

# free flight libre



# Priorities

**Stephen Szikora, Ontario Zone director**

**S**AC WAS FORMED IN 1945 as a non-profit federal corporation under the Companies Act. Our Letters Patent and accompanying bylaws set out the purposes of the organization. Over the years, amendments have periodically been made to both the legislation and to these documents. For example, in 1964 the Companies Act became the Canada Corporations Act and in 1984 SAC was granted Supplementary Letters Patent that changed our official name to *SOARING ASSOCIATION OF CANADA – L'ASSOCIATION CANADIENNE DE VOL À VOILE*, while at the same time, setting out a new set of bylaws. More recently, our bylaws were rewritten to simplify and clarify a number of items and these bylaws were put to the membership at the 2010 AGM for ratification. One would think that we would be in good shape then having set our collective minds to this topic not so long ago. However, once again we find ourselves having to review our status and make necessary changes.

On 17 October 2011, the new federal Not-for-profit Corporations Act came into effect. This new legislation requires that all federally-incorporated non-profit corporations essentially tear up their current documents and start from scratch. Failure to do so by 17 October 2014 will result in SAC-ACVV being dissolved. In order to avoid this, we will be required to take the following steps: draft new Articles of Continuance to replace our Letters Patent, draft new bylaws for the organization, have the new documents approved first by the SAC-ACVV Board of Directors, then have the documents ratified by the membership at an annual general meeting and finally, file the new documents with Corporations Canada.

While going through this process can be seen as nothing more than a bureaucratic necessity, it also offers us the opportunity to refine how SAC-ACVV is governed. The new Act will require that we make some changes to the way we operate, so some change is inevitable. However, there may be room for improvement in other areas not mandated by the Act.

Our work has already begun. At the last AGM in Calgary, the Board met to discuss the process and has agreed to a timetable for implementation. Drafts are going back and forth during the summer months and the documents will be finalized at the next formal Board meeting in November. Ratification by the general membership is to take place at the next AGM to be held in Ottawa in early 2014.

There is one additional step required in the approval process. Since 1977, SAC-ACVV has been registered as a Canadian Amateur Athletic Association (RCAAA) with the Canada Revenue Agency (CRA). As such, we are required to ensure that our documents continue to meet CRA rules and more generally that our operations do not run afoul of the more stringent requirements for RCAAAs that were imposed 1 January 2012. We have already taken steps to adjust some of our policies after consulting with CRA officials but there is still more to do in this regard. We will also have to get CRA approval before submitting our new documents to Corporations Canada.

For now, enjoy your summer flying season and we'll all be revisiting this topic in the fall.



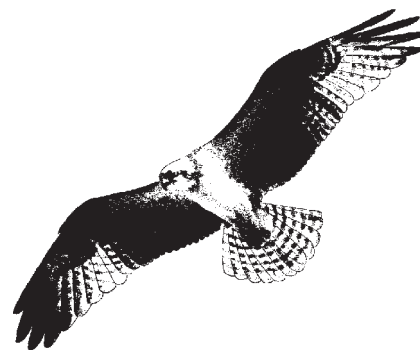
# free flight

## vol libre

2013/3 – Summer

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

ISSN 0827 – 2557



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This photo was taken while flying south towards Mt. Cook in the Southern Alps of New Zealand in February 2007. Phil Plane was my PiC and we were flying a DG-1000 from Omarama. Ahead of us was Gavin Wills flying a Duo Discus. Gavin called us on the radio shortly before saying, 'follow me', which I was very happy we were doing given the terrain.

photo: Tony Firmin

The on-line .pdf copy of this issue is in colour – go to free flight on the SAC website.

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# UNCERTAIN RULES

## on flying US-registered aircraft

WITH RESPECT to past discussions on applicability of a Canadian pilot licence to getting a US pilot licence, COPA has sent out the following in their E-news:

*Beware of US requirements for Canadian pilots wishing to fly a US-registered aircraft in the USA*

COPA has received conflicting reports from members about what steps are required to be able to fly a US-registered aircraft in the USA based on their Canadian licence. We discovered incomplete, unclear and conflicting information in the various FAA FARs and other documents that explain the requirements and the process for obtaining and maintaining a US certificate.

Even though FAR 61.75 <[http://rgl.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgFar.nsf/FARsBySectLookup/61.75](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgFar.nsf/FARsBySectLookup/61.75)> permits you to obtain a US private pilot certificate without a US medical, practical flight test, or knowledge exam, other FAR provisions specify these and other requirements in order to exercise the privileges of the certificate.

COPA is seeking clarification on the confusing documents. Until we get a clear answer from the FAA, FAA Advisory Circular (AC) 61-135 should be followed <[http://www.faa.gov/regulations\\_policies/advisory\\_circulars/index.cfm/go/document.information/documentID/74437](http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/74437)>.

Some highlights of the AC for private pilots before you can exercise the privileges of a US private pilot certificate in a US-registered aircraft in the US include:

- You must obtain and maintain an FAA medical certificate. A Canadian medical does not satisfy the requirement, according to this AC.
- You must pass an FAA written exam.
- Unless you have completed a flight test for a Canadian private pilot licence within the past 24 months or a skill test for a rating, you must complete a flight review with a US instructor.
- In addition, before you carry passengers you must be current to FAA requirements for takeoffs and landings.

The AC also explains what you have to do in order to exercise ratings such as an instrument rating and requirements for other licences. If you are in doubt whether or not your existing US pilot certificate (if you have one) issued on the basis of your Canadian licence meets the requirements outlined in the AC, or even if the AC is applicable, you should check with the FAA office (FSDO) that issued your certificate and ask them specifically what you must do to fly.

When COPA has a complete and clear interpretation from the FAA, we will update our *Guide to Cross-border Operations*.

**Patrick Gilligan, COPA**



## 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. Individuals and clubs are invited to contribute articles, reports, club activities, and photos of soaring interest.

E-mail contributions as an attachment in Word or a text file. Text is subject to editing to fit the space available and the quality standards of the magazine. Send photos as unmodified hi-resolution .jpg or .tif files.

*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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<b>President</b>	Sylvain Bourque
<b>Vice President</b>	John Mulder
<b>Treasurer</b>	David Collard
<b>Secretary</b>	John Mulder
<b>Office:</b>	<b>SAC office</b> 71 Bank Street, 7th floor Ottawa, ON K1P 5N2
<b>Office Manager</b>	Tanya Storing
(613) 236-4901 ext. 109	
e-mail: <a href="mailto:sac@sac.ca">sac@sac.ca</a>	
web site: <a href="http://www.sac.ca">www.sac.ca</a>	

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**10** March, June  
September, December

## 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. 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.

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

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

Pour un changement d'adresse ou s'abonner à la revue, communiquez par [sac@sac.ca](mailto: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](http://www.sac.ca).

### EDITOR

Tony Burton  
Box 1916 Claresholm, AB T0L 0T0  
(courier service to 335 – 50 Ave. W)  
(403) 625-4563  
[t-burton@telus.net](mailto:t-burton@telus.net)

copy proofing – Ursula Wiese  
French content – Sylvain Bourque

### ADVERTISING/SUBSCRIPTIONS

SAC office (613) 236-4901 ext. 109  
e-mail [sac@sac.ca](mailto:sac@sac.ca)

Date limite:

# 10

mars, juin  
septembre, décembre

## How do these rules affect the soaring world?

Yves Bastien, MSC CFI

I HAVE BEEN ACTIVE in obtaining an FAA licence and counselling others on how to do it. The two major issues / differences are:

1. What is available now is an FAA 'PPL Glider' that is based on the Canadian licence and it is only valid as long as the Canadian licence is. This is where the requirement for a medical comes in, because we need a medical in Canada to validate the licence. Since a Category IV medical is not an ICAO medical, it is not valid outside of Canada (look at the text in bold at the bottom of a Cat IV medical certificate), so to fly in the US on an FAA PPL-Glider based on your Canadian licence you must have a Cat III or higher medical.

Note that an FAA PPL-Glider issued on the base of the Canadian licence cannot be added to, for example, you can't upgrade to an FAA Commercial Pilot – Glider (to fly rides down in the US, for instance). To do that you have to start at zero and undertake flight training in the US and meet all of the time and academic requirements and pass the FAA check flights. You get no credit for 'Canadian' time. However, you don't need an aviation medical, simply holding a driver's licence is sufficient.

2. Regulations exist which, theoretically, permit the issuance of "full" US pilot licences based on a reciprocity agreement between the US and Canada. At present there is some sort of understanding at the ATPL level. While this could apply to the Glider Pilot licence, before such an agreement could be reached, officials from both the US and Canada have to "sit down together" to review the requirements and standards of each licence. This takes time and money. I have personally spoken to the FAA official in Washington who manages the policy. As it happens, he is an active soaring pilot and very sympathetic. He explained that it is all a question of demand. He mentioned that he has had two enquiries in the past ten years and mine was one of them!

Note, do not be confused with the situation of Canadian pilots flying Canadian registered aircraft in the USA. There is some debate as to whether or not a Category IV medical is acceptable or not in the USA. The caveat at the bottom of the medical certificate clearly says, "*Valid in Canadian Airspace Only*", but then goes on to say in the fine print "unless approved by the state in question" (or words to that effect). I have been looking for an official US statement that a Canadian Category IV is valid in the US. All we have at MSC is a letter from the Flight Standards District Office (FSDO) in Albany in September, 2000. It said, in part, "... US glider pilots do not need a medical certificate, therefore the note on your Canadian medical is not applicable when operating in US airspace." I'm not sure that I would want to hang my hat (and my insurance) on something so local and outdated now.

Altogether though, my impression, and experience, is that things are not all as draconian as the warning from COPA. Pierre Gavillet got his licence from the Albany FSDO and I got my licence from the Reno FSDO without much drama. The things that they looked for and insisted on were:

- English language proficiency.
- The medical that was an ICAO one ... ie, Category 1-3 Canadian. CAT 4 was specifically mentioned in Reno as not acceptable.
- Before the licence was activated I needed to do the BFR (flight review).

The lady in the Reno FSDO is quite experienced in the issue of FAA licences based on foreign qualifications as she does quite a few every year for the Reno Air Races.

By the way, I am poised to lead a Canadian wave camp in Minden during the last two weeks of March 2014. The program includes a trip to the Reno FSDO for licences. If you are interested, e-mail me at [y\\_bastien@hotmail.com](mailto:y_bastien@hotmail.com).



# 1000 km in the Egret

**Marian Nowak**, Toronto Soaring



**M**Y WARM-UP for the upcoming soaring season took place in Sequatchie Valley, Tennessee. On the way back from Sequatchie, I left my homebuilt glider, the *Egret*, at Tom Knauff's place as his base provided the perfect spot to quickly retrieve my glider and to make the trip to Ridge Soaring Gliderport when the weather conditions looked right. It worked well – Adam Zieba contacted me two days before the flight with the prediction that something “good” could happen weatherwise at the ridge. The next morning, I was on my way to Tom's place.

The preparation and training to get ready for ridge flying took me many years. During the long winters in Ontario, I spent a lot of time replaying long flights from past years. I also made my own topographic maps, with notes detailing

this flight, I completed a distance over 1000 km twice – once from Mifflin and once last year from Tom Knauff's airport where the chance for the 1000 km Diploma failed because I made the wrong TP at Mountain Grove. In the end, I had spare altitude but I was short 1.5 km to declare one.

It is Sunday, 12 May, 0700. I am sitting in my *Egret* with an O&R declaration of 1027.4 km, with a start from Ridge Soaring to Tazewell Ridge and back. In case the conditions improved, I

declared an additional distance to Bedback and then a return to Ridge Soaring for the final 1250 km Diploma. Ready to go, I give the thumbs up and, with mixed feelings, I start to roll behind the Pawnee.

In the beginning, the wind was too-westerly and not strong enough. This not only slowed me down, it also required me to fly with extra care. On the other hand, I remembered that Dr. Jack is calling for good thermals with high bases. This gave me hope that this might provide me with a backup in case the weather changes.

After Altoona, as I moved south conditions improved. I reached the Tazewell TP quite easily and returned to the Ridge Soaring area at 16:12 hours hoping to fly the whole 1250 km. Unexpectedly, the wind died and it became impossible to maintain ridge height or to get any thermals at this location. Otherwise, everything went well and, happy and proud of my *Egret*, I landed at Ridge Soaring at 16:15 hours. Looking back at my flight, I think my 1250 km Diploma will be realistic in the future ...

In 1961 in Leszno, Poland I made my glider solo flight. The early 1960s was a very busy and intensive period for me – filled with training and many contests in the beautiful and mountainous area of Zar and Jezow Sudecki (known as Grunale before WWII).

In 1970, I had to say goodbye to gliders – for almost 25 years! I switched to flying crop dusters and, as a young pilot thirsty for flying, I started one of the biggest adventures of my life. I had the opportunity to fly the big AN-2 Russian biplane for almost 4000 hours <[en.wikipedia.org/wiki/Antonov\\_An-2](http://en.wikipedia.org/wiki/Antonov_An-2)>. I mostly flew in African countries – Ethiopia, Sudan, Egypt, and Algeria. In 1978 I came to Canada, and after only two weeks of being here, I drove to Nicaragua to spray cotton. It was also the time of the violent and brutal revolution there.

In the early 1990s I became determined to fulfill my dream of building my own motorglider. The dream materialized quite fast – after six years the two-seat “Dana” was flying and I was finally back soaring! But, to be honest, I was not fully satisfied. I had to have a glider. So, being creative, I decided I would build my own glider. The design and construction itself took over 6000 hours. But from that hard work came my very own *Egret*, and in May of 2000 it got its first test flight. I remember that after I lifted off, I became very emotional and told myself over and over, “Marian, this is it ... this is it!”

Today, thirteen years later, I have flown my *Egret* about 1600 hours and over 60,000 kilometres cross-country. My biggest surprise came last season, when I came in second on the OLC standings for Ontario and Quebec, second to only the winner, Adam Zieba. The beginning of this season brought me more great news – my 1000 km diploma. I am very optimistic and happy for the future.

When I am not flying gliders, I work at Bombardier as an AME. I also continue to fly crop dusters, usually during vacation time from Bombardier.





# into the woods!

Denis Pepin, Quebec Soaring Club

**L**E 7 MAI 2013, LES PREMIERS PLANEURS À DÉCOLLER, quand même tardivement dans la journée, soit vers 12h30 ou 13h00, reviennent au sol peu de temps après leur décollage puisque la convection est encore précaire à basse altitude. Les conditions sont hachurées, turbulentes et difficiles.

À la lumière de cette difficulté qu'éprouvent ceux qui m'ont précédé, je décide de me faire larguer un peu plus haut et plus au nord afin de m'approcher des seuls cumulus visibles dans le ciel de Portneuf. Donc je laisse l'avion à 3200 et projette de monter dès que possible dans les montagnes car celles-ci sont génératrices de meilleures ascendances, les cumulus en faisant foi.

Après le largage, je n'échappe pas aux difficultés de ceux qui m'ont précédé. Une réelle bataille pour gagner quelques pieds entremêlé de fortes chutes. Je me retrouve à faire de la pente sur la petite colline située à l'est du Lac Rita. Je note qu'à 3000 et 4000 pieds, il fait très chaud dans le planeur, pratiquement plus qu'au sol. Premier indice d'une couche d'inversion qui rendrait la convection difficilement praticable. Je persiste à demeurer à cet endroit qui par son relief et son orientation avec le soleil, devrait être le meilleur endroit pour parvenir à dépasser cette inversion. J'entends sur la radio un autre planeur qui s'annonce dans le circuit.

Mais voilà qu'à 5000 pieds, le taux de montée s'améliore et soudainement une baisse importante de la température de l'air extérieure est perçue par la ventilation. À 5500 pieds, il devient évident que la sous-couche d'inversion est traversée. Les ascendances deviennent franches et puissantes et le son de mon vario atteint des fréquences que je n'avais jamais entendues auparavant sur mon LX. De toute évidence, le soleil très chaud de mai parvient à chauffer suffisamment le sol pour que les bulles traversent une inversion de près de 5000 pieds d'épaisseur.

Déterminé à rester au nord dans les montagnes, je me dirige vers Rivière-à-Pierre. Une fois rendu à ce village, je parviens à dépasser 10 000 pieds et d'autres cumulus plus au nord m'invitent à garder mon cap tout en restant à distance planée du terrain mais surtout du champ que je me suis choisi dans le village. Il faut dire que cette commune est en plein cœur de la forêt et que le seul endroit atterrissable plus au nord, est La Tuque situé 70 km plus haut.

Dans ma poursuite vers le nord, je trouve impressionnant de ne voir que de la forêt à perte de vue tout autour, mais mon champ de référence rassure mon côté rationnel. La succession des généreux cumulus se poursuit et j'aperçois distraitemment sur mon XCSoar que j'arriverais à 3496 pieds au-dessus de l'altitude du circuit à l'aéroport de La Tuque.

Je relis attentivement l'information pour bien l'assimiler et ce n'est qu'à ce moment que l'idée de traverser le Parc pour me rendre à cette latitude, m'effleure l'esprit. Jamais auparavant je n'aurais envisagé tel "task". Je me mets en mode analytique tout en progressant entre 9000 et 11000 pieds.

**M**AY 7, 2013, THE FIRST GLIDERS TAKE OFF late in the day – about 1 pm. Most will land a few minutes later because low altitude lift was weak and broken. For this reason, I decided to go higher on tow and to the north of the club where the only cu are visible. From there, at 3200 feet, I flew toward the mountains, where conditions are normally better and where more cu were calling, "come here".

I find that the same pattern of lift is waiting for me. It's a real fight to gain any height, and strong sink is encountered. I persist on a little ridge east of Lac Rita, perfectly facing the sun, hoping that this promising hot spot will lead me higher. I notice that between 3000 and 4000 feet the air through the vent is hot, almost hotter than on the ground – the first clue that an inversion is probably the reason why convection is so weak in lower layers. On the radio, I hear another glider in the circuit for landing.

But suddenly, at 5000 feet, the rate of climb is rising and at the same time, the vent air is becoming clearly fresher. At 5500 it is evident that the inversion is crossed. Varios are smiling and I hear audio tones I never heard before on my LX. Climbing is now easy and quick. The hot sun of May is strong enough to push bubbles of hot air through a 5000 feet thick inversion.

Well established in the mountainous area, my intention is to stay there. I aim for Rivière-à-Pierre, a village isolated in the forest 30 km northwest of our field. Over the village I reach 10,000 and more cu to the north invite me to keep on course. I keep going, taking care to stay within gliding distance to my airport, or at least to a field I chose in the village when I passed over. The only landing place north of Rivière-à-Pierre is La Tuque, 70 km northbound into the woods.

During my straight line on course, I'm impressed to see only forest all around underneath, but I remember my reference field to reassure my rational side. Generous cu are still on my way, and I suddenly see on my XCSoar that I could reach La Tuque airport circuit at 3496 feet. I read this information closely again and it is only then that I consider for the first time to fly to this latitude, crossing so large a wooded area – I have never considered such task before. I switch to analysis mode while progressing between



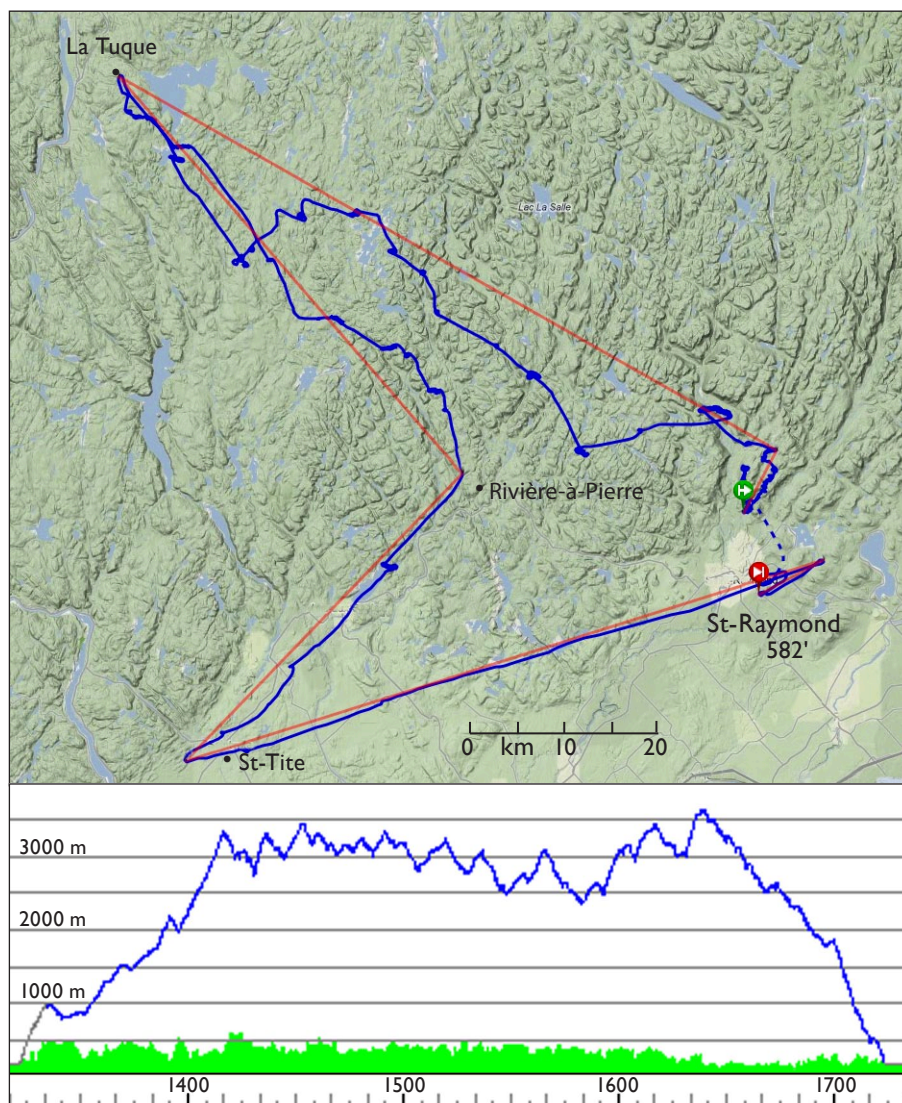
Une telle altitude en planeur est l'équivalent d'avoir un réservoir additionnel d'essence en voiture.

L'allure du ciel diffère un peu vers La Tuque mais semble très optimiste. Pendant mes 360 degrés en ascendances, je ne vois que de la forêt à perte de vue. Je me rappelle très bien mon champ de référence qui est toujours accessible en plein centre de cette forêt. Je décide donc de poursuivre sur le cap nord-ouest avec l'intention d'atterrir à La Tuque.

Une épreuve non pas de vitesse, car l'environnement m'incite à rester haut, il va sans dire, mais une épreuve rarissime qui est celle de traverser 95 km de terres inhospitalières dans un aéronef dépourvu de toute énergie exception faite de la batterie de la radio. Je suis finalement arrivé au-dessus du circuit de l'aéroport de La Tuque après avoir demandé par radio à GIV s'il pouvait m'informer de la fréquence de La Tuque. Je n'avais pas cette information à bord car je n'avais jamais pensé m'y rendre un jour.

À 8000 pieds d'altitude, je réalise qu'il me serait même possible de revenir vers le sud en vol plutôt que de le faire par récupération. Aller à La Tuque en planeur était pour moi en soi un exploit, mais le faire aller et retour, c'était presque plus que le client en demande. Je prends tout de même quelques photos de la piste de La Tuque avant de changer de cap.

Et là, le moment le plus impressionnant du vol. Tu prends un cap sud vers une destination non visible à quelque part au beau milieu de 90 km de forêt. Je dois m'assurer sans l'ombre d'un doute que je peux atteindre soit mon champ de référence de Rivière-à-Pierre ou soit la piste de La Tuque maintenant située derrière moi et ce, même si je rencontre une zone de chute sévère. Le vent est nord-ouest donc légèrement favorable pour le sud mais contre moi si je rebrousse chemin. La journée est avancée, il est 15h30. Les conditions seront-elles encore là pour l'heure qui vient?



9000 and 11,000 feet. Such altitude in a glider is like having an additional gas tank in an airplane.

The sky is looking different toward La Tuque but still optimistic. During my turns while climbing, only forest is in sight. I remember very well my outlanding field, which is always reachable in the middle of these woods, and I decide to keep going with the intention of landing at La Tuque airport. And after a while, I think I begin to see the village.

It is not a speed task because the environment encourages me to remain high, but it is an extremely rare task to cross 95 km of inhospitable ground in an aircraft lacking any energy except for the battery.

I'm now over the right base leg at CYLQ after having requested the radio frequency of La Tuque from our tow-pilot. I didn't have this info on board because I never thought of going here before. Overhead at 8000 feet, I realize that it might be possible to get back home instead of landing and calling the towplane for a retrieve. Just going to La Tuque on a glider flight was for me an exploit, but now to do it out-and-return – it was more than this customer had asked for. I take some photographs of the runway and turn south.



Je m'avance donc dans la forêt en souhaitant me remonter pour augmenter mes marges de sécurité. Le prochain nuage prometteur est assez éloigné. Je m'en approche en m'assurant avec XCSoar et mon LX que j'ai toujours des alternatives et que je ne suis pas en train de me peindre dans le coin. Je ne veux pas vivre ce que les vélivoles appellent le "sphincter clench". Je l'ai expérimenté une fois il y a bien des années et je m'en rappelle encore. Désagréable.

Enfin une ascendance décente qui me donnera ma marge de sécurité. Ici, je peux vous dire que l'on thermique au maximum de nos capacités, s'en est beau à voir. Et ici aussi on est content d'avoir expérimenté, étudié, mis à l'épreuve maintes fois et maîtrisé notre outil de navigation, dans mon cas XCSoar.

Finalement le cumulus visé me livre la marchandise et j'avance vers Rivière-à-Pierre toujours invisible, mais avec une marge de 2000 à 3000 pieds sur mon calculateur. J'en préfère plus que moins, car ce qui m'attend n'est pas une piste mais un champ identifié en vol comme vachable. Mieux vaut un peu plus de temps pour analyser et planifier l'approche.

Mais tout se passe pour le mieux avec encore de beaux plafonds qui maintiennent continuellement le vol dans des plages sécuritaires. Sur ma route, Bruno me propose de me rendre à St-Marc-des-Carières afin de compléter un triangle plus payant sur OLC. Bonne idée, mais la nature encore déchaînée me fait réaliser que j'arriverai trop haut à l'entrée de notre zone de 6000 pieds, ce qui me permet d'aller plus loin. Je mets alors le cap sur Lac-à-la-Tortue. En m'y rendant, j'observe un changement significatif du ciel m'indiquant que les ascendances ne seront probablement plus au rendez-vous pour le retour. Il est presque 17h00.

Oh surprise, le dernier beau cumulus près du St-Maurice me donne de l'énergie comme si la nature m'envoyait son dernier souffle de la journée. J'atteins 12 100 pieds. J'apprendrai à mon retour qu'il s'agit d'un record en ascendance thermique dans Portneuf.

À 10 km au nord du Lac-à-la-Tortue, je tourne finalement vers St-Raymond en "final glide". 30 minutes plus tard, je passe au-dessus de notre piste à St-Raymond sans avoir fait un seul virage. Un segment de vol de 73 kilomètres effectué à 153 km/h de moyenne. Décidément, la nature s'est déchaînée en ce début de mai 2013 pour nous donner des conditions de vol à voile inespérées.

Mon vol entier a totalisé 270 km à une vitesse moyenne de 73 km/h et ce malgré le fait que durant mes segments au-dessus des régions boisées inhospitalières, j'ai choisi de rester haut, au détriment de la vitesse. Ce vol m'a permis de tirer le maximum de notre nouvelle monture ASW-20, et j'ai la certitude que cette journée restera longtemps gravée dans ma mémoire. Pour le moment, j'ai le sourire bétonné dans la face.

Quel beau sport que le vol à voile et que de satisfactions il peut apporter à ses adeptes. La saison est encore jeune. Je vous en souhaite tout autant pour faire de 2013 une saison qui se sera démarquée de toutes les autres. ❖

And now, here's the more impressive moment of the flight. You take a course toward south aiming at an invisible destination somewhere in the middle of 90 km of green forest. I have to be sure I can reach my landout field at Rivière-à-Pierre or La Tuque's runway (now behind me), even while I cross a severe sink zone. The wind is northwest and to my advantage but against me if I have to return to La Tuque. The day is advancing – it is 1530. Will the conditions be here a while longer?

I progress into the forest with the intention of getting higher to have more of a security margin. The next good-looking cumulus is far away. I keep going, checking on XCSoar and my LX to see that I always have options and I am not painting myself into a corner. I don't want to feel the "sphincter clench" – I had this once in the past and still remember it. Not fun.

Finally, a good thermal gives me the security margin I was waiting for. Here, let me say one's ability is used at its maximum – it is nice to experience that – this guy is flying at his best. And also here, you are happy to have learned, experienced many times, and become master of your navigation tools. You need to have confidence in them.

The climb gave me some satisfaction and I progress toward Rivière-à-Pierre, always invisible among the trees. But my height gives me some thousands of feet margin on my computer, preferable because my goal is not a runway but a small field, giving more time to analyze the approach if it becomes a necessity.

All is going well with a nice sky maintaining my flight on the safe side. On my way, Bruno radios to me to turn St-Marc-des-Carières to make a decent triangle for OLC scoring. Good idea, but with the always boomer cu, I will reach the 6000 foot restricted area too high. Deciding to go further, I turn westward toward Lac-à-la-Tortue. It is late – 5 pm.

Surprise, the last nice cu near the St-Maurice River gives me so much energy, like Nature giving me its last breath of the day. It lifts me to 12,100 feet (11,600 agl)! After landing, I learn that this altitude is a storybook record for thermal conditions at St-Raymond.

I finally turn toward my home field on a final glide near St-Tite, flying 73 km without a turn in thirty minutes at 153 km/h. What a generous spring season it is that offers such marvelous conditions!

My whole flight is 270 km at 73 km/h, this in spite of the fact that during my time above inhospitable wooded areas I chose to remain high to the detriment of speed. This flight enabled me to draw the maximum from my new ASW-20, and to be sure, this day will stay in my memory for a long time. For now, I have a smile set in concrete on my face.

What a beautiful sport and what satisfactions it can bring to pilots. The season is still young – I wish you make as much of it, a season which for me will have been much different from all the others. ❖

# three days in May – the 2013 MayFly contest

Roger Hildesheim, GGC

**M**AYFLY WAS DESIGNED to be a structured contest to fill the gap between a cross-country (XC) check-out and a national level competition. It was clear that after a pilot received his or her cross-country checkout, there was little further support to help pilots make the leap to fly in a national championship. It was also evident that the process by which a new XC pilot could gain experience and skills for badge or competitive flying was very ad-hoc and unstructured. Welcome to the Gatineau Gliding Club MayFly.

Its purpose is two-fold: to introduce relatively new pilots to competition flying in a low-stress and high learning environment, and to try out new and innovative competition procedures and maximize pilot enjoyment.

Think of MayFly as more of a “Gliding Meet” than a competition. The concept and construct of having gliding meets is rooted in the early years of soaring culture in North America. A meet implies much more than just a competition. It is a place to learn, share lessons with others and of course, have fun. It is interesting to note that the concept of a gliding meet is starting to gain momentum again as a way to pull together all parts of the soaring community. John Cochrane spoke about the value of gliding meets in the closing “vision” section of his 2010 Ralph Barnaby lecture titled “The Evolution of US Contest Soaring” <<http://faculty.chicagobooth.edu/john.cochrane/soaring/docs/barnaby.html>>

**MayFly history** The genesis of the MayFly contest started in the early 1990s with the GGC “Un-Nationals”. Held in August, this contest was started by Glen Lockhard as a fun event for gliders (and pilots) of all performance levels. See *Free Flight* 93/05 <[http://www.wgc.mb.ca/sac/freeflight/93\\_05.pdf](http://www.wgc.mb.ca/sac/freeflight/93_05.pdf)>.

In the late 1990s, the Un-Nationals changed to the current MayFly contest and was moved to the Victoria Day long weekend to take advantage of the strong soaring conditions that can occur in eastern Ontario in late May. Over the years, complete tasks have been flown under solid cloud decks at 6000 feet, and thermals have peaked at over 10 knots. Many of Canada’s best cross-country and competition pilots are MayFly alumni. MayFly is now part of the cultural fabric of GGC; members do not view MayFly as a burden but rather as a learning event, a place to share experiences and meet pilots from other clubs. The stories that my parents tell about gliding in Europe in the 1940s and 50s (they are both glider pilots) are no different than what you hear around our airfield today. This is what gliding is all about, folks!

**Tasks & scoring** MayFly uses a Modified Assigned Task (MAT) with a set of three defined courses designed to stay clear of both the Ottawa and Montreal terminal areas. Once a pilot starts one of these courses, he/she must finish that course before repeating it or starting another course. The alignment of the courses keeps all gliders flying in the same direction and encourages team/group flying. Raw points are calculated using MAT rules (10% bonus for getting home) and are then handicapped by type of glider and pilot experience. Handicapping pilot experience helps level the playing field for new XC pilots. Experience handicapping also provides a challenge for experienced pilots. Helping other pilots or flying with a group of gliders while on task is encouraged.

**Day 1** The morning of the first day of the contest was focused on pilot registration. Briefings were held on the contest area, rules, and “a typical contest day”. Grid time was 12:30 with a first launch at 14:00. The fleet was in the air 35 minutes later and soon everyone was through the start for a 2.5 hour MAT. Conditions were booming – 5-7 knot average climbs as long as you stayed above 4000 feet. Many pilots exceeded 100 km/h average speed. The fastest raw speed at 102.5 km/h was flown by Jörg.

Pilot	Glider	Score	Rank
Pierre Gavillet	LAK-17A	173	1
Team M7 (Martin & Paul)	ASW-24	167	2
Dan Daly	SZD 55	147	3
Jörg Stieber	LS8	132	4
Karl Boutin	ASW-20	117	5
Roger Hildesheim	SZD 55	106	6
Ron Smith	LAK-12	104	7
Team MZ (Ulli & Ron)	ASW-20	88	8
Team BW (Tim & Niall)	Jantar	73	9
Yves Bastien	ASW-24	0	10
Jacques Asselin	DG-202	0	10
Team CZ (Martin & Rob)	Puchacz	0	⇒ p24



Rear: Yves Bastien (MSC), Ron Walker (GGC), Karl Boutin (GGC), Ronald Smith (GGC), Pierre Gavillet (MSC), Roger Hildesheim (GGC). Front: Paul Goyette (GGC), Jacques Asselin (GGC), Dan Daly (GGC), Jörg Stieber (SOSA).

# Analogies

## on a glider flight

Denis Pepin, Quebec Soaring

ONE SPRING WEEKEND, Yvon Lallier, a Quebec Soaring Club member, introduced me to his brother Jean-Pierre, a private power pilot. Jean-Pierre had taken off that morning in his Cessna 150 from his base in Hawkesbury, landing at QSC's soaring field at St-Raymond. Yvon asked me if I would like to treat Jean-Pierre to a soaring experience by flying with him. Needless to say, a soaring pilot never misses an occasion to add another experience to his logbook, much less to communicate his passion for this marvelous sport to someone else.

So, in no time at all, our Puchacz (the Eagle Owl in Polish) was inspected and placed on the runway, poised for take-off. My intention was to have more than a simple familiarization flight with Jean-Pierre. For him, if he desires to remain airborne for a certain period of time, the energy required must be carefully calculated in advance and pumped into his fuel tanks before take-off; soon he is going to experience something completely different.

Conventional airplanes from the smallest Cub to the Airbus 380 must carry all the fuel necessary for the planned flight including an ample reserve. Gliders fly using the "just-in-time" concept of manufacturing. As an instructor, I started this adventure with Jean-Pierre considering the phenomenon of primacy; that is, the first impressions one has of something determine the perception of this thing in the future. My secret objective was to let him discover some fascinating aspects of soaring to the point where he would acquire the desire to explore further.

Before mounting our steed, I called the attention of my guest to the machine's streamlined construction, its graceful lines, and the extreme finish of the slender wings with the absence of rivets or other structural items that could affect the aerodynamic properties of the sailplane. I explained that higher performance sailplanes have retractable wheels and the wings have a high aspect ratio according to best aerodynamic theory. Even the presence of bugs on the leading edge diminish its efficiency. Everything is carefully studied to make the wings the most "slippery" possible in flight to reduce their drag. The curved-up wingtips (winglets) that we frequently see on airliners today are the result of glider engineering research to reduce the wing tip vortices that add induced drag.



Denis Pepin

Once strapped in, I remarked to Jean-Pierre that for automobiles or airplanes, it is the fuel gauge that indicates the quantity of energy that we have at our disposal to use for our journey. In our sailplane, don't think the energy gauge is missing; the quantity of energy we have at our disposal is shown by two instruments, the altimeter for potential energy and the airspeed indicator for dynamic energy. We also have a flowmeter to indicate at what rate our glider accumulates or loses this energy, the variometer. The analogy in the world of automobiles is the pump at the gas station. The faster the meter is turning, the faster energy in the form of fuel is transferred to the auto. New car computer displays can show how many litres of fuel per 100 km is being consumed at any instant, telling us the rate of loss of energy.



To show that our variometer keeps track of our dynamic energy, I told Jean-Pierre to pay attention during our first 100 feet of roll. The variometer will indicate a positive value even though our altitude has not changed. Our towplane is transferring energy to our sailplane via the towrope.

At altitude, a sailplane can fly a long time or cover a long distance. An efficient automobile can cover say 100 kilometres with 7 litres of fuel while the sailplane can traverse 100 kilometres in exchange for 7000 feet of altitude loss. Why, asked Jean-Pierre, do you talk about



dynamic energy if it is the altitude that determines the length of our glide? I respond that the pilot can, if he desires, convert the potential energy of height to speed or vice versa. For example, lowering the nose, he can leave 3000 feet at 40 knots and descend to 2800 feet with 80 knots and then come back almost to 3000 feet with the original speed. During this maneuver, the sailplane has almost the same energy in transferring height to speed, then speed back to height, and the variometer will almost stay at zero. This permits us to cross a zone of downdraft at a greater speed, then slow in the updrafts or thermals, thus optimizing potential energy.

Just before the flight, I explained to my guest that I am also a passionate pilot of motorized flight. In the past, I flew my own airplane and I never miss an occasion to tow to keep current in airplanes. I often make the analogy that the airplane is to the motorboat as the sailplane is to the sailboat. The sailboat has no energy on board. Then, as on sailboats, during our sailplane flight it is imperative that we find, "just in time", this energy that is dispersed in nature like wind or hot currents and utilize this energy as best we can.

Once I have given my thumbs-up to the wing runner, the towpilot starts his take-off run. I often compare a sailplane take-off to the striking of a match, a gesture permitting a match to light and then continue to be consumed. A sailplane is a passive and inert thing. If there is no winch or towplane to deploy the starting energy, it will rest glued to the ground just as a match will stay unlit without a strike. When a sailplane does not stay in the air after a launch, it needs a "relight".

Passing through 1000 feet, I pass control to Jean-Pierre to carefully initiate him to the rudiments of formation flying. The towing phase is a formation flight with the towplane, with the nuance of a rope uniting us. We must always stay at the 6 o'clock position, keeping the wheels of the towplane at the horizon.

Jean-Pierre soon realizes that it is very easy to overcorrect and to find us far away from the ideal position. This is amplified first because of the relative high speed for a glider and because of the aileron drag which is much more sensitive on the glider because of its long wing. After several attempts, he is soon able to hold the sailplane in position at the cost of some perspiration on his forehead.

Reaching 2000 feet, we pull the release and separate from the towplane just like the Space Shuttle separated from its booster rockets. I call attention to the change that has taken place; the feel and the noise has lessened and we have entered into the delicious sensation that characterizes soaring. Each time, I experience this sensation of slowing, the seconds stretch out suddenly and in my head it feels like the motors of the Shuttle have extinguished. The capsule has surged into space and the voyage can pursue its flight in silence and grace now that it is no longer an inert object.

Our speed can now be noticeably slower, and the controls become lighter and less nervous-feeling. On most gliders the retraction of the landing gear adds an addi-

tional touch of silence, which is already very relaxing. Some pilots never fully savour this important phase of flight in a sailplane.

From this instant, we are in free flight with "2 litres" of energy in our tanks. We must now look for a service station to fill up our tank before it empties. So, for the moment, it is our sole objective. Today, with Jean-Pierre, I am aboard a vehicle that is not fuel-efficient since with the height we have, we cannot go more than about 20 km including our circuit. In a high performance single-seater, it would give about 30 km of freedom to locate the next "service station".



At St-Raymond in May, meteorological conditions are such that it is possible to fill our tanks with more than "10 litres" of energy – our altimeter will register 10,000 feet. However, on other less ideal days we will be restricted to

only "3 or 4 litres". It is evident that on these days we must stop more often to top off our tanks if our flight plan is to voyage away from base.

There are also other weather rules that can be imposed on us. On certain days, the fuel nozzles are smaller than on other days, and we must spend more time "stopped" while refilling. Our flowmeter (variometer) will indicate only 1 or 2 instead of 4 to 8. On some better days, according to weather rules, these service stations can use very big hoses and nozzles, which shortens the filling time a lot.

So, a trip aboard a "small and economic sports car" like a high performing ASG-29, during a day when the conditions permit a good fill-up (say ceiling 9000 or 10,000 feet) with large number of filling stations available, is every soaring pilot's dream. On the other hand, if we were traveling aboard an old ship like a Blanik when the weather permits only small fills (say ceilings 2–3000 feet) and with small sized fuel nozzles, we would work hard to find numerous filling stations, and to find a path which lets us pass near the greatest number of potential fill sites, and to optimize the fill-ups. On these days, the pilots who succeed in their cross-country excursions merit respect.

Oh yes, I forgot, despite the rules of filling limited quantity, and faster or slower flow, the filling stations in the world of sailplanes has an immutable ethical code regarding the price of energy. This price is, and always will be, \$0.00 per litre – free green energy that is clean, silent and renewable. Be there one or sixteen sailplanes in the same lift, the rate of climb and the altitude gain is much the same for all. A strong thermal can lift innumerable ships of nearly 500 kilo each, without diminishing the force. This is almost unimaginable energy with great potential.



Wulf Krueger

Returning to our first post-release objective, that of finding our first refill, Jean-Pierre then asked me how I know where to look for them.

In fact, instead of looking for ESSO, ULTRAMAR, PETRO T or SHELL neon signs, we learn to look for the form of the clouds that loom above us. When cumulus have a well-defined form with a flat base it is a good bet that they house the energy to refill us. Sometimes there are already sailplanes at the pumps and we will join them to partake of the precious energy. I also mention that on certain dry days, the weather rules dictate that none of the refueling stations will have signposts. We must advance blindly until our variometer indicates that we have arrived. We then pause in this zone, circling to gain energy until we have "filled our tank" before continuing our journey.

After these explanations, Jean-Pierre brought us to our first filling station. During this refueling, we noticed that flowmeter indicates 6 to 7, which is nicely rapid. Also, the maximum quantity of fuel is limited to 6 litres, not because of the weather conditions, but because of a Nav-Canada rule that limits our operating airspace to 6000 feet near the Quebec City airport.

He cannot stop repeating at how thrilled he is to learn how such a streamlined flying machine can profit from this free solar energy flowing all around us, not having to stock up in advance, not having to pay to restock, but to stop when needed for just the time it takes to replenish.

During our flight, Jean-Pierre and I discover other rules dictated by the current weather. We note that between 2000 and 4000 feet, filling stations have the small fill nozzles, while higher up the same stations provide their larger nozzles. Observing this, we know what to do to avoid long fill-up delays, we work to stay over 4000. Also, all the stations close one or two hours before sundown and are not open except during sunny times. So if the sky clouds over when we are far from home, we can expect that we will lack the energy to return. We thus have interest in consulting the weather forecast before planning a long trip.

I also elaborated on other rules that were not in force at present, but which we encounter frequently. Sometimes the filling stations are open only briefly. We see them far away, but when we arrive they are closed. In this case, we have to search for stations nearer us so we can arrive in time. Some days the stations seem to be stationary, and we can return to the same address several times as needed. Other days, the addresses change constantly. For sailplanes, it is possible to load wing tanks with water before departure, which allows us to fly faster without greater fuel consumption, but it does take longer to fuel up.

I spotted a hawk turning above us to our left, and took the controls to move us precisely under it. Birds of prey understand the principles of utilization of the wells of energy and they can rapidly choose the strongest thermals. Profiting from their mastery, we have the occasion and grand privilege to fly peacefully in formation with this majestic animal that normally has little contact with humans.

⇒ p25



Okay, we are at 6000 feet, which gives us a distance of around 60 kilometres to locate our next fuel source. We now have the time to explore the finer points of piloting a glider which differs primarily from airplanes by the great wing span, and by our piloting technique which guarantees us a superior range. Jean-Pierre cannot believe how fast the time passes in these ideal conditions with the silence and visibility through the large canopy. After 60 minutes of flight, he has the impression that only about 30 minutes have passed.

# the quest for Nick

Sonia Hildesheim, GGC

## ... a retrieve story

**L**AST AUGUST I WAS FORTUNATE enough to go as crew with the Canadian Team to the World Soaring Championships in Uvalde, Texas. The previous summer I had been to the pre-Worlds there and had an incredible time and was so glad to be able to go back again! I'm so happy I did – the time I spent there was easily one of the best months of my life. Not only did I get to meet the best pilots from around the world that I've heard stories about since I was a kid, but I learned so much more about the sport of gliding (and myself for that matter), while having way too much fun and making so many good friends!

While I can tell many stories about the things that happened and adventures that I went on while I was there, going to retrieve Nick is definitely the best (although if you do want to hear about how my friend and I almost got deported one night, send me an e-mail). I've always heard these crazy contest retrieve stories that people have, and now I have one of my own! Once is enough though.

Friday, 10 August, looked like a great flying day, but there was the threat of thunderstorms to the north (storms almost always came down from the hill country). Boy, did we ever start seeing those thunderstorms build about 5 pm – they just kept getting darker and closer, and generating more lightening.

The 15m class was the last to start, and Nick had started on the later side, so he ended up getting chased down south by the storm and couldn't get back through it,

hence his eventual landout. The same thing happened to quite a few of the pilots who made a late start that afternoon; they all got cut off by these massive storms rolling through. Although an inch of rain fell up in the north, not a drop hit Uvalde and surrounding areas.

And so it was at about 8 pm that the phone rang and we got the SPOT tracker message that Nick had landed out about 35 miles outside of Cotulla. He said he had

landed right next to the El Caballero ranch airstrip ("caballero" is Spanish for cowboy). Cotulla is a very small town south of Uvalde kind of in the middle of nowhere, so 35 miles outside of there is *very much* the middle of nowhere.

It was going to be an interesting retrieve, that's for sure, and it was about a three hour drive just to get there. Because we knew it was going to be a difficult retrieve and we don't really know Texas, Christine Bonnière and I enlisted a local volunteer, Conrad Huffstutler, to come with us, which would end up being a saving grace! He will probably run away screaming if anyone ever ask him to help with a retrieve again though.

It was about 8:15 when we finally left the field, heading off south with trailer rolling and GPS programmed with Nick's coordinates. I know better than to blindly trust a GPS (I often fail technology) so I had pulled out a good old-fashioned road map and checked to make sure that it was sending us to the right place, which it was. Good, right? Nope.

While Conrad had a nap in the back, I dozed off for a bit too and somewhere along the way the GPS coordinates got changed somehow to ones across the border. So it started sending us to Mexico. We figured that out when we were in Laredo, about fifty feet from the border crossing and the GPS telling us to go through. Not our finest moment. We finally got the trailer turned around in a parking lot thanks to Conrad's excellent trailer backing up skills (for lack of a better term) because we had been stuck on a one way entry into the border crossing.

I was trying to reprogram the GPS to the proper coordinates but it kept saying we had to go to Mexico, so we put it on a time-out and punched the coordinates into the GPS on Conrad's iPhone, which thankfully knew where we needed to go. Good news! The bad news was we had gone over an hour too far south. So our nice little detour down to Laredo had just added two more hours to our already long trip – it was going to be a long night. We had been texting and phoning Nick to let him know what was going on, but I expect he was getting concerned about us finding him.



Maria Szemplinska



Eventually we made it to Cotulla, and then headed out into the wild to track down Nick. It was really spooky to be driving around there because there is nothing other than a few oil drill camps and the odd ranch; it was completely silent and pitch black other than the few lights from those places. We started getting close to Nick at about 12:45, but were starting to have to drive on little back dirt roads through ranches to get to him.

The first two gates we needed to get through were open, but then our luck ended. Now every single road we went down ended in a massive, 10 foot high padlocked gate, and we were driving around in circles. Insert Conrad's trailer driving skills again because making a 3-point turn on a single lane dirt road in Texas with a 26 foot trailer is not exactly a walk in the park.

It was so frustrating because we had Nick's coordinates, and we could see them on the iPhone on Google Earth, but we couldn't get to them! We tried all the roads we could to get to him but we couldn't get through. And you don't want to be cutting the locks on gates in Texas, that's for sure.

Meanwhile, poor Nick had been sitting in his glider for hours, alone and in the dark with God only knows what roaming around on the ground. We got a message from him at one point that scorpions were circling the glider, just in case it wasn't already exciting enough.

At this point we had been driving around for so long trying to find him that we were running out of ideas, and realized it was time to call back to Uvalde for help. It was about 2 am at this point, and we were down to less than a quarter tank of gas (that last station we passed 40 miles back – yeah, we should have stopped at it). Fortunately our ID badges had numbers to contact the contest headquarters and we got through to fellow Canadian Brian Milner who would help us get out of this pickle. We also had support coming from Ed Hollestelle who we had been keeping up to date and he was waiting up for us to reach Nick.

A phone call from contest headquarters to the Uvalde sheriff got them in contact with the sheriff of the area that we were in, who managed to contact the ranch owner of El Caballero whose gate we needed to get through.

All this took a while though, and we had got to a point where we couldn't afford to waste gas driving around, so we stopped and got out to look at the stars. Because we were so far away from any light pollution, it was so clear that you could clearly see thousands of stars, the Milky Way, and even a handful of shooting stars! Okay, I only saw one shooting star, but Conrad sure saw a bunch. It was a nice little break from the stress of the whole ordeal

to just lay down on the hood of the car and get lost in the sky for a minute.

Thankfully then, I got a phone call from the ranch owner saying he was sending his son and a ranch hand to open the gate for us. He just had to call their phone enough times to wake them up because it was almost 3 am now.

I don't think any of us had ever been so happy to see a set of headlights coming at us on the other side of a gate before. It had become a little spooky sitting in the pitch black in front of the gate waiting for them to show up, all those opening scenes of horror movies started to play in our mind. I almost had a heart attack when some little animal scurried across the roof of the car, much to Conrad and Christine's amusement. I startle easily on a good day, but stick me in this kind of situation and I'll jump a foot in the air at anything.

So the rancher's son and ranch hand lead us back into the ranch and to the airstrip. Just like Nick said though, he was on the other side of the fence in a soft field. Seeing Nick and the glider appear out of the darkness was such a massive relief at that point, now that we finally found him! Nick hadn't landed at the airstrip because he was afraid of getting stuck behind a locked gate! The airstrip gate itself wasn't locked, but the ranch gate sure was – what are the chances?

We got the glider derigged and back in the box in record time, and thankfully didn't have to unhitch the car to use its headlights because the ranchers stayed and shone their truck lights on the glider and trailer for us. They were such good sports about the whole thing, especially considering we had woken them up at 3 am.

It was just before 4 am when we finally pulled out and started the drive back home. And we did have enough gas to make it back to Cotulla and the nearest gas station. However, we did not have an American Visa card to be able to pay at the pump (the station was long closed for the night), so it was Conrad to the rescue (again) with his American credit card. Since everyone else had driven at that point, I volunteered to drive the two hours back to Uvalde, but man, I sure could have used toothpicks to keep my eyes open.

We made it back just as the sun was coming up at about 6:15. People were starting their day, even coming to the airport to rig their gliders, just as we were getting home and wanting to go to bed. It was a pretty sunrise though, even though it was the second one I had seen in one day because I had been up at 6:30 the past morning! So we all headed to bed to take a brief nap before having to get up and going back to the airport for flying that day. The rooster crowing over at the house next door actually lulled me to sleep.



# Never too old to learn!

Dan Cook

I TEACH MOUNTAIN FLYING, and am generally cautious flying in this environment, but I learned a lesson last July.

I was flying my Genesis glider in Hope BC. At takeoff just after noon there were light winds about 5 knots out of the west. I released at Hope Mountain at 2500 feet asl and noted on my flight computer that the wind picked up to about 10 knots as we passed through 2000. After release I worked slowly up the slope to 4600 feet where the lift seemed to cap off and I could not get any higher. I spent a couple of hours trying to look for more lift, returning and climbing back to 4600 several times on Hope Mountain. I watched as others tried but we all seemed to find the same predicament and noting the wispy clouds forming but not clearing the local peaks.

Lift was weakening on Hope Mountain so I headed west of the airport about two miles where the valley is narrowed near Ruby Creek. I found lift there often on previous flights. Winds were still light at 2500 feet, but as I passed over the airport I noted the windsock fully extended showing at least 15 knots from the west which is common at Hope in the afternoon. I found some disorganized lift on the ridge just north of the Fraser River at the narrowest point of the valley, often a sign that the ridge thermals are just starting to work, kicked off by mechanical wind action off the hills. But I could not sustain my altitude and as I circled down through 2000 feet I noted some shear turbulence.

I got lower still, then found some lift above the ridge as I circled in a left turn and took a good look over my left shoulder to see if I would clear the ridge with a safe margin before I committed to completing the turn. I assessed I now had about 500 feet of clearance over the ridge to complete the turn at 1500. However, once committed, I could not turn to the right because the ridge rises, but I felt I had a good safety margin. The weak lift had peaked on the sunny side but as I passed over the ridge line the

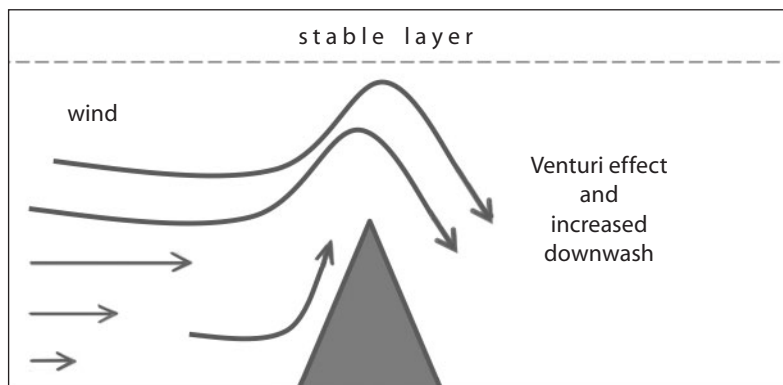
bottom dropped out! I had to lower the nose 30 to 40 degrees to keep my airspeed of 55 knots. I lost 350 feet in an instant and I was not sure I would clear the ridge. Fortunately, because I had kept my airspeed, I found the bottom of the sink and cleared the ridge by 150 feet. Having scared myself and getting low, I headed back to the airport to land.

On the way back to the airport I played back the events to assess what happened and also noted the great tailwind I had now. I recalled the flight computer was showing the wind was about 2 knots at 270° as I started circling on the ridge looking for lift, the wind shear turbulence as I had descended through 2000, and that the wind had become stronger at the airport than when I had passed over on my way to the ridge.

I could not help to think about the recent fatal accident at the Nationals. Had I just experienced something similar that may have happened to that pilot as he passed over an obstacle to land in a field? Reports from that day at the Nationals had surface wind gusts that were much higher than aloft! At the Nationals I flew at SOSA the year before, there were some days where short duration strong surface wind gusts had swept away the thermals at Tillsonburg.

What I think happened to me was a quick change in conditions over a short period of time. There was an increase in surface winds below a more stable upper layer. An obstacle to disrupt that flow upward into the stable layer, when a vertical venturi effect bounces the air back down on the lee of the obstacle. Had I tried to clear the ridge at 350 feet would I be writing this article? Probably not. I noted minutes later after I landed, that the stable layer had been pushed out of the valley and glider climbs well above the mountain peaks were happening, with later reports of wave action starting.

Lesson learned – obstacle clearance needs to be higher when surface winds increase, especially if there is a more stable layer above, noting that 350 feet may not be enough. My personal minimum for ridge clearance in mountains is 500 feet in light wind. One turn in a glider at a descent rate of 150 ft/min is enough to substantially change the air mass you are flying in. Remember the importance of maintaining your airspeed, add a gust factor to your approach speed (suggest  $1.5V_s + V_g$ ) if flying over obstacles in wind. Pay more attention to surface winds, not just the lighter winds aloft, and remember that wind gradients can exist below a more stable layer. Mountain flying experts also caution that ridges should be crossed at a 45 degree angle so that less height is lost if turning away quickly is required. ❖



# Simulators

Chester Fitchett, Cu Nim

**Life as a student** You show up 1-2 days per week, typically all day. You will get a maximum of two flights, averaging 20 minutes. You will often be overwhelmed during your flight, struggling to maintain a lookout, co-ordinate your turns, pay attention to the vario, and absorb the nuggets of wisdom bubbling up from the back seat. Circuits and landings are far worse. After you get down and your legs stop shaking, you'll sit on the flight-line for three hours. If there is a surplus of students, there will be very little to do. If you're ambitious and like to keep busy, you'll go home with the feeling that you wasted your day.

**Life as an instructor** You love introducing people to flying, and you are making a huge sacrifice of your time, time away from your family and your own time flying. You'll spend most of your days at the field in the back seat, not flying but always ready to jump on the controls. Some students frustrate you when they progress slowly, and the worst is when a promising student drops out.

**Enter the simulator** Simulation for aviation training is nothing new. Many gliding students use Condor at home. There are three key reasons why the club should provide the simulator. Students often cannot justify the expense of building a simulator that will give them the maximum benefit – for example, most students do not buy rudder pedals. Second – students benefit from instructor supervision on the ground, too. Third – the frustrating idle time waiting for the next flight can be used to improve their skills.

**An assembled simulator**  
Saitek Pro Flight Rudder Pedals were used – any USB rudder ped-

als would work that fit into the frame. The VR01 frame does not have a reasonable place to mount a joystick, so we mounted the joystick on a welded metal base, with a telescoping tube. Any USB joystick will work.

For display, we tried the triple-monitor approach as three monitors give a very wide field-of-view. Unfortunately, Condor is a very old piece of software, and is unable to run three monitors at a resolution higher than 640x480 each. You read that right – your phone likely has a higher screen resolution. Instead, we used a single 27" LCD display, standard resolution of 1920x1080. For comfort of vision, the monitor can be moved back up to 12". Our original plan was to use joystick buttons to look around, but our CFI felt it was a weak point in the experience. The solution was *TrackIR*, a commercial head tracker. A head tracker is a camera above the display that observes a target attached to your hat (tiny object on peak of ball cap in photo). When you move your head, your view in Condor moves around so there is no sense of a lack of peripheral vision – it works perfectly. Here is the parts/cost list:

VR01 racing cockpit	\$500
Computer	\$400-\$900
Rudder Pedals	\$150
Joystick	\$20-\$60
TrackIR	\$160
Monitor	\$150-\$250
Metal	\$50
Condor	\$50
Total	\$1480-\$2080

⇒ p26



The simulator is built around a racing seat made for video game car racing enthusiasts. The 'racing cockpit' has a comfortable adjustable chair and a metal frame on which the other bits could be welded.



Chester Fitchett



## A new 13.5m sailplane from LAK

The LAK seems to be the first manufacturer out of the gate to present a new design for the upcoming 13.5m competition class that becomes official on 1 Oct 2014.

The new 13.5m class is replacing the World class, and practice competitions for the little gliders are already being flown this year. The IGC may also establish a 13.5m record category to replace World class records, but this has not been discussed or approved yet.

The LAK-17 Mini is a new generation FAI 13.5m class sailplane of hybrid composite construction. The prototype had its debut at this year's big AERO show at Friedrichshafen, Germany and had its maiden flight on 6 May.

The wing spar is an I-section made of carbon rods. The weight of each wing panel is 40 kg. The airbrakes are situated in upper surfaces only. The retractable landing gear has a 5" tire with shock absorber. The hydraulic main wheel brake is actuated by an airbrake handle. The rudder pedals are adjustable in flight. All controls hook up automatically. The wings incorporate fork-type spar roots joined with two pins. The elevator hooks up automatically during assembly.

The cockpit is of monocoque construction. The contoured seat pan and an adjustable seat back together with optimally arranged controls offer notable comfort on long flights. The one-piece canopy hinges forward. The instrument panel lifts up together with the canopy. The glider will have the option of carrying up to 30 kg of water in a fuselage tank.

Wing span	13.5 m
Wing area	8.46 m <sup>2</sup>
Fuselage length	6.53 m
Fuselage height	1.32 m
Empty weight	185 kg
Gross weight	296 kg
Max. wing loading	35 kg/m <sup>2</sup>
Vne	250 km/h
L/D	37/1

## A simplified Sporting Code

Following the approval of the paper, "On simplifying the content of the Sporting Code" at the 2013 IGC Plenary, the IGC Sporting Code subcommittee is busy with the process. Good suggestions have come to the committee that have been integrated into the overall list of proposed changes.

The general concept is:

- That a new Code contain the shortest set of badge and record courses that still allow the maximum expression of soaring achievement.
- That a new Code contain the simplest set of evidence requirements to verify a soaring performance.
- That evidence requirements for badges be less restrictive than those for records, and that those of the lower badge levels be the least restrictive.

To date the committee has placed three discussion papers on the IGC website for pilots to consider <[www.fai.org/gliding/](http://www.fai.org/gliding/)>. Have a look at them as they incorporate the changes listed here and more. Everyone is invited and encouraged to think about your problems with flying or OOing badge flights

and to pass your gripes to me, preferably with a suggested solution.

Below is a list of suggested significant changes that, if approved, would do much to simplify the Code and make it easier to understand and follow.

- That, for ease of use and understanding, a new Code will have all text relating to badges and records clearly separated into their own chapters.
- There be four types of courses for distance and/or speed: straight, out-and-return, three turn point, and triangle.
- Speed records and the Diamond Goal task will require declared TPs flown in sequence. All distance records and other badges are "free", using fixes claimed post-flight as turn points (TPs), and start/finish points may use declared TPs as needed.
- The Silver distance returns to its roots somewhat, with 50+ km away from club required and height loss from that leg.
- Only a cylinder observation zone (OZ) be used for declared waypoints, with a 2 km radius for TPs and 500m for start/finish. Both the start line and the FAI sector are eliminated. (The OZ correction may be waived if the glider flies around the TP.)
- There be no requirement for a minimum 10 km separation of TPs for the 3TP task.
- The allowed 1000m loss of height be eliminated for records, and (consequently) a loss of height penalty be allowed for speed record claims.
- The need to land within 1000m of goal to complete a closed course be eliminated – must now enter the finish OZ.
- Use of mechanical and other stand-alone barographs be eliminated.
- GPS barograph calibration time limit waived for badges if a height penalty does not affect the claim.

The committee hopes to have all changes in place for the 2015 Sporting Code (it takes the 2014 meeting to approve proposed changes and the meeting after that to approve the resulting Code text).

**Tony Burton**  
IGC Sporting Code  
committee

## Evolve or die

More and more sports are elbowing themselves into space that attempts to capture people's interest, enthusiasm, time, and money. The traditional weekend is a thing of the past – many people work weekends, not just dairy farmers. Most working folk with kids have chock-full time-planners. Clubs must evolve or they could die.



## Working hard at hardly working

My club has a tradition of "Spring Work Weekends" in which all members are supposed to show up and do things that are normally reserved for southern prison chain gangs, except that in our climate, it generally snows. Picture, if you will, Paul Newman in *Cool Hand Luke*, with everyone wearing parkas and touques, looking like Bob and Doug McKenzie. I have used numerous excuses to be absent, but lately the club has been taking attendance.

This year, the Board of Directors outsmarted me again, by sending me an e-mail about an award to be presented at the work weekend. I was very suspicious, because I didn't work very hard last year, as always. But I was told that there's a limited number of towpilots and if you hang around for twenty years you are bound to get something sooner or later, no matter how bad you are.

It is standard procedure for the cops to send out notices to scoff-laws saying that they have won a boat in a lottery; the guy shows up to collect, and the cops arrest him for non-payment of parking fines. I think that our Board has begun to use this method in order to get us to come and work on a day best spent at the bowling alley.

I had no intention of doing any work whatsoever, either on this weekend or at any time during the year, but I *really* wanted the award, and I did not wish to appear ungrateful, so I showed up on Saturday at the club, just before noon, and parked at the far end of the runway. That way I could walk a long way to the clubhouse, my face turning red and raw all the while from the cold, cold wind. I paused in a puddle to put some mud on my knees and face to make it look like I had been labouring all morning. My intention was to grab some free pizza, pick up the award, and talk with the others about how hard we had worked before heading back home to watch Roller Derby.

I was unpleasantly surprised to discover that there was no award. I also noticed that the Board member who had sent me the suspicious e-mail was not there either. Hmm. (Note to self: try to be smarter next year.) I had been led to believe that I was "*the Most Improved Tow Pilot*" for 2012, narrowly beating out a competitor because I had hit the fence with the rope fewer times than he. I had written an acceptance speech.

So even though I did not get an award I would not want to deprive all of those who braved the cold to actually do some work,



At last, a photo of the Bald Eagle.

from hearing how grateful I would have been to have won something, had I actually won something. So, here is what you would have heard had I actually won something:

*Thank you very much for this award. I was told to relate an example of what it is like to be a towpilot. So, one fine day last year, I was doing my best to set the pace of the operation and not hit the fence with the rope, when I got a radio call from a Bearskin Airlines officer who had just departed the nearby airport, heading east, and had a perceived conflict with a glider. I took down the information, thanked him, and passed the info to our Safety Officer. A few weeks later, I had not heard back, and I contacted the Safety Officer. He told me that he had carefully investigated the situation and had concluded that the glider in conflict was in fact himself, so he closed the enquiry and buried the report. Thank you again for this award.*

Now, what lessons can be learned from this experience? There were a couple of self-appointed photographers who felt that their contribution, instead of actually working, should be to record the Work Weekend activities for posterity. You could tell that there was more than one, as there exists a photo of the second photographer taken by the first. Apparently, this is a recognized job and counts as a contribution to the work performed. Who knew? I should note that the activities recorded consisted mostly of people stomping their feet and rubbing their hands together in order to stave off hypothermia.

One photo shows how I had "inadvertently" got my van stuck at the far end of the runway, and so I was able to spend several hours

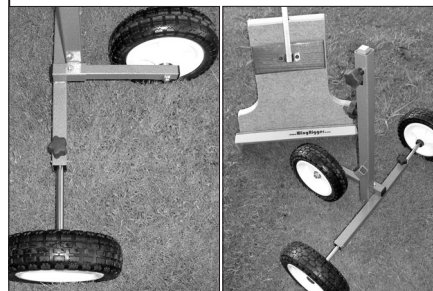
attempting to get it unstuck, thus avoiding any actual work. I was able to lure a few cohorts into helping, by offering refuge inside the heated van as we planned our "unstucking" strategy, while drinking beer in order to keep ourselves hydrated (southern Ontario in winter has a 'dry cold').

Now, as I plan for next year, I realize that the stuck-van strategy won't work twice, but the Official Photographer ploy is good. I have already volunteered for that position, and I have purchased a couple of cameras with motion-sensors to be strategically set up, so that next spring I can lounge comfortably at home in my Star Wars pajamas while still fulfilling my work weekend obligations.

**Bald Eagle**

## Wing Rigger™ Solo Assembly System

- Sturdy sliding axle for lateral adjustment
- Gas spring lifting assist for easy height adjust
- All-terrain 3 wheel stability + quick breakdown
- Versions for all gliders including 2-place ships
- Robust construction: TIG welds, powder coat
- Most preferred design for use and storage



Video, Pricing, Details: [www.WingRigger.com](http://www.WingRigger.com)



## † Gordon Bruce

Col. Gordon Bruce, after a long period of care in the St. Anne de Bellevue Veterans Hospital, passed away on Tuesday, 4 June, at age of 94.

As our older members know, Gordon was a very devoted soaring pilot, instructor, tow-pilot, director, president of MSC, SAC President from 1987 to 1989, and all round friend, much appreciated for what he has done for the Montreal Soaring Council (CVVM).

*Ulli Werneburg notes:* Gordon was a great organizer who did things in a quiet, unassuming but very effective manner. He served Canadian soaring for many years with dedication, energy, and an excellent sense of humour. He had a special knack for delegating and whenever he asked you to help out with something you felt honoured to be asked.

**John Bisscheroux**

### 2014 Sailplane Grand Prix

The final qualifying event for the 5th Sailplane Grand Prix will take place at Zar, Poland 27 July to 3 August; the winners of this event will qualify for the World Sailplane Grand Prix final to take place at Sisteron in France during spring 2014.

Due to the wet weather during the Slovakia SGP at Prievidza there are still three places

in the World SGP available for the winners at the Zar SGP.

The event will be covered on the new Sailplane Grand Prix web site that is being prepared for the 2014 final and the next series of Sailplane Grand Prix events. The Official web site is at <[www.sgp.aero](http://www.sgp.aero)>. Details of all the previous Sailplane Grand Prix events can also be found on the new site along with the list of pilots already qualified for the 2014 World final.

### The lure of a career in aviation

Dear Editor, I am always amazed by the variety of people who are glider pilots in Canada. For a long time, many of our members were German, who learned to glide in the 30s, there are a fair number of British ex-pats, and now we have many eastern European pilots who somehow managed to fly despite strict rationing of consumer goods and services.

At our club we have a broad spectrum of job descriptions, including a partnership in a Libelle between a doctor and a mechanic. Of course, some professions have more glamour than others, and I recently met a member who is an airline pilot, and he spoke of how the mere mention of that in a crowded bar elevated his 'attractiveness quotient'. (If you are at a bar, and one of the guys is a pilot, how do you know who it is? Don't worry, he'll

tell you.) I told him that I, too, have a career in aviation.

When he pressed for details, I said that I worked at a large sport aviation airfield, and also worked as a club towpilot, being instrumental in getting passenger aircraft turned around and ready for prompt, on-schedule departure – also a key feature for airlines to be competitive. He wanted to know more and I told him, in confidence, that I also cleaned the washrooms and emptied the sewage holding tanks, and was on call at all hours.

He said that I seemed a nice guy, and that if I wanted a change, his uncle had an opening in his office, that I could work there in a suit and tie, at a good salary. "What!, I exclaimed, and give up aviation?"

**the "Bald Eagle"**

### Note from editor

Pilots often contribute stories to *Free Flight* in which both the text and the photos are in a word processing file such as Word. (Always, many thanks for that.) The text I can handle, but the photographs should come to me as individual .jpg files – originals in high definition straight from the camera – preferably with no adjustments such as sharpening. All necessary PhotoShopping is done at my desk. Thanks.

**Tony Burton**



Hope Airport below – arguably the most scenic club site in Canada. The slope across the Fraser River behind the Grob is "the Bowl", giving consistently decent ridge soaring.



THE FOLLOWING INFORMATION is primarily aimed at instructors but all pilots can benefit. Most of this information is covered in the current SAC instructor courses. Based on the major accidents over the last decade in Canada, FTSC has prepared a list of training points that instructors can use to mitigate the chance of having similar accidents with a student or will help students avoid similar accidents when the student is solo/post licence. These points should be reviewed each spring by instructors and it helps to establish SAC standards for instruction. A further good reference for these points is Derek Piggott's *Gliding Safety and Understanding Gliding*, available at most glider pilot supply sources. We will cover common problem areas and solutions:

- How to avoid take-off problems
- How to avoid undershoots
- How to avoid hard landings
- How to avoid PIO in landings
- How to avoid stall/spins
- How to avoid not returning to the airfield
- How to avoid mid-air collisions

## How to avoid take-off problems

- Good pilot/passenger brief on seatbelts, how to exit, and emergencies, including what to hold on to (shoulder straps) during take-off. What not to touch (anything red). Don't offer that they can release on intro flights until at circuit height.
- A walkaround before take-off can identify potential lethal problems.
- Use trained wing runners to double-check dolly off, airbrakes closed, canopy closed, tow rope clear in addition to "all clear."
- Perform a review of options with a checklist. Have a plan for emergencies appropriate to conditions and terrain. Suggest "are you ready to WROLL" – wind, release, obstacles, landable areas, and launch interruptions.
- Top ten reasons to release: loss of directional control, wing drop, slack in rope, over-run tow rope, towplane loses power, obstacle appears, canopy opens, not airborne by midpoint, lose sight of towplane, and any other safety concern.
- Wing-drops result in groundloops – avoid temptation to save – release
- Canopy unlocks during take-off? – fly the glider and don't let distraction lead to uncontrolled flight, release and land, then fix. Slight sideslip into hinged side will help.
- Respect cross-wind and weight & balance limitations.
- Control the decision to release in training

for emergencies and do not delegate to student or tow-pilot – you may not be in a good position/timing for recovery.

- Take control early if directional control varies more than about 10-15 degrees off runway centreline as tension on tow rope may cause wing to roll towards ground.
- Use 200 foot tow rope in training as it gives student/instructor more time to react and reduces chance of tug upset.
- Always take control in real emergencies.

## How to avoid undershoots

- First, good demo circuits by instructors are required.
- Make a habit of demonstrating your approach by using  $\frac{1}{2}$  to  $\frac{3}{4}$  airbrake on approaches (in centre of approach funnel). This allows students to be above or below a normal approach.
- Have students pick a Reference Point (RP) far enough down the landing area to give a suitable landable undershoot area.
- Teach students they must first establish an overshoot *before* they open airbrakes (RP moves down in field of view).
- If an undershoot on the approach (RP is moving up in field of view) is starting, teach student to close airbrakes and re-establish overshoot, then open only enough airbrake to prevent overshoot by keeping RP steady (not moving up or down).
- Teach a stabilized approach (airspeed and rate of descent constant to RP)
- Have students practise over/undershoot control above circuit height before teaching approach in the circuit.
- Instructor: be prepared to stabilize the approach if the student does not adequately respond to verbal cues.
- Instructor must monitor the approach throughout (no distractions).
- Have student check speed control often (every 3-4 sec) during the approach.
- Teach how to identify wind ground speed at circuit altitudes.
- Teach when and how to modify the circuit and not get lulled into using ground reference to judge turn to base leg (most common issue on windy days).
- On strong wind days make base turns within the runway boundary fence.

## How to avoid hard landings

- Stay in your comfort zone to take control in time and know your personal limits/capabilities.
- A stabilized approach leads to good land-

ings – unstabilized, expect problems. (Air speed and rate of descent constant while on correct glide slope to RP.)

- Monitor the approach speed and rate of descent keeping the student's approach speed at or over the minimum approach speed. A high rate of descent and low air speed is high risk for hard landing.
- If full airbrake is used on approach, have the student reduce the airbrake to  $\frac{1}{2}$  to  $\frac{3}{4}$  (depending on their effectiveness) into the round out. Many instructors have been taught to use full spoilers for the round-out, but as modern gliders have effective airbrakes, this has caused accidents. For short field landings, increasing the airbrakes after the start of the rotation (once the descent is checked) to minimize the hold-off can be taught to advanced students.
- When approaching the ground before rotation, instructors should keep their right hand low and loosely around and near the base of the control stick ready to grip it if needed but not interfering with the feel of the controls for the student. The stick may be moving wildly at a critical moment and difficult to grasp.
- Place left hand on fuselage sidewall before round-out to block airbrake handle travel if student attempts more than  $\frac{1}{2}$  to  $\frac{3}{4}$  airbrake during round-out and hold off. Student opening airbrakes when intending to close them is common, leading to hard landings or stalls.
- Monitor rotation height, and if too high get student to lower nose slightly to correct height and flare again. Take control if airspeed is too low.
- If rotation is late, take control and close airbrakes immediately. No discussion except "I have control", and leave yourself enough time to save the landing.
- Height loss sideslips should be recovered at 100 feet in early flights. If student can consistently do stabilized approaches and speed control in slips this can be lowered to 50 feet in light winds.
- Instructors must watch for the signs of wind shear and approach slightly faster depending on the strength of gusts (see POH for recommendations, if none exist, add gust factor to approach speed). Be prepared to take control as higher risk of a hard landing. Signs of wind shear include:
  - a. wind speed or direction variable.
  - b. difference of more than 5 kts in wind speed in gusts.
  - c. if there is a crosswind and it is gusty.
  - d. if wind shadows exist at the field.
  - e. wind and obstacles on the approach path.
  - f. wind comes from a direction that is not usual at your home field.

- g. strange low cloud formations present such as roll clouds.
- Watch out for student trying to land too fast (insufficient rotation) and/or not holding off the landing.
- Watch for student trying to plant the main wheel on the ground (moving control stick forward in hold-off.) See section below on PIO and Wheel-barrowing.
- During tailwind landings, monitor the airspeed more closely as student may try to slow glider.
- Rain or other wing contamination may increase stall speed dramatically. Be cautious with airbrake use, additional airspeed may be required.

### How to avoid PIO in landings

- Most PIOs occur on take-off. Understand why PIOs (Pilot Induced Oscillations) occur, including the effects of Weight & Balance.
- To avoid PIOs on landing, start with a stabilized approach.
- Teach students to rest arm on lap so that only the wrist action controls the stick motion (proper seating).
- Student should be looking at far end of runway towards horizon before rotation and holdoff (common fault in landing difficulties).
- Use at least ½ airbrake on the roundout and holdoff, making the glider less pitch sensitive.
- Teach student *not* to try to plant the main wheel on the runway (wheel-barrowing); hold off until minimum energy before the touch down; open full airbrakes once the main wheel has settled on the ground (as student perfects landings you can introduce opening airbrakes gradually in the round out and hold off with full airbrakes).
- In a crosswind, touch down slightly faster than minimum energy landing.
- If a PIO starts, have the student stop moving the stick in the centre for a second or two to let the glider settle (fly level) and rest their arm on their lap again and raise or lower the nose with pressure control as appropriate.
- The instructor should be prepared to hold the stick steady for a second or two if the student is having other than minor difficulty with PIO and then transfer back after student rests arm on lap.
- Instructor should take control anytime a PIO is moving towards an unsafe situation. Intervene early – little is being learned once student is in anything other than minor PIO. Becoming scared is detrimental to further progression. Oscillations to loss of control or ground impact can occur very quickly if instructor lets student try to recover other than minor oscillations.

- Go back to simulator if problems with PIOs are repeated.
- Watch for PIO sensitivity or over-controlling in general in your students (ie. watch to see if they apply rapid control movements and counter movements in flying maneuvers). Do students let the glider fly and use pressure control to move the stick/rudders, or are they constantly making corrections for every control input? If so, sort this out before they fly close to the ground. It is obvious from another glider looking at control surfaces during turns! Also known as “churning the butter”!

### How to avoid stall/spins

- Teach that the glider will spin if stalled with a yaw component (even a small amount of yaw), so understanding is the first step to prevention. Unstalling the glider before a spin will prevent spin.
- Teach students to feel how the glider is flying and what it is doing, not just what they see (instruments/attitude). Practise speed control with airspeed indicator covered. However, emphasize that feeling airspeed is unreliable near the ground so constant reference to airspeed indicator is needed after base turn.
- Emphasize the “seven indicators of an approaching stall”, and that correct recovery from any attitude is to reduce angle of attack by lowering nose. Explain that indicators may occur very quickly in some scenarios so prompt recovery action may be required. They may not notice a warning indicator.
- Make them familiar with the twelve spin scenarios in gliding and how to avoid them.
- Practise turns with tailwind and cross-winds to become accustomed to illusions created by drift and correct techniques for coordinated turns. Some minor slip is better than any into-turn extra rudder at low altitudes.
- Gustiness requires extra airspeed to maneuver safely.
- Practise spin recoveries on simulator first and then in glider until student is comfortable handling them. Low altitude scenarios can be practised on simulator.
- Practise correct approach speed and maintain correct speed in the circuit (see POH for glider). If speeds are not identified, use technique identified in the *SOAR* manual.
- If no type-specific spin recovery technique is identified in aircraft manuals (POH), use standard recovery technique in *SOAR* manual.

### How to avoid not returning to the airfield

- Early in training establish boundaries for local flying that have safety margins for sink built in to return to the field (minimum

sector altitudes). In stronger winds have them stay upwind of the airfield.

- Teach distance to glide and range estimations using the eye and map. Practise with a flight towards next cloud and estimating anticipated height loss using L/D, including into wind situations where speed needs to be increased for penetration.
- Give students practise in final glides and estimating glide angle to the surface (while maintaining safe altitudes). Student to pick the point of contact with ground if glide is continued.
- Teach what to look for in clouds to find lift and actions to take in sink.
- Have a glide calculator in glider and demonstrate its use.
- Teach how to be observant to changing weather patterns and fronts and the effect on winds/gusts and available lift (include basic cloud reading).

### How to avoid mid-air collisions

- Understand the limitations of the human eye and eye sight. (See CFI for PPP on Collision Avoidance.)
- Practise and teach correct sector scan technique to overcome many of the limitations, and demand a correct scan from students before all maneuvers by stopping a turn if it is not being done adequately.
- Teach the seven types of lookout.
- Use all available eyes and establish dialogue with student/passenger by alerting each other about traffic and state out loud “clear right/left” when making turns to indicate the pilot has not seen a conflict.
- Avoid the third glider trap (once a glider is located, don’t assume it is the only one).
- Monitor *and use* a radio correctly and avoid temptation to turn it off or down so you can’t hear it when teaching.
- Use the radio for position reporting (follow Mandatory Frequency discipline) and your intentions, especially if executing a non-standard pattern.
- Identify high risk collision areas for your students including airport approach corridors and the space below your flight path in the circuit, and how to look there.
- Use PowerFLARM to identify conflicts and react appropriately when collision imminent (no reaction will result in a collision).
- Teach proper look out for thermal entry/exit procedures and thermal etiquette before first solo.
- Use 126.7 for cross-country position reporting and switch to the 123.4 glider frequency only when you wish to chat.
- Although not an avoidance technique, wear a parachute for when all else fails. Remember the area around the aerodrome and circuit are the most dangerous. ❖



## Setting up for failure

We believe we know that the cause of most soaring accidents are human factor errors, and the response is "how can we reduce them?" However, we also need to accept the apparently radical view that human error is *not* the cause of an accident. Rather, these errors can be a symptom of a deeper problem. If we accept this, then we can begin to identify the underlying causes that led to the accident and fix them. Rejecting this viewpoint may relegate us to years more of our 'standard' accident and fatality rate.

The traditional view of a human error accident is that the pilot having the accident has failed in some way. Either this pilot failed to learn a key fact (a mid-air occurred because the pilot failed to clear his turn), or the pilot ignored a rule or regulation (a stall/spin turning to final because the pilot entered the pattern too low). While it might be comforting to accept that this single pilot was at fault, in reality, this is not the case.

If a pilot fails to clear his turns, then how many times did he successfully turn without looking? It could be hundreds. The solution is to ensure that pilots are taught to clear

turns and that their proficiency at this task is verified regularly. If a pilot continues to fly a 'normal' circuit despite being low, how many times has he successfully done this before? The solution is to ensure that the pilot is trained to modify the pattern as necessary to deal with abnormal situations.

In this new view, both of the above accidents are caused by a lack of training and/or proficiency on the part of the pilot. That view should lead to an evaluation of training or field procedures. Do instructors actually *compel* students to clear turns or do they simply mouth the words? Are rated pilots critiqued on this during their spring checkouts or when flying with friends? There are many opportunities to have someone evaluate your skills and your proficiency. There are also opportunities for *you* to evaluate your compatriots when you see them doing something iffy.

If you notice something, then *DO SOMETHING!* That means, take a long hard look at your club operation. If your training operation teaches pilots only one method to enter the pattern, then it is setting everyone up to fail eventually. If instructors don't practise different patterns to simulate emer-

gencies, then again, the club is setting your pilots up for failure. It may not come for twenty years, but it will come and one day it will cause an accident.

If your operating procedures require a spring checkout, but your instructors don't critique the pilot's scan, then the pilot is being set up for failure. It may not come for thirty years, but it will come. How many close calls do you want to see before the accident occurs?

Accepting this new view of the relationship between human error and accidents can be difficult, but we should accept it and act on it if we really want to reduce the number of accidents.

**Richard Carlson**, from *SOARING*

### *the Free Flight CD – \$6*

*249 issues of free flight – 1970 to now, and two article anthologies. A selection of the best soaring photos – great for club events. Order and payment (by check or PayPal) to the editor.*



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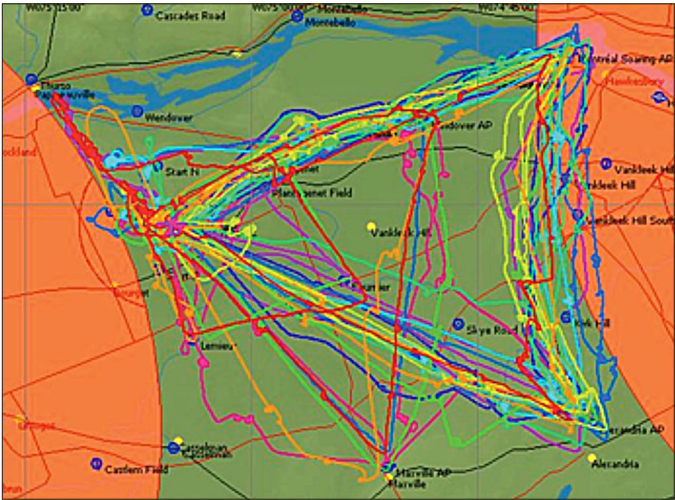
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**Day 2** The weather forecast indicated that this would also be a “boomer” of a day so pilots were quick to grid after a short and concise pilot meeting. First launch was at 12:05 with most pilots heading out on course by 13:15 on a 3.5 hour MAT. Average climb rates were slightly less than Day 1 but the thermals were much more stable.

Many pilots exceeded 100 km/h XC speed. The fastest raw speed (113.9 km/h) was flown by Ulli. A special mention goes out to Martin Lacasse and Rob Williams who took the mighty GGC Puchacz out on course for a distance of 235.9 km at an average speed of 67.4 km/h. Everyone was grinning after landing and throughout the evening. A sausage dinner organized by Sandrine Gressard with help from a number of GGC members was the perfect end to the flying day.



Pilot	Day Pts	Day Rank	Total Pts	Final Rank
Pierre Gavillet	275	1	448	1
Team M7	181	8	348	2
Dan Daly	194	7	341	3
Jörg Stieber	198	4	330	4
Karl Boutin	198	4	315	5
Team MZ	195	6	283	6
Roger Hildesheim	164	10	270	7
Yves Bastien	259	2	259	8
Team CZ	257	3	257	9
Team BW	172	9	245	10
Ron Smith	140	12	244	11
Jacques Asselin	146	11	146	12

**Day 3** A forecast of low cloud and showers did not give much hope for a contest day and it was cancelled. During the pilot meeting, we walked through the flights of Day 2 on SeeYou (shown above). Ulli and Jörg flew most of the day together and they walked us through their respective flight techniques/styles in detail. A lively Q&A session followed with additional flight reviews and coaching from all participants followed. This was one of the best XC instruction and review sessions that I have ever been involved with at GGC. Many thanks to everyone who participated!

**Summary** Everyone had a great time and the weather gave us two of the best soaring days in recent history for Eastern Ontario. The knowledge gained by flying with other pilots was priceless. Check out the MayFly website at <[www.gatineauglidingclub.ca/mayfly/index-mayfly](http://www.gatineauglidingclub.ca/mayfly/index-mayfly)> for more detailed information. See you next year!

**Hold fast to your dreams**, by George Lee  
Amazon.com \$9.84 Kindle, \$11.32 paperback

THERE IS SOMETHING COMPELLING about looking back on a man’s journey through life, particularly those men who have stuck steadfastly to their chosen path and with hard work and good fortune have achieved even more than their early ambitions. George takes us on his journey from his childhood in Ireland to becoming three times World Gliding Champion, an outstanding fighter jet pilot, and a check captain on 747s, to a remote farm in Australia. You will enjoy reading George’s understated but engaging account of his progress through life. This is not a “how to do it manual” for success in life but with a little imagination the reader can discern how application and dedication to each aspect of life is the most likely route to achieving your dreams.

George was born to a working family in Ireland in the post-war years. Even though the 60s and 70s were years of great opportunity and creativity, very few people would have thought you could make it from state school educated trainee airman to Phantom pilot, and becoming three times World Gliding Champion along the way makes that even more remarkable. The fact that George can devote at least as much space to his gliding adventures as to his RAF flying is a significant reflection on the compelling nature of the sport of soaring.

There are many interesting insights into gliding during the 1960s and 70s, which for the adolescent post-war population created exciting sporting and flying opportunities. George comprehensively describes his RAF flying career from his first Chipmunk flights to operational action as a front line fighter pilot during the Cold War. His account outlines how much hard work and self-discipline was necessary to make the grade in this elite environment.

George’s achievement in winning the Open Class World Championships three times created a legend that George did not make mistakes. However, his intimate account of the route to winning highlights the disappointments and tribulations that dispel any such myth. If there is a message for future champions it is all about determination and attention to detail.

It is obvious from George’s story that his life was dedicated to aviation and achieving so much in the aviation world would leave little time for any other interests, but his accounts of bird watching, fishing, and his interest in nature are further evidence of the sensitive reflective qualities required to be a great pilot. His autobiography is another remarkable achievement in a remarkable life and a worthwhile read for anyone with an interest in people and their lives.

**Brian Spreckley**

*Brian has won World Gliding Championship Gold, Silver and Bronze medals. He was 7 years National Coach for the British Gliding Association and is currently Vice-president of the International Gliding Commission and active in the organization of International competitions.*

**Married glider pilots – a hierarchy of delight**

- 100 points

200 points

300 points

1000 points

5000 points

50,000 pts

100,000 pts
- spouse puts up with your gliding addiction

spouse encourages your gliding addiction

spouse will fly with you sometimes to stop you from asking

spouse enjoys flying with you

spouse wants to be a glider pilot

spouse learns to fly gliders and loves it

spouse knows how to fly and will still fly with you!

**Phil Stade**, Cu Nim

After pursuing the energy wells, and the straight line glides between them along our planned excursion, we decide to return after two hours of flight. Sailplane flights have this very particular characteristic, that each flight terminates with zero residual energy. We always plan the end of our flight so as to arrive at our destination precisely at the instant when our reservoir is exhausted. Okay, the airbrakes help us to burn the small excess energy which is hoarded for security. But poor planning that puts us too low in "fuel" to complete our approach can result in an accident if we have insufficient energy left. On the other hand, an approach to a small field with an excess of energy can also end badly. Landing a sailplane is a precise and delicate maneuver, similar to an airplane forced landing.

A few seconds before our wheel actually touches the ground, I experience the certain pleasure of hearing the blades of grass whipping by our tire. Again, it is due to the silent nature of these gliders that we can taste these brief instants. Now, after rolling a short distance, our wing gently falls to the ground as if to mark a brief moment of satisfaction. Our aircraft is again an inert body. Silence greets us as opposed to the pilot of an airplane who must rapidly clear the runway; the sailplane pilot profits from this instant of calm in the middle of the field to review mentally his flight and to digest the satisfaction the flight has given him.

Jean-Pierre, this is why soaring is an art as well as a sport. One learns to make flights that necessitate a very precise application of atmospheric



energy with its many rules and possibilities of aerodynamics, of meteorology, of reading the terrain which releases thermals, and of the characteristics of the sailplane we use.

Imagine a car rally having this many rules and variables. We would consider this a true adventure reserved for only experienced drivers. It is exactly this that explains the excitement and effervescence observable at a soaring club on a morning with a promising weather outlook. The pilot must discover, over the duration of each flight, all the numerous unknowns and situations which will forge the characteristics and originality of that flight.



Maria Szemplinska

Imagine if, like our friends the birds of prey suspended in space, we one day learned to sense the precious and infinite sources of invisible energy which sustain our gracious and elegant machines on high!

*Denis Pepin is a Quebec Soaring Club director. Flying since 1975 in his club, he has over 1080 hours as power pilot and over 1680 hours in gliders. Instructor and towpilot, he is working to optimize the safety management system in soaring clubs and aims to constantly make flight safety a priority in his community. Owner of an ASW-20, he mainly flies over Quebec where thermal, ridge and wave flights are possible. He also explored soaring over Grenoble and St-Auban (France) and in USA, over West Virginia (wave camp at Petersburg), California (wave flights at Minden) and Arizona (El Tiro desert thermals).*

## magazines

**GLIDING AUSTRALIA** – Bi-monthly journal of the Gliding Federation of Australia. <[www.soaring.org.au](http://www.soaring.org.au)>. International rates for on-line access.

**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 check or credit cards accepted. <[office@glidinginternational.com](mailto:office@glidinginternational.com)>. Register on line: <[www.glidinginternational.com](http://www.glidinginternational.com)>.

**SAILPLANE & GLIDING** – the bimonthly journal of the BGA. £39/yr airmail, £22.75 surface. <[www.gliding.co.uk/sailplaneandgliding/subscriptions.htm](http://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](mailto:feedback@ssa.org)>. (505) 392-1177.

**SOARING NZ** – Personal check or credit cards accepted, NZ\$122. McCaw Media Ltd., 430 Halswell Rd, Christchurch, NZ <[j.mccaw@xtra.co.nz](mailto:j.mccaw@xtra.co.nz)>.

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

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

**Windpath** 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](http://www.windpath.ca)>, <[info@windpath.ca](mailto:info@windpath.ca)>, (905) 848-1250.

# FAI badges

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These badges & badge legs were recorded in the Canadian Soaring Register during the period 24 November 2012 to 15 June 2013.

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**SILVER/GOLD DURATION (5 hour flight)**  
Zbigniew Sobolewski Toronto 5:09 Jantar Conn, ON  
Daegan Banga Edmonton 6:29 L-33 Solo Chipman, AB

**SILVER ALTITUDE (1000 m height gain)**  
Zbigniew Sobolewski Toronto 1450 Jantar Conn, ON  
Michel Galipeau Montreal 2007 DG-303 Julian, PA

**C BADGE (1 hour flight)**  
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Please enclose payment with order; price includes postage.  
GST not required. Ontario residents, add 13% HST.

## simulators

from page 17

**Roll-out** The two simulators were installed in the clubhouse in early April. The reception has been 100% positive, and their adoption is unexpectedly high, with users ranging from students to pilots with several decades of experience, and also walk-in visitors and intros. Some members are even making trips to the airfield on non-flying days just to fly on the simulator.

What made it successful? The simulators feel professional and they look attractive – it seems silly, but that matters. The seating posture is similar to flying a glider. We've taken the time to create instructions, and iron out glitches. Each simulator is an assembled unit (it's not easy for pieces to be "borrowed"). The units can be rolled around the clubhouse when they get in the way, instead of being taken apart. Finally, as members learn how to operate the simulators, they are happy to teach others.

**What's next?** Lots! We have many ideas for how to integrate the simulators into the official student training, and we are already working on making the simulator even more similar to a real glider. More about that in the next issue. ✦

## FAI records

Roger Hildesheim

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

The following two record claims have (finally) been approved:

<b>Pilot</b>	<b>Brian Milner</b>
<b>Date/place</b>	10 May 2012, Mifflin, PA
<b>Record type</b>	Free O&R distance: Citizen, Open & 15m
<b>FAI category</b>	3.1.4b
<b>Sailplane</b>	Ventus 2cxT N900BM
<b>Distance</b>	1028.1 km
<b>Task</b>	start/finish at Lock Haven, TP at Narrows
<b>Previous record</b>	Adam Zieba 1016.4 km
<b>&amp;</b>	
<b>Record type</b>	Free 3TP distance: Citizen, Open, 15m, Club
<b>FAI category</b>	3.1.4c
<b>Distance</b>	2078.4 km, Open & 15m, 1793.7 km Club
<b>Task</b>	start Lock Haven, TPs at Narrows, Lock Haven, Bluefield, finish at Mifflin
<b>Previous record</b>	Adam Zieba 1474.1 km, Open & 15m 1387.1 km Club

## Recommended reading

### "Test driving 54"

*This 1994 article is directed at pilots who have just bought their first glider, and to ALL pilots who are relatively new to cross-country. Gerald's story is a cautionary tale about allowing yourself to become distracted from paying attention to the world out there. By the way, he now flies a Duo-Discus.*

Check it out – it's in the 1994/04 issue.  
Download from the SAC archive.



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beechingd@sympatico.ca

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info@erinsoaring.com

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TORONTO SOARING CLUB  
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www.torontosozaring.ca

YORK SOARING ASSOCIATION  
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club phone (519) 848-3621  
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www.YorkSoaring.com

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

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www.cagcsoaring.ca

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

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www.edmontonsoaringclub.com

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www.soaring.ab.ca/gpss/

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http://avsa.ca

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www.canadianrockiessoaring.com

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## Directors

### President & Eastern

Sylvain Bourque  
cell (514) 592-0283  
bourques@videotron.ca

### Ontario

Stephen Szikora  
(519) 836-7049  
stephen.szikora@sympatico.ca

### Prairie

Jay Allardyce  
(204) 688-7627  
jay.allardyce@standardaero.com

### Alberta & Secretary/VP

John Mulder  
(403) 945-8072 (H)  
johnmulder@shaw.ca

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1-866-745-1440  
dacollard@tekus.net

### Air Cadets / Youth

Jay Allardyce  
(204) 688-7627  
jay.allardyce@standardaero.com

## Committees

### Airspace

Scott McMaster  
(519) 884-2303 & 620-0447 (H)  
scott@mcmaster.ca  
Roger Harris  
rharris@petrillobujold.ca  
Tom Fudakowski  
fudakowski010@sympatico.ca  
Bram Tilroe  
btillroe@gmail.com

### Flight Training & Safety

Dan Cook, (250) 938-1300  
cookdaniel@shaw.ca  
Gabriel Duford  
gabriel.duford@videotron.ca  
Joe Gegenbauer  
geg@shaw.ca  
John Toles  
j.toles@shaw.ca  
Dean Toplis  
dtoplis@rogers.com  
Safety Officer: Dan Daly  
dgdaly@hotmail.com

### Insurance

Keith Hay (403) 949-2509  
insurance@sac.ca

### Medical

Dr. Guy Thériault  
theriaultguy@hotmail.com

### Sporting

Jörg Stieber  
519-662-3218 (H), 662-4000 (B)  
joerg@odg.com

Chris Gough  
christophermgough@gmail.com

Steve Hogg  
hoggwild@telus.net

Walter Weir  
2waltweir@gmail.com

Contest Letters: Chris Gough  
Badges: Walter Weir  
2waltweir@gmail.com

Records: Roger Hildesheim  
rogerh@ca.inter.net

Trophies: Phil Stade  
asc@stade.ca

OLC help: Tony Firmin  
t-firm@rogers.com

### Technical

Paul Fortier (613) 258-4297 (H)  
paulfortier1@juno.com  
Chris Eaves  
mail@xu-aviation.com  
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