles to be

transferred from my Aeroplan account # _____

to the charitable Aeroplan account of the Soaring Association of Canada (SAC). I understand that these donated Miles will be administered by Dave Springford and redeemed either for travel or for non-air rewards in support of the Canadian Soaring Team.

signed _____ date _____

Please return this signed pledge form to Dave Springford by e-mail *<springfo@gmail.com>*, by fax at (519) 884-4446, or mail to 663 Deer Run Dr, Waterloo, ON, N2K 3H2. Direct all questions to Dave at (519) 884-4242.

Note that in order to transfer Aeroplan Miles from one account to another, the legal signature of the donor on this form is needed; an e-mail pledge cannot be accepted by Aeroplan.

The 32nd World Gliding Championships will take place in Uvalde, Texas. The 2012 Canadian Team is Jerzy Szemplinski, Dave Springford, Nick Bonnière and Derek Mackie. Team selection was based on the results of the recent Canadian Nationals in conjunction with results from the pre-Worlds or each pilot's best contest over the two previous years.

As part of the team preparations for next summer, Aeroplan was contacted to set up a pooling program for Aeroplan Miles for the team. Aeroplan supports charitable organizations by allowing the donation of points into a specific account to be used by the charity. The charity is allowed a 30-day period each year to solicit donations to go into the account. Points donated into our team account will be used to fly volunteer crew team members to Uvalde for the contest, reducing the volunteers' costs. If you would like to donate points to the team, please photocopy or scan the pledge form above and then e-mail, fax or mail it as indicated on the form. Note that Aeroplan requires a signature on all pledge forms. The period for donations to the team runs from 1 February to 1 March, so please don't delay, fill out the form and send it quickly. Thanks ahead of time for your support – it will go a long way to help.

… poor badge pilot from page 4

form wouldn't have to be four pages long. However, while the document could certainly benefit from simplification, it's unfair to blame it entirely for badge flight woes:

[Rant alarm ON]

I hear moans after badge flight failures that are purely and simply the pilot's lack of *preparation* for the flight, and for the least bit of *planning* between the pilot and his Official Observer on the requirements for the task of the day. Pilots likely do much more complicated things during their work day, but somehow think that a little effort directed towards a recreational performance goal is unwarranted. Some pilots haven't even read the badge application form, let alone the Code requirements. Pilots regularly go to Cowley totally unprepared to claim a Gold or Diamond climb, this in one of the best places in North America to do it. Unbelievable.

[Rant alarm OFF]

The olden days

Let's go back in time to the days of the turnpoint camera and barograph. You left the lens cap on (ouch, that was stupid!) or you opened the camera back before rewinding the film (brain fade – I did that at a contest once). The Code (and in my case, the contest scorer) will be rightly harsh with you.

And what about this old camera rule: to ensure that turnpoint photographs couldn't be doctored post-flight, the Code stated that the complete negative strip must be uncut. This type of rule, which makes life difficult for the majority of pilots to foil a microscopically small number of possible cheaters, is often the first choice of someone drafting "foolproof" Code content. Naturally, commercial photo processors would go about their normal routine of chopping up the strip, regardless of the most explicit written notes *not* to do so. Many great badge and record flights were tossed into the garbage can along with the film over an act that the pilot had no control over. This rule was an example of "the perfect being the enemy of the good".

Again much complaining, after which the requirement backed off a little and stipulated that it would be sufficient that just the turnpoints themselves be on a contiguous strip of negative film. It was now a throw of the dice; would cuts be on either side of the TP photos or not? Still unfair. The Code finally got sensible, allowing the OO to certify that cut negatives were of the same flight by examination of the cut itself and the negative numbering along the strip edge.

Barograph glitches were also a source of grief. You didn't wind the barograph, or you didn't turn it on? – that's stupid. The day I did my Diamond Goal flight (a 300.1 km O&R), I was 30 km out on course before I realized that I couldn't hear any ticking behind my head. But it was a great spring day and I was able to return, start the baro, re-launch, and still complete the task.

Of course, the barograph itself could also be perverse and work to defeat one's achievement. Again on a personal note, while I was flying at Cowley with Bruce Hea back in 1981, I didn't get to share an absolute altitude record with him because the needle of my barograph climbed right off the top of the drum at about 32,000 feet.

Here's another old rule: the barogram trace must be continuous in order to prove that just one flight was taking place. But ink sometimes froze, or for some reason the needle lifted off the foil. Again, strict continuity was relaxed and was interpreted as unnecessary since a minor interruption in the trace clearly couldn't hide a landing and relaunch, or a gain of height claim would not be disallowed provided that an interruption did not occur over the low or high points of the flight.

Enter GPS

The advent of this technology was a boon to our sport given its ability to digitally record a flight with great accuracy in all four dimensions of space and time. But the wonderful FR has placed a significant requirement on the pilot and OO to be digital geeks.

Digits can be hacked, so the problem of using GPS evidence for badges and especially records demanded strong data security in the flight recorder. An IGC committee of digital experts (GFAC) was formed to draft tight specifications required to be followed by FR manufacturers to ensure the security and accuracy of flight data, and to draft the extensive Sporting Code text that defined their operation, what and how data was to be loaded and downloaded, and how the data was to be analyzed – all to maintain that strict security.

The security built into these devices for the relatively small glider pilot market put their price as much as ten times higher than units commonly available to the consumer market, and their operation is often quite user unfriendly. You need a computer to input pilot/glider information accurately and easily. (How many of you, strapped in the cockpit, have tried to change some of that declaration information by pushing the buttons in the long and required sequence – right!). Pilots also discovered that some FRs were capable of making up their own minds as to what data they decide to keep (or even change) without the pilots knowledge.

What happened to the OO?

The Sporting Code was rewritten for the FR around the principle that *all* flight evidence (with a few exclusions) must be contained in the .igc data file and that the OO's primary responsibility was to certify the correctness and legitimacy of that file.

In the earlier days of photo and barogram, the OO was an essential participant in verifying and certifying flight evidence. Now, a technocratic mindset has, I think, placed an excess of trust in flight recorders and the data they generate. In a perfect world with a perfect flight recorder, I believe those engineers thought that an OO should be unnecessary. Many more pages were added into the Code's *Annex C Pilot & OO Guide* to explain the rules, and the hazards that were present in FR use and operation.

But perfect FR security for badges isn't necessary – bytes shouldn't tell the whole story. There are those who are greatly concerned about security and electronically eliminating all possibility of cheating. For records, yes, but what is the point of trying to cheat on a badge flight? First of all, the only pilot affected is the cheater himself; second, anyone intelligent enough to hack flight evidence is likely smart enough to do the flight correctly in the first place, and probably take less time to complete it.

In my opinion that philosophy is flawed, and the Code needs to give back to the OO the responsibility of being at the front of the evidence chain, rather than the FR data itself. If/when the .igc file becomes contributory evidence to the OO's certification (as were photos and barograms in the past), the Code can be crafted to logically differentiate between badge and record evidence needs, and support alternate means of acquiring the necessary and sufficient evidence.

This would reverse the worker/boss positions of the OO and the .igc file. But such a change in approach requires a vote from the national delegates at the annual IGC plenary meeting and that is unlikely. And meeting dynamics fit the mould for, at times, either not giving adequate consideration to important changes, or spending a lot of time on minutia. In the meantime, nibbling at the text here and there to ease the burden for the badge OO and pilot is ongoing.

Easing the badge burden

Modest changes to the Code are easier to get through the system. After a few years of flight recorder general grief for badge pilots, several changes have been made to either ease their use, or warn of specific problems found.

It was a Canadian proposal to allow "position recorders" to be used strictly for lat/long data (acting as an electronic camera) that did get approved in 2009 for Silver and Gold badge flights. There had been a lot of grumbling about the expense of approved FRs such as the Volkslogger or Colibri. Although the GPS position was just as accurate for off-the-shelf models, massive on-line discussions took place about the technicalities of GPS height measurement vs pressure altitude recording, lack of security, etc. Clubs and OOs pressed for relief for badge pilots, while the GFAC committee was generally 'anti', presenting 'thin-edge-of-the-wedge' arguments, unfairness to FR manufacturers who spent lots of development money but will lose market share to cheap units, unacceptable variables in GPS height measurement, and there are those cheaters.

The position recorder came with a full page of stringent provisos appended to Chapter 4 of the Code. As a practical solution however, it wasn't that great because these recorders still had to be approved by each country, so the list was short; pilots had to dig through their closets to find those barographs they thought had become obsolete – there was no backing down on accepting GPS height; and pilots were also back to completing a written declaration. This easement on flight recorder use was actually driving the badge pilot back into the past of analog data.

The biggest trap in the club use of FRs was getting correct pilot and glider data loaded. Shared FRs need careful data input since pilot/glider data change with each badge flight. It is *very* easy to get it wrong, and often a lot of time pressure to do it, especially if more than one badge attempt was being made on a day by different pilots in different ships. The Code language had the data in the electronic declaration being almost the Word of God. There was not much the OO could do to explain away a difference in the pilot/glider data and what actually occurred. Not only that, the Chap 5 direction on OO certification was fairly brief and always capable of misinterpretation.

The problem was addressed in the 2011 Code by expanding the Chap 5 text to be much more specific on the control, verification and certification of FR evidence by OOs.

In 1999 when I joined the committee to take part in what we called the *Grand Rewrite*, a "spirit of fair play" clause was added to the preamble of the Code which could admit some margin of error in badge claims. And as of the 2000 Code, the OO was required to have other evidence of the pilot/glider in addition to what was in the FR (SC3-4.5.6b and Annex C 6.4), but no direction was given on what to do if it differed. Therefore, getting a data error waived by a badge chairman was possible only by "throwing oneself on the mercy of the court", so to speak. This usually gave our Silver distance pilot his leg if the FR said someone else was flying, but it has been capable of too wide a range of interpretation between different badge chairmen.

To take the human factor out of correcting this physical data, a US proposal will be up for a vote this March to specify that, for Silver and Gold badge pilots only, if the FR and OO data differ, the OO data shall take precedence. I hope it passes. But Diamond, Diploma and record claim pilots are high enough up the achievements ladder that no quarter will be given if their flight evidence is not strictly by the book.

Another Canadian proposal now up for a vote will allow the use of GPS height for Silver and Gold badge claims (the change was approved in principle last year). The practical advantage is that it solves the problem of having to carry a barograph with the position recorder. The trade-off is that a 100 metre error margin must be applied to any calculation of loss of height for a distance flight or gain of height for an altitude badge. This margin evolved from discussion with the GFAC committee in the intervening year on the relative accuracy of GPS and pressure height and common failure modes between the two within electronic devices.

As an aside, the upcoming attempt on the absolute altitude record by the Perlan Project will see this glider at a height where pressure altitude data is much less accurate than GPS height. As a result, a proposal is coming from the IGC Air traffic, Navigation and Display Systems (ANDS) committee to the IGC meeting to require GPS altitude evidence for all future record flights over 15,000 metres (~49,000 feet).

One "go easy" for badge pilots that will *not* be implemented is correcting for a declaration time error. The last declaration made *must* be the only one that can be accepted – otherwise there are too many ways to have more than one in your back pocket and after landing select the one that worked for you.

The problem for the badge pilot using a Volkslogger, for example, is that a last minute change of task with a written declaration will be void if the FR is turned on *after* the paper declaration is signed. This is because the Volkslogger loads the turn-on time into the declaration, which then becomes the "last" one. When the problem was discovered, a warning was placed in the Code.

One FR detail to watch for is to ensure that if you do use a back-up FR on a task, both must have identical tasks input.

Another badge flight relaxation to exclusive use of electronic height evidence was introduced this year. SC3-5.2.3 now allows OOs to certify release *height* as well as release position for duration flights. After all, if tows routinely go to 2000 agl or the winch cable is much shorter than 3200 feet, it is clear that an FR is not required to prove that the flight met the 1000m loss of height restriction. The positive result here is that an "accidental" 5-hour flight could be claimed when an FR had not been carried on the flight; however, some OO still must have witnessed the take-off and landing.

So life is becoming a little less bureaucratic for the aspiring badge pilot – that is good, and addresses some of the hassles facing club pilots and OOs. I hope to help keep unnecessary complication out of the Code but it is not easy. Steady feedback to the IGC Sporting Code committee on the Code difficulties you may experience, directed through our IGC delegate Jörg Stieber, does work.

However, all this is not a licence to be complacent in learning what one requires for a trouble-free cross-country flight. Most of these "saves" for the new badge pilot only apply to Silver and Gold badge tasks. Do you really want to complete a 300 km triangle flight and not be able to claim your Diamond Goal leg? Study. Ask lots of questions. ❖

Walter, *the badge chairman comments:*
This history of the development of the Code is a good incentive to make careful preparation and error-free claims. To date, I have not had a single "position recorder" claim. I've seen a big improvement in general understanding of FR use and validation, but some clubs still struggle.

Always and forever, there is the odd claim with so much missing data in it that it's obvious the pilot didn't really read the claim form – at least e-mail makes communication much easier than it was in the past. I also encourage pilots to e-mail their .igc file for a pre-check before submitting a claim.

Peripatetic gliding

from page 20

That night was a dinner party for everyone. About half came and stayed, half kept coming and going. Wife trouble, I was told – same for flying.

Max sent me on to his friend in Sloven Graden. Here comfort on the ground abounded. Besides a large hangar, one could find a first class restaurant, a beer and wine garden sparkling with coloured lights at night, comfortable cabins, a swimming pool and, off to one side, a tennis court where young Austrian beauties enjoyed both the sun and the game at the same time by playing topless.

The flying was also very good. This was the only resort-style gliderport I was at where it was worthwhile spending a few days at the expense of missing other places. There was good lift in all directions, no one minded where you flew or for how long after the checkflight was completed.

Max had warned me that this place was "too commercial". However, the prices for aerotows, sailplane rentals, food, etc. were reasonable and no one on the flight line became excited or critical when turns for tows became mixed up. It may have been a little "commercial" but it was a joy to be there.

Other than the spectacular chance to fly in the Alps, the gliderport at Bled offered the worst combination of prices, surly atmosphere for everyone, rude waiters, greasy food, and warm drinks. It was so bad it was fascinating. I wish I could have understood the long, involved curses the line boys heaped on each other and various pilots not close enough to hear them.

The Poles made up for Bled. They have an invariable routine and none of it is concerned with checkflights, paperwork, or red tape. It concerned HEALTH! It must be, for the first three hours were spent in the hangar drinking liquid fire, or molten metal (it was hard to tell which) to everyone's GOOD HEALTH!

"Will we fly today?" I ask. "Americans are our friends!" someone shouts, "and so are Canada people." … "Where is Canada?"

"Good health," comes roaring out again. The next day we flew; I needed the rest. ❖

FAI records

Roger Hildesheim

2011 Annual Report

Record flying activity was a western event for 2011. Tim Wood once again showed us the potential of the Columbia Valley, while Bruce Friesen broke three Club class records in one flight! Even more impressive is that Bruce was flying his Standard Austria, the last model of high performance wooden gliders built by Schempp-Hirth in the 1960s.

Tim has taken to launching from other locations in the Columbia Valley in order to maximize distances and this strategy worked well for his record breaking 614 km Free Out and Return flight this year. Tim has also been looking to take a run at some records using the Cowley wave but things just didn't connect for records…yet!

Bruce had the flight of a lifetime in "Scarlet Lady" this year and showed us all how the Club record class can put record flying within reach of anyone with good skills, independent of how much money you have invested in your aircraft. Bruce connected to dots of superior skills and weather to set two triangle distance records and one triangle speed record (85 km/h) on a flatland thermal flight from Chipman, Alberta.

So went the 2011 record season, mountain flying and flatland flying. Flown by two very skilled pilots in aircraft that are technically generations apart. I hope that the milestones set this year will inspire all of us to go out try to beat a record (or three) in 2012.

… and Walter on badges in 2011

2011 was good for C badges and Silvers but pretty bad for total badge legs (details on p30). Of the 27 C badges 13 came from Air Cadets attending camps at York Soaring. Let's hope that many of them continue soaring. There were very few badges and badge legs from the west this year mostly due to unsuitable weather. Judging from the activity I saw on the OLC I was expecting a few Gold and Diamond height claims from Baie-St-Paul and Lake Placid – but there were none. The most important badge flying error continues to be failure to visit the start gate when on a Diamond goal flight. It's a shame that this simple omission at the beginning can nullify a lot of hard work.

magazines

GLIDING INTERNATIONAL — the monthly world gliding publication by John Roake. Read worldwide, with a great reputation for being the first with the latest news. US$64/120, 1/2 yrs airmail. Personal cheque or credit cards accepted. <*office@glidinginternational.com*>. Register on line: <*www.glidinginternational.com*>.

SAILPLANE & GLIDING — the bimonthly journal of the BGA. £39/yr airmail, £22.75 surface. <*www.gliding.co.uk/sailplaneandgliding/subscriptions.htm*>.

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

GLIDING AUSTRALIA — **NEW!** Bi-monthly journal of the Gliding Federation of Australia. <*www.soaring.org.au*>. International rates for on-line access.

SOARING NZ — Editor, Jill McCaw. Personal cheque or credit cards accepted, NZ$122. McCaw Media Ltd., 430 Halswell Rd, Christchurch, NZ <*j.mccaw@xtra.co.nz*>.

soaring services

MZ Supplies Canadian dealer for Schleicher sailplanes, and Cambridge and Borgelt instruments. Ulli Werneburg <*www.mzsupplies.com*>, <*wernebmz@magma.ca*>, (613) 826-6606.

Fox One Ed Hollestelle of Solaire Canada has retired from distributing glider instrumentation to enjoy the perks of semi-retirement. Dave Springford of Fox One Corp has taken on the Canadian distribution for instruments and software for LX Nav, LX Navigation, SeeYou, Becker and Dittel radios, and will continue to support Ed's former customers. For more product details see the Fox One Corp website at <*www.foxonecorp.com*>.

Windpath SZD, a long tradition, built to last and outperform. Authorized North American dealer for SZD-54-2 Perkoz, SZD 51-1 Junior, SZD-59 Acro, and SZD55-1. Also MDM-1 Fox, PW-6, PW-5, and Avionic trailers. Jerzy Szemplinski, <*www.windpath.ca*>, info@windpath.ca, (905) 848-1250.

Sportine Aviacija Canadian dealer for LAK sailplanes. LAK-17a – 15/18m flapped; LAK-19 – 15/18m Standard; LAK-20 2-seat 23/26m Open. <*nick.bonniere@withonestone.com*>, <*www.lak.lt*>.

CURRENT CANADIAN RECORDS

T A record set entirely within Canada – listed only if a "C" record is flown.
C indicates a record by a Canadian citizen originating outside the country.
(These are awarded only if a greater "Territorial" record does not exist.)

RECORD	OPEN	15 METRE	CLUB	FEMININE	MULTIPLACE
DISTANCE (km)					
3.1.4a Free distance	Marsden / Apps 1093.0 1984	Mike Apps 1093.0 1984	Mike Glatiotis 480.6 2002	Ursula Wiese 607.0 1986	Chester Zwarych (R Adam) 495.0 1986
3.1.4b Free out & return	Tim Wood 690.2 T 2010	Tim Wood 612.6 T 2011	Tim Wood 628.1 T 2010	not claimed	Ernst Schneider (S Midwinter) 393.3 T 2008
	Adam Zieba 1016.4 C 2010	Adam Zieba 1016.4 C 2010	Adam Zieba 956.4 C 2010	Tracie Wark 750.2 C 2003	Charles Yeates (Kris Yeates) 464.8 C 2008
3.1.4c Free 3 TP dist.	Tim Wood 1002.4 T 2008	Tim Wood 1002.4 T 2008	Tim Wood 882.1 T 2008	Sue Eaves 508.7 T 1995	Trevor Florence (J King) 689.0 2002
	Adam Zieba 1474.1 C 2010	Adam Zieba 1474.1 C 2010	Adam Zieba 1387.1 C 2010	Tracie Wark 592.6 C 2000	
3.1.4d Free triangle dist.	Bruce Friesen 512.2 2011	Jerzy Szemplinski 539.6 T 2009	Bruce Friesen 609.5 2011	Tracie Wark 523.2 C 2007	Charles Yeates (Kris Yeates) 590.0 C 2008
3.1.4e Distance to goal	Marsden /Apps 707 1984	Mike Apps 707 1984	Tim Wood 412.8 T 2010	Antonia Williams 305.0 C 1975	C Zwarych (H McColeman) 310.0 T 1984
			Adam Zieba 557.7 C 2010		
3.1.4f 3 TP distance	Nick Bonnière 818.1 T 2010	Tim Wood 642.7 T 2007	Nick Bonnière 719.9 T 2010	not claimed	Charles Yeates (Kris Yeates) 406.5 C 2009
	Adam Zieba 1474.1 C 2010	Adam Zieba 1474.1 C 2010	Adam Zieba 1387.1 C 2010		
3.1.4g Out & return dist.	Tim Wood 690.2 T 2010	Tony Burton 652.3 T 1993	Tim Wood 628.1 T 2010	Ursula Wiese 328.0 T 1984	Dave Marsden (Ed Dumas) 421.5 T 1979
	Brian Milner 1128.9 C 1999	Walter Weir 1032.1 C 1993		Tracie Wark 510.3 C 2002	Charles Yeates (Kris Yeates) 506.9 C 2007
3.1.4h Triangle distance	Hal Werneburg 803.7 T 1982	Hal Wernburg 803.7 T 1982	Bruce Friesen 599.2 T 2011	Jane Midwinter 317.6 T 1988	John Firth (Dan Webber) 510.4 T 1986
	Peter Masak 1007.0 C 1987	Peter Masak 1007.0 C 1987	Spencer Robinson 655.9 C 2003	Tracie Wark 502.9 C 2006	
ALTITUDE (m)					
3.1.4k Absolute Altitude	Bruce Hea 10485 T 1981	15m records began in 2007, earlier times shown are "starter" values		Deirdre Duffy 8986 T 1991	Bob Shirley (P Campbell) 9083 T 1961
	Walter Chmela 12449 C 1974			A Cservenka 9772 C 1969	Walter Chmela (VanMaurik) 10390 C 1975
3.1.4m Gain of Height	Dave Mercer 8458 1995			Deirdre Duffy 6575 1991	Bob Shirley (P Campbell) 7102 1961
SPEED, ▲ (km/h)					
3.1.4j 100 km	David Mercer 141.5 T 2004	David Mercer 141.5 T 2004	David Mercer 133.0 2004	Tracie Wark 105.0 C 2003	Dave Marsden (M Jones) 98.1 T 1975
	Dale Kramer 168.1 C 1999	Dale Kramer 168.1 C 1999			Charles Yeates (Kris Yeates) 125.6 C 2006
SAC 200 km	John Firth 110.6 T 1984	Tim Wood 95.2 2007	Tony Burton 99.0 2003	Tracie Wark 99.9 C 2002	Lloyd Bungey (Tony Burton) 76.0 T 1983
	Charles Yeates 116.3 C 1994				D Springford (P Templeton) 108.5 C 2002
3.1.4j 300 km	Kevin Bennett 113.1 T 1988	Kevin Bennett 113.1 1988	Tony Burton 101.4 T 2008	Tracie Wark 99.1 2001	A Kawzowicz (John Brennan) 87.1 T 2006
	Peter Masak 148.9 C 1985		Dave Springford 108.0 C 2006		Ian Spence (J-R Faliu) 128.5 C 1991
SAC 400 km	John Firth 99.0 T 1987	Jerzy Szemplinski 94.8 T 2009	Tony Burton 103.3 T 2003	Tracie Wark 95.0 C 2002	A Kawzowicz (A Marcelissen) 85.0 C 2007
	Rolf Siebert 140.1 C 2004	Walter Weir 111.8 C 1990	Rolf Siebert 128.9 C 2004		Charles Yeates (Kris Yeates) 111.7 T 2009
3.1.4j 500 km	Walter Weir 105.7 T 1991	Walter Weir 105.7 1991	Bruce Friesen 85.1 2011	Tracie Wark 112.9 C 2006	John Firth (Dan Webber) 88.8 C 1986
	Peter Masak 151.2 C 1985		Tracie Wark 97.4 C 2006		
3.1.4j 750 km	Willi Krug 108.8 T 1982	Willi Krug 108.8 1982	Spencer Robinson 103.6 C 2003	not claimed	not claimed
	Spencer Robinson 118.7 C 2003				
3.1.4j 1000 km	Peter Masak 106.5 C 1987	Peter Masak 106.5 C 1987	not claimed	not claimed	not claimed
SPEED, O&R (km/h)					
SAC 300 km	Tim Wood 124.8 T 2010	Hal Werneburg 115.2 T 1983	Bruce Friesen 113.6 T 2002	Ursula Wiese 59.6 T 1984	Ernst Schneider (D Smith) 112.7 2008
	Walter Weir 191.3 C 1989	Walter Weir 191.3 C 1989	Jerzy Szemplinski 125.4 C 2007	Tracie Wark 132.3 C 2000	
3.1.4i 500 km	Kevin Bennett 126.3 T 1992	Kevin Bennett 126.3 T 1992	Tim Wood 98.1 T 2008		
	Walter Weir 150.9 C 1996	Walter Weir 150.9 C 1996	Jerzy Szemplinski 125.4 C 2007	Tracie Wark 99.6 C 2002	Charles Yeates (Kris Yeates) 79.2 C 2007
SAC 750 km	Walter Weir 145.0 C 1994	Walter Weir 145.0 C 1994	not claimed	not claimed	not claimed
3.1.4i 1000 km	Brian Milner 147.0 C 1999	Walter Weir 142.6 C 1993	not claimed	not claimed	not claimed
SPEED, GOAL (km/h)					
SAC 100 km	David Mercer 167.0 T 2004	Dave Mercer 167.0 2004	David Mercer 156.9 T 2004	Tracie Wark 106.4 C 2002	Trevor Florence (N Marsh) 105.1 T 2000
	Rolf Siebert 183.7 C 2004		Rolf Siebert 169.0 C 2004		Charles Yeates (Kris Yeates) 127.0 C 2009
SAC 200 km	Nick Bonnière 131.2 T 2010	Tim Wood 128.2 T 2008	Nick Bonnière 115.4 T 2010	Tracie Wark 129.1 C 2000	Trevor Florence (J King) 91.5 2002
	Adam Zieba 151.7 C 2010	Adam Zieba 151.7 C 2010	Adam Zieba 142.5 C 2010		
SAC 300 km	Tim Wood 128.2 T 2008	Tim Wood 128.2 T 2008	Tim Wood 112.8 T 2008	not claimed	Jock Proudfoot (G Fitzhugh) 70.2 C 1981
	Adam Zieba 151.7 C 2010	Adam Zieba 151.7 C 2010	Adam Zieba 142.5 C 2010		
SAC 400 km	Tim Wood 92.7 2010	Tony Burton 81.5 T 1990	(starter) 85.6 T	not claimed	not claimed
	Adam Zieba 151.7 C 2010	Adam Zieba 151.7 C 2010	Adam Zieba 142.5 C 2010		
SAC 500 km	Dave Marsden 97.1 T 1970	Charles Yeates 77.1 T 1966	(starter) 100.4 T	not claimed	not claimed
	Adam Zieba 151.7 C 2010	Adam Zieba 151.7 C 2010	Adam Zieba 142.5 C 2010		

FAI badges

Walter Weir

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(905) 263-4374, <***2waltweir"at"gmail.com***>

These badges & badge legs were recorded in the Canadian Soaring Register during the period 13 September to 25 Nov 2011.

GOLD BADGE

332	Leo Deschamps	Central Alberta

SILVER BADGE (50 km flight)

1055	Brian Murray	Edmonton
1056	James Miller	Great Lakes
1057	Farid Ibrahim	SOSA
1058	Skyler Guest	Saskatoon
1059	Krzysztof Wiercioch	SOSA
1060	Jan Zachemski	SOSA
1061	Glen Barrett	SOSA
1062	Marc-Antoine Delarche	Montreal

GOLD DISTANCE (300 km goal flight)

	Krzysztof Wiercioch	SOSA	301.1	Jantar	Rockton, ON
	Leo Deschamps	CAGC	324.7	Nimbus 2	Innisfail, AB

SILVER DISTANCE (50 km flight)

Brian Murray	Edmonton	100.8	L-33 Solo	Chipman, AB
Farid Ibrahim	SOSA	66.4	SZD-51-1	Rockton, ON
Skyler Guest	Saskatoon	53.2	L-33 Solo	Chipman, AB
Krzysztof Wiercioch	SOSA	82.0	Jantar	Rockton, ON
Jan Zachemski	SOSA	60.5	SZD-51-1	Rockton, ON
Glen Barrett	SOSA	59.4	SZD-51-1	Rockton, ON
Marc-Antoine Delarche	Montreal	61.2	DG-303	Hawkesbury

SILVER DURATION (5 hour flight)

Gibson Kostiuk	Winnipeg	5:27	G-102 Astir	Starbuck, MB
Brian Murray	Edmonton	5:10	L-33 Solo	Chipman, AB
Skyler Guest	Saskatoon	5:20	L-33 Solo	Chipman, AB
Robert Zachemski	SOSA	5:04	ASK-21	Rockton, ON
Michel Galipeau	Montreal	5:30	DG-303	Hawkesbury
James Rickards	Rideau Valley	5:02	1-34	Kars, ON
Marc-Antoine Delarche	Montreal	5:02	DG-303	Hawkesbury
John Hart	SOSA	6:07	SZD-51-1	Rockton, ON

SILVER ALTITUDE (1000 m height gain)

Gibson Kostiuk	Winnipeg	1380	G-102 Astir	Starbuck, MB
Brian Murray	Edmonton	1910	L-33 Solo	Chipman, AB
James Miller	Great Lakes	1400	Ka6E	Colgan, ON
Farid Ibrahim	SOSA	1240	SZD-51-1	Rockton, ON
Skyler Guest	Saskatoon	1615	L-33 Solo	Chipman, AB
Krzysztof Wiercioch	SOSA	1254	Jantar	Rockton, ON
Jan Zachemski	SOSA	1077	SZD-51-1	Rockton, ON
John Hart	SOSA	1269	SZD-51-1	Rockton, ON

C BADGE (1 hour flight)

2956	Daniel Bailey	York	2:04	CS77C	Arthur E, ON
2957	Gordon Brett	York	1:22	1-34	Arthur E, ON
2958	Sarbjeet Nijher	York	1:55	1-34	Arthur E, ON
2959	Christopher Pelly	York	1:08	ASK-21	Arthur E, ON
2960	Andy Plater	York	2:21	1-34	Arthur E, ON
2961	Keith Latulippe	York	1:38	1-34	Arthur E, ON
2962	Sean Murphy	York	2:28	CS77C	Arthur E, ON
2963	Brian Murray	Edmonton	5:10	L-33 Solo	Chipman, AB
2964	Skyler Guest	Saskatoon	2:03	L-33 Solo	Chipman, AB
2965	Pierre Gaudreau	Quebec	1:50	L-23	St-Raymond
2966	Robert Zachemski	SOSA	5:04	ASK-21	Rockton, ON
2967	Michel Galipeau	Montreal	5:30	DG-303	Hawkesbury
2968	Robin Claus	Prince Albert	1:04	Ka-7	Birch Hills, SK
2969	James Rickards	Rideau Valley	5:02	1-34	Kars, ON
2970	John Hart	SOSA	6:07	SZD-51-1	Rockton, ON
2971	Gordon Chators	CAGC	1:05	Bergfalke	Innisfail, AB

Badge & badge leg statistics, 2002–2011

	02	03	04	05	06	07	08	09	10	**11**	5 yr avg	% of avg
1000 km	2	0	0	0	0	0	1	0	1	**1**	0.6	167
750 km	-	-	-	1	1	2	1	0	2	**1**	1.2	83
Diamond	2	1	1	1	0	1	0	0	1	**0**	0.4	–
Gold	5	7	2	5	1	2	3	4	2	**2**	2.6	77
Silver	19	19	7	7	13	16	9	10	9	**11**	11.0	100
C Badges	357	26	18	33	19	27	21	23	19	**27**	23.4	115
Badge legs	111	99	51	47	60	90	40	55	58	**36**	55.8	65

Of the 36 badge legs, 12 were Diamond, 4 were Gold, 30 were Silver.

Junior World Gliding Competition Funding Support

At the 2009 SAC AGM in Hamilton, a motion was passed to support SAC competitors for three years at $10 per member up to a maximum of $10,000 per year towards the cost of attending the World contests for both the Junior and Senior competitions in alternate years. This support from SAC was to be based on matching funds raised by the competitors. The team representing SAC/Canada at the JWGC in Musbach, Germany in August 2011 were Selena Boyle and her team captain / crew Chris Gough.

The following is a summary of the fund raising efforts of Selena, assisted by her crew, friends, and SAC members at large, together with expenses claimed and the SAC JWGC support.

		World Contest	Cdn Nats
1	Raffle sales (WestJet tickets, etc.)	$4,630.67	
2	Donations via Youth Flights		
	National Contest support		$1,050.00
	World Contest support	295.82	
3	Nationals BBQ	$1,116.00	
4	Previous BBQs	450.00	
5	Edmonton BBQ	80.00	
6	Aeroplan Points donated – 137,934		
	Points used 120,000 = $1,940 saved		
	Total raised	$6,572.49	$1,050.00
	Total expenses submitted	$10,335.46	$2,031.47
Donation raised for JWGC & Nats		(6,572.49)	(1,050.00)
JWGC funding support by SAC (1/2)		* 3,762.97	** 981.47

*	SAC JWGC funding support	3,762.97
**	SAC Cdn Nats Junior entry fee support	200.00
**	SAC Junior Contest Support (Selena)	781.47

The attendance of Selena Boyle at the 2011 Canadian Nationals for training purposes prior to the JWGC was recommended by the Sporting committee and approved by the SAC Board.

In addition to the above support for the JWGC, the following Junior competitors at the Canadian National Soaring Championship (SOSA) from 29 June to 8 July where each reimbursed $200 to offset some of their entry fee: Jay Allardyce, Emmanuel Cadieux, and Selena Boyle.

David Collard, SAC Tres.

SAC Clubs SAC Clubs

Eastern Zone

AIR CURRENCY ENHANCEMENT SOC.
Debert, NS
robfrancis@tru.eastlink.ca

AÉRO CLUB DES CANTONS DE L'EST
Bromont Airport, QC
Marc Arsenault (514) 862-1216
marcarsenault@sympatico.ca

AVV CHAMPLAIN
St. Dominique A/P, QC
www.avvc.qc.ca

CVV QUEBEC
St. Raymond A/P, QC
www.cvvq.net
club phone (418) 337-4905

MONTREAL SOARING COUNCIL
CLUB DE VOL À VOILE DE MONTRÉAL
Hawkesbury, ON
club phone (613) 632-5438
www.flymsc.org

Ontario Zone

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

ERIN SOARING SOCIETY
7 km east of Arthur, ON
www.erinsoaring.com
info@erinsoaring.com

GATINEAU GLIDING CLUB
Pendleton, ON
www.gatineauglidingclub.ca

GREAT LAKES GLIDING
NW of Tottenham, ON
www.greatlakesgliding.com

LONDON SOARING CLUB
between Kintore & Embro, ON
www.londonsoaringclub.ca

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

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

TORONTO SOARING CLUB
airfield: 24 km W of Shelburne, ON
www.torontosoaring.ca

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

Prairie Zone

PRINCE ALBERT GLIDING & SOARING
Birch Hills A/P, SK
www.soar.sk.ca/pagsc/

REGINA GLIDING & SOARING CLUB
Strawberry Lakes, SK
www.soar.regina.sk.ca

SASKATOON SOARING CLUB
Cudworth, SK
www.soar.sk.ca/ssc

WINNIPEG GLIDING CLUB
Starbuck, MB
www.wgc.mb.ca

Alberta Zone

ALBERTA SOARING COUNCIL
asc@stade.ca
Clubs/Cowley info: www.soaring.ab.ca

CENTRAL ALBERTA GLIDING CLUB
Innisfail A/P, AB
www.cagcsoaring.ca

COLD LAKE SOARING CLUB
Cold Lake, AB
yodsoar@gmail.com

CU NIM GLIDING CLUB
Black Diamond, AB
club phone (403) 938-2796
www.cunim.org

EDMONTON SOARING CLUB
N of Chipman, AB
www.edmontonsoaringclub.com

GRANDE PRAIRIE SOARING SOCIETY
Beaverlodge A/P, AB
www.soaring.ab.ca/gpss/

SOUTHERN ALBERTA GLIDING ASSN.
Warner A/P, AB
www.southernalbertaglidingassociation.com/index

Pacific Zone

ALBERNI VALLEY SOARING ASSN
Port Alberni A/P, BC
http://avsa.ca

CANADIAN ROCKIES SOARING CLUB
Invermere A/P, BC
www.canadianrockiessoaring.com

PEMBERTON SOARING
Pemberton A/P, BC
www.pembertonsoaring.com

SILVER STAR SOARING ASSN
Vernon A/P, BC
www.silverstarsoaring.org/

VANCOUVER SOARING ASSOCIATION
Hope A/P, BC
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