

# free flight libre



2010  
Summer



C'EST AVEC PLAISIR que je succède à John Toles en tant que président de notre association. John se retire après 4 ans de loyaux services bénévoles. John Mulder me succède comme V-P.

Autres nouvelles du dernier AGM de Vernon: la catégorie de membre "Cadet de l'air" a été remplacée par "Jeune". Sa définition: tout membre de 18 ans ou moins lors de son inscription. Ceci enlève la discrimination d'origine car avant seulement les cadets de l'air pouvaient accéder à cette catégorie. La tarification du membre "Jeune" est gratuite comme ce fut le cas pour le cadet avant. La catégorie de membre "Étudiant" (Junior) est un membre de 19 ans à 21 ans ou 19 à 25 ans et étudiant à temps plein. Pour plus de détails, voir <[www.sac.ca](http://www.sac.ca)> et cliquez sur "Contacts & Services".

Du côté des assurances et de la sécurité, nos réclamations d'assurances ont augmenté significativement. En 2008 et presque en 2009, le montant total des réclamations a dépassé ce que nous payons en frais d'assurance. Malgré cela, il n'y a pas eu d'augmentation de la tarification pour 2010. Pour plus de détails, voir le rapport annuel 2009 sur le site <[www.sac.ca](http://www.sac.ca)>. Du côté de la sécurité, la mise en place par les clubs du NSP (National Safety Program) diminuerait grandement les risques liés à notre activité. Le taux de décès annuel moyen Canadien d'un pilote de planeur par 1 000 est inacceptable. Notre voisin du sud fait deux fois mieux que nous. Le leader mondial est la Norvège avec un taux de 1 par 10 000. Nous ne pouvons continuer ainsi. Le pire, c'est que les décès de pilotes de planeurs ne sont pas causés par des débutants ni par des attitudes téméraires. Ils sont en grande majorité liés à des pilotes très compétents, prudents et très expérimentés. Un grand pourcentage des accidents sont liés à des conversions sur nouveau type de planeur. Nous devons tous individuellement faire quelque chose pour diminuer le taux d'accidents et de mortalité au Canada. Que pouvez-vous faire pour y contribuer? Le NSP est un excellent moyen d'y arriver. L'amélioration de la sécurité de notre sport au Canada doit être la priorité de tous. Notre activité se fait en groupe, il faut donc garder l'œil ouvert et partager nos inquiétudes avec nos officiers de sécurité et Chefs instructeurs locaux.

Le prochain AGM de l'ACVV-SAC aura lieu l'an prochain dans notre zone dans la ville de Québec le 19 et 20 mars 2011. Il aura lieu à l'Hôtel Château Laurier dans le vieux Québec. CVV Québec organise cet AGM et les ateliers sont en préparation.

De nouveaux membres des CA de vos clubs respectifs doivent être en place. SVP avisez le bureau national <[sac@sac.ca](mailto:sac@sac.ca)>, de vos nouveaux CA locaux : Présidents, VP, secrétaires, directeurs, trésoriers, chefs instructeur, chefs pilote remorqueur, SO's et OO's respectifs. Ceci a pour but d'améliorer nos communications. Je vous souhaite une excellente et sécuritaire saison de vol 2010 !



I HAVE THE PLEASURE to be the new president of SAC. John Toles, past-president of our association, has stepped down after four years of dedicated service. John Mulder will succeed me as vice-president.

At the Vernon AGM, there was a slight membership category change: "Air cadet member" was renamed to "Youth Member". A Youth Member is a regular member who is 18 years of age or less at the time of becoming a member of the association for the current membership year. Junior includes members aged 19 to 21 or a full time student 19 to 25 at the start of the membership year. For more details go to <[www.sac.ca](http://www.sac.ca)> and click "Contacts & Services".

Our insurance claims rose significantly over the past two years. In 2008 and 2009, the total claims were higher in 2008 and almost the same in 2009 than what we paid in insurance premiums. A good part of accidents are related to conversions to new types of glider. For more details, look at the 2009 SAC annual reports at <[www.sac.ca](http://www.sac.ca)>.

On the safety side, the NSP (National Safety Program) will help to lower the risks related to our activity. The Canadian annual death ratio is nearly 1 pilot killed out of every 1000. This is unacceptable. In the USA it is twice as good. The Norwegians have the best ratio, about ten times better. We cannot continue like this. Our accidents are not made by beginners or daredevil pilots – pilots who are killed in gliders in Canada are usually experienced, prudent and competent pilots. We must do something individually to improve this poor accident and death record. What could you do to contribute to safety? The NSP is a perfect way to do so. The improvement of safety in our sport should be the priority of all of us. Keep an eye focussed on this and share your concerns about safety with your local CFI or Safety Officer.

# free flight

vol libre

2010/3 – Summer

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

ISSN 0827 – 2557



**handicapping 20m and 13.5m  
current vs proficient**

**North Battleford's Nationals**



**ridge soaring at its best  
microlift sailplanes  
achievements**

The 2011 SAC AGM will be held 19-20 March in old Québec City at the Château Laurier hotel. CVV Quebec will be the host of the AGM.

New club boards should be in place by now. Don't forget to pass your club board info to <sac@sac.ca>: president, VP, secretary, directors, CFI, SO, chief tow pilot and OO's. This is to help improve communication within SAC.

Have a good 2010 soaring season!

- 4 considerations for world competitions ♦ *Bob Henderson*
- 5 legal, yes – but safe? ♦ *SSA Soaring Safety Foundation*
- 6 six days of challenging flying ♦ *Tony Burton*
  - weather summary ♦ *Todd Benko*
  - learning the CD trade ♦ *Doug Scott*
  - the metric wrench retrieve ♦ *Al Hoar*
  - there's an airport around here somewhere ♦ *Carol Mulder*
  - FAI class, Day 3 ♦ *Jörg Stieber*
  - what I learned at the Nats ♦ *Guy Blood*
  - Club class, Day 3 ♦ *Bruce Friesen*
  - on communication ♦ *Doug Scott*
  - Selena in the sky with gliders ♦ *Selena Boyle*
- 12 two days on The Ridge ♦ *Tony Firmin*
- 14 the Archaeopteryx and the LightHawk ♦ *Myles Hynde*
- 17 planning a badge claim ♦ *Basil Fairston*

## DEPARTMENTS

- 20 **In passing** — obituaries for Hugh McColeman and Doug Bremner
- 26 **FAI Badges** — current badges
- 26 **FAI Records** — new record

**Cover** A dead sky. Dual landout by 4E and DM (Dan Cook in the background). An oft-told tale at the North Battleford Nationals. The land-out road referred to in the article is just behind the camera. photo: Alan Hoar

# Handicapping 20m and 13.5m class World competitions

Bob Henderson, IGC President

## The 20m Class

The definition of this class in the Sporting Code allows for the aircraft to be handicapped. It would seem that this class should be a handicap class at the World Championships to enable a reasonably level "playing field" for the competition.

If handicaps are not used it is possible that this class could become the home of only a few very high-performance aircraft which goes against our objective of increasing participation. In my opinion, such aircraft should fly in the Open class where their maximal performance can be utilized.

## The 13.5m Class

In 2009, the IGC plenary meeting discussion included comments that this class should have a mass limit of 300 kilograms. The decision taken at the 2010 plenary session sees this class established but with no mass limit. It could, therefore, conceivably turn into a design race of trying to get more and more mass into a 13.5m airframe, thus increasing the wing loading.

However, as we have seen from a recent debate on the "igc-discuss" e-mail group, there are many aircraft within the 13.5m grouping and we should be looking at encouraging the development of this class as a true "light-end" group, not a shadow of the Standard class.

The suggestion is that we adopt either 300 kg as the maximum mass (or an equivalent wing loading limit). This would have the following effects:

- For those countries who design to CS-22, it keeps the aircraft design out of the full certification requirements, therefore reducing cost and complexity.
- It would align the aircraft with the "micro-light" requirements adopted in many other countries and enable development of 13.5m designs as microlights, again reducing cost and complexity.

- It would accommodate the PW-5 in its present form and, by doing so, would forestall any development race to increase the take-off mass of the PW-5 (which would increase costs for current owners).

- It would ensure that existing aircraft that fit within the new 13.5m class are not immediately disadvantaged by newer, heavier designs.

The bottom line here is that we need to give designers a clear message about our expectations for this class and we need to protect the current owners of these aircraft from spiralling costs.

The "Light-end Working Group" of the IGC has been asked to look at this question but if you have an opinion on whether a mass limit or a maximum wing loading should be applied to the 13.5m class, please e-mail me <[bob.henderson@xtra.co.nz](mailto:bob.henderson@xtra.co.nz)> or Eric Mozer <[emozer@deltamold.com](mailto:emozer@deltamold.com)>.

## Maximum wing loading

We have used maximum wing loading now for three years at various sailplane Grand Prix races to reduce the performance differences between aircraft flying in the GP, especially when we have Standard class aircraft competing with 15m ships. This practice has been accepted by the Grand Prix pilots and was last used in Santiago in January 2010.

As a result of this experience, the IGC Bureau are thinking about whether we should change our current sporting mass limits to maximum wing loadings for each of the championship classes where limits are applied. This is going to take a bit of research and modelling to ensure that a sensible and appropriate limit is specified, but we are hoping to bring a proposal forward for discussion at the IGC plenary meeting in 2011.

Why mention this here? The reason is that this limit may first be applied to the 13.5m class as discussed above. ❖



## The SOARING ASSOCIATION of CANADA

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

*free flight* is the official journal of SAC, published quarterly.

Material published in *free flight* is contributed by individuals or clubs for the enjoyment of Canadian soaring enthusiasts. The accuracy of the material is the responsibility of the contributor. No payment is offered for submitted material. All individuals and clubs are invited to contribute articles, reports, club activities, and photos of soaring interest. An e-mail in any common word processing format is welcome (preferably as a text file). All material is subject to editing to the space requirements and the quality standards of the magazine.

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

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

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## ASSOCIATION CANADIENNE DE VOL À VOILE

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

**free flight** est le journal officiel de l'ACVV publié quatre fois par année.

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

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

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

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

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

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# Current vs. proficient legal, yes - but safe?

extract from a paper by SSA's Soaring Safety Foundation

IN RECENT YEARS, the US National Transportation Safety Board determined that the failure of the pilot in command to maintain control of the aircraft has been cited as a recurring probable cause in a number of glider accidents. For the five-year period 1991–95, for example, 26 glider accident investigations were concluded with this brief and compelling statement: *Furthermore, the number of accidents in which loss of aircraft control is a factor increases dramatically with the inclusion of stall/spin related events.* However, this problem is not unique to the soaring community; a report using NTSB accident data for 1995 indicated that almost one-half of the fatal general aviation accidents occurring in that year involved loss of aircraft control as a primary or contributing factor.

Accidents, which result from loss of aircraft control, typically involve multiple contributing factors, the most notable of which is pilot proficiency. Proficiency is, "the state of performing a given skill with expert correctness". Unlike other activities, proficiency as a pilot encompasses a wide range of required knowledge and skills, including the ability to operate the aircraft in a precise and coordinated manner, an understanding of the regulatory requirements for operations in the national airspace system, and a knowledge of the aircraft and related systems. Furthermore, a pilot must be able to continuously evaluate the effects of a dynamic meteorological environment on the conduct of the flight.

The importance of maintaining proficiency increases proportionally with advances in aircraft design and technology. The FAA, recognizing the importance of proficiency in these critical skills, created regulations to define the minimum level of activity required for a pilot to exercise the privileges of his or her pilot certificate.

The first of these regulatory requirements is that no person may act as pilot-in-command of an aircraft unless that person has accomplished a flight review in an aircraft for which the pilot is rated within the preceding twenty-four calendar months. This review requires a minimum of one hour of ground training and include one hour of flight training on those maneuvers and procedures that, at the discretion of the person giving the review, are necessary for the pilot to demonstrate the safe exercise of the privileges of his or her pilot certificate. Of course, the flight review must be conducted by an authorized flight instructor and a record of the satisfactory completion of the review must be entered into the pilot's logbook or permanent record.

The second regulatory requirement is that no person may act as pilot-in-command of an aircraft carrying passengers unless that person has made at least three takeoffs and landings within the preceding 90 days. These takeoffs and landings must have been accomplished in an aircraft of the same category (airplane, glider, etc.) and the pilot must have acted as the sole manipulator of the flight controls.

The rationale for these regulations is based, in part, on certain aspects of the human learning process. Professor Edward L. Thorndike, an early pioneer in educational psychology, theorized that the ability of an individual to learn new skills, or to retain previously acquired skills, is influenced by certain conditions. These conditions, referred to as Thorndike's Laws, have served as the foundation of aviation instruction for many years.

The first of Thorndike's Laws that pertain to a pilot's ability to accomplish specific tasks is the *Law of Exercise*, which states that tasks most often repeated are best remembered. Consequently, to maintain a minimum level of competency in a specific task, it is important to perform the task on a regular basis. In other words – the old adage, "practice makes perfect" is good advice.

⇒ p22

# North Battleford's Nationals

Tony Burton, E2

**W**HEN THE NATIONALS DATES were being considered last year, Dave Springford said thank God the previous week hadn't been selected. Our contest manager, Phil Stade, was seen out on the tractor filling gopher holes and mowing the runway verges on the opening weekend as airport staff were unable to cut the wet field in time for us.

Twenty-five pilots from Southern Ontario to the Fraser Valley in BC were on hand with a glider-friendly long-range weather forecast in sight. Alberta and Saskatchewan organizers had been holding competitions at the airport the last two years to work out the kinks for a large contest. The 5000 foot main runway nicely allows gridding to be done at the mid-point so that towplane landings can be done right up to the take-off point. Handy.

## Weather summary

Todd Benko, contest meteorologist (and grid boss)

**P**RIOR TO THE CONTEST, the area had been subjected to active frontal wave weather in which total seasonal annual precipitation amounts occurred in the area in May and June. The contest area was mainly subjected to the cool spring continental polar air mass. This was the foundation for the generally unstable convective properties of the air mass. During the contest a frontal wave with the moister continental tropical air mass pushed right up to the southern Saskatchewan areas. In addition, the cooler continental arctic air mass had formed a frontal wave down into the mid to northern Saskatchewan regions. As a result the contest area was often under the influence of frontal weather systems in the northern and southern contest areas.

The first part of the contest was influenced by a very active frontal wave from the south. Sometimes frontal-caused cirrus or cirrostratus clouds would push into the region and affect the soaring conditions. At one point the two frontal waves were less than 100 km apart and a trowel brought the moist tropical air up and over top of the Arctic air mass. This trowel structure brought a deluge to some parts of the contest area. The instability of the frontal wave structure provided an interesting experience where weather forecasting was particularly challenging. At times "now-casting" had to be the call of the day since soaring weather conditions could literally change by the hour.

On one day the general soaring outlook was defined as "very good to poor", as the potential existed to swing the conditions from one extreme to the other. One day the task committee chose to select three different tasks to create the first leg in all quadrants of the sky. On that day all pre-arranged tasks had to be cancelled and a task D was used to make it a flyable day. On another day the task changed twice on the fly, during the grid and launch process. All were directly associated to the volatility of the conditions. The last flyable day appeared to be the best fair weather cumulus day but one of the most challenging to fly.

The biggest hassle was runway access and the tight rules on vehicle movements better suited to airports that had actual regular power traffic. We found that the rules had been further tightened this year and, in addition to carrying a flashing yellow light and making normal radio announcement of intentions, drivers had to write an exam on airport movements procedures and have proof of their radio communications certificate! In exchange, we *did* commandeer the terminal building – it was very roomy accommodation for the meetings, scoring, and general gathering. Dan Cook had the three big screens and 'glider' of the SAC gliding simulator set up in the passenger area. The parking lot and grass outside also became a motorhome and tent gypsy camp.

**June 13 & 14** It's a bit unusual to actually get in an opening pilot meeting and some soaring on the first practice day. A small task was set for pilots to aviate and have a look at the territory. The countryside is generally flat to gently rolling with lots of small lakes and the major feature of the mighty North Saskatchewan River. The previous rain had left wet spots on fields but it was rapidly drying out. The day was blue and windy with sheared thermals going to about 5500 agl. The second practice day's weather was a puzzle for Todd – a cold front was sliding in from the west and some cold air advection "might" produce some cu later in the day. It did, but the short task was a bit of a struggle for most pilots who gave it a try.

**June 15** The contest opened with a tough call for the weather man. A big trough was sliding along the contest area with the possibility of some soaring to the west and northwest if any sun hit the ground, but lift was to quit mid-afternoon with the promise of rain showers. We all had a quick and early practice grid to the centre of the runway and waited under thick cirrus and an enticing blue sky on the western horizon. It didn't get any closer and a delay was called until 2 pm so pilots could get missed lunches. With no change at 3 pm except for some local weak cu under the overcast, the day was scrubbed.

A half hour after that the cirrus just evaporated overhead and great looking cu appeared and the task was achievable, except for the operational detail of launching and starting everyone. The task committee of Dave Springford, Tony Burton, and Ryszard Gatkiewicz just hate that when it happens. Naturally, a couple of pilots flew for a few hours – Bruce Friesen went to the far edges of the task circles in his Standard Austria, *Scarlet Lady*.

Everyone was hosted to a steak barbeque that evening at the Air Cadets hall. The cadet group have been enthusiastic supporters of the Nationals and spent a lot of time

in preparation grunt work on the airport. They even renamed their hall the "Hawk Hall" in our honour and offered to open it for our use any time.

The evening entertainment was the round of introductions by all the pilots. Now usually that's a quick, "Hi, my name is Bruce, I'm from the Stratus Gliding Club and I'm flying the LS-14." This time, intros took an hour and a half as each pilot related stories on how long they had been in the sport, what got them hooked and some memorable flying tale. The wide range of personal thoughts and experiences were a hit.

**DAY 1 June 16** The soaring problem? – would the temperature get high enough for convection to occur. The high cloud from the trough was still present but the cold airmass would work if we got to 21°C. The expected cu didn't appear over either of the planned A or B tasks even while the grid was launched, but good cu was forming under the cirrus in a broad northeast-southwest band overhead. The task was changed in the air to a 3 hour "choose your TPs" MAT. It had pilots using what was available, and the contest was on.

When I was having a late meal with Al Hoar and scorer Mel Blackburn (new to *Winscore* but ably backed up by Dave and Luke Szczepaniak when the program acted stupid), Al handed me a handwritten version of his wrench anecdote (see

next page). "Sorry Al", I said, "this editor doesn't accept analog material any longer." That got the conversation going on what formats could also be offered – like dictation. Suggestions went downhill from there to song. But what style – Gregorian chant? By the way, Mel helped retrieve Ron Cattaruzza (KM) who had landed near Biggar, about as far south as one got. That delayed getting the first scores posted, and Mel was threatened with being chained to his desk for the remainder of the contest while someone fed and watered him.

**June 17** The stalled front down in the south corner of Alberta / Saskatchewan had been giving us the high cirrostratus cloud since we arrived. It moved enough to bring its rain up to us, and the day was cancelled. This was the system that caused flash floods around Maple Creek and washed out the Trans-Canada highway there.

**DAY 2 June 18** The wet system was moving out and the good soaring conditions were forecast provided that a wet mid-level did not produce overdevelopment. The visibility was poor from the high humidity. There was cu by 1 pm but the thermals were generally poor and scattered except right near the airport. As a result, the task backed up to the shorter one of Paynton – Rabbit Lake with a 2.5 hour minimum for Club.

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## Learning the CD trade

Doug Scott, apprentice CD

**T**HIS YEAR I VACATIONED in North Battleford, Saskatchewan at the 2010 Canadian Nats. I was apprehensive due to the constant rain the province has experienced, and that rain was evident all the drive out. I stayed one night with my friends John and Joyanne Toles and offered them a "hostess" present. I explained it was what we in the east call "sunscreens" – perhaps they might find it useful on out-of-province vacations. "What a novel idea!" they exclaimed. At their garage sale I shrewdly purchased a genuine souvenir Saskatchewan Roughriders hat, and during the contest frequently declared myself a huge fan, so that I might blend in with the locals.

I arrived from Ontario at the invitation of the Saskatoon club as guest tow-pilot. Within minutes, I was asked by Phil Stade, the contest manager, to be the Contest Director, a position for which I had no competency and no training. It was obvious that the volunteers were overloaded. In a moment of weakness I said I'd try. I am pleased beyond belief at the degree of help, cooperation, patience, understanding and forgiveness that was evident. And it wasn't only directed to me, everyone knew that we were shorthanded and cheerfully pitched in where needed, using creative means to solve problems and resolve issues, to make the whole gang happy in the air and on the ground.

The venue is somewhat unusual, being a municipal airport rather than a club. This meant sharing runways and airspace, and we all camped on the property. There were lots of tents, campers, and motorhomes in close proximity, so sights (pajamas with Smurfs on them), sounds (snoring), and smells (cooking, I think), were unavoidable. One night Gary Hill claimed that if we heard Mary Lou shouting, "Stop licking me, I want to go to sleep", that she would be, in fact, speaking to the dogs. The phrase immediately became our mantra.

With no infrastructure here to support a gliding contest, we had to go across town to shower, and tow the gliders a kilometre to the grid. We could not have done it without the support of the local Air Cadets, the town council and the folks at *Battlefords Airspray* (the main operators at the field).

For my role, it was clearly explained that we needed a Contest Director to do all the things outlined in *The Contest Cookbook*. I have been to many contests, usually towing and crewing, but have never had responsibility beyond Chief Towpilot. I have watched Larry Springford and Bob Mercer, but with no knowledge of how they prepared for what they said or did. Once I was involved – no – committed, Dave Springford told me that Larry considered being a CD the most stressful thing he had done since retirement. I figured that if all went smoothly, then I would only have to recruit a few folks who already knew their roles, and chair a few meetings.

I was unfamiliar with the rules – if you are ever asked to be a CD, get a copy of the rules in advance, not halfway through the contest. I did my best to make fair and consistent decisions. I kept asking myself, "WWLD" (What Would Larry Do?) An example of that arose when there was an occasion to think hard about how "fair" and "chance" are to be interpreted in Rule 17.1 that states that the CD shall not declare the Start open unless every competitor has a chance for a fair start. I was spared the agony of this problem when it did arise, because I was flying the towplane at the time. I was fortunate, as each and every day our team on the task committee was able and willing to monitor changing conditions and situations and make judgement calls on the fly. My only decisions were to delegate the work to them and to accept responsibility for the outcomes of their decisions.

We had a skilled weather forecaster, Todd, who worked with me on the task committee. The rest of the job was essentially running meetings to ensure all pilots knew the rules, what was going on, and how to be safe. ❖

## The metric wrench retrieve

Ryszard (7V) decided to take Practice day 2 quite literally, accomplishing his first launch of the year, first thermals, first turnpoint and, for completeness, first land out. I borrowed Mel Blackburn's car, followed the excellent Google map directions, and after 20 minutes found Ryszard and 7V neatly parked by the side of a gravel road on which he had landed, her tail deep down in the ditch and her nose pointing skyward in a winch launch attitude. We pulled 7V up onto the middle of the road, completely blocking any traffic, and realized that we needed to move the glider 1/4 mile along the road to a wide area at a field approach in order to derig and store the glider.

Our idea was to tow the glider along the road, using a rope and the trailer. The rope we had was small diameter and soft – it simply slipped from the tow hook when pulled. We needed a Tost ring or equivalent. We searched the car and first tried using the loop end of a crescent wrench. That was too big. We tried a bungee cord hook, that didn't. Mel's toolbox had several sizes of metric wrenches that caught our eye as they had different sized holes in the handles which might do the trick.



We found that a 14 mm wrench fit just right and stayed tightly hooked. A quick clove hitch around the wrench with the rope gave us what we needed, a secure way to tow the glider along the road and thus complete the *Metric Wrench Retrieve*.

Al Hoar, 4E

## There's an airport around here somewhere

Carol Mulder, JJ

I had the great idea to just do out and returns with the two turnpoints down the river valley, but instead decided to venture north to Hafford. Although the clouds looked good, the lift petered out after I got about 20 km away. Too far away to head for home, I decided to continue on towards Hafford since at least there was an airport there. When I got there, I was about 1500 agl, and I was looking for the airport. A short glide over the town, but I couldn't find the airport! With the altimeter winding down, it was time to pick a field. I had seen two on the way into town, so I headed back that way. An inspection showed a small slope, so I decided to land up the slope and with the wind.

As soon as I rolled to a stop and removed the canopy, I saw a wind sock about 100 feet away. Could I have landed on the other side of the fence from the airport? I walked over to investigate, and sure enough between the fence and the trees there were some overgrown, faded pylons. Looking at the field I picked compared to the "airport" – my field won hands down. I decided to ask for an areoretrieve, and happened to have Bob Hagen's cell number. When Bob answered, I said, "It's your favourite customer!" He said, "Gary?" I said, "No." He said, "Selena?" I said, "No, it's Carol!" "Oh, Carol – OK, I'll come get you." Bob agreed with my assessment of my field vs. the airport, and we towed away.

The Club class launched but had no cu to work with. Though some local lift allowed slow climbs to the max 7000 foot msl start height, only three got around. From the start it was a straight glide to the ground for six gliders – I almost joined Guy Blood (QL) and Hank Hees (GR) in the same field but hung on to little bits of lift for dear life, taking a full hour to climb from 1100 to 4700 agl. That got me high enough to reach actual cu in the weak sunshine on the second leg, making the remainder of the flight a lark. The fact that it was a contest day at all for Club was the result of Gary Hill's decision to withdraw from the contest. That brought the number of participating pilots to twelve – the minimum 25% completions then became three rather than four.

The FAI class had a very late start of around 4 pm. It followed a lot of radio discussion in the air by the task committee and a delay to ensure that the last pilots in the grid had a chance for a fair start as a result of deteriorating conditions around the airport at the end of the launch. In the end, the task for the FAI class shrunk to the minimum 1.5 hour open choice of turnpoints (MAT). Most pilots went north to the cu and had reasonable results. Both days were devalued significantly.

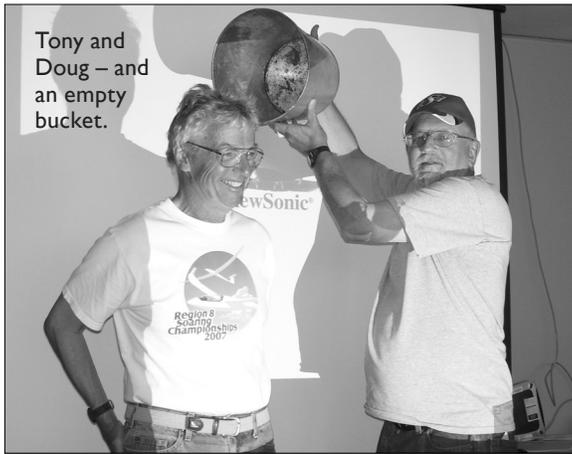
Dan Cook (DM) reprised the "Gimli Glider" fuel starvation event as his Cambridge was displaying distance in "nm", not "km", and he missed the start circle by a factor of 1.85 and got no points. Mike Thompson (M1) won and jumped to first while Nick Bonnière (ST) retained second place.

**June 19** The day began with the usual grey cirrus covering the sky. The forecast indicated the possibility of soaring but with a lot of high cloud and scattered showers and CBs. The contestants were ordered to prepare for some task and to have the gliders ready to convoy to the mid-runway grid position. The sky lightened up at noon and tasks were set.

A large, dark street then developed from overhead to the southwest, and at 1 pm I was launched as the sniffer and almost immediately on tow over the city went through the start of rain. A downpour was soon right on top of the airport; it soaked every pilot no matter what wing they tried to hide under, and the day was cancelled. It was the only shower that developed. I could fly around the mess and had an enjoyable 1-1/4 hour flight. A bucket of water had been planned for my head to even the score, but I said that I had left my car windows open.



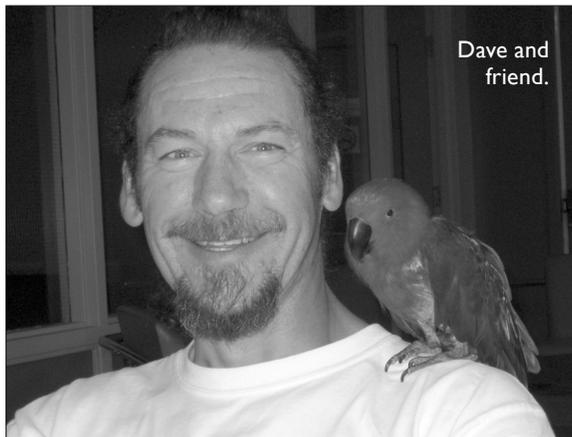
The view from inside the cockpit of BY.



Tony and Doug – and an empty bucket.

By 4 pm the sky turned an odd colour, identified as “blue” by some, and with that the prospect of better times.

The day ended with a pizza-and-beer night in the terminal. The soaring simulator got used a lot – it’s very realistic – KM flew it right into a cloud and the scene went grey and we took bets on what attitude the glider would be in at the exit (pretty nose down!). The party was brightened up by Echo, Al’s noisy and feather-challenged red parrot. It got lots of attention – and there are a surprising number of parrot jokes out there.



Dave and friend.

**DAY 3 June 20** The forecast looked very promising and 4 hour tasks with three turnpoints and 30 km circles were set that allowed a maximum/minimum flight of 576/254 km for the FAI class and 522/199 km for Club.

The typical airport blue hole then appeared as a result of yesterday’s rain, and the sniffer fell out after a lot of grinding around, and some Club launches did too. The northwest turnpoint area was developing a huge CB. So, while the rest of the Club class was towed around 1 pm, the task committee chose new turnpoints to the southeast and west where the sky was showing much better prospects. Everyone had difficulty with pre-start climbs, the most unfortunate being Frank Cwikla (BY) who gave up after three launches.

It turned out well for most and was the only 1000 point day of the contest – the task area had lots of cu with some blue areas – and there were no landouts. Some areas on the second leg had weaker cu and water was dropped by

## FAI Class Day 3 – Sunday, June 20

Jörg Stieber, JS

The day started out great: The sky was clear and the air felt cool and fresh. What a welcome break from the mixed weather we have had in the contest so far! At breakfast a text message from my daughter came in, wishing me a happy Father’s Day and a good contest day.

A 4-hour Turn Area Task was called with an early grid to make full use of the day. Club class was first to launch and only when more and more of them landed back at the field, it became clear that conditions were developing a lot slower than forecast. The 4 hour turn area task (TAT) was reduced to 3 hours. The turn areas for the FAI class were: Lizard Lake (30 km radius), Unity Airport (20 km), and Neilburg airport (25 km). The min/nominal/max distances of the task were 150/296/450 km.

When the FAI class launched, the conditions had improved significantly. It was no problem to connect off tow and climb to the 7000 ft ceiling of the start cylinder. With strong lift and a 3 hour task ahead, there was no point waiting around once the start gate was open. I started with Nick in ST and a number of other contestants. ST and I had a great run together on the first leg. The cu lined up nicely allowing us to stay high and only stopping occasionally for 5–7 kt thermals. We passed about 5 km to the east of Lizard Lake, the center of the turn area, when the line of cu ended and we looked at a blue area ahead with only one lonely cu in it. We both turned at our present location instead of pressing on, particularly since the cu lined up nicely for the second leg.

I lost sight of ST shortly after the turn. The flight computer indicated that I pretty much had to max out the remaining two turn areas in order to fully utilize the 3 hour task window. Consequently I aimed for the southern edge of the turn area around Unity. Conditions remained very good. As I made good progress on the second leg I started to regret carrying only 60 kg of water ballast.

As I approached my intended turnpoint, the cu became fewer and it looked pretty blue on the next leg. After turning, I dialed the speed setting back to 2 kts since there was a glide ahead through blue conditions to a promising looking cu about 15 km on course. I arrived under the cu at 4500 msl (2500 above ground) and started searching. Initially the lift was a disappointing 2-3 kts but after a few corrections I hit the mother lode in form of a solid 7-8 kts which got me back into the working band in short order, topping out at 8000.

I followed a cloud street into the NW quadrant of the third turn area. Unfortunately it ended northwest of Neilburg, the center of the turn area, so it was time to turn and head home. I climbed as high as possible under the last cloud of the street to traverse the 30 km blue area on course. Heading for a big cu in the distance, I noticed some wisps forming over a gravel pit which gave me a welcome bounce so I arrived under the cu still within my working band and got a good climb. Dave in F1 joined me under the next cu which we both took all the way to the top to gain final glide height, even though the lift was quite a bit less than the best of the day. The direct course home looked pretty dead with no cu. To the left of course line, there was a strong cloud street leading home; however getting there required a significant detour to the left, resulting in a longer final glide distance. F1 decided to fly to the cloud street. I opted for the direct line – I had marginal final glide altitude, although with 60 km to go. The final glide margin improved by pulling up in lift occasionally which was indicated by wisps. The last 20 km I could run with a solid 100 kts to a comfortable finish. The direct route did turn out to be faster than the detour to the cloud street.

*This flight earned Jörg the Dow Trophy for the best FAI flight of the contest.*

### Club class Day 3, Bruce Friesen, SL

DAWN WAS RICH in soaring promise but, unfortunately, it eroded locally at North Battleford due to the heavy shower of the day before and the saturated ground. Club class launches started, several gliders were quickly back on the ground, a hold, and then finally at 13:30 the rest of the field took off. I was fortunate enough to connect with solid lift right off tow. The task committee made an excellent decision to change the task even though we were already in the air, placing us in the best part of the sky for the entire task, a nominal 220 km triangle. It was a simple matter to transition from the wispy start zone to solid cu about 10 km on track, and to speed on from there.

Having turned right over Lizard Lake and on track to Unity, within the first hour I feared I was going to run out of territory to consume the three hour task period. Going south of Unity, I wound up at the very back of that 30 km radius turn area, with a 94 km final leg. At no point did I feel at risk of not completing the task; the emphasis was entirely on tactics to use to best advantage the sky and the time available.

Half the class converged on the same group of thermals over Cloan, about 40 km out, to get on final glide. I moved northwest of the rest into a 5 kt core, and climbed well above my required height. Too conservative! I still expected to burn off the height with speed, but then was surprised by extended strong lift. Nose down, 90 kts, 95 kts, I had the Club class spread out below me – S5 ahead to the left; E2 ahead to the right; QL, GR and KM just behind. Despite flying at speeds unheard of for my old wooden glider (*SeeYou* showed ground speeds up to 180 km/h) I finished over a 1000 feet too high. Still lots to learn!

*This earned Bruce the Dow trophy for the best Club flight of the contest.*

### What I learned at the Nats, Guy Blood, QL

FIRST OF ALL, it was a great experience for me. Flying with some of the best pilots in Canada. From Bruce I learned about making lift and weather decisions early, and restarting when appropriate. Tony showed me persistence. He stayed in no-to-low lift for an hour, in the same area that I dropped to the ground in about 15 minutes. John Mulder demonstrated the wisdom of having a spare battery or two. Derek told me about keeping one's focus on the contest, and not try for a badge flight at the same time. Todd taught us all a lot about weather. Mel gave us instructions on the special way to turn *Spot* on. There are several traps in every piece of our technology, and if I don't do everything right, it doesn't work. I had made the assumption that the default position would be that as soon as you plug in or turn on, the system would work the way you want it to. No! I guess that's too much to expect of instrument designers.

On Day 1, I landed out in a farm field. Then I discovered: 1) no bars on my cell phone, 2) my radio battery was low, 3) mosquitoes were all over me, 4) my *Spot* wasn't doing its job. I resolved to walk out. Then my cell phone rang, cell service was available, so I called Bob Hagen for an aero-retrieve. During the wait, two pickups approached to see if I was hurt – they assumed a crash. One of the farmers asked, "Do you realize you've landed in the middle of nowhere?" The farmer's daughter asked if she could take my picture with the downed glider, "This is the most exciting thing around here since the school burned down", she said. They gave me a phone number for the owner, who gave me the okay to land the Pawnee for a retrieve. Bob had trouble finding me as I'd read the wrong lat and long coordinates off my GPS. Another tech trap that bit me! ... it's been a huge learning experience, and I recommend taking part in a competition for all new cross-country pilots.

*Guy earned the SOSA Trophy as the best novice (first-time Nationals) pilot.*

some FAI pilots. Bruce in his Austria had the second fastest speed of either class – and a huge 10.2 km/h margin over second place in Club. This flight won him the Dow Trophy for the best contest flight in the class. Jörg Stieber (JS) won the day in FAI and moved up to first overall.

Between the launch chatter and a radioed task change while trying to stay airborne, Dan flew around the course the wrong way! However, Mel forcibly persuaded *Winscore* to give Dan the distance to the first turn, although it was a devious way to get there.

**DAY 4 June 21** Midsummer's Day and it's a contest. The contest area was being squeezed between the system cirrus to the south (still) and a cold front in the north. The problem for the task committee was, once again, trying to guess what would happen with the mix of an unstable air mass and variable cirrus. Three tasks were set with the first legs going to each quadrant except the south in hope of one matching the early cu development. It was not to be, the only area looking soarable was to the south and southwest. Again a task change on the line, Luseland – Neillburg with 40 km radius turn areas, and the grid launched around 1 pm.

The conditions were a very mixed bag, good cu with some streeting that bordered large areas of no lift under thick cirrus that moved further into the task area from the south than had been hoped. Cirrus has been the dominant feature of the contest – no morning task call ever survived real life, and it has been the dominant tactical consideration for the pilots. Nevertheless, over the last two days, most finishing pilots have managed to achieve actual distances that averaged about 220 km over three hours. It's an indication that good flights are possible under challenging conditions, and a contest provides an ideal incentive to try.

The flying began with a nice little street of large clouds heading southwest that gave a quick run in rain for those who hooked on to it. When that ended, there was only mid to deeply shaded ground into the first turn and pilots picked their way between widely-spaced cu that provided 5 kts lift to 8000 feet if you could find the core. At 65 km from the first turn, I had to go into the second leg area before finding enough lift to go 25 km back to nip the first turn point's circle.

Many pilots also found it impossible to get anywhere near the second turn and were happy to touch that circle and go home. Three pilots in each class landed out and two couldn't get away from their launch. For the FAI class, the later gate opening time resulted a rain shower forming on the first leg and the pilots had to deviate 20 km to the northwest to get around it and on course to the southwest.

Selena Boyle in Edmonton's ASW-15 (S5) did well with a third place in Club. At 23 she has one more chance to attend a Junior contest in Germany next year and is gathering valuable experience. Bruce landed out and dropped to third overall in Club, boosting me to first, while Guy won the day in his Libelle. In FAI, Derek Mackie (TT) had a very good run, finishing almost 5 km/h faster than second place. ⇨ p24

## On communication

Doug Scott, towpilot

We were at a municipal airport shared by transient aircraft, scheduled runs, and Battlefords Airspray which runs a crop spray operation and a school to teach the skills. We had to share the runways and airspace, and we could not have done this without the help and patience of Pat de Kock and her husband Fran at Battlefords Airspray. They kindly avoided ops when we were active. As the airport managers, they issued us special licences to drive vehicles on the taxiways and runways. This required presentation of a Radio Operator's certificate, which they also issued.

One contestant had flown since the 80's without one, and was amazed that he now needed one in order to drive his car.

One of Fran's aircraft has alternating strobes for "see-and-be-seen." Inbound, Fran radioed for a traffic report, and was told we had 26 gliders all over at various altitudes and, even if we knew where they were, they wouldn't be in the same place for long. "Basically, there are gliders flying all around like dinner plates in a bad marriage." Pause. Then Fran came back, "Roger that, we'll turn on the flashers." When he called later, a glider pilot said they were at the I.P. Long pause. "Ah, glider, can you just refresh my memory, where the IP is today?" It was lucky we hadn't said "High Key Area."

Next day when Fran radioed in asking for traffic, Roy Eichendorf answered that he was in "the High Key Area." Longer pause. "Ah, well, we'll turn on the flashers."

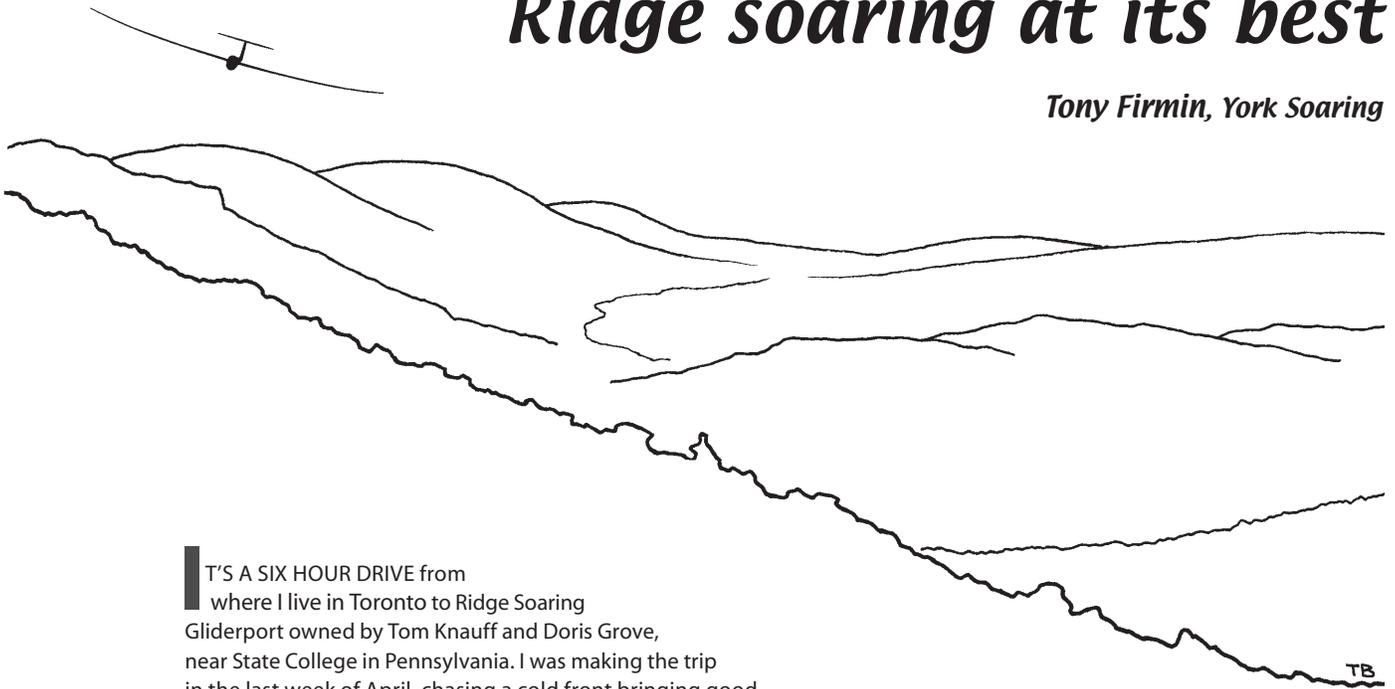
Besides terrorizing the regular users of the airport, we had the Lieutenant Governor of the province drop in with his King Air. Within moments, Phil Stade had the official pilot sharpening his skill on the SAC simulator, just in case of Vice-Regal engine failure.

2010 CANADIAN NATIONAL SOARING CHAMPIONSHIPS	16 June		18 June		20 June		21 June		22 June		23 June		total pts
	pos	kph	km	pts	pos	kph	km	pts	pos	kph	km	pts	
<b>CLUB CLASS</b>	<b>3 hour MAT</b>		<b>2.5 hour TAT</b>		<b>3 hour TAT</b>								
1 Bill Cole	3	66.3	197.1	a843	3	52.2	129.5	a745	5	75.6	243.4	801	4644
2 Tony Burton	2	67.6	232.1	861	2	53.4	138.0	762	2	84.2	256.8	892	4077
3 Bruce Friesen	1	70.9	225.6	902	1	55.2	167.7	788	1	94.4	298.0	1000	3886
4 Guy Blood	9	-	186.9	493	7	-	27.1	b92	4	79.5	257.8	843	3831
5 Al Hoar	4	63.6	202.8	809	8	-	10.5	b36	6	74.8	228.7	793	3717
6 Ron Cattaruzza	11	-	89.6	237	4	-	29.6	b101	8	70.0	209.2	a741	3101
7 Selena Boyle	10	-	105.7	279	5	-	29.5	b100	3	81.2	248.6	860	2833
8 Roy Eichendorf	13	-	-	dnc	0	10	-	dnc	0	68.1	201.4	a723	2690
9 Carol Mulder	12	-	70.2	b185	9	-	-	0	10	62.6	188.5	712	2469
10 Tim Radder	7	46.6	138.7	a689	9	-	-	0	11	60.2	190.1	707	2135
11 Mike Stoesser	8	41.7	143.2	677	9	-	-	0	12	-	114.7	242	2000
12 Hank Hees	5	67.0	199.4	a792	6	-	27.7	b94	7	72.9	217.9	a772	1732
13 Frank Cwikla	6	54.7	162.2	a710	9	-	-	0	13	-	-	0	710
<b>FAI CLASS</b>	<b>3 hour MAT</b>		<b>1.5 hour MAT</b>		<b>3 hour TAT</b>								
1 Jörg Stieber	3	83.9	251.0	a852	2	73.1	109.4	a428	1	99.1	315.1	1000	4887
2 Nick Bonnière	2	86.5	258.5	a878	4	69.9	132.3	409	2	91.3	295.5	922	4381
3 Dennis Vreeken	8	55.7	163.9	a685	5	67.9	138.6	397	7	86.0	289.3	868	4281
4 Derek Mackie	9	53.0	155.9	a679	6	65.4	97.8	a384	7	82.4	272.1	832	4260
5 Mike Thompson	4	80.3	238.5	a816	1	82.4	123.8	482	3	88.0	280.1	889	4143
6 Luke Szczepaniak	6	74.8	244.5	760	3	71.5	112.5	418	6	83.3	268.7	841	4139
7 Dave Springfield	1	92.1	275.8	a935	8	45.0	101.0	360	5	83.9	280.9	847	4093
8 Ryszard Gatkiewicz	5	79.4	251.7	806	9	-	50.3	b115	8	76.9	253.9	776	3894
9 John Mulder	10	44.9	147.4	663	7	54.1	80.9	a370	9	72.0	238.2	727	3721
10 Team 1	7	60.0	195.9	694	11	-	23.5	b53	11	62.2	227.4	692	2560
11 Dan Cook	11	-	79.7	b178	12	-	-	d0	12	-	28.3	b55	2043
12 Team C8	12	-	-	c0	10	-	35.8	b81	10	69.4	229.7	707	1301

Penalty codes a = flight time less than minimum b = distance less than min 80 km c = no flight log d = invalid start dnc = did not compete

# Ridge soaring at its best

Tony Firmin, York Soaring



IT'S A SIX HOUR DRIVE from where I live in Toronto to Ridge Soaring Gliderport owned by Tom Knauff and Doris Grove, near State College in Pennsylvania. I was making the trip in the last week of April, chasing a cold front bringing good soaring conditions to the Allegheny ridges that make for epic flights. Flying along the ridges for mile upon mile is a special kind of thrill for glider pilots and this is one of the finest places in the world to do it. When the wind blows out of the northwest it is possible to make long runs a few hundred feet above the top of the ridge. As I drove I was musing on the flight I had made the previous week. It had been a memorable flight from Ridge Soaring to Williamsport on the northernmost end of the Bald Eagle Ridge and then north over the wood covered hills of New York State to Elmira, and Harris Hill, the home of the National Soaring Museum and then back to Ridge Soaring, a trip of about 420 km. This was a task I had wanted to complete for some time and now it was done. So what would be my new objective?

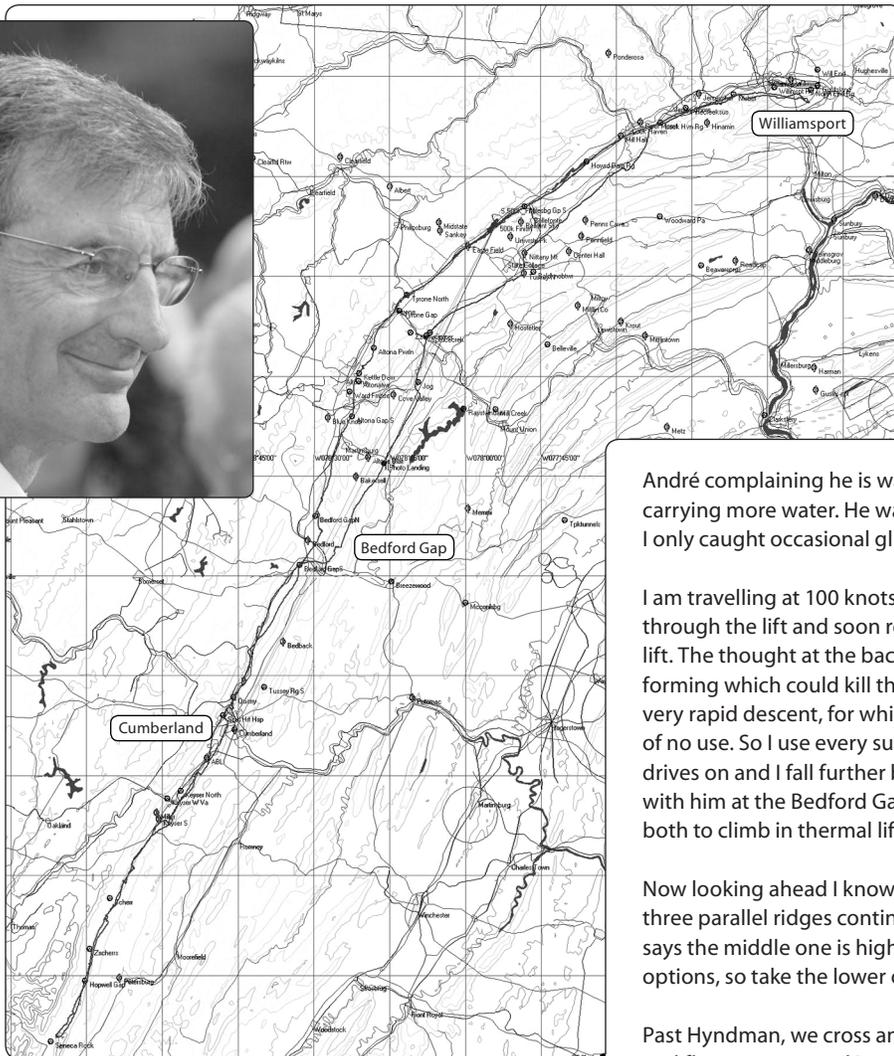
Two possible fun flights occurred to me. The first was to go further south than I had previously flown, past the Altoona and Bedford gaps to Cumberland, Maryland. The second was to do a circular trip that would require flying south on the Bald Eagle Ridge to Altoona then crossing east to Tussey Ridge, and flying north past the east side of State College and jumping to the Nittany Ridge, following this back up to the Bald Eagle Ridge. Both of these are well trodden paths for the many ridge runners preceding me, and well documented by Tom Knauff in his book *Ridge Soaring the Bald Eagle Ridge*.

I had been watching the weather models for the last few days and the 'perfect storm' was about to occur. A low, centered to the northeast of the area, was slowly moving off to the east and a high was moving in from the west. Therefore the winds were from the northwest and, at ridge height, would be about 20 knots the next day. The passing cold front was leading a parcel of cold air from Canada and would provide a depth of convection of 7-8000 feet which means the thermals would also be good when needed. The downside was the temperature that would be just above freezing when I was rigging and would remain that way, at ridge height, for the duration of the flight. Good job I remembered to throw in my thick wool socks; pity I forgot my fleece!

Arriving at the glider site midafternoon, I drove straight to my trailer which, to my horror, was no longer there – a folding lawn chair had taken its place! I soon discovered that Mike Robinson (God bless him), earlier that day, had decided to patch up a couple of nicks I had asked him to fix and my wing was now sitting in his workshop with the new gel coat recently applied. Fortunately it was only the aileron and he agreed that I could put the wing back in the trailer that afternoon and return the trailer ready for the anticipated early start the following morning. I then discovered that André Pépin had arrived with 'Delta Bravo'.

The day started at 7 am with a good breakfast at the Waffle Shop in State College; I thought this would probably be the last time I would eat for twelve hours. As expected, the morning air was fresh and the wind was blowing, though in the valley at the foot of the ridge, I could not feel the 20 knots I knew was blowing higher up. A group of pilots had already rigged and were ready to launch when I arrived at 8:30 am. I noted a thick layer of frost on the front of the trailer and was glad I had two shirts and warm pants to protect me against the elements. The sun was shining but soon a low level of convective cloud developed above the valley and another layer of damp air appeared but we had confidence this would burn off as the air in the valley warmed. I let it be known I was hoping to go to Cumberland and also hoping one of the more experienced pilots would show me the way. At this point André said 'no problem' and the task was set. So I loaded Altoona – Cumberland – Ridge Soaring into the flight computer as the task and completed all the preparations needed for a long flight.

The next question was when to leave, given we would need some thermal activity to cross the gaps between the ridges further south. In my ignorance I had thought it would be easier not to carry water in the wings but when I casually asked Tom what he thought, he said he would not leave without it, as it was likely to be rough today. An excellent



On the lower part of the ridge near the Tyrone gap, I turned into a strong surge of lift I flew into and was encouraged to find consistent lift from a ridge thermal, then pressed on to keep up with André. The first gap at Altoona is easy as the continuation on the other side is lower and the gap not so wide. I performed a quick top-up in a thermal before leaving the Bald Eagle Ridge and then off to the ridge on the other side. Now I hear

André complaining he is way too light and wishing he was carrying more water. He was far enough ahead already and I only caught occasional glimpses of him in the distance.

I am travelling at 100 knots through the sink and 70 knots through the lift and soon realize the sink is as strong as the lift. The thought at the back of my mind is maybe a wave is forming which could kill the ridge lift and leave me with a very rapid descent, for which my sustainer engine would be of no use. So I use every surge I can get to top up as André drives on and I fall further behind. Fortunately I catch up with him at the Bedford Gap as the crossing required us both to climb in thermal lift.

Now looking ahead I know why I need his help, there are three parallel ridges continuing. Which one to take? André says the middle one is higher but presents fewer land out options, so take the lower one on the right.

Past Hyndman, we cross an area where the ridge is rounded and flatter on top and I am not sure what line to take, but first flying over the centre, then upwind of the slope gives me the guidance I need. Flying over the centre seems the best choice. On we go and soon I am passing the Sacred Heart hospital at Cumberland, which is on top of Haystack Mountain, then we cross over to the ridge to the east. I pull up in a thermal on the way and am again encouraged by the lift even though the sky is now mainly overcast.

André continues to offer suggestions as to when we need to climb. We are at the Knobblies here, not a name that sounds good to me, but there is no stopping now. Soon we are passing Keyser and have left Pennsylvania and are into West Virginia. There are lots of impressive mountains ahead, so I keep going, looking forward to the steeper terrain. Thinking about lunch I realize this isn't going to happen, nor am I going to take any photographs as I am very busy and the ride is still too rough. I focus ahead and keep the speed up. Here come the better slopes André mentioned with sharp rock faces on the upwind side. It's hard to resist the temptation to take a turn or two in the strong thermals I run into, as it seems a waste of good energy not to.

I ask André how much further he was thinking of going to which he replies, "I was afraid you might ask that". Being the good natured fellow he is, we turn at Seneca Rocks and head back at 1:10, a couple of hours into the flight. In hindsight, we could have gone a lot further that day. ⇨ p21

piece of advice as it turned out, which I am glad I took, but it presented an immediate problem and I wished I had asked the question an hour earlier. I did not have any water bags to measure and carry the water in, which meant moving the glider to the pump and using a flow measuring valve, someone had attached to the hose. This was measuring water in gallons and I was used to litres but a quick conversion indicated five gallons in each wing would do and in it went. Fortunately for me there had been a hold-up after the first wave of gliders had been launched so I got to the launch point just in time to push in front of André, thus allowing me to get up on the ridge before him.

Not knowing what to expect and wanting to test my sustainer engine before leaving, I took a high tow and started the engine immediately, a good decision given the uncertainty lying ahead. On tow I quickly discovered the benefit of the water as the turbulence upwind of the ridge was severe. After a couple of hundred feet of the tow, the tug turns and flies towards the ridge at about a 45° angle, arriving at the ridge just above the tree tops. The tow is rough until you pop over the top into the more laminar flow.

By the time the engine was retracted I was flying at about 700 feet above the ridge and André was just completing his launch; it was 10:45. The task was on and we left immediately towards Altoona at 80 knots.

# microlift sailplanes

Myles Hynde, from *Gliding International*

**A**T LAST COUNT, there are at least nine firms around the globe that are either manufacturing ultralight gliders or are about to start. What has created this upsurge in interest in the FAI class "Microlift" sailplane?

One possible answer to that question is the advancing age of existing hang glider pilots who do not want to give the sport of soaring away, but now want the physical protection and comfort a fixed wing sailplane provides. Broken limbs or worse when you are over 50 is no fun – a microlift glider can provide the security that the pilot, and more importantly his family, wants.

So where do you start to research microlift gliders? Three typical projects that are worth reporting on include one in Switzerland, one at a university in Holland, and the more advanced one in the USA.

First – the Swiss project that has been in existence for over ten years. The manufacturer, Ruppert Composites GmbH, of Wald, Switzerland have gone into series production of the *Archaeopteryx* with some success – there is a waiting list exceeding two years from date of order. The company is producing twenty per year, and the *Archaeopteryx* is attracting interest from not only hang glider pilots, but plain old ordinary glider pilots as well. This sailplane with its 13m wing span looks and flies like a conventional sailplane. The design was originally intended to be a foot-launched glider, but it is also rated for car, aerotow and bungee launching as well.

The concept of foot launching is a well-proven one and there is a long recorded history dating back to the 1920's. Few foot launched gliders survived the transition to glass fibre until the *Archaeopteryx* appeared on the scene in Europe in 1998. With its low weight and its foot launch

ability, the *Archaeopteryx* is classified as an ultralight sailplane (FAI glider class "Microlift") and is free of certification in many countries.

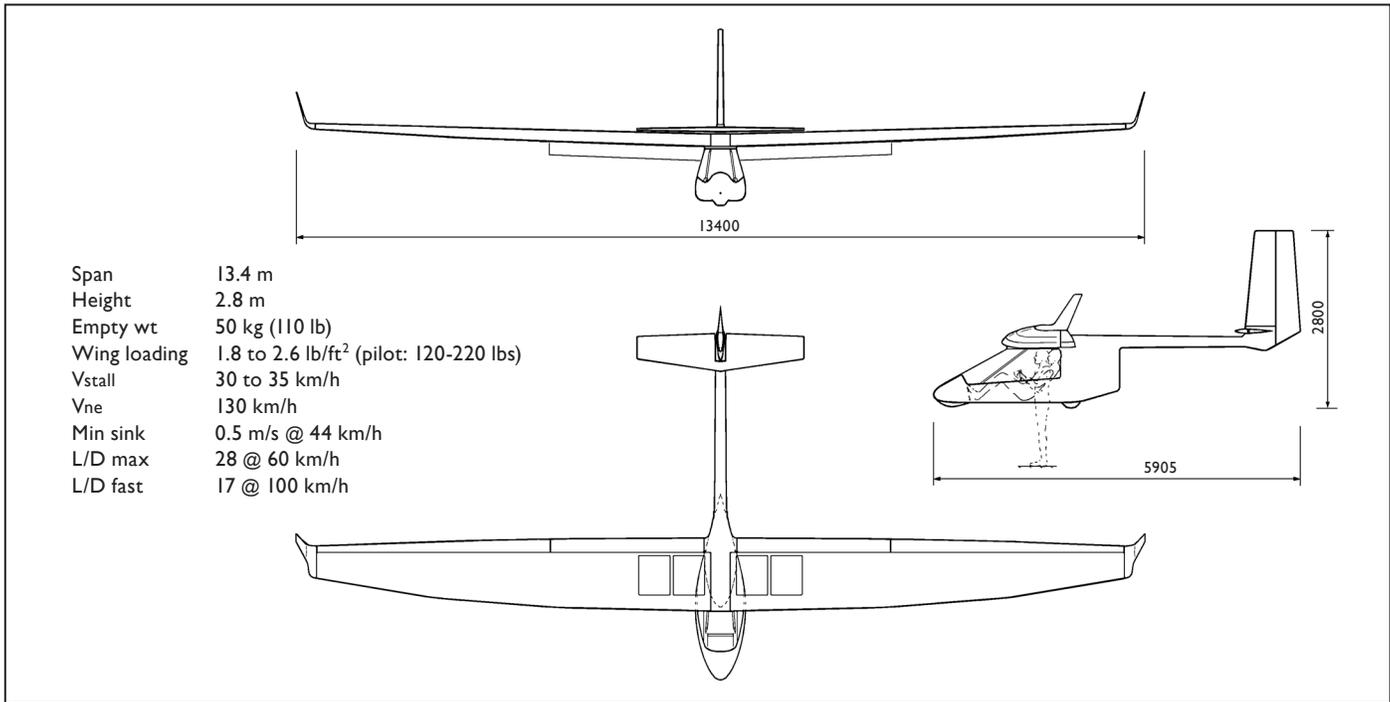
To comply with the newly-developed European regulations for ultralight gliders, the company has developed and tested the *Archaeopteryx* to CS-22 (formerly JAR-22) standards. Apart from providing theoretical proof of the load-carrying strength of the *Archaeopteryx*, the prototype structure was submitted to full scale load tests that met all the requirements of the new regulations.

In order to provide the necessary performance for foot launching, the *Archaeopteryx* is equipped with flaps, which was essential to have it comply with FAI Class O-2.

**Concept** The project began in 1998. A conventional sailplane layout was followed to avoid well known stability problems inherent in flying wings. Primary design targets were set to minimize the mass and to provide the slowest possible flight speeds. Good maneuverability and a gentle stall behaviour was a prerequisite. These achieved features provide an exceptional rate of climb in the weakest thermals, and a best L/D of 28:1. This meant that the company had a sailplane that had an acceptable performance for the pilot who wanted an inexpensive fun machine. Excellent climb rates in extremely weak thermals (microlift) is a feature. Additionally, the glider has a built-in parachute recovery system that adds to the safety features of the glider.

**Controls and features** The *Archaeopteryx* has a conventional control system like any other glider. The elevator and ailerons are controlled by the pilot with a right handed control column, the rudder with pedals. The highly efficient full span flaps and the airbrakes are





controlled by a lever located on the left hand side. There is very little load on the control column and the flaps add to the ease of flying and the glider's maneuverability. It may be foot or bungee launched off hills and winch, car, or air towed from the flat. It lands on a wheel and nose skid. The cockpit options can be open, partly-faired or completely enclosed.

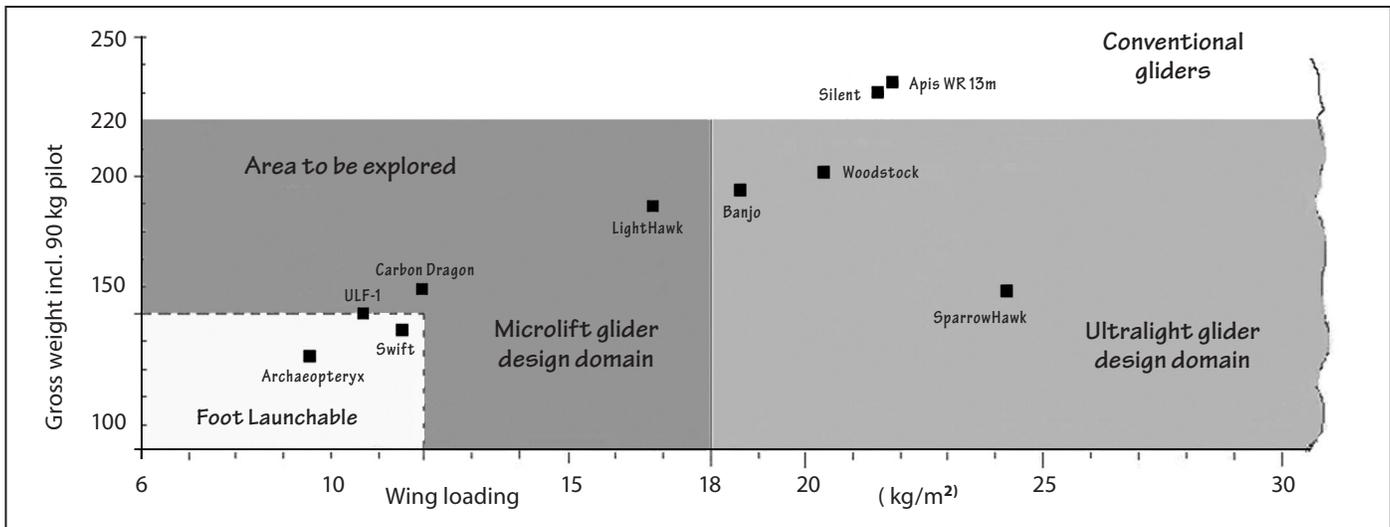
In the USA, we found that confusion abounds about where microlift and ultralight gliders fit into the overall picture of world gliding. Microlift gliders are basically recreational gliders that are able to exploit lifting forces weaker than the conventional lift used in traditional gliding. To assist in appreciating the definitions, FAI developed the two-dimensional diagram (below) to illustrate the different domains for glider classes.

The "string and wire" concept pilots may have of microlift gliders is quickly dispelled when the observer sees photos of the *LightHawk*, a glider that fits the imagination of

those wanting a light weight, aesthetically pleasing sail-plane design. The *LightHawk* has more appeal for those reticent to become involved in foot launching.

Microlift gliders can be divided into two categories. The first group are unable to penetrate strong winds because they have low maximum speeds or high sink rates at higher speeds. These types are limited to flights near the launch site or downwind dashes. The second group have the necessary low sink rates even while flying at the higher speeds needed to penetrate upwind and so are capable of cross-country flight.

The *LightHawk I*, with its best L/D of 35:1 is expected to be certified by the FAA (USA) late 2010, for both the fixed and the retractable gear versions. The project manager, Danny Howell, is described as a tireless worker doing miracles on a shoe-string budget. His personal goal is to set a new world record for distance from a 'mountain roll' launch of a glider.





### C.E. Wallington's prediction in 1983

*"We usually describe smaller-scale phenomena such as turbulence or eddying as random motion, and mesoscale features that we cannot explain are still sometimes viewed as anomalies superimposed on a steadier more explainable flow. But the distinction between coherence and chaos is subjective. As analytical meteorology progresses, more elements of flow patterns have been shifted from the chaotic or anomalous class to the coherent, explainable category. Let us look at some of the pointers to discerning more of the small-scale coherence that we may be able to use at either the high-performance or lightweight ends of modern gliding technology."*

*"High-speed soaring is not the only path to fresh achievement. There is likely to be a growing body of lightweight sailplane enthusiasts who, like the hang glider pilots, will also aim to stretch their horizons of achievement by learning and using the fine detail of wind and convection patterns appropriate to their end of the soaring spectrum."*

*"Modern hang gliders, that can be soared in very narrow thermals and landed on very small patches of ground, may be used to explore the low-level structure more directly."*

*"Advances in sailplane performance and pressure for greater achievements call for more detailed knowledge and understanding of patterns of lift and sink in a submesoscale range."*

OSTIV Publication XVII,1983

### LightHawk's designer and its future

*Danny Howell is one of the world's new breed of sailplane designers who has emerged from the low speed soaring world of lightweight rigid wing hang gliders and the Carbon Dragon ultralight sailplane. He is an aeronautical engineer with 20 plus years experience in the design and analysis of various manned and unmanned aircraft.*

*In 1988 he managed a design team and research facility which produced the first-of-its-kind rigid wing hang glider called the "Apex", a high performance glider with very good handling characteristics. Many Apex's were produced. During that same time period he began the conceptual design for what would become the "LightHawk" sailplane.*

*In 1993 he began serious preliminary design and formed a preliminary design review team. After a series of wind tunnel tests in the spring of 1994, 100% of the sailplane loft was completed. Preliminary structural design and tooling modeling was completed by September, 1994. In 1998 the design and fabrication team moved into their present day facility. By July 2002, the first prototype had successfully flown. Performance and handling characteristics met or exceeded the design goals. The second LightHawk is currently being used for FAA certification and production deliveries are planned to start in 2011.*

The *LightHawk* meets all the technological breakthroughs required to exploit lift opportunities under marginal conditions. Those breakthroughs include: large wing span, excellent controllability at low Reynolds numbers, very slow thermalling speed (thus, a very small thermal circle), extremely low weight, and designed to accept high G-loads. You can find one or two of these features in several sailplanes but not all in the same sailplane. The wing design is very complex. In a previously published report, Mark Stucky stated that "the *LightHawk* looks incredible. It is a series of beautiful curving arcs – there isn't a straight line on the glider anywhere."

Rik Fritz, one of the first to fly the *LightHawk*, claimed its control authority allowed him to thermal at low altitude in turbulent air with confidence. His report states that rigging is "simplicity itself". It is very easy – the parts are very light and control hookups are automatic. It is an unbelievably sexy glider. The cockpit is comfortable with very good visibility. He used his hang gliding instrument deck mounted on the side which reduced weight and opened up the cockpit area.

"I was surprised on my first launch how quickly the *LightHawk* began flying with full control. It was in the air ready to go at about the same time my 1-26 ailerons start to become effective. I was launched behind a truck for my flights. The *LightHawk* was so stable on tow that I began wondering what I was there for. Climb rates were 1200 to 1400 ft/min and I had to work at keeping it from climbing faster. The *LightHawk* is very responsive and controllable – just a joy to fly. It handled more like a very high performing hang glider than a typical sailplane. It is easy to feel every nuance of the air and everything happened at a slower speed – thus allowing me to use small pockets of lift that I might have otherwise flown right through. The large canopy provides fantastic visibility."

Stall attempts were unsuccessful. The *LightHawk* would not stall in the normal sense. Slowly pulling back on the stick resulted in the glider entering a very slow

⇒ p23

# Achievements

## planning a badge claim

**Basil Fairston**, from *Sailplane & Gliding*

**S**IGNIFICANT changes to the *FAI Sporting Code, Gliders* were introduced 1 October 2009 that have to be considered when flying for badges and records. The current issue of the Code has not made flight recorders (FR) compulsory, but has banned cameras. This means that any flight that has to reach turnpoints must use an FR. However, stand-alone barographs can still be used for straight distance badge flights (from release to landing) and height gain badge flights, so a club pilot flying with just a smoked barograph could complete his Silver badge before needing to have access to a FR (for records, an FR is compulsory.)

Declarations are required for all flights except duration and gain of height badge flights that use only a stand-alone barograph. This means that a declaration is required for all flights that use an FR even if it is a gain of height or duration flight. This requirement is discussed further in the section on FRs.

Observation zones at turnpoints continue to be either a sector or a 0.5 km radius cylinder, and a 1 km distance penalty is still applied when the cylinder is used. However, the cylinder is not allowed for start and finish points. For turnpoints, either or both types of observation zone may be used on a single flight. This is an improvement and means the 1 km distance penalty need only be applied when the glider enters the cylinder without also entering the sector.

A sector observation zone still has an infinite radius, except for closed course or goal flight start and finish sectors, which are limited to 1 km radius. The only badge flight this applies to is the Diamond goal, which must be flown as a triangle or out-and-return flight and is therefore both a closed course and a goal flight. Silver, Gold and Diamond distances are simple distance flights even if they return to the home airfield and are therefore not subject to this restriction.

For flights using FRs, any point can now be selected post-flight as the finish point. This removes an anomaly where a motorglider pilot could tactically terminate the flight by starting the motor while a pure glider pilot who failed to reach a declared finish would have the landing point taken as the finish point, even if the flight had taken him/her closer to the declared finish prior to landing out. This is a very useful facility. For example: you are trying for your Silver distance. You select an airfield 60 km from your home airfield. Both are at the same height above sea level so you decide you will take a launch to 590m (1936 ft), which means that on landing you will be within the 1% rule (*see next page*) by 10m (33 ft). At 51 km along track you are down to 200m (656 ft). There is a just-adequate field below you and a good one 2 km back.

In the previous Code, both options would have failed to get you Silver distance. If you landed at the good field 2 km back

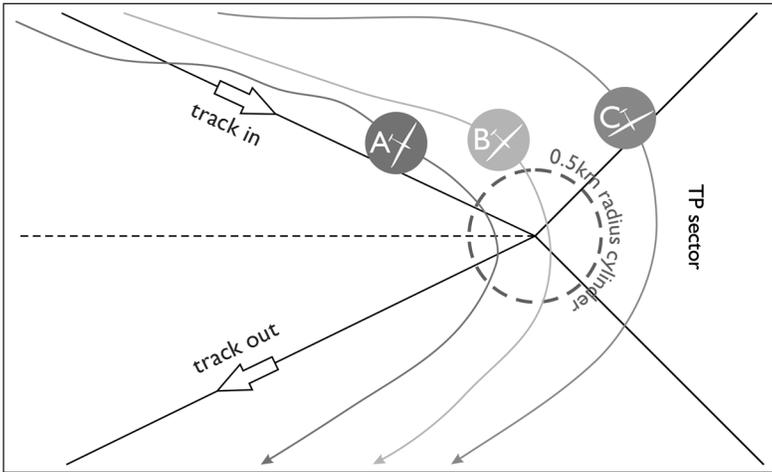
you would only have covered 49 km. If you risked the poor field below you then you would have covered 51 km, but unless the field was 80m (262 ft) higher than your home airfield your height loss on landing would be more than 1% of the flight distance. Now you can select (post-flight) a logged point when you were 51 km along track and 200m (656 ft) above your home field and you have a 51 km flight distance with a 390m (1280 ft) height loss and you have your Silver distance. You can then land in the good field 2 km back.

**GPS position recorders** The current edition of the Code introduces the idea of GPS position recorders. These are non-approved, non-secure recorders like, for instance, the track log facility of a Garmin. The IGC accepts them for the Silver and Gold badge when used in conjunction with a stand-alone flight barograph. However, it goes on to say that all such equipment must be approved by the National Aero Club, which must propose rules which will make its use virtually as secure as an IGC-approved FR. This includes download software that will put a security code on the end of the file that will enable post-download changes to be detected, and procedures which will ensure the flight is genuine. This could mean sealing the recorder in a box to prevent in-flight access and comparing the GPS height trace with the barograph height trace as a minimum.

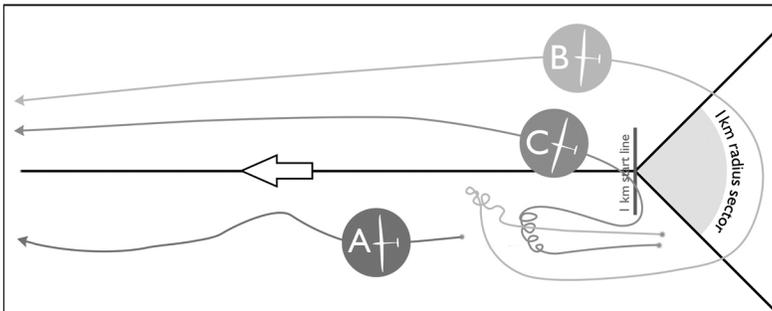
**A word about flight recorders** This section is to help pilots and OOs understand the security issues with IGC-approved FRs, which should help explain the reason for the current procedures, and also why the IGC has now asked for a declaration for all flights that use FRs.

When you start your FR, it searches for satellites and establishes its position and the time and date. It then starts to record information. It begins with its make and serial number followed by the date, accuracy of fixes, pilot and glider details if stored, and a load of technical information about the logger (GPS engine, software version etc). Next come the C records, which contain any task in the FR. They start with the date and time of the declaration (which is either the switch-on time for a task already on the recorder or the actual time if a new task is put in) followed by the turnpoints with their lat and long and optionally a turnpoint name. Then come the B records which are the most numerous. Each B record gives the time of fix, lat and long, fix validity (whether the GPS has a good signal and adequate satellites to get a 3D fix), pressure altitude and GPS altitude and engine noise level if the recorder is equipped to do so. (There are a few other types of record which we won't consider here.)

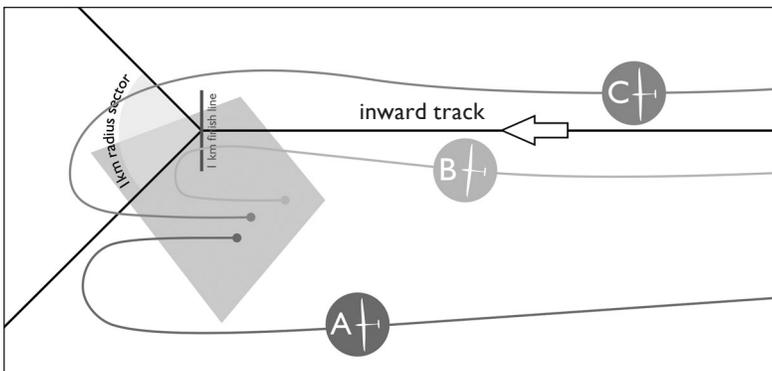
The downloaded IGC file is an ordinary text file and can be loaded into any text editor (Wordpad, Notepad, Word) and edited. However, when the file is downloaded the flight recorder calculates a security code.



**Rounding a turnpoint** Pilot A just makes it into the 0.5km radius cylinder and has a 1 km distance penalty at this turnpoint. Pilot B logs points in the cylinder and the sector. Pilot C makes a wide sweep round the TP. There's no limit to the depth of the sector – the pilot can go any distance beyond the TP.



**Making a start** Pilot A is towed about 4 km down track and starts from the point of release. Let's hope that the task is at least 4 km longer than required and not a Diamond goal. Pilot B releases, climbs in lift and then makes a start from the sector. Since he was not within 1 km of the start point he also cannot claim a Diamond goal. Pilot C releases, climbs and makes a start by crossing the 1 km long start line. He can claim anything if he completes the task.



**Finishing** A diamond-shaped airfield with the finish point to one side. Pilot A lands without crossing the finish line or entering the finish sector. He cannot claim a goal or closed circuit flight. He can choose any point on his circuit instead of his landing position as his finish if it helps with the 1% rule. Pilot B crosses the finish line but doesn't enter the sector. The point he crosses the line is his finish position and height. Pilot C enters the sector within 1 km of the finish point. Any logged point in the 1 km radius sector can be his finish point for a goal or closed circuit flight. If the wind was in the other direction, it would be difficult to land straight ahead and cross the finish line or enter the sector, a better finish point should have been chosen. If pilots B and C are on distance flights they can choose any logged point as their finish point.

To see how the security code works, suppose that the FR allocates a number to each character in the file (say 1 for A, 2 for B etc) and adds up the total value for the file. It then encrypts this using similar technology to that used by banks sending data over the internet and records this very long number as the G record at the end of the file.

The manufacturer provides a free validation program which can check the file has not been altered. If you alter even a single character on your text editor program it will fail the validation program. Note that it only checks the file as far as the G record. Modern viewing programs like *SeeYou* allow you to put a new task into the file, but they save it at the end of the file after the G record so they don't affect the security check. Older programs may save the file with the new task before the G record, thus making the file fail security checks.

So, there we have a secure FR. If the IGC file passes the security check we can be very sure that the FR did record the flight shown on the date and at the times shown. We are slightly less certain that it was in the glider and with the pilot who is claiming the flight. The IGC rules in the approval for each FR generally say that either the FR should be sealed in the glider and removed by an OO after the flight or that it should be seen to be in the glider and running by an OO before takeoff.

In the first case, the OO can at least be sure that the recorder was in the correct glider, but not necessarily with the correct pilot. In the second case, the identity of the glider and pilot are both certain. In practice in a club environment, it is more common for an OO to be approached by a pilot after the flight with an FR (or even a disk with the flight already downloaded) and to be asked to sign up the relevant parts of the badge form.

What steps should the OO take to be reasonably certain that the flight was not someone else's selected from the club download computer? Firstly, the OO should examine the flight and note the takeoff and landing times. Does the club flight log show a flight by this pilot with closely corresponding times? If they are slightly out, did the club pundit take off on a 300 km just before or after the pilot making the claim? Secondly, is there a valid declaration? It is a lot harder to tie in a valid declaration that has to be done before the flight with a flight trace taken off the club computer, hence the new requirement for a declaration for every flight using an FR. I'm not suggesting that OOs should take an approach of 'guilty-until-proven-innocent' – just to take a few simple steps to ensure a genuine claim. Let's take a look at some badge flights to see what we need to do:

**Height claims with barographs** Height claims using only a barograph are now the only claims for which you don't require a declaration. Before takeoff you need to get your barograph signed and sealed by an OO. The OO should then check that it is installed in your aircraft out of your reach when flying. Don't forget to switch it on. After release, and especially if you release into lift, make sure you establish a low point by descending for a few seconds. After the (successful) flight the OO should

#### 4.4.3 Limits to the loss of height (the 1% rule)

- For distance flights more than 100 km, where the loss of height exceeds 1000m (3280 ft), a height penalty equal to 100 times the excess over 1000m height loss shall be subtracted from the length of the course to give the official distance.
- For distance flights of 100 km or less, a height loss exceeding 1% of the length of the course will invalidate the soaring performance.
- For speed and duration flights, a height loss exceeding 1000m will invalidate the soaring performance. So, for a Silver distance of 50 km the maximum height loss is 500m (1640 ft). For flights over 100 km it is 1000m. The height loss is between start and finish points.

If your flight is one-way, using only a barograph, your height loss is from release to landing. With an FR or position recorder you can start at any height as long as you finish no more than 1000m lower. On a wave task it might be sensible to start at 4000m (13,123 ft) and finish at 3000m (9846 ft).

#### Equipment

- **Barograph** – an electronic recording barometer incorporated into an FR, or a stand-alone mechanical or electronic device.
- **Flight recorder** – an electronic device that has been approved by the IGC to record GPS flight data (these always include a pressure barometer).
- **GPS position recorder** – a GPS device that can record time and horizontal position. These will probably record GPS height, but not have a pressure barograph. They're usually cheaper than an FR but you will need to carry a barograph as well.

remove the barograph and add the date, pilot, glider type and registration, and barograph type and serial number.

**Height claims with FRs** If you are using an FR you have to make a declaration. This can be on the FR or a piece of paper signed by an OO. Obviously for a height claim you don't need to declare the turning points (since there aren't any) but date of flight, pilot, glider type and registration and FR make, type and serial number are required.

**Free distance claims with barographs** These are mostly going to be Silver distances with a few Gold distances for vintage types and pilots with very good friends prepared to drive 300 km to retrieve them. A declaration is required, but there is no need to specify the start point or finish point. In this case the only two points at which you can prove your position are the point of release (signed by the towpilot) and the landing point (signed by one OO or two members of the public).

**One-way distance claims with FRs** As with barographs, a declaration is required, but it does not need to list turnpoints. The flight can start from point of release and finish at any logged point nominated post-flight that achieves the required distance and height loss. There is nothing to stop you from adding a start and finish point to the declaration, but there's no particular advantage.

**Distance claims using turnpoints** The declaration may include up to three turnpoints and may also include a start point and a finish point, but it is quite in order to use the point of release as the start point and any logged point as the finish. Likely choices of finish point are the point of landing or a previous airborne logged point if it gives the required distance and a better situation with regard to allowed height loss. The three turnpoints can only be claimed once each or not claimed at all. They can be rounded in any order. All turnpoints should be at least 10 km apart. The start and finish points may be included in the declaration as turnpoints.

Let's look at some examples. At a club with airspace problems in one direction, the pilot is trying for a Gold distance but not a Diamond goal. The declaration might be Start point, TP1, Start point used as turnpoint, TP3, Finish (same as

the start point). TP1 and TP3 are both about 76 km from the club and at least 10 km apart. The pilot can start at the Start point, fly to TP1 or TP3, whichever had better weather at the time, back to the Start, to whichever of TP2 or TP3 the pilot had not already used and then back to the Finish. The distance will be 304 km, though if the pilot went into the cylinder, but not the sector, at each turnpoint there would be a 1 km penalty for each time that happened.

Since there are three turnpoints this could reduce the claimed distance to 301 km which is still enough. The pilot could also go from the point of release, but if this was a few kilometres down track the distance could be reduced below 300 km. It is therefore better to make a start at the start point or be released on the other side of the start point so that the task distance is lengthened rather than shortened.

A three turnpoint distance declaration can also be used if a Silver distance is flown as a 100 km out-and-return. To maximize your chances, it is in order to declare Start, TP1 51 km to the north and TP2 51 km to the south and Finish same as start. Having taken off, you can decide which direction has the better weather and fly to that turnpoint and back. The other turnpoint doesn't have to be used. If you can't make it back it doesn't matter since you can claim the Silver distance from your completed 51 km leg. The 1% rule applies to the total completed distance, so if you get halfway back you have completed 75 km and the allowable height loss is 750m (2460 ft).

**Goal claims** The badge claim is the Diamond goal that must be flown as a triangle or an out-and-return. The rules are therefore slightly different from above. First, they are closed courses; the start and finish are the same point and the pilot must be controlled at the start and finish. This means that going from point of release is not acceptable. Similarly a landing 3 km short is not acceptable even if the distance achieved is sufficient. The pilot must enter the finish sector or cross the finish line. For goal flights the radius of the start and finish sectors is only 1 km. All other sectors have unlimited radius.

**Completing the badge form** It is a good idea to print off a badge claim form from the web site and take it with you on the flight so you can collect the tow-pilot's signature (if needed) and landing signatures at the earliest opportunity. Getting the form from the web site ensures you have the latest version – your club may have been photocopying the same form since 1988! Before you offer the form to anyone to sign, put the date, your name and glider details on it. Any OO who signs an undated and unnamed form is writing the badge equivalent of a blank cheque.

If, after completion of the flight, there is a technical problem, don't try to hide it but get your OO to add a note explaining why they think the claim should still be accepted. The badge officer will often accept a claim that is within the spirit of the rules if not the letter, and will also look sympathetically on a pilot who was badly advised by an OO (as long as the OO is prepared to admit it!). ❖

## Hugh McColeman 1914 - 2010

Hugh, a long time member of the Edmonton Soaring Club, passed away on 6 April at the age of 96. Hugh was one of the club instructors when I joined, which would have put him about 70 at the time. He was a true gentleman in every sense of the word – if you looked up “gentleman” in the dictionary, there probably would have been a picture of Hugh. Hugh was a little distracted at the time as his wife Myrtle was quite ill, and soon passed away. Hugh made a generous donation to the club in Myrtle’s memory which helped pay for our clubhouse that we continue to enjoy today.

Hugh was a retired electrical engineer, I think he graduated from the University of Alberta in 1936. I learned that he had spent his entire career doing his calculations with a slide rule and log tables.

Sometime in the mid-eighties, I remember taking my personal computer over to Hugh’s place and showing him *Lotus 1-2-3*, a spreadsheet that was the first “killer app” for PCs. After spending a career with a slide rule, the light came on in Hugh’s head pretty quickly. It wasn’t long before Hugh had his own computer, and he would phone me with increasingly difficult questions, like how to implement various equations of calculus in Lotus. I learned a lot just trying to keep up with him!

Fast forward about 25 years: Hugh was in an assisted living home in Sherwood Park. He had a small apartment, and as I entered, Hugh was sitting in his reclining chair, with his walker in front of him like a desk. On the walker was a stack of paper with handwritten diagrams and calculus equations. Hugh explained to me that he thought he had figured out a way to reduce the power losses in the



Hugh at 89 in 2003 in his Libelle.

long distance transmission of electricity. He was working with a professor at the U of A to flesh it out. He was 95 years old at the time. A remarkable man.

**John Broomhall**

Hugh had a share in a Blanik (TVT) in the 80’s. On 17 June 1984, he and a partner completed a 153 km goal flight from Chipman to North Battleford (earning a distance-to-goal multiplace record not surpassed since 1961) and then carried on to a 310 km landing 30 km short of Saskatoon (also earning the territorial free distance multiplace record). The story of the flight and the retrieve is in *free flight* 1984/4. On being asked why they didn’t fly another 4+ km to take the *citizen* free distance record also, Hugh responded that next time he would check the records table *before* the flight rather than after!

Hugh’s last words to *free flight* was in the 2003/2 issue when he contributed to the article, *Hanging up One’s Wings*, on when one should decide to quit gliding due to age. At 89, he was still flying his Libelle – his last flight was two years ago at 94 with a friend riding shotgun, but hands-off.

**Tony Burton**

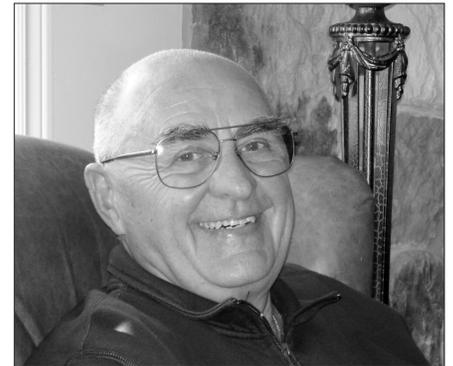
My favourite memory is of the day Hugh took my grandfather for a glider flight. Hugh was an exceptional man in his good spirits, good graces, and friendly demeanor – the perfect pilot for an elderly gentleman. This must have been before I had my licence, probably 1984. At that time, my grandfather was 91 and Hugh was 70. I thought we had established a record for combined age in a two seat glider. My grandfather had flown in light aircraft and helicopters all over the world including the Canadian north, but Hugh made that glider flight a memorable and appreciated experience!

A wonderful aspect to our passion is that one can start young and enjoy soaring, and one can keep right on soaring well into retirement. Get better and better at it too, as we well know from many shining examples, including Hugh McColeman, to retain friendships, mentor younger, less experienced pilots. It was so much fun seeing Hugh climb into his Libelle, aiming to capture that elusive 300 km. He was always upbeat, always positive, always careful to do his self-checks before flying, and always realistic about his capabilities. He will be missed.

**Bruce Friesen**

## Doug Bremner 1937 - 2010

Last weekend Dixon More came up to me and asked, “Did you hear what happened to Doug Bremner?” I said, “Why, is he back at SOSA?” Dixon said, “No, he’s gone to a better place.” I said, “Do you mean he has gone to Ridge Soaring in Pennsylvania?” Dixon said, “No, he passed.” I said, “He passed a chance to go to The Ridge?, that doesn’t sound like Doug.” Dixon said, “No, you idiot, he died.”



Doug Bremner was a great friend and a big contributor to life at SOSA. At the service (under huge puffy cu) it was noteworthy that the speakers, family and friends, had the same problem. They would start to talk, then break down, pause a bit, then laugh uproariously at something funny Doug had said or done, then back to tears. Like watching someone fly in and out of lift and sink. He was that kind of a guy, very clever, very funny, good at telling stories, and easy to like, which makes you feel very, very sad that he’s gone.

They said he was always ready to volunteer his time and considerable skills to help out a friend or neighbour, and we saw the same attributes at SOSA. He did work around the club that no one else would see or appreciate. Doug spent countless midweek hours cutting grass, a thankless but *very* necessary job in a club with sixty or so acres that need care. In addition, his mechanical skills were such that he was able to service and maintain the mower and tractor, something that the average conscripted slave would ignore until grass clippings clogged the radiator and the whole thing would overheat. Praise be those who work in the background.

Doug did everything right. He was the only guy I ever saw use a fountain pen to fill out his log book. A fountain pen – I don’t know where you’d even go to *buy* a fountain pen.

Doug learned to fly in his father’s Curtiss Jenny, an open cockpit biplane designed in 1915. Doug later wrecked the Jenny by hitting a fence while chasing rabbits. It must have been one slow airplane if it could be

outrun by a rabbit. Only Doug could turn a story about a catastrophic crash into a funny tale, and he could also demonstrate this in real time. I once saw him groundloop his SZD-55 while turning off his landing roll towards his trailer. The very instant that the yaw began he rammed the stick forward, the tail of the glider rose up, wings stayed level, and the whole thing pivoted gracefully and safely, like watching a choreographed ballet, as he backed into the parking spot.

Doug was in the RCAF backseating in the CF-100. He had a great story about a flight engineer who misconnected the wiring harness on the wingtips of one of the "Clunks",

and when someone switched on the nav lights, they fired 16 rockets through the wall of the alert hangar. Everafter I was terrified to hold the tip of Doug's wing.

Someone once told Doug that if he had invested his money instead of buying a glider, that his money would have doubled in value, and then asked if he regretted the purchase. Doug answered with his trademark smile, "Not for a moment."

When I first got checked out in a higher-performance single, Doug acted as my shepherd, leading me ever further from the field and pointing out landmarks. I spent half the

day looking down at the towns and half the day looking up at his '55, never able to centre and climb to meet him. At a contest I was perpetually low and therefore my radio would not reach back to the club. Doug was of course high enough to relay messages. At one point, I asked him to tell my crew to come get me near Princeton, then as I made a low save, I asked him to cancel that. He said he would tell them I was safe for now, but to stand by as I would probably go land out somewhere else. And I did.

As usual, he has gone on ahead, and one day, my friend, I'll catch up with you.

**Doug Scott**

## Ridge flying at its best from page 13

I'll know better next time. The course back was another adventure as we took a more easterly route on the approach to Bedford. This ridge turns 90° to the west and, as we approach the bowl where the ridge turns, we have to gain some height and fly over the top onto an as yet unseen ridge to the north. Sure enough, coming over the top, there it is. I'm cruising now at a lower ground speed as there is a headwind component and maintaining 1500 feet above the ridge. I should have been flying faster but 80-90 knots is comfortable and the top of my head is not hitting the canopy very often.

Past Bedford we approach the Altoona Blair County airport on the left and André helpfully points out I should look out for aircraft on their approach to the main runway from over our ridge. I look, but see nothing and keep going faster.

Passing Altoona, there is a hook in the ridge and André explains what can happen here, but I have already forgotten as it was no problem and I sailed right over it and on up the ridge to State College. This is where the Tussey Ridge swings to the east – without a northerly component in the wind it could well be a problem. As I pass State College, André is well ahead and has crossed upwind onto the Nittany Ridge.

I feel more relaxed as my surroundings are now familiar. From here I fly up to the end of the Nittany Ridge and where it sweeps around to join the Bald Eagle Ridge there is the convenient thermal waiting to take me over the top, I climb up to 6000 feet and sail over to Lock Haven, where for many years Piper aircraft were built, then back onto the Bald Eagle Ridge. Turning northeast I head for the end of the ridge at Williamsport. The

thermal lift is now strong and to make sure I stay clear of the Williamsport airspace, I climb again. Turning Williamsport at 4 pm, I decide I have had enough fun for one day and head back down the ridge for home. As expected, the temperature has remained around 1°C in the cockpit all day and I cannot feel my feet.

Only one challenge left, well maybe two as I discover my water valve will only open halfway so I don't know how much water I have been able to dump or even if it's coming out of both wings. There is nothing I can do but hope and land the glider. The wind at ridge top is still 15-20 knots and turbulent. I call in to Ridge Soaring Gliderport and inform them I am on a left downwind for runway 23, gear down and locked and ask Tom what the conditions are on the ground. He replies it is clear and last time he looked there was a crosswind of 15 knots. Well, better than 20 knots, I thought, but not as good as 5. Tom might well have said, "you have read my book, haven't you, so you know what to do".

Yes indeed, I run the downwind close to the ridge starting with plenty of height, brakes open knowing at any moment ridge turbulence may thrust me up at 5 knots or down at 10. I start the crosswind too high but with 70 knots because I don't want any nasty surprises as I transition through the turbulence on the hill. I am tossed around as I make the final turn but have height and speed, so now

full brake, reduced to half as I cross the end of the airfield, correct for drift, and I land on the grass, another happy camper.

André 'iron pants' Pépin continued to fly for another two hours and racked up 1100 km. I had flown for 6.5 hours and a total distance of 776 km for which the On-Line Contest gave me credit for 740 km at an average speed of 114 km/h – my longest flight. It was for André also, think what he could have done without me hanging onto his tail. I appreciated having him out front. Six people did over 1000 km that day, the longest being 1481 km at an average speed of 135 km/h. My flight, along with others, can be viewed on the OLC site at <http://tinyurl.com/333gg8f>.

The following day I repeated the part of the flight to Cumberland and back on the Nittany Ridge for another 470 km at 101 km/h, thus achieving the goal of my original musing in the car ride down, twice in one week! ❖

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Thorndike also suggests that tasks most recently performed are also best remembered. This means that not only is it important to repeat tasks on a periodic basis, but within a recent time period as well. This principle is referred to as the *Law of Recency*. The influence of these conditions on the pilot's ability to perform certain tasks illustrates the importance of conducting critical flight operations on a periodic and recent basis. Although regulations pertaining to recency of experience and recurrent flight training attempt to ensure that pilots conduct these critical flight operations on a periodic basis, accidents occurring during critical phases of flight continue to plague the entire general aviation community.

To address this dilemma, it is important to first distinguish between being current and being proficient. Remember that proficiency means performing a given skill with "expert correctness". In contrast, currency simply refers to being up-to-date or occurring within a recent period of time. These definitions are useful in illustrating the point that being current in a particular task doesn't necessarily imply proficiency at that task. If we apply these definitions to the recency-of-experience requirements in the regulations, it becomes evident that a pilot, while legally current, may not be adequately proficient in certain critical flight skills to act as pilot in command.

In 1983, Embry-Riddle Aeronautical University conducted a study designed to measure the skill retention levels of newly certificated pilots and to determine how accurately these pilots were able to predict their own level of personal proficiency. The results of this research provide some interesting insight into potential cause factors of the most frequent types of glider accidents.

Primarily, the study revealed that general aviation pilots suffer a significant degree of cognitive and flight skill loss within a short period of time following the completion of structured flight training. Cognitive skill loss refers to pilot judgement and decision making ability. The areas of flight skill loss most affected include critical flight operations such as takeoffs and landings, stall recognition and recovery, minimum controllable airspeed, and emergency procedures. This finding is especially relevant for the soaring community considering that more than 70% of all reported glider accidents occur during the takeoff and landing phases of flight. Fur-

thermore, stall/spin events, loss of aircraft control, and takeoff emergencies represent a substantial percentage of the number of takeoff and landing accidents that occur each year.

Perhaps the most surprising aspect of the study, however, was the finding that a pilot's ability to predict and evaluate his or her own skill retention levels for specific flight tasks is negligible. Simply stated, pilots are seldom accurate in assessing their own level of proficiency in a given task, especially for infrequently performed maneuvers such as emergency procedures. The inability to accurately assess personal proficiency combined with the potential for loss of critical flight skills helps to explain why emergencies such as a premature termination of the tow continue to pose such a challenge to soaring safety. In many cases, the biennial flight review is the only exposure many pilots have to recurrent training in emergency procedures. However, the Embry-Riddle study suggests that the flight review required by the regulations may not be sufficiently frequent for relatively inexperienced pilots to maintain critical flight skills. The same may be true for more experienced pilots who do not exercise critical flight skills for prolonged periods of time.

The most important component of any accident prevention strategy is the pilot, and the need for every pilot to maintain a high degree of proficiency in critical flight skills is a crucial factor in the prevention of soaring accidents. One of the most effective ways to address the problem of proficiency in critical flight skills is *participation in a personal recurrency program*. The primary advantage of this type of activity is flexibility in designing a recurrent training program that not only satisfies the requirements of the regulations, but allows the integration of individual training needs as well.

The development of a personal proficiency program will require an accurate initial assessment of individual flying skills and aeronautical knowledge by a competent flight instructor. The assessment period may also be used to provide the training necessary for the pilot to regain the level of proficiency required for initial certification.

One of the most important aspects of participation in a personal proficiency program is the establishment of a recurrent training schedule. Other opportunities for structured recurrent training include the Bronze Badge, cross-country courses, or instructor courses. Regardless of the type of program selected, the most important point to remember is that

training is the foundation of proficiency. Unless each pilot continues to participate in a regular recurrent training program, critical flying skills erode very quickly.

One final thought concerning the influence of pilot proficiency on loss of control related soaring accidents. Because transition training for single seat gliders consists almost exclusively of ground-based instruction, it is extremely important for pilots to become completely familiar with all procedural and operational aspects of an aircraft prior to the first flight. This includes the operation of all aircraft systems, a knowledge of normal and emergency procedures, aircraft limitations, and any operational requirements that may be specific to an individual aircraft, especially weight and balance considerations.

Until a reasonable level of experience is obtained in the aircraft, pilots should establish a specific set of personal limitations that preclude operations in conditions of high wind or other meteorological conditions that may have an adverse effect on the initial operations of the glider.

In closing, remember that 'current' and 'proficient' are adjectives used to describe separate and distinct levels of competency. In the context of aviation, being current simply means that a pilot has complied with the regulations and is legal to exercise the privileges of the pilot certificate. Proficiency, on the other hand, describes a pilot who conducts each flight with competence of a professional or, in other words, expert correctness. Proficiency also means making the commitment to put safety above all other considerations every time we fly.

Most important – proficiency means much more than simply being legal to fly – it's about being safe to fly.

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#### **FT&S committee comment**

Many of the lessons drawn in the USA also apply to our Canadian situation as accident patterns appear universal. However, our risk of a fatal glider accident is twice that of the USA. Why? The major difference between our training systems is that USA instructors are FAA trained, requiring a commercial GPL, requiring formal instructor refresher training, and their glider pilot Biennial Flight Review content for 'proficiency' is also conducted by the FAA-trained instructors. The result appears to be better overall pilot

## microlift sailplanes from page 16

'mush' mode while still retaining adequate control. Forcing a stall results in a quick recovery with a loss of 20–30 feet.

Thermalling was a unique sensation. When in strong cores, it felt as if I was being pushed upward from directly beneath. I was able to turn tighter and slower than I ever thought possible, and I was being conservative with my maneuvers. I did not try to spin the *LightHawk* but had the feeling that it was very resistant and would recover quickly. Landing is similar to landing any slippery glass ship, although at a much slower speed. Upon rollout, I was able to easily balance the glider on its wheel using the flaperons. I believe roll launching the *LightHawk* off a hill would be quite easy given the control authority at low speeds.

Overall, I found the *LightHawk* to be a fantastic soaring craft. Its performance has to be experienced to be believed. I can already see many situations where the *LightHawk* will be able to utilize lift and soaring conditions that we previously would not have thought possible. It is the potential for exploring these new frontiers in soaring that has me as excited as I have ever been about the future of soaring. I want one!

The *LightHawk* facility is currently located at Lake Elsinore in California – a brand new fabrication facility will be completed in late 2010 at a location that is yet to be announced. The company and its associated technical school is currently privately owned by one only shareholder. As of May 2010 the com-

pany is currently fabricating components for *LightHawk* serial #4. Serial #2 to #4 are in various stages of testing and production while #2 is being used for FAA certification.

The company has a small workforce which varies between 6 and 10, depending on the time of year and work demands. Forward planning indicates that they expect the number to grow to 30-45 once they are in full production.

While all this initial planning and unit construction has been ongoing, work on the next generation of the *LightHawk* has been under development. *LightHawk II* will be capable of achieving a minimum sink of 60 ft/min (1 fps) at very low speeds, with a very small turn radius as tight as a hang glider. The design team are predicting that the sailplane will have an L/D approaching 46:1, and a stall speed of 22 mi/h, with a smooth air red line speed of 120 mi/h. This version should fly within the next 18 months but will not be commercially available until 2012 at the earliest.

It is this version that was heavily endorsed by Paul MacCready before his passing a few years ago. Eyebrows will be raised when they learn of the prestigious design team that have been involved in the development of the *LightHawk I* and *LightHawk II*. Danny Howell served as the lead designer and engineer, and the people and organizations in the design team were members of key universities located across the USA and aerospace professionals, all of whom are experienced in low speed motorless soaring flight. The team consists of:

Dr. Mark Drela (MIT)  
Dr. George Bennet (MSU)  
Dr. Michael Selig (SIU)  
Dr. Mark Maughmer (Penn State Univ.)  
Bruce Carmichael  
Irv Culver  
Dr. Oran Nicks - deceased - (Texas A&M)

The detail design and fabrication team consisted of fourteen prominent experts, most associated with key universities together with aerospace professionals. If it is necessary to whet your appetite even further, can I suggest that readers put answers to these questions:

- Could extended flights become commonplace on even the weakest days?
- Could a new generation of pilot and design redefine what is soarable?
- Could days that were once thought of as too weak, now present new challenges to the pilot wanting to connect to that feeling that drew us to soaring in the first place?
- Imagine – a 60 fpm sink rate!
- Imagine the possibilities!
- and imagine – 46:1 for \$US73,000. ❖

*More articles in free flight on "microlift" soaring and ultralight gliders referenced in the page 15 graph:*

*Microlift soaring – 96/6, 95/5, 95/1*  
*Carbon Dragon – 95/5*  
*Swift (photo) – 97/5*  
*ULF-1 – 85/3*  
*Woodstock & Silent – 96/4*

training. The second big factor is that most US glider pilots fly a little more annually due to the longer flying season. There is also a US east/west discrepancy with more accidents proportionally to pilot population in the west, perhaps due to more demanding weather and terrain conditions.

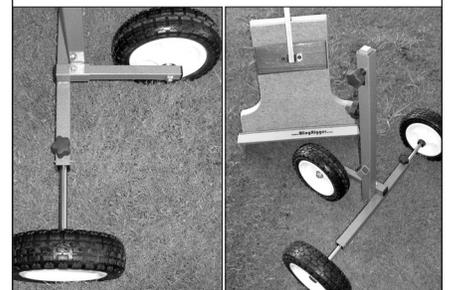
In line with the article, FT&SC has initiated a recommendation for more emphasis on recurrent training with proficiency being the target. The recommendation includes more emphasis on human factors awareness and understanding and skill development. The recommendations also include utilizing Scenario-Based Training both in actual aircraft and on a simulator. The simulator has the potential of greatly expanding our experience in the off season and learning in the more risky scenarios. These recurrent training seminars for instructors will be available in

your region over the next two seasons and are designed to help you construct your own or club recurrent training programs.

Lastly, the SSA Safety Foundation article discussed type conversion training. This is a high risk activity regardless of a pilot's experience level. FT&SC recommends conversion training be conducted only by instructors, and those who are experienced with the glider type. The entire first flights should be supervised directly by the instructor giving the type training, by radio if not dual, and include maneuvers at a safe altitude to become familiar with handling characteristics and emergency procedures for the glider. Training in dual nonmotorized gliders simulating motorglider (MG) performance should be conducted prior to solo MG practice if a dual MG similar type is not available. Training standards are on the SAC web site. ❖

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## Selena in the sky with gliders

After launch I found lots of lift and worked myself near cloudbase, but on course I was having a difficult time. Was the lift on the sunny side of the clouds or stronger from the direction of the northerly wind? And what about that cloud street that seemed to tempt me perpendicular to our track? I struggled to nip the edge of the first turnpoint, turning for the second as soon as I reached it in hopes that the second leg would treat me nicer.

This was not to be. Although I was moving faster than on the first leg, it was still slow going. I still had a lot of course to go around, and it was getting later in the day. Although I was staying 2000-4000 agl, this was not enough height to give me confidence to move quickly on a day where I was having difficulty reading the sky. However, I finally managed to make it to the second turnpoint, and looking at my watch, made an early turn for the third circle. At this point saw that my speed was going to be very slow. However, remembering Jörg's wisdom, I pushed that aside and focussed on staying airborne and getting around the task.

Early on the third leg as I was struggling along, a nice little gift came up to my side – two little LS-8s (M1 and F1). Perfect – they must know where the lift is. I managed to keep up to them for awhile because they marked lift and I followed. I was definitely moving faster but we soon found ourselves scratching around at about 800 feet agl. Luckily for me, we worked as a group and were able to centre some lift. M1 managed to sneak away, leaving F1 and me desperate for lift and we managed to work our way back to 2500 agl. The day was dying, and it wasn't too long before he left. I managed to make it another two miles before having to land on the outskirts of a town. A few minor slopes graced the west side of the field so I opted to land long on the flatter and drier section.

My glider had barely come to a halt when two young men stopped to see if I was okay. They were very excited because they had seen a lot of gliders in the area over the last few days. They let me use their car phone to call in my coordinates, and a retrieve was arranged for me amidst all the other landouts of the day. The town was part of the Sweetgrass First Nation Reserve. I had at least fifteen cars stop by of people who were genuinely concerned for my wellbeing, whether my plane had "crashed", did I need a ride to Saskatoon, was someone coming for me, why did I land here, was there anything that they could do to help, etc, etc. I managed to answer all questions with grace and enthusiasm about the sport despite the inner frustration I was feeling about landing out yet again.

After some time my retrieve arrived. The only access point was on the exact opposite end of this insanely long field. We could disconnect the trailer and walk the glider a mile down the field to the access point or we could pass the parts of the glider over the fence. Given the weight of the ASW-15, the second option was not too alluring. They presented me with a third option – aeroretrieve. Given how long, flat, and short the crop was, this was ideal. Why hadn't I thought of it before? Well, time to wait another long while in the field while the crew drove back to North Battleford to pick up a towplane. Luckily, one of my retrievers was towpilot Bob Hagen who deemed the field good to tow out of.

Consumed by mosquitoes, I decided to huddle in my glider for shelter. Bored, I started to go through my pre-takeoff checks. Instruments, trim, spoilers. Spoilers – they weren't opening! Then I remembered how I had disconnected my controls in anticipation of the trailer retrieve! I leapt out of the glider and fastidiously put all of my proper attachments back together. When Bob flew in, I made sure we did a positive control check. Right before he did, yet another vehicle arrived to see if I was okay. After assuring them I was fine, Bob started circling above us. They decided to stick around for the show, and were most likely shocked to watch us walk around in circles for a few minutes (laying out the ropes), hook up the towplane and glider, and magically climb out of that field.

As we levelled out on track for North Battleford, I sighed. What a peaceful end to a long day. We landed as the sun was getting low, the mosquitoes beyond bearable, and my stomach about to eat itself. Ah, *glorious*, all in a competition's day.

After 5 pm, the sky developed massive towering cu and CBs with rain and lightning. None got near the airfield but the sight was terrific. Doug called off his air retrieve while enroute. Roy Eichendorf (HV) was flying around the edge of one to get home and reported heavy turbulence that was giving him +/- 15 kt airspeed changes but found a last smooth 5 kt climb to a final glide.

**DAY 5 Jun 22** The task committee is getting wary of actually choosing a task before the pilot meeting. The forecast was much the same as yesterday – unstable with chance of towering cu and CBs. Thankfully, no cirrus to complicate matters. The task committee chose one task and a "Zulu" task for a grid decision. Cu was forming during the pilot meeting, which bode well for the day, but the sniffer landed.

On the grid, overdevelopment on the proposed second leg promised trouble so the task was changed to a more southerly one – Luseland-Biggar with 40 km circles. The soaring was good during the day with cloudbase rising to 8000, some streeting, with wide dead bands between. However at the end of the afternoon a black line of CBs, the "wall of doom" grew 50 km from home, with rain, some lightning, and strong sink that caused nine landouts on the final glide part of their flights. Some of the landouts were made on roads rather than fields, a choice that Ryszard advocated for Saskatchewan's long, unobstructed, and lonely rural grid. Al (4E) and Dan (DM) did that at the same spot 15 km short of home. The front cover is the result.

I flew west along the cloud trying to get to cloudbase, getting no lift, then backwards to sunshine at Wilkie, getting the same outflow turbulence that Roy reported yesterday. Unfortunately, his last climb didn't appear for me and I landed on an abandoned airstrip at Wilkie. As I was waiting for the retrieve at a diner on the edge of town, there was a great downpour that turned the field into a swamp. Thankfully it stopped before my volunteer crew of Mike Thompson and Bruce McGowan arrived. The guys were surprisingly cheerful given the circumstances. Mike said:

*"The field was full of water, and looked like a rice paddy. We managed to drag the Russia with a towrope for a while until it got really stuck in the mud, so we took it apart in place. We walked the fuselage out through huge puddles and standing water which in some places was about 8" deep. It was sure nice that the Russia is light, and after two more trips for the wings, we had all the parts back in the trailer."*

Roy won by a large margin in Club, while maintaining his record of never having outlanded in Canada – maybe he should fly more. Bill Cole got his Mosquito (BC) back home, moving into first place by 18 points. Only four Club pilots survived the final glide. FAI class pilots did a bit better with six getting back. Jörg repeated his win, extending his overall lead, and Dave moved up to second when Nick outlanded. Jörg said a gaggle climbed to cloudbase just in front of the CB line and used all of the height for a 55 km final glide. But for that last climb, not many pilots would have returned.

The evening event was another team fundraising steak BBQ at the cadet hall. The meal was set around a long, single assembly of folding tables decorated as the runway. Lots of chatter and laughter and a sing-along of soaring ditties by the Bald Eagle. The Canadian Team draw was made, and Lynn Hunt from SOSA won the grand prize of *WestJet* tickets.

**DAY 6 Jun 23** Many are feeling a lack of sleep – there is a lot going on around the terminal at night and sunrise is before 5 am, getting one up at 6. The weather seemed promising in the morning – the air mass would be less unstable so little chance of CBs and towering cu. Cloudbase would be lower at 6–7000 feet. Cu began to pop during the 10 am pilot meeting. The gun-shy task committee wouldn't set a task until the grid: Rabbit Lake–Neilburg–Maymount with 30 km areas in 3 hours.

Once again the sniffer reported only weak lift even under good-looking cu, but towing began at 12:45. There were small cores of 5 kts at times. On course, the climbs were less consistent. The first two turnpoints were in

largely green areas with the area around Neilburg also being in the big river valley and having a lot of unlandable terrain and under more of the cirrus that appeared, again. Most pilots didn't venture too deep into their circles. There wasn't a lot of energy in even the good-looking cu, and progress was slow with finishing speeds in the 60 km/h range.

A third of the field landed out, six in Club and two in FAI, most on the second or third leg. I had a series of decent-looking cu that would not yield a thermal, and landed on a nicely oiled road, rolling to a stop at a farm entrance and was served tea and cookies by the lady of the house. Selena landed in a large field with no access (see her story opposite). Bob Hagen was on the retrieve for her and, assessing the situation, went back to the airport for the Pawnee and aerotowed her out of it.

Bill won his first ever contest day in Club and he and I retained our first and second positions overall. Bill was particularly pleased because he ended up in last place the last time he had competed (in defence though, he was flying a Scheibe). Jörg won in FAI for the third time, said it was one of the most demanding flights he has done. As with everyone, he wasn't flying conservatively when the cu looked so good, but when they didn't work, being low was trouble.

**June 24** Up before 6 am again. It started to rain lightly before 7 and there was considerable layer of high cloud. An upper trough overhead with strong cold air advection along with moist warm air on the surface having little convective ability promises severe CB activity. The day was cancelled and the contest was done. The planned beef-on-a-bun and beans dinner and awards pres-

entation was moved up to 1 pm to give more time for travel. Thanks to Collette Cook and Virginia Thompson who organized the dinners, T-shirts, etc., and to the many others who took care of all the details that make a contest run. Special recognition goes to Phil Stade who was the chief wizard of this three year effort to make this Nationals a success.

Jörg Stieber and Bill Cole handily won their classes, earning the Wolf Mix and CALPA trophies respectively. The unanimous opinion was that it was a good contest, the organization well run, the venue good, the soaring challenging (but still with six days flown), and the atmosphere convivial. ❖

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# FAI badges

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These Badges and Badge legs were recorded in the Canadian Soaring Register during the period 15 November 2009 to 25 June 2010.

## 1000 km Diploma

13 Luke Szczepaniak SOSA 1007.5 SZD 55-1 Reedsville, PA

## 750 km Diploma

7 Trevor Florence Rockies 751.7 Duo-Discus Invermere, BC

## DIAMOND BADGE

103 John Mulder Central Alberta

## GOLD BADGE

328 Yves Bastien Montreal Soaring Council

## SILVER BADGE

1043 Selena Boyle Edmonton

## DIAMOND DISTANCE (500 km goal flight)

Luke Szczepaniak SOSA 1007.5 SZD 55-1 Reedsville, PA

## DIAMOND GOAL (300 km goal flight)

Selena Boyle	Edmonton	303.8	Astir G102	Benalla, Australia
Yves Bastien	Montreal	301.5	Discus b	Minden, NV
John Mulder	CAGC	323.2	Genesis 2	Innisfail, AB

## Something you probably didn't know was in the Sporting Code

Okay, I'm being cheeky here, but paragraph 3.1.2a of the Sporting Code really does require that the pilot's 'full' name must be on the record claim form (vs. the character-limited space in an FR).

So if, say, Pablo Picasso had been the passenger on a multiplace record claim, would the claim have been disallowed if

*Pablo Diego José Francisco de Paula Juan Nepomuceno María de los Remedios Cipriano de la Santísima Trinidad Ruiz y Picasso*

were not entered in full?

**Tony Burton**

## DIAMOND ALTITUDE (5000m height gain)

Yves Bastien Montreal 6430 Astir G103 Minden, NV

## GOLD DISTANCE (300 km flight)

Selena Boyle	Edmonton	303.8	Astir G102	Benalla, Australia
Yves Bastien	Montreal	301.5	Discus b	Minden, NV

## GOLD ALTITUDE (3000m height gain)

Yves Bastien Montreal 6430 Astir G103 Minden, NV

## SILVER DISTANCE (50 km flight)

Selena Boyle Edmonton 112.0 Astir G102 Benalla, Australia

## SILVER ALTITUDE (1000 m gain)

Dustin Heywood	CAGC	1335	1-26	Innisfail, AB
Selena Boyle	Edmonton	1610	Astir G102	Benalla, Australia
Angela Rose Comer	Edmonton	1640	SZD-51-1	Benalla, Australia

## SILVER/GOLD DURATION (5 hour flight)

James Stang	SOSA	5:18	SZD-51-1	Rockton, ON
Selena Boyle	Edmonton	5:02	Astir G102	Benalla, Australia
Angela Rose Comer	Edmonton	5:10	SZD-51-1	Benalla, Australia

## C BADGE (1 hour flight)

2926	Dustin Heywood	CAGC	2:06	1-26	Innisfail, AB
2927	Colton Millington	Rockies	1:54	1-26	Invermere, BC
2928	James Stang	SOSA	5:18	SZD-51-1	Rockton, ON
2929	Angela Rose Comer	Edmonton	2:15	SZD-51-1	Benalla, Australia

# FAI records

Roger Hildesheim

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

The following record has been approved:

Pilot	<b>Tony Burton</b>
Date/Place	16 May 2010, Black Diamond, AB
Record type	Straight Distance to Goal, Club (Territorial)
FAI Category	3.1.4e
Sailplane	Russia AC-4C C-GJEC
Task	Cu Nim, Writing-on-Stone Park entrance
Distance	307.3 km
Previous record	236.7 km – Tim Wood, 2003

This flight was a completed 516.3 km O&R; however, a straight-in finish resulted in a loss of height distance penalty sufficient to deny the Club O&R and free O&R distance record.

## FAI BADGE SUPPLIES

### Order through FAI badges chairman – Walter Weir

3 Sumac Court, Burketon, RR2, Blackstock, ON L0B 1B0  
*Note: item 5 not stocked – external purchase approval is given*

1	FAI 'C' badge, silver plate pin	\$ 6.00
2	FAI 'C' badge, cloth	\$ 6.00
3	FAI SILVER badge, pin	\$50.00
4	FAI GOLD badge, gold plate pin	\$60.00
5	FAI badge Diamonds	
6	FAI Gliding Certificate	<b>10 for \$39.00 to clubs</b> \$10.00
	<b>Processing fee</b> for each FAI application form submitted	<b>\$15.00</b>
36	FAI SILVER badge, cloth 3" dia.	\$12.00
37	FAI GOLD badge, cloth 3" dia.	\$12.00

### Order these through the SAC office

33	FAI 'A' badge, silver plate pin (available from your club)	\$ 3.00
34	FAI 'B' badge, silver plate pin (available from your club)	\$ 3.00
35	SAC BRONZE badge pin (available from your club)	\$ 3.00

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

## ARTICLES FAI POUR INSIGNES

### Disponibles au président des prix de la FAI – Walter Weir

3 Sumac Court, Burketon, RR2, Blackstock, ON L0B 1B0  
*L'article 5 ne sont pas en stock – permis d'achat externe*

1	Insigne FAI 'C', plaqué argent
2	Insigne FAI 'C', écusson en tissu
3	Insigne FAI d'ARGENT
4	Insigne FAI d'OR, plaqué d'or
5	DIAMANTS pour insigne FAI
6	Certificat FAI de vol à voile (recueil des insignes)
	<b>Frais de services</b> pour chaque formulaire de demande soumis
36	Insigne FAI ARGENT, écusson en tissu, 3" dia.
37	Insigne FAI OR, écusson en tissu, 3" dia.

### Disponibles au bureau de l'ACVV

33	Insigne FAI 'A', plaqué d'argent (disponible au club)
34	Insigne FAI 'B', plaqué d'argent (disponible au club)
35	Insigne ACVV badge de BRONZE (disponible au club)

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

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### Romance was in the air

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Neil replied: "York Soaring Ground, this is Romeo Romeo Papa."

"Romeo Romeo Papa, we have urgent traffic for Pilot 2, over."

The young lady took the radio from Neil, and rather tentatively spoke, "This is Pilot 2."

Her boyfriend replied with the question, "Will you make me the happiest man in the world and marry me?"

"Oh yes!" sealed it, and her new fiancé instructed her to look in the sick bag where she found her ring (fortunately, she did not use the bag). Taking off as a girlfriend, she landed as a fiancée. Kinda touching, is it not?

Charles Petersen

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### magazines

**GLIDING INTERNATIONAL** — the monthly world gliding publication by John Roake. Read worldwide, with a great reputation for being the first with the latest news. US\$64/120, 1/2 yrs airmail. Personal cheque or credit cards accepted. <[office@glidinginternational.com](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 AUSTRALIA** — monthly joint journal of the Gliding Federation of Australia and the Hang Gliding Federation of Australia. <[www.soaring.com.au](http://www.soaring.com.au)>.

**SOARING NZ** — bimonthly. Editor, Jill McCaw. Personal cheque or credit cards accepted, NZ\$122. McCaw Media Ltd, 430 Halswell Rd, Christchurch, NZ <[j.mccaw@extra.co.nz](mailto:j.mccaw@extra.co.nz)>.



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