

free flight libre



2012
Spring



Priorities

Sylvain Bourque, President

A WELCOME TO SPRING and hopes for a good soaring season to you all. But first, safety in our sport is very important. It is a shame that we had two fatalities last year. The Canadian average has been 1.3 fatalities per year. You could be next, or somebody from your club – always keep this in mind. We all have to ask ourselves each day and before each flight what can be done to improve my safety. Now, here is our board of directors for 2012 whom many of you have never met. A special welcome to Jay Allardyce, the new Prairie zone director.



Sylvain Bourque, President and Eastern Zone Director. I first flew gliders in 1994 and am an active member of AVV Champlain, involved in training, towing, and in accounting as club Treasurer. I am a Class 1 glider instructor and hold a commercial power licence. I have organized the winter French ground school in the Montréal area since 1995. I am an aeronautical radio examiner, aviation language proficiency test examiner, and an authorized person for gliding licensing. I fly a Pegase with two other partners. In my day job I am a field production cameraman instructor and a supervising technician for Radio-Canada in Montréal. I'm proud to be part of this board that has such a wide variety of backgrounds and a huge involvement in the soaring community.

Eric Gillespie is the Ontario Zone Director. He started gliding in 1998. Since then Eric has flown in various parts of Canada, the USA and New Zealand. He has flown and owned a wide variety of gliders including an ASW-17 (the actual glider that flew the first-ever 1000 mile flight). He is an active member and instructor at SOSA. When he isn't soaring, Eric rides motorcycles, cross-country skis, and practices law.



Jay Allardyce is the new Director for the Prairie Zone. Jay began to hang around the airfield at the age of seven and started taking lessons as soon as he was able to reach the rudder pedals. He has been flying gliders continuously for thirteen years now and has a particular passion for cross-country. He is an active instructor and towpilot at the Winnipeg Gliding Club, has flown in several competitions and was the junior OLC champion for Canada for several seasons. Jay recently purchased an ASW-19 with two other partners and looks forward to many long cross-country flights in his new glider. To fund his addiction, Jay works in business development at an aerospace company that overhauls jet engines, and enjoys playing hockey, tennis, and cycling when he can't be in the air.

John Mulder, Alberta Zone Director, SAC V-P and Secretary, started gliding with the Air Cadets in 1983. A few of his achievements are Diamond Badge #103 completed in 2010, glider instructor, Canadian ATPL, FAA ATPL, AME, MDM for homebuilt aircraft, and previous management positions with commercial and business aviation companies in Alberta. He is now a Standards Captain with WestJet. John shares a Genesis 2 with a clubmate, a Jantar with wife Carol (she's a clubmate too!), an ALPIN TST-8 (two-seat motorglider) with his father, a Duster with four clubmates, and a Citabria towplane. He lives in Alberta with Carol and four children.



David Collard, the Pacific Zone Director, was first exposed to gliding in the 1950s at the Gatineau Gliding Club. He joined the RCMP in 1957, and soon after entered its Air Division with whom he flew for seventeen years. While in Regina, David became active with the Regina Gliding and Soaring Club as a glider and towpilot. He also has his commercial licence. He has earned a Gold Badge with 2 Diamonds. A memorable experience for him was crewing for Ulli Werneburg at the World Championships in Paderborn, Germany in 1981. David now flies with Pemberton Soaring Centre and owns a Genesis 2 with a partner. David and wife Pamela have four children and four grandchildren.

We also have strong committees who work hard for all of us, often out of the spotlight. You can find out what they were doing for you last year in the *SAC 2011 Annual Reports* – it's in the Document Vault on the website.

free flight

2012/2 – Spring

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

ISSN 0827 – 2557



the wing lift wars	4	is it Bernoulli, Newton, or magic? ♦ <i>Tony Burton</i>
farewell Cold Lake	6	unfortunately, shut down ♦ <i>Randy Blackwell et al</i>
competing at the low end	8	flying and crewing at the Nats ♦ <i>Ray Wood</i>
crosswind round trip travel time	9	no matter what, you lose ♦ <i>Stephen Schery</i>
only a circuit?	11	an opportunity to perfect skills ♦ <i>Nick McCloud</i>
HP-24 maiden flight	13	an amazing "garage" project completed ♦ <i>Tony Burton</i>
the Hope soaring week	14	Air Cadets experience real soaring ♦ <i>Maj. Keith Stewart</i>
"insurance 101"	16	all about your SAC insurance coverage ♦ <i>Keith Hay</i>
flight training & safety	18	annual report ♦ <i>Dan Cook</i>
accident/incidents	19	analysis of reports ♦ <i>Dan Daly</i>
sporting committee	22	annual report ♦ <i>Jörg Stieber</i>
club financing for new gliders	28	how Champlain did it ♦ <i>Sylvain Bourque</i>
insurance – 2011	32	annual report ♦ <i>Keith Hay</i>



Marcello Mills in MSC's ASW-24 flies over the Ottawa River near Hawkesbury.

photo: Martin Detering

DEPARTMENTS

- 24 **Safety & Training** — training solutions for club membership growth, proof that a good scan is vital, all about aviation fuel, safety concerns rewrite world contest cancellation rules
- 26 **Miscellany** — the *Rime of the Ancient Glider-glider*, it's time to rewrite club bylaws, SAC club membership rebate program for returning members, glider training at test pilot schools, airspace in 2011, you might be a sailplane pilot if ..., 180 free flights
- 30 **Club News** — Central Alberta, Saskatoon Soaring, AVV Champlain, Rideau Valley

The wing lift wars

Tony Burton, Cu Nim

Bernoulli, Newton, or magic?

STEVE HOGG STARTED IT when he e-mailed to the Cu Nim Gliding Club newsgroup: "here is an enlightening video that shows the airflow over the wing, and debunks some commonly held beliefs. <<http://www.physorg.com/news/2012-01-wings.html>>"

Erin Doerffer, one of our very keen students, got things rolling with: "Oh God, I read it, and was instantly transported back to third year fluid dynamics: the Navier-Stokes and Runge-Kutta equations – *aargh!* It's more complicated than you think (even if you *are* an engineer or a physicist) and personally, I am satisfied with proof by – 'it works'.

When *Al Hoar* suggested a Wikipedia look-up (key word, *Lift* – then click "lift force"), *Brendan Mogan* did that and responded: In part this states, "What actually causes lift is introducing a shape into the airflow, which curves the streamlines and introduces pressure changes – lower pressure on the upper surface and higher pressure on the lower surface. This is why a flat surface like a sail is able to cause lift – here the distance on each side is the same but it is slightly curved when it is rigged and so it acts as an aerofoil. In other words, it's the curvature that creates lift, not the distance." But perhaps it is explained better elsewhere in his writings ...

Tony Burton: "...it's the curvature that creates lift? Error in Wikipedia! – what about those little 8" sheet balsa gliders in cellophane wrap that you could push together and fly? It's clear and simple – Newton had the answer – for a wing to stay up it has to deflect the air down. Read all about it in "*Bernoulli ... Bah!*" in the 1987/2 issue of *free flight*. Download it from the magazine archive on the SAC web page."

Dave Morgan: If you assume equal air transit times above and below the wing (not a good assumption), and calculate the change in air velocity, you will find that there is precious little lift generated due to the change in air pressure, which is very low. Unfortunately, most simplified text books attribute lift to Bernoulli's theorem which is wrong. The Bernoullis were a family of brilliant mathematicians: 3 Johanns, 2 Nicolaus', 2 Jacobs, and a Daniel (of fluid mechanics). Poor Daniel's theorem is frequently misapplied.

There is a reason we are taught fluid mechanics in engineering – it has so many applications in the real world. Unfortunately there is just no simple, easy answer as to why a wing can generate lift – you have to have at least a basic understanding of fluid dynamics – some knowledge of calculus helps as well.

Ted Sorensen: Too mechanistic; I prefer my theories to be more anthropomorphic. I direct your attention to the following paper at <http://www.messybeast.com/dragonqueen/liftdemon.htm>:

LIFT DEMONS AND THRUST PIXIES

Title of Paper: The Role of Lift Demons and Thrust Pixies in Heavier-than-Air Flight
Publication Date: 2004

Abstract: The role of Lift Demons in aeronautics was first explained in 1994 by Mary Shafer (NASA). Since then, Shafer's work has been explored and revised. This paper summarizes advances in Lift Demon technology over the last decade.

Keywords: Lift Demons, Thrust Pixies, lemon fondant

Authors: Sarah Hartwell, DEF Smith, Peter Rieden, Gavin Bull



SOARING ASSOCIATION of CANADA

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

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

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

Photos: send unmodified hi-resolution .jpg or .tif files. Photo prints are acceptable and are returned on request.

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

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

For change of address and subscriptions for non-SAC members (\$30 or \$55 for 1 or 2 years, US\$35/\$60 in USA & overseas), contact the SAC office at sac@sac.ca. Copies in .pdf format are free from the SAC website, www.sac.ca.

President	Sylvain Bourque
Vice President	John Mulder
Treasurer	David Collard
Secretary	John Mulder
Office:	SAC office 71 Bank Street, 7th floor Ottawa, ON K1P 5N2
Office Manager	Tanya Storing
tel: (613) 236-4901 ext. 109	
fax: (613) 236-8646	
e-mail: sac@sac.ca	
web site: www.sac.ca	

Deadline for contributions:

10

**March, June
September, December**

ASSOCIATION CANADIENNE DE VOL À VOILE

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

free flight est le journal officiel de l'ACVV publié trimestriellement.

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

EDITOR

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

copy proofing – Ursula Wiese
French content – Sylvain Bourque

ADVERTISING/SUBSCRIPTIONS

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

Date limite:

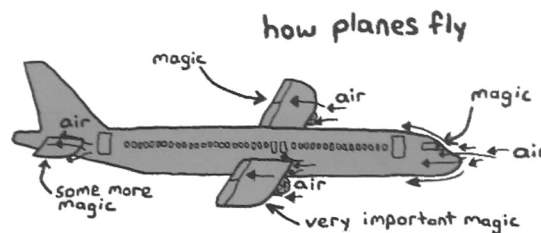
10

mars, juin
septembre, décembre

Question: How did the secret information on Lift Demons make it into the public domain? I've been a practising Aircraft Performance Engineer for the past twenty-six years and have always tried to explain how aeroplanes fly by using the official public explanations regarding Bernoulli, airfoils and other such rot.

Civilians just weren't ready for the truth. In fact, we generally don't speak about the magic directly. Most of our plans and estimates usually end with the phrase, "and then a miracle happens".

Answer: The science of Lift Demons was declassified in 1994, throwing this topic wide open for discussion and research.



According to Shafer:

"Lift is caused by Lift

Demons. These little, invisible demons hold on to the leading and trailing edges of the aircraft and lift it into the air by flapping their wings (so, in a reductionist sense, lift is actually caused by feathers). Some of the demons are a little confused and they hold on backwards, causing drag. The reason that planes stall at high alpha is that the leading edge demons get scared and let go when they can't see the ground anymore. Lift demons have good taste and don't like to look at ugly aircraft, so they hold on backwards on ugly planes. That's why gliders have so much lift and so little drag and why F-4s have lots of drag."

Gerald Ince: I too have enjoyed this debate, but have to admit that most of it has gone over my head. For full disclosure, I do not have an engineering degree (although I do own a "scientific" calculator) and I have never met anyone from the Bernoulli family.

It bemuses me that we have enjoyed over a hundred years of powered flight, without being able to agree on how it works. Given that the people working on this issue have, in the interim, managed to provide aerodynamic proof that bumblebees cannot possibly fly, it might be some time before this is finally resolved. Thank God the Wright brothers were bicycle mechanics rather than engineers, because we might still be standing on the ground looking upwards at the birds saying, "now that can't possibly work!"

I don't demand that my wings explain themselves – I am simply thankful that they "know how to do their job". Not willing to take things for granted, I also take a more spiritual approach (just in case) and give thanks after each flight. At the end of each day, I give my wings a cool bath and then anoint them with sweet smelling creams and polishes, rubbing them vigorously with the hide of a dead animal (chamois) to maintain and enhance their magical properties. This has worked for me for over twenty years, and I suggest that students give it a try on the club ships.

And, keeping up with the latest developments, we are considering winglets for the Duo Discus as I understand that by bending the last foot or two of the wing up at a 90 degree angle, you can prevent the magic stuff from "draining out" of your wings! See – this stuff isn't that hard!

Shulamit Kuttner: Oh, this is too funny! "... and then a miracle happens" isn't so far from my fluid dynamics professor's favourite phrase: "And it should be obvious that..." Great mid-winter food-for-thought until the gliding season starts.

Erin: "It is left as an exercise to the reader..." As a calculus prof my dad would say, "it can be shown 'a priori' that..." Oh, engineering humour: "lift demons have good taste and don't like to look at ugly planes". LOL

farewell Cold Lake

Randy Blackwell et al



"Bingo" Larue

WELL, IT'S OFFICIAL – the Cold Lake Soaring Club has been shut down. Following a seven-year pause in operations due to a shortage of key members, our club was recently making significant progress toward a promising resurgence. However, 4 Wing's recreation managers decided not to allow any more time for this to happen (the hopeful restart for 2011 killed by the international Blank grounding), and have proceeded with closing the club and cashing out its assets.

It is truly unfortunate that such a unique club, which has been a part of a rich aviation heritage at Cold Lake since 1959, has been closed down by people who don't seem to appreciate what the club could still offer to the community members of the new RCAF. With its closure at hand, what should be remembered is that it strongly supported the sport of soaring and introduced thousands of people to gliding by:

- providing glider training for 4 Wing community members, and introductory and instructional flights to youth community groups such as Scouts, Guides and Cadets, and to local and visiting military personnel, particularly at [the Canada/USA] Maple Flag exercises;
- supporting and participating in Cold Lake air shows and regional aviation events;
- supporting soaring events hosted by the Alberta Soaring Council, notably the annual Cowley camps and provincial and national soaring contests;
- serving as the home club of two national champions; Dave Mercer and Ryszard Gatkiewicz; and
- organizing/conducting the 1996 Nationals in Red Deer.

Of course, none of the club's activities would have been possible without the dedicated volunteer efforts of its members. So, as the last president of CLSC, I want to express my deepest appreciation to the members, past and present, who have generously contributed your time and effort to-

ward the success of this club over the past fifty-three years. And if your experience with CLSC has been anything like mine, then your contributions have been richly rewarded by being able to share the camaraderie of so many exceptionally talented members, from the common man to astronauts.

I can't begin to name all those who have contributed to the club's success over the years. However, two names deserve special recognition. The first is the Alberta Soaring Council for their unwavering support of our club. This support has included equipment, training, event sponsorship and financing, all of which has served to sustain CLSC and improve the quality of our soaring experience. The other is Don Keath, the longest-serving member of CLSC, having been active since 1980 as a towpilot and as our AME. Thanks Don, for all your efforts on CLSC's behalf and for the thousands of flights whose safety you have helped to ensure.

Dave Mercer ... Yes, keeping the club going was hard work and it was often the burden of the few for the benefit of many. Yes, it was difficult when choices and options were weighed. But there were many highlights during my time there that outweighed all the difficult times. I accomplished a number of personal life goals as a direct result of being involved with CLSC, amongst which were achieving the last of my Diamonds, the Diamond distance, on a strikingly blue, clear day on 1 May 1994 and, of course, some epic Cowley adventures, some of which are also now written in the record books.

But the snapshot in time I am most proud of involves the rallying of the entire club to conduct what is still to this day considered the benchmark of professionalism and organization at the national championships, hosted by

little 'ol CLSC down in Red Deer. Granted the weather refused to cooperate up to our high standards, but the self-reliant members of our immensely over-achieving club far surpassed all expectations from some of the most critical and demanding pilots our nation (and American guests) has to offer and literally gave them nothing to say but glowing praise to a job exceedingly well done. As the last chapter of our collective story comes to a close, albeit with a bitter ending unbefitting of the people whose history it contains, I thank you all from the bottom of my heart.

Tony Burton Greetings to all past Cold Lake members that I've had the fun of meeting over quite a few years. It's really too bad that, just as it looked like there was a good chance for the club to get rolling once more, someone in another country pulled the wings off a Blanik, grounded the whole fleet, and erased your chance to get flying again.

The club was around, off and on, for many years. My glider flight #1 was made at Cold Lake 53 years ago on 13 Sept 1959. (Downtown Medley, just outside the base, still had dirt roads and some board sidewalks.) I was a brand new airman working in the battery shop in 1 Hangar. Autotowed in the Pratt-Read CF-ZCZ on the 12,000 foot runway, I was hooked. My instructor was Dennis Bailey, a test pilot at the Central Experimental and Proving Establishment (CEPE) – he was building a BG-12 and I helped him a little bit. My third flight the same day was with the late Barrie Jeffery, then a civilian engineer at CEPE. Flight #4 was a solo(!), being towed at barely flying speed down the runway in the Schweizer 1-19 CF-ZYC and just told to keep the wings level. Barrie flew the first Gold badge in Canada in 1955 with a flight from Carp, ON east to Windsor Mills a/p, QC (north of Sherbrooke).

With eleven flights in my logbook, critical club members were transferred as regularly occurred, and the club had to close following that season – perhaps some old member might know when it got going again.

"Bingo" Larue I can't believe that Cold Lake Soaring Club is closing its doors. This is very sad news; like everyone, I have tons of good memories flying at CLSC. There are no better friends than those made at a soaring club. My logbook is full of memorable flights from Cold Lake; like buzzing the tower, thermalling all the way up to 12,000 feet, cross-country to Chipman and back, etc. The club made me buy the Slingsby Dart because I got tired of waiting for my turn to fly the club gliders. There was a large membership then. I remember arriving at the club to rig C-FOAK (thanks to all of you for the

help with that), taking off around noon and be the last one to land. I will miss those flights.

I'm flying gliders with Rideau Valley Soaring, but for me Cold Lake is where it all started. I don't own a glider any more but when I think of all the fun I had with the Dart flying over the prairies, I think of buying a glider again.

Jim Oke I too have happy memories of the Cold Lake Soaring Club. I first arrived there in the spring of 1972. Norm Ronnassen was the president and guiding light of the club and had just come back from Europe. He had arranged the purchase of a Bergfalke and a Rhönlerche in Germany and they had been shipped to Cold Lake that winter – that was in the days when the right connections could get gliders moved about by Herc! Unfortunately there had been some minor damage to both gliders during the move and so my earliest memories of the club are of evenings in the old CF-100 alert hangar patching the plywood leading edges on the Bergfalke.

My first flight there was an autotow (my log book says), but a winch was soon acquired and put into use and so the rest of my flying there was by winch. Norm and many of the other members had previously flown at the RCAF station in Lahr, Germany and were quite happy with winch launching. So I did a lot of six and seven minute flights that summer with the occasional bit of soaring.

I went back to Moose Jaw that fall but soon returned to Cold Lake waiting for an Operational Training Unit (OTU) course and flew a fair bit with the club in the summer of 1973. I went on the SAC Instructor Course and ended up instructing but also managed a five hour duration flight in the Bergfalke over the base. Cold Lake was a quieter place back then with just a single long runway – I seem to recall a lot of sand in the local area which made for some interesting local soaring. The tower was not keen on mixed glider and jet traffic so we often had to sit on the ground beside the runway waiting for a CF-104 or CF-5 to arrive. This made some good close-ups for an aspiring fighter pilot though.

The club was fairly active in the ASC cross-country and wave camps and we went to Cowley that fall. Then in the spring of 1974 the club flew in the Innisfail meet and then in the Western Regionals later that year at Claresholm where I did my first few cross-country flights there in the Bergfalke. Some names I recall from those times were Ron Sarich, Larry Riegert, Jim Anderson, Jim Juryn, and Ken and Ruth Walker.

By the fall of 1974, I was in Europe flying CF-104s, but somewhere along the way I had become a partner in an L-Spatz with Jim Anderson and Jim Juryn (we got it registered as C-GJJJ, perhaps a bit too cute). I was back in Cold Lake on temporary duty in the summer of 1975 and flew the L-Spatz in the Nationals that summer again at Claresholm and did a few more flights in the Bergfalke. It was C-FDLP and was named *Unser Sonntag* (our Sunday) by the former owners in Germany.

That's all over 35 years ago now but, yes, happy memories and sad that CLSC is no more.



Competing

at the low end of
the polar curve

Ray Wood, SOSA



Farmer and glider pilot
discuss flying and crops.

WHEN IT WAS ANNOUNCED that SOSA would host the 2011 Nationals, I asked my partner in the PW-5 if I could use our glider to compete and got an enthusiastic YES.

I helped with the Nats at SOSA in 2001 and have flown a number of contests; now an opportunity to compete at home was at hand. While registering, I looked at the pilots signed up already and the gliders they were flying, and saw that I would be flying the lowest performance glider there. This led to some sober reflection on the probability of landing out. With my history of landing out five times on badge attempts and while competing in a 1-26 (see *free flight* 2/2000 "You can't get there from here!" and 5/2000 "Don't you land at SOSA anymore?"), I was beginning to question the sanity of my decision. Dave Springford, offering words of encouragement, reminded me that the scoring is handicapped and is considered favourable for the low performance gliders.

Being familiar with all of the people running the contest, I was confident of a well run show with lots of great social events planned for the evenings (if you get back in time!)

One thought that did unsettle my already low confidence was the CD Dugald Stewart's own landout record. With well over fifty to his credit, I was certain Dugald wouldn't lose too much sleep over a few contestants landing somewhere other than at SOSA. I've heard it said that Dugald knows the sound of more crops passing under his wings than any other pilot in Canada. He knows the sound of Alfalfa! He knows the sound of Beans! He knows the sound of Corn! Almost every crop in the alphabet as well as more than few airports. With this in mind I decided on three goals for the contest: (1) that I would not land out every flying day, (2) to complete at least one task and finally, (3) not to come in dead last!

After making arrangements with my crew before I signed up, I was at least confident of a retrieve when needed (most of the time). At the contest start, I found I was going to be among a large number of crewless pilots for the practice days and the first contest day due to work pressures for part of my crew. Being one of the crewless made me more aware of the vulnerability of each of us acting without ground support of our own. In spite of the fact this was a serious competition, the need to support each other created a more cooperative than competitive atti-

tude (at least while on the ground). That attitude made the 2011 National "Landout" Championships not only workable but a lot of fun, getting to know each other through the non flying tasks our crew members would normally help with and by stepping in for retrieves when possible.

By making three landouts in six contest days, plus one on the first practice day (now there's an encouraging start to a career as a professional sailplane racer!), I got to participate to the full extent in the cooperative side of the crewless pilots.

After being efficiently retrieved by Jorge Ardilla on Day 1, I went to the contest office to inform them of my safe return. Diane welcomed me back, then handed me the landout ticket for Sergei Morozov. I headed to his truck and entered the landout address into Sergei's GPS only to come up with no directions, I grabbed the GPS from my truck and achieved the same results. After several minutes of fiddling and frustration I called his cell and got no answer (he was in an area with no cell service – great). It looks like it will be a good old-fashioned retrieve, but I knew the area well as the road runs within a few clicks of my home. However, I was uncertain of how the numbering went, so I set out for the eastern end of the road and hoped not to need to drive the entire length of it. As soon as I turned onto Brant 54, I knew I was close and knew only a couple of farms would have useable fields, and I knew those farmers too. I swung into the driveway at Don Douglas' farm, around the barn to the hay field, and there was Sergei educating the entire Douglas family on the finer points of sailplane racing. Normally landouts involve meeting new farmers, not having a visit with your neighbours and old friends.

The following day was the mass invasion of Tillsonburg airport (*free flight* 2011/4). Several of us landed near the airport. Jay Allardyce had landed very near my field and jogged close to two clicks after watching me scrape out a few turns, ultimately surrendering to gravity. We sat in shade enjoying lemonade with Hank, the farm owner, while waiting for my wife/crew Pat. I now have crew for the rest of the contest, woo hoo!

After loading VS, we went back to Jay's field to move his glider to a better spot for derigging and loading. After a short wait Jay's cell phone rang – it was his crew ➡ **p34**

Crosswind round trip travel time

Stephen Schery, from *SOARING*

How winds aloft affect the average ground speed of an out-and-return flight

ALL GLIDER PILOTS KNOW THAT at a given indicated airspeed it takes longer to travel a certain distance over the ground headed into the wind than to travel the same distance over the ground headed downwind. Less obvious is the answer to the following question. Suppose a glider pilot makes a round trip to a turnpoint upwind of the starting point. The travel time headed upwind is increased due to the wind but then decreased on the return leg. Does the increase and decrease balance one another out resulting in no net increase in travel time compared with the no wind situation? Alternatively, suppose the wind is strong on a certain flying day and a glider pilot wants to make a round trip to a turnpoint a given distance away. If the glider pilot wants to minimize the round trip travel time, does the angle of the wind relative to the direction to the turnpoint make any difference?

Before I answer these questions, let me address a reaction some readers may have at this point: why should I care about this subject?

Here is how this issue first came up in my own flying. I often enjoy spontaneous out-and-return cross-country flights, going as far as possible from my base airport in the time available. The following situation is not uncommon: I release from tow, successfully climb to altitude and note that there seem to be good soaring conditions in several different directions. Given the forecast winds aloft, I then ask myself the following: other things being equal, in which direction should I head to achieve the highest average round trip ground speed and greatest distance in the smallest flight time?

Here's another situation that could occur either in the air or as part of pre-flight planning. You are considering a challenging out-and-return flight to a favourite distant landmark. From your onboard GPS program, or from a forecast, you have information for the winds aloft. Other things being equal, how might the strength and direction of the wind affect your chances of successfully accomplishing this flight in the time available? More situations could be mentioned but let's get back to the questions of the first paragraph.

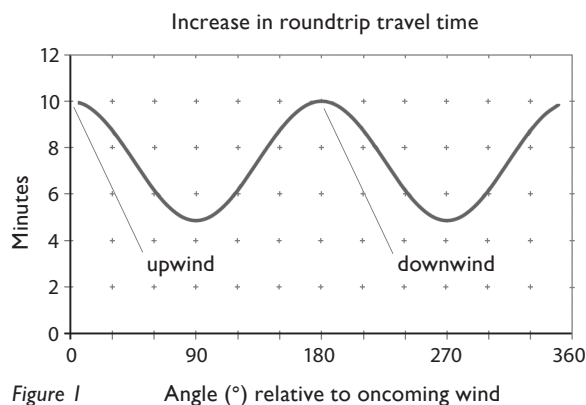
The question about a flight starting in the direction of the wind can be answered fairly easily with a counter example. Suppose the wind is blowing at 20 knots and the pilot will be flying at an average true airspeed of 60 knots. Suppose the turnpoint is 40 nautical miles (nm)

away in a direction that is directly upwind. The average upwind ground speed will be 40 knots and the average downwind ground speed will be 80 knots. The upwind journey will take $40 \text{ nm} / 40 \text{ kt} = \text{one hour}$ and the downwind journey will take $40 \text{ nm} / 80 \text{ kt} = \text{one half hour}$. The total travel time will be 1.5 hours. Had there been no wind the travel time for the upwind and downwind journeys would have been $40 \text{ nm} / 60 \text{ kt} = 2/3 \text{ hour}$ each way giving a total travel time of $4/3 = 1.33 \text{ hour}$. Since 1.5 is larger than 1.33, the increase and decrease do not cancel one another out and there is a net increase in travel time due to the wind. The magnitude of this increase is $1.50 - 1.33 = 0.17 \text{ hour}$, or 10 minutes. This counter example can be made even sharper by assuming the wind speed and average glider airspeed are equal. Then the glider would not make any progress upwind at all and the round trip travel time would be infinite. In any case, clearly we cannot say the effect of wind on travel time will be cancelled out if a journey is a round trip!

Well, how about the question of the best direction to travel relative to the wind to minimize round trip travel time? (Note that averaged over the total round trip distance to and from a turnpoint, minimum travel time also translates to the maximum average round trip ground speed.) Let me stick with the above example of a turnpoint 40 nm away, but now let it lie in any direction relative to the wind and still assuming an average airspeed of 60 knots. A full analysis of this situation requires use of geometry and trigonometry that I won't go into further here. For now, let me just present the appropriate results by a graph.

Figure 1 shows the change in round trip travel time for a turnpoint in any direction relative to the upwind direction, assuming a 20 knot wind, average glider airspeed of 60 knots, and a turnpoint distance of 40 nm. The plotted change in travel time is relative to a no-wind travel time (1.33 hour = 80 minutes). The angle listed uses a convention of 0° for a turnpoint directly upwind, 90° for a turnpoint ninety degrees to the right of the upwind direction, and so on.

Figure 1 indicates that there is always an increase in round-trip travel time due to wind regardless of direction, but that the magnitude of the increase varies with direction. The upwind and downwind directions have the greatest increase (about ten minutes) while a turnpoint in a direction perpendicular to the wind direction (either 90 or 270



degrees) has the smallest, but still significant, increase (about five minutes). Viewed from the perspective of direction of travel, this plot tells us that for a minimum round trip travel time and highest average round trip ground speed to a turnpoint, it is best to have the wind direction perpendicular to the direction of travel.

The plot also exhibits symmetry. One would expect that it makes no difference whether the pilot flies right or left of the wind direction, but there is also symmetry about a ground track direction perpendicular to the wind. There is no particular advantage to choosing an upwind quadrant (0° to 90°) or downwind quadrant (90° to 180°) for the initial direction; the round trip travel time is the same as long as the magnitude of the angle between the perpendicular to the wind and the turnpoint direction is the same (for example, a direction of 60° = (90–30)° or 120° = (90+30)° will result in the same increase in travel time).

We have some clear answers to our questions for a wind speed of 20 knots and an average airspeed of 60 knots, but what about cases of other wind speeds and other airspeeds. The more general situation can be addressed with the following formula:

$$\% \text{ increase} = \left(\frac{\sqrt{1 - (R \sin \theta)^2}}{1 - R^2} - 1 \right) \cdot 100$$

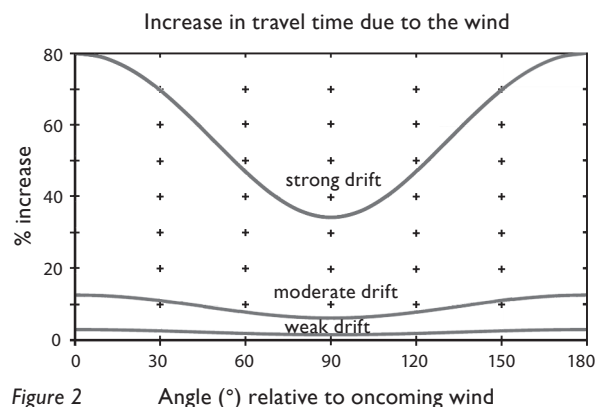
Here, R is the ratio of the wind speed to the average glider airspeed, θ is the direction to the turnpoint relative to the upwind direction, and “% increase” is the increase in round trip travel time relative to the round trip time without wind. For example, if the wind speed is 10 knots, the average airspeed of the glider is 50 knots, and the direction is directly upwind ($\theta = 0$), then $R = 10/50 \text{ kt} = 0.2$, $\sin \theta = 0$, and “% increase” = $(1 / (1 - 0.2^2) - 1) \cdot 100 = 4\%$: the round trip journey will be about 4% longer compared with the no-wind situation.

The formula assumes a constant average airspeed over the whole journey and a constant wind speed and direction. Since units cancel when calculating R, as long as wind speed and average airspeed are in the same units, any units for speed can be used. A glider may be stopping for thermals so the average airspeed to be used is not the indicated airspeed between thermals but the average speed the glider will make through the moving air mass, taking into consideration time spent thermal-

ling (this would be the same as the average speed over ground if there were no wind). While thermalling, a glider will likely temporarily drift due to the wind in a direction different from that of the turnpoint – this effect is ignored in the derivation of the formula but partly covered by the use of an average airspeed.

The practical significance of the formula is best discussed using more examples. The formula exhibits the expected left/right symmetry, so we will limit our plots to the right-side quadrants only (0–180°). The first example will be a situation where the effect of wind is relatively strong, maybe a wind speed of 20 knots and an average airspeed of 30 knots (our pilot is spending a lot of time thermal-ing!). This might correspond to the situation where an unfortunate pilot finds himself/herself flying a low performance glider under weak thermal conditions with a strong prevailing wind. This case is labeled as “strong drift” in Figure 2.

The second example treats a situation where the effect of wind is relatively weak, perhaps a wind speed of 10 knots and an average airspeed of 60 knots. This might correspond to a high-performance ship flying under strong thermal conditions with a moderate wind. Drift would be mild requiring only a small heading correction even if the turnpoint does not lie along the wind direction. As a last example, we will re-plot in the format of the formula in the earlier case shown in Figure 1. It is probably reasonable to describe this as a moderate drift example. Figure 2 shows all three examples.



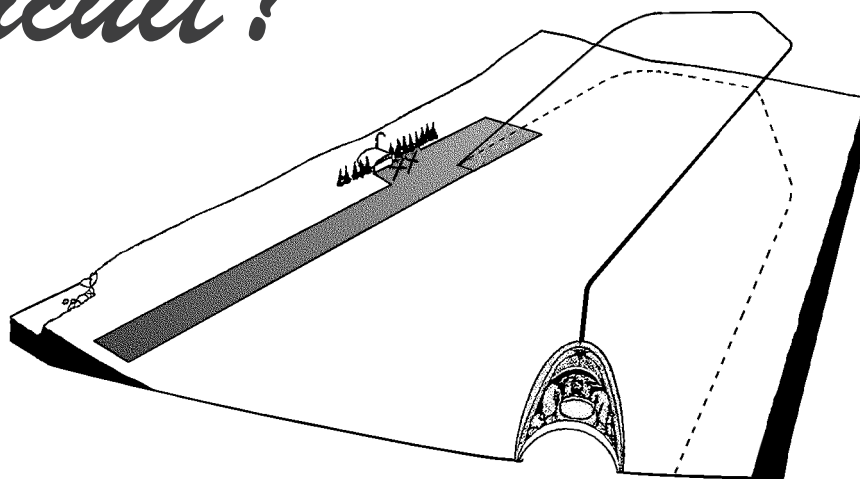
From Figure 2 we can deduce a number of things. First, by plotting the result using a convention of “% increase”, we do not need to specify the actual distance. In fact, viewed as a percent increase, the change in travel time does not depend on the distance to the turnpoint. To get actual travel time in, say, minutes, we would have to apply the percent result of Figure 2 to a separate calculation of travel time with no wind (just total distance travelled divided by average airspeed).

Secondly, the increase in travel time is strongly affected by the strength of what we label as “wind drift”. More rigorously, it is the ratio of the wind speed relative to the average achieved airspeed that is important, not the wind speed by itself. A low performance glider ⇒ p34

Only a circuit?

Nick McCloud
from *SAILPLANE & GLIDING*

**a circuit is not just a
circuit, it's an opportunity
to perfect your skills**



WITH EVERY LAUNCH we will perform a landing. And that landing will colour our perception of the entire flight. For should that landing go bad, we will soon forget the climb to cloudbase, the spectacular views, the feats of derring-do, the local sightseeing tour, the 100/200 km triangle, the gentle but progressive wave lift or the off-the-clock thermals. And good landings start, as we all know, with good circuits.

So why do I wax lyrical on the most mundane of flight procedures, the circuit? After a three-year lay-off from gliding, I re-soloed in a K-13 last summer on a rather soarable day. The K-13 was needed back for an instructional flight, so I said I'd only be fifteen minutes. I could have stayed up for an hour at least. But I was true to my word and returned as agreed. For the remainder of that summer I struggled to connect with any decent thermal on a solo flight. I had a few good ones with instructor ballast on board, but not one on my own – so no Bronze legs. I scratched here and there way beyond the time of a normal glide down from a winch launch; but, alas, no 90-minute specials.

Being stuck in early-solo purgatory inevitably means I was also stuck hanging around the launchpoint for the rest of summer and into winter. And I became more and more dismayed at the number of fellow students turning down a training flight because it was going to be 'just another @!*\$% circuit'. And while perhaps half the time 'just-another-circuit' can be pretty routine and occasionally a bit of a handful, they can go very badly wrong, and being able to deal with it becomes rather mandatory if you haven't got your flying 'get-out-of-jail-free' card in the back seat. Here are some examples from my logbook:

flight #279 While I was working in Bristol I flew at Aston Down. A really big and very flat site. Big flat circuits. Plenty of room to land in. So I'm in the circuit after a short soaring flight. No monster thermals to be found. But I'm on a gliding course so I can simply take another launch as soon as I land with no additional cost to me. I've done nine circuits in one day here, so I know where the grooves in the sky are.

As I pass over the nice house with gravel drive just before low key point, on a left-hand southerly day, the vario makes such a low tone that the K-8 I'm in almost shivers. Actually,

the K-8 is shivering because it is falling out of the sky. The needle is hard against the bottom stop and it looks like we're going down the chimney of the house. Ridge site training cuts in; a bit more speed on, 60° of bank, I turn 180, straighten out and almost immediately round out and land.

I get out and can feel the sweat, but I'm down safe with no harm done. The K-13 with the course instructor lands a few yards from me and he runs over ... I brace myself for a debrief.

"Bloody hell, did you hit that sink too?" he says.

"Er, yeah," I reply cautiously.

"Good job. How did you know how to handle it?"

"Where I learned that's almost normal," I reply.

flight #331 In a K-8 again, this time back home at Camphill last summer; I come off the top of the wire and head for a candidate cloud. It barely keeps me up, but, as I turn round to look at the airfield, the north end turns white as four bits of big white plastic spread themselves evenly out on the grass. Looks like the sky has stopped working. On the next turn I see a couple more white crosses, this time more central.

While I have plenty of flights over the previous five years, this is the first solo flight since I re-soloed, so my limits are set conservatively and it doesn't take long for me to get down to my go-to-high-key height. So I go. And look out. And see a Puchacz on long final. And a bit low. The trigonometry worked through the brain cells quite quickly and I could see that we were pretty much in contention. There was limited room on the field and I had no idea where they were going for. Having already trimmed for approach speed, I loitered somewhat and then crabbed slightly away from the field to give the Puchacz time to do its thing. I had no idea if they knew I was above and to their left, heading to the north end.

Eventually I had to turn onto final, but I didn't want to go too far to the right as there was nowhere to go. I kept slightly left, but still ended up above and behind the Puch. Once I was confident where their ground objective

was I could pick a spot and get on with my landing, which ended up about halfway down the field with plenty to spare. Not a particularly sweaty one this time and I was very pleased with my detached, objective choices, but I could see how it would have been a lot of hard work a few years ago when I had less time in my log book.

flight #332 In case you thought it was all good news, here's my memo to self that I've still a hell of a lot to learn. On my very next flight no less. It's an easterly with a good bit of south in it, which means the west edge of the nearby ridge is sink central. I've done a few east wind flights, but I need a checkflight and the poor old assistant instructor has pulled the short straw. Not a great performance on the winch launch, but high enough to see if any part of the south ridge is working as it appears to be for our intrepid senior instructor of the day and his student. It's soon time to head back to the field and, as I head over the gully at the southeast end while trying to plot me a circuit, the back seat asks me my intentions as I've stopped talking.

I've clearly got a bad plan brewing with a right hand circuit along the west ridge line with an easterly component in what would be massive sink. We hit it and my brain freezes – spinning its wheels so hard I can't even say I haven't got a clue what I'm doing. Thankfully my instructor gets the message and very proactively puts us back on the ground. It was a great example of taking control of the situation rather than dithering as you fall out of the sky, but at the time it was embarrassing and left me dry in the mouth.

We tried it again (a proper circuit that is) and I did much much better this time, now that I had the least clue of what I was up against and what was required to do about it. It still needed some work, but I'd grasped the nettle.

And the moral of these tales? If it's only a circuits day, think "what can I do that will give me more experience?" Because it is that experience we fall back on when our circuit goes wrong – either from a misjudgment on our part, a misjudgment by someone/thing else, or just sheer bad luck. So take a ride with an instructor and try one of these training flights I've enjoyed in the past eight years as an early solo pilot:

- *A high circuit, aka too close* How can you modify the circuit or fly differently or use the controls differently? This is a common one from my logbook – coming back at a very conservative height by myself and having to lose height in some way. Get a good picture of how it all looks.
- *A low circuit, aka too far* Not such a low circuit that you can't get back to the airfield, but a low circuit where you are at the bottom of the 'funnel'. Again, take a mental photograph for future reference.
- *A low low circuit* This happens when I'm verbally assisted into thermal sniffing and the thermal isn't working – then the back seat watches to see what happens. Turn in early on downwind and enjoy the walk back!
- *Random awkward position* Let the back seat talk you into somewhere not-so-good to begin the circuit. How do you cope with the different scenery?

- *Random sink found* As simulated by the back seat opening the spoilers – your job is not to try to close it, but to fly the circuit as if it were sink.

- *On circuit with no warning* It's better to have time to settle into the circuit pattern, but we don't always get that luxury. How do you fare when you have it all to do in half the time?

- *Altimeter covered* Excellent practice for when you come to do your off-field landing tests. Helps keep your head out of the cockpit.

- *ASI covered (just the student's!)* What if your pitot got blocked? Do you know your aircraft well enough that you know what attitude is needed and what it sounds/feels/looks like for setting a safe approach speed?

- *Fly and talk* How well do you know a basic topic like simple stalls? Do you know it so well that you can list the five basic symptoms while flying the stall itself?

- *Launch failure – high* It may seem like it's only an abbreviated circuit, but the chance to practise a good crisp clean recovery plus the rest is useful too.

- *Launch failure – medium* Land ahead or a 180, or a 270, or a what? You have very little time to decide.

- *Sideslip* You never know when this may help you kill off some height. The attitude can take some getting used to; get used to it now.

- *Spot landings* Land where you plan, then do it twice more to prove it was skill and not luck!

- *Field landing demo/practice* You don't have to wait to be in the throes of your Bronze training to start them now. In fact, any relatively uncompromised circuit can have an element of practice at precision round-out point and energy management.

- *Actual field landing practice* Do it in a motorglider. It's one thing landing on a different part of your own field, it's another to have a totally alien (smaller) field down below and to plan a circuit and approach into it.

- *Fly from the back seat* Not so much for the budding instructor-in-waiting, but for a totally different view from what was a familiar aircraft.

- *The local gotcha!* Every site has a gotcha, however subtle or obvious it may be. Ask an instructor what else your site has got that's not on this list.

Circuits may inevitably be the main or only option for training some days. If you've gone to the trouble of getting to your club, maximize your investment with some additional core flying training. A circuit is not just a circuit, but the opportunity to perfect your skills.

Note that some items may not be suitable, or useful, at your site and you should not try them by yourself unless you've cleared them with your instructor. ❖

HP-24 maiden flight

the culmination of an
amazing “garage” project

Tony Burton



TO DESIGN AND BUILD a composite glider you intend to sell as a kit, you really have to build three, each taking a lot of work and time. First are the plugs for the fuselage, wings, and tail surfaces. They must be perfectly smooth and fair. Over these, much fibreglass and steel trusswork is constructed to make the molds. Molds must also be produced for all the other fibreglass items like the seat pan, bulkheads, etc. From the molds you can finally lay up the actual glider bits. Well, not finally actually – there are all the metal pieces of the structure and controls that must be prototyped, welded, and then jigs constructed so that parts can all be duplicated for the kit.

It takes an uncommon person to take on a project of that depth. Bob Kuykendall, living in Douglas Flat, CA and working out of a small shop up the road in Arnold has done it.

Bob is clearly a resourceful builder, and the HP-24 is his extension of Dick Schreder's long series of kits that gave the best performing homebuilts to pilots. After Dick's passing, Bob acquired all the remaining HP glider assets and began "HP Aircraft" to continue assisting owners.

To gain a true appreciation for the work that has gone into this sailplane, you must spend an hour or two in his HP-24 project website at www.hpaircraft.com/HP-24/ and scroll through the hundreds of photos and explanations of the design and building process. It's been an eleven year job, beginning in early 2001 with the fuselage plug. The project has taken a long time to reach this major milestone – the priorities of a day job and his supporting family regularly interrupting.

Brad Hill has worked closely with Bob during the project. He says, "My *Tetra-15* is the "beta" article, the first sailplane made using the molds for the HP-24. The photo shows a high test flight first made on 27 January. The glider was extremely easy to fly with no unusual characteristics. The airbrakes are powerful and have no effect on the pitch. Stall speed is around 36 knots and I have had it up to 110 kts, with more testing in the future we hope to expand the high speed envelope. It is cleared for normal flying right now and I am well on my way to flying off the hours required by the FAA for the Phase 1 flight testing."

This sailplane kit will be unmatched by any on the market. The introductory price will be about \$27,000, and doing some work at his shop may be needed to fulfill the 51% amateur-built requirement. Bob is preparing a revised *Frequently Asked Questions* document to answer all the kit questions he is getting. Watch for it on the HP Aircraft website.

An earlier long article on the progress of the design and work appeared in *free flight* 2008/3.



Static test successful! Bob Kuykendall is in the middle. The wing was fully loaded to the test condition of 4.4g. The deflection was within an inch or so of prediction, and the wing showed no distress and made no bad noises. A wing set will eventually be loaded to 8 or 9g, but for now this test shows that the first article is safe for flight test and Utility class operation.

the Hope Soaring Week

Major Keith Stewart

A great 2011 cadet soaring camp

I KNOW THAT I CAN SPEAK FOR all participants and simply state that we had an awe inspiring trip. I've cheated a bit in writing this Hope Soaring Week (HSW) novel, as I've added several quotes taken from the feedback that we have received from some of the attending cadets.

We flew almost 123 hours on our fleet of eight sailplanes, and only about 12 hours on the two L-19s that we took – one day featured 26.2 glider hours for 1.5 tug hours, an incredible 17.5/1 ratio, unheard of in the regular Air Cadet Glider Program (ACGP). The longest 2-33 flight goes to 2nd Lt. Giles at 5:23 and Cadet Paul Heim at 5:10 (more time on his first “after-camp” solo flight than he accumulated during the 20 course solo flights). Everyone had at least a couple of flights of more than two hours, and better than a 3500 foot altitude gain at some point during the week. Interestingly, the average 2-33 soaring flight (25 flights) was 2.62 hours, while the average soaring flight in the VSA aircraft (19 flights) was 2.61 hours.

But the HSW is much more than raw numbers. It is about people learning more about soaring, about life at a soaring club, about their own abilities, and about their ability to learn. The HSW is also designed to reward pilots for hard work, and for achievements. While we cannot take every deserving member each year, every gliding wing in the region is represented at the HSW.

The HSW is part of the “Soaring Initiatives” program that has been developed and implemented by the ACGP as a means to enhance the training and ability of our pilots, to encourage pilot retention, to introduce the sport of soaring to the ACGP, and to develop strong working relationships with local soaring clubs and SAC. At Hope, the Pacific Region Cadets partner with the VSA to deliver this program.

From the outset, the goal was to run an enjoyable week of soaring training, managed in a team environment. While there were four gliding instructors and two towpilots designated as staff, with eight glider pilots (two officers and six cadets) designated as course members, all members of the team were assigned to a variety of duties. These duties included a few that are not normally anticipated at the RGS: housekeeping, cooking, dishwashing, etc. The team embraced the totality of our roles, and got down to work.

Cadet comments: “I found the idea of making your own food quite fun and it made it feel a lot more like a gliding club, which was really cool.”



Equipment was loaded, checked, and dispatched ahead of time. The gliders were equipped and flown to Hope in the week leading up to the event. While the glider pilots travelled (an 0600 Sunday departure) by road and ferry, the towpilots flew the L-19s to Hope. Once on site, the team ensured that the camp (military pattern “two

man” and “Mod” tents, with cots for all) was set up in a true club fashion. While segregated appropriately along male/female and officer/cadet boundaries, all shared a common camp area at the clubhouse. The first load of groceries appeared, and a fine dinner was enjoyed by all at the club table.

Cadet comment: “In the end we had tarps, ponchos and tents in good condition, the weather didn’t get the better of us, and camping turned out to be quite fun.”

The daily routine was far more “soaring club” than it was “RGS”! Team members woke and breakfasted on their own schedule, ground school usually started sometime around 0930, lunch was usually 11:30ish, flying started when it was suitable to launch soaring flights (not until almost 1400 on one day!) and ended when it ended. Dinner normally happened after flying, the entire team (including the VSA members) enjoying a group gathering which included meals prepared by various team members. Groceries showed up every day or two, and everyone found themselves stocking shelves, cooking, doing dishes, or simply sweeping the floor from time to time. The evenings generally featured many folk tapping away on their laptops, a movie, and plenty of good old-fashioned pilot talk. Oh yeah, the two parrots made an impression on everyone as well!

Cadet: “The food was excellent, thanks especially to Captain Mansueto and Captain Dight.”

The first flying day dawned with an ominous forecast of a ten-hour rainstorm, with moderate winds. The “no fly” decision was made early, the team worked to reinforce the already strong tenting, and to park vehicles in a manner so as to shield the most vulnerable of the tents. The rain came in on schedule, the camp was secure, and the first of the Rain Day plans was put into play, with all cadets and most officers heading to the Coquihalla Canyon Provincial Park <http://www.env.gov.bc.ca/bcparks/explore/parkpgs/coquihalla_cyn/> for a short hike along the old Kettle Valley Railroad route. As was scheduled, the rain cleared on Monday evening, and the team saw nothing but sunshine for the balance of the week.

Cadet: “The canyon hike on the one rainy day was fun. I am glad we went out and did something instead of sitting around and watching movies.”

All course pilots flew at least two short flights to get oriented with the circuit and local landmarks, then we moved into the soaring realm. Ridge soaring was predominant for the first three days of soaring. One afternoon, a gaggle of eight gliders was working the ridges of Hope Mountain at the same time. This gave plenty of opportunity for all to fully understand the concepts of "right of way", "look out", and "situational awareness". Those who didn't pick up on those concepts fairly quickly heard the calm, yet firm, voice of Captain Dight on the radio, as they were coached on how to do things just a little better in the congested airspace.

The Dog Mountain wave appeared on the final day. This allowed almost everyone an opportunity to work the Hope Mountain ridge to gain enough altitude to safely traverse the valley over to Dog Mountain, hook up with the wave, and ride up another 4000 feet or so. Most of the team got to about 8000. Several flights in VSA aircraft departed the local area, heading to the Hope Slide, Harrison Lake, and Jones Lake. These flights demonstrated yet another aspect of soaring flight, albeit on a reasonably short leash as cross-country soaring goes. Our new flight recorders were used on many flights. Some flights were posted to the OLC. They are under Pacific Region Air Cadets at <www.onlinecontest.org/olc-2.0/gliding/indexhtml?c=C0&sc=&st=olc&rt=olc>.

Cadet: "We not only were able to earn time towards our familiarization and instructor ratings, but we also learned a great deal about soaring by flying with the VSA pilots. Most of us had the opportunity to fly in two or more high performance gliders. This is an effective way to promote the soaring aspect of gliding and encourage cadets to become members of SAC and further develop their skills. That said, catching the wave and soaring solo in the 2-33 is perhaps the greatest experience of my life."

As with all training, Ground School was a featured part of the syllabus. In addition to the normal airport ops briefs, numerous lectures on various aspects of the sport of soaring were prepared and delivered by Captain Dight, who ably served as the CFI for the week. One lecture focussed

on the various FAI soaring awards available. All course participants flew flights which met the standards for the B Badge (time aloft after release) and the C Badge (altitude gain after release).

Cadet: "I thought the ground school was done in an ideal fashion."

All cadets participated in a spot landing contest – part of the Bronze badge program and several passed that test.

Cadet: "I appreciated the relaxed style of the HSW. It created more of a team atmosphere to blend the distinction between students and instructors, and I don't believe that any respect was lost in not being obligated to use 'sir' and 'ma'am' in every sentence and being permitted to wear civilian clothing. The focus was shifted from the more structured RGS style of gliding operations to the art of soaring."

As previously noted, the HSW is run with the incredible support of our partners, the Vancouver Soaring Association. Without their aircraft, instructors, very well equipped clubhouse, and the support of their members we could not run an exercise of this scope. While it was only a small token of our gratitude, the VSA was presented with a signed and framed photo of an ACGP 2-33 flying the ridges of Hope Mountain.

Cadet: "The week was amazing and I hope the program will continue for years to come."

The seven-day trip worked out almost exactly as planned. We enjoyed absolutely stellar days of soaring, six nights "under canvas", great camaraderie, excellent learning in the classroom and in the air, and learned a lot about our own personal abilities and goals as they relate to the soaring realm. The team did give up a day to rain, which was used to explore some of the history of the region (Citizenship skills), while enjoying a hike (Physical Fitness), after shoring up the campsite to protect us from the rain (Leadership and Team Work).

Cadet: "The Hope Soaring Week needs little improvement in my opinion. Our schedule was relaxed but efficient, the food and accommodations were great, and the flying had a week of beautiful weather. The one thing that would make it better would be towplane rides."

Who gets selected for the soaring week? The program originally grew from a number of ACGP requirements, one of which was the need to replace the Gatineau Program, which in turn had replaced the long-lived program at Elmira, New York. We currently have a maximum of about fifteen participants, in order to ensure that we do not overwhelm the club and its facilities, and to ensure that those attending get a fair kick at the flying.

All of that said, the cadets are urged to continue to work hard on their ground duties, strive to improve flying at every opportunity, be regular participants at their local Gliding Wings, and continue to be solid contributors to the overall aims of the Air Cadet Program. Those are the things that will earn them that coveted HSW recommendation from their Wing.



Cadets practise the ridge "rules of the road" along hangar.

"Insurance 101"

all about your SAC insurance coverage

Keith Hay, insurance chairman

WHILE THIS TOUCHES THE MAJOR POINTS, the plan coverage summary is available from your club treasurer, and each private owner should receive the coverage summary along with their new insurance certificate on renewal. This helps ensure that not only do you know what is being provided, but also what your responsibilities are. Claims reporting guides are also available to keep in your aircraft should an accident occur.

Who and what is covered?

- All SAC members (student and licensed) when piloting SAC insured gliders and towplanes. Everyone receiving formal instruction as a regular club member should be a SAC member. There are currently no requirements for specific experience. It is important for both members and clubs to ensure that all (both student and licensed) club members' SAC membership and dues have been submitted in a timely manner to the SAC office to ensure coverage. This is especially important to private glider owners, as their glider insurance coverage is dependent on being a current SAC member. Covered are:
 - Guest members (FAI affiliated members, eg. SSA, BGA) when piloting SAC-insured aircraft.
 - Private and club aircraft listed under the plan are insured for "pleasure and club business".
 - Gliders – instruction and rental to club members and guests.
 - Towplanes – towing gliders and instruction of towpilots but *not* any other use of the towplane for hire or reward (this means club members and the towplane are *not* covered if members are using them for personal pleasure flying and log time accumulation).

Hull coverage

This is the coverage that covers most accident damage to your aircraft. It covers the aircraft and its normally installed permanent equipment. You purchase a specified value of coverage for each aircraft that should reflect the value of the aircraft and its normally mounted equipment and instruments. This does *not* include your glider trailer. It is not a good idea to "under-insure" your glider. One way to view this is that the insured value should be an amount that you would be happy to receive if your glider suddenly disappeared from your trailer.

There is currently a \$500 deductible per incident for hull coverage. There are options to increase the hull deductible to either 5% or 10% of the hull value, providing a decrease in the premium. Many other aviation policies and recent proposals have higher minimum deductibles.

Glider trailer coverage

This optional coverage is available which pays for physi-

cal damage only to your glider trailer. It does not provide any payment of damage to towing vehicles and other vehicles or personal (self or others) injury in the case of an accident. Coverage is for a maximum of \$15,000.

General aircraft liability

This coverage provides payment in the case of damage to third party property, and bodily injury to third parties that involves your aircraft while it is "in motion". An example of covered property damage would be crop damage during an outlanding.

This is also the coverage which provides protection to the club and SAC in the event of an injury during an aircraft incident to a bystander, intro passenger or other guest who is not a SAC member or FAI guest. Claims in this area are the ones that are potentially HUGE. Imagine the medical bills should a bystander or passenger be injured while operating your glider. Coverage is available in \$1M and \$2M limits per private aircraft and \$2M limit for each club aircraft. There is no deductible for this coverage.

Minimum liability coverage on all private gliders under the plan is \$1,000,000 per seat. Minimum liability coverage for club aircraft is \$2,000,000 per aircraft. One of the primary reasons for the higher club limit is that past club liability settlements have exceeded \$1,000,000, at least in part because clubs are seen to be held to a higher standard of "duty of care" than private owners.

Airport Premises liability

Coverage for all clubs in the plan is mandatory. This covers airport premises and operations other than aircraft to a liability limit of \$2,000,000. This coverage provides important protection to clubs for damages and injuries that could occur on their airfield (owned or leased), which do not involve aircraft. An example of this would be a guest being seriously injured by tripping in a gopher hole. This does *not* provide general liability or property coverage for your clubhouse or other facilities. This coverage in the general marketplace typically costs a minimum of \$2500. Our cost is \$185/club. The Premises liability coverage also provides \$100,000 of additional coverage specifically for "Instructor Errors and Omissions".

Claims service and legal representation

The insurance company provides claims adjustment and legal representation for all claims. Legal costs of defending a claim, particularly liability claims, can be substantial and are paid over and above the coverage limits you purchase. We continue to have an excellent level of claims service from our insurance company. ❖



2012

CANADIAN NATIONAL SOARING CHAMPIONSHIP



20-29 June
Arthur Gliderport

for more information and registration contact

416 223 6487
www.yorksoaring.com



Flight Training & Safety – 2011

Dan Cook, chairman

Accidents report See the report opposite by the National Safety Officer, Dan Daly. We were all saddened at the mid-air report from Invermere and extend our condolences to family and friends. Mid-air collision between gliders is the major threat identified by OSTIV and of major concern in Canada. Some additional trends that are of concern include: pilots are continuing to attempt to take-off in conditions beyond crosswind limits or demonstrated crosswind capability of the aircraft, poor off-field landing assessments and/or late decision making, a lack of proper aircraft handling in ground operations and next, contest safety.

Contest safety The IGC is making efforts to look at improving soaring safety and will start with a focus on world contest safety. A separate article on this subject has been prepared for *free flight* with more details. The FT&SC is examining the ways to reduce accident risks for our contests. To this end, recommendations have been made for the amendment of the Contest Cookbook to incorporate a Contest Safety Officer and make a pre-contest hazard assessment/risk mitigation plan. The SSA has indicated that one of their major goals is to see 100% use of PowerFLARM in their contests. Our committee would also like to see PowerFLARM use maximized in Canadian contests.

SAC simulators The central region SAC simulator is being moved from York to GGC. York has their own simulator and GGC has offered to host. The western region simulator is being used in a trial to train a small number of junior Air Cadets on the SAC program. The aim will be to see how effective the simulator training has been when they transition to an actual glider. The hope is to get a few transition flights done at a SAC gliding site to complete the trial in the spring. Clubs interested in giving one of these simulators a trial should contact a committee member.

A smaller cabinet-sized 3-screen simulator using commercial off-the-shelf controls (such as *Logitech G940* joystick/pedals/throttles for spoiler/flaps) is being constructed and will be tested this spring. If its utility is demonstrated, plans will be drawn up and made available to clubs. These units are similar in principle to those utilized by the Air Cadets for power flying but with 120 degree horizontal visual area at eye level to capture motion sensation. The US DoT Volpe Centre R&D team's conclusion is, after many years of engineering study, that pilots learn primarily from visual cues rather than motion senses. Therefore a moving platform is not required if the field of view is sufficient.

The small cabinet can be secured and does not need much storage area and is reasonably portable. SSA magazine has written many recent articles in their "Condor Corner" on how to use the simulators effectively. FT&SC concurs that an

effective training program may involve new student pilots starting with a home set-up with Condor and under the mentorship of a club instructor, progressing through the curriculum using the SAC Instructor Course demo flights and student practice. The club instructor could monitor the lesson via Skype and webcam on a second computer or via e-mail with Condor recording capability. A few US trials so far indicate dramatically reduced practical training time (50%) is needed in the aircraft the following spring. I have personally found that the simulator is highly effective for recurrent training. The key is a disciplined approach to the training and effective instructor feedback.

Instructor course ground school

No major feedback has been received from clubs, except that it has been recognized as a lot of work went into the project. I have not had any negative criticism yet, except perhaps on some wording used in one demo. I know that there are weaknesses in the videos and some should be re-recorded at a later date.

Of interest, no instructor numbers were issued by SAC in 2011. I know of several students working on the course ground school, but none who have finished the program. I have also not administered any instructor exams. How do we measure success or failure of the initiative? What is our risk analysis on the approach? One area could be the possibility of instructors trying to replicate spin scenarios too low, as seen in spin entry videos? Perhaps clubs may find the challenge too great to mentor the ground school? Please let FT&SC know about your concerns or comments.

The preparatory ground instruction demo videos are about half completed and I hope to finish them by spring 2012. These could also be used for the simulator training along with the flight demo videos. The DI Demo video production has failed twice due to technical problems. The L-13 was the basis of the video and in light of recent developments that decision will likely be revisited. Hopefully shooting will take place next summer.

SAC AGM Forums selected for the AGM include flight training and pilot development discussion for senior instructors and CFIs. Our committee will trial a Skypecast of this seminar with locations across Canada for other senior instructors to participate.

FT&SC Blog Site checkout and type checkout information was posted on the FT&SC blog. Past safety reports were also consolidated and put in the Documents section of the SAC website to assist in training of new pilots on safety issues. Before first solo, new students ➡ p33

Accident/incident analysis – 2011

Dan Daly, National Safety Officer

LAST YEAR WE HAD FOURTEEN accidents (two fatal), below our annual average of nineteen accidents and 1.5 fatal. Fifteen incidents were also reported or detected on Transport Canada's CADORS website. It is difficult to do trend analysis with such a statistically small sample. However, this is a good problem to have and we now need to report and track incidents to develop our recommendations. After all, to "learn from the mistakes of others, you won't live long enough to make them all yourself", we have to know what problems individuals and clubs are having.

We request clubs to look at their own incidents/accidents and complete their analysis each fall so that they can share information of their findings by 1 December. This year, we are particularly interested in clubs' plans with respect to PowerFLARM, including private owners.

Pilots may also participate individually in the SAC National Safety Program by dual reporting directly to SAC/FT&SC. Remember what all safety experts say: if you are not reporting incidents (at your club) it's not because you don't have any, it's because your reporting system is not working! In the military, increased incident reporting is considered a very good thing – the sign a safety culture exists.

Reported Accidents

Mid-Air One SZD-55 and a Grob-102 destroyed. Two fatalities, at least \$50,000 hull on one aircraft. My heart fell in September when a GGC visitor who worked for Transport Canada took me aside and told me of the mid-air in Invermere, with 2 fatalities. Recreation of the accident by examination of the traces shows a head-on mid-air, with one glider eastbound, one westbound at 7000 feet asl.

Analysis This accident may have been preventable with PowerFLARM, if available then. Only one of the two pilots had ordered it, however. Gliders are exceptionally small targets to see. The setting sun was behind one of the gliders, and it is nearly impossible to see one into the setting sun.

Off-field landings

Club Libelle No injury – \$5000 claim

Analysis Day cut off early, and pilot was too far from home field (unfamiliar area). Questionable field selection and a low circuit entry (400 agl from logger) contributed to landing in an uneven, rocky field. Previous decisions had left the pilot with few options. A good airstrip was in the vicinity but it was hard to see and unknown to the pilot. Waiting too long to commit to landing contributed.

Safety Officer note: I did that several years ago, landing beside an airport I hadn't seen.

Nimbus 2 No injury – self-insured/under repair

Analysis Unable to continue a cross-country flight, the pilot selected and assessed a field, intending to land on a path between two fields with crop in them. On final, a bail of wire was in the landing path which had not been seen from above. The pilot climbed over but drifted to one side of the path; while recovering back to it, a ground-loop occurred which broke the fuselage. The accident occurred after several long, hot and humid days of flying, which may have contributed.

ASW-20 No injury – \$10,000 to aircraft, \$2500 to field

Analysis No accident report submitted. The pilot was on a cross-country task, selected a race track. Aileron was damaged as the aircraft was turned to follow the curve of the racetrack. Low time cross-country pilot, probably pressing to maximize points at a contest; late decision to land with poor field choice.

Twin Lark IS-32 No injury – \$15,000

Analysis A 7000 foot altitude loss in 20 km, and 10 km short of the airfield (you normally expect to get about 10 km per thousand feet in a 40:1 aircraft). A field (1 of 3) was selected for landing at 1100 agl. Topography made a crabbing final necessary – 35 degrees off. An uncommanded left groundloop started shortly after touchdown, stick pushed full forward to protect tailboom, 180 degree rotation with damage to the left aileron.

ASW-15 No injury – \$750 claim

Analysis On a cross-country flight, returning to the airport, thermals weakened. At 2500 feet determined the field was out of reach, elected to do off-field landing. The pilot determined that the private road would provide an easy retrieve. During the crosswind landing, both wings struck the ground at times, and there is underwing fibre-glass delamination.

Pilot analysis "Shouldn't have landed on this road. What looked like a packed gravel wide road turned out to be 12m wide with lots of loose, large stones. Most area fields were suitable; I chose this one to avoid handling the glider over fences and ditches. Not something I will consider in future outlandings." *Safety Officer note:* This club does not use the Bronze Badge training plan and this was also the first flight of the year for the pilot.

Gear-up landings

ASW-20 \$10,000 claim

Analysis The pilot thought the gear was down. Possibly,

better marking of gear and checklist use are suggested as corrective actions. *Safety Officer note:* I got “that sinking feeling” on my previous glider, where a component had failed – it is a terrible feeling – but the rollout is short.

LS-8/18 \$2500 claim

Analysis No accident report; grass airport made this less expensive (but no less embarrassing).

Towplanes

L-19 No injury – \$50,000 claim

Towplane retrieving glider at nearby airport groundlooped, causing main gear to collapse and damaged propeller.

YST-263 Slight injury – no report

from CADORS During tow of glider, aircraft experienced engine problems and climbed to a sufficient altitude for the glider to be released. The towplane couldn’t make it back, and selected a road for landing, running into the ditch. The pilot had slight injuries and was taken to the hospital.

Pawnee incident – pitch trim jam

During the morning towing, the pitch trim became jammed in the full up position; after landing, the trim was returned to service. This was reported to the afternoon towpilot, who noticed that the trim was hard to move at times and slipping at others. Eventually, the trim became inoperable, now jammed full nose down. The aircraft was grounded for repairs. (AME has filed a Difficulty Report with TC).

Pawnee incident – near upset

Plan was to change runways by launching from one with a crosswind to one more into wind. Wind 20 kts gusting 25-30 100 deg off. Towplane nose swung right when tail raised; glider was out of position to the left. Towplane was just airborne when towpilot felt tail raise, full back stick didn’t stop pitching, towplane “settled firmly” onto the gear, with a crab heading off the runway. Towpilot was reaching for the release handle when the glider was recovering its position. Towpilot “extremely shaken” and required ground runway change. Note – a very close call – upon reflection, “I should not have allowed myself to depart this runway with a glider on tow”

Others

H301 Canopy loss on take-off (no accident report)

from CADORS At 150 feet on tow, lost canopy, damaging horizontal stab and elevator. Released and returned to field. After landing, it was noticed that one aileron was not connected; the pilot had been interrupted during rigging.

Analysis A good example of “first, fly the aircraft”. It would appear that checklists could have prevented each accident.

Motorglider Hard landing, causing propeller strike (\$45,000) – no injury.

Incidents (no significant damage or injuries)

- Two gliders pass each other within 50 feet during ridge soaring.
- L-33 wing damage detected on Daily Inspection (broken ribs inside – good DI!)

- Near miss – glider and Jazz Dash 8 at 8000 feet.
- DuoDiscus cracked canopy (no further data).
- K-21 and Scout damaged in hangar repositioning (\$7500)
- Trailing accident – Puchacz and trailer - \$5000 each (car a write-off, not covered by our insurance – wrong reaction to trailer sway after brake on one side locked up. Driver speeded up, Cobra manual says to brake.
- Tied-down aircraft hit by tractor (\$7500).
- Propeller strike detected on DI (\$15,000) – not previously reported.
- While rigging Twin Lark, wind blew fuselage over, damaging elevator (\$2500).
- Glider was being disassembled to put in trailer with one man derigging kit. Wing was blown over off wing dolly in strong crosswind, damaging wing.
- DG-400 canopy was closed as part of take-off checklist. Pilot’s shoe laces were caught under canopy rail which goes past the rudder pedals. Pilot noticed he was unable to achieve full rudder movement after take-off. Landed safely and re-opened canopy to correct (poor control check?)
- Contest mass return of gliders (17) after local lift died brought home point that a mass landout plan at home field may serve contest safety well.
Safety Officer note – this will be a topic for another article and presentation once analysis has been completed – current software tools make analysis of this type of thing very time-consuming.
- Contest pilots flying closer to cloud to maximize lift, less than 500 feet below cloud base or 2000 horizontally in class E airspace.
- Several near wheel-up landings. Usually a result of a departure from standard circuit approach or distraction near time of pre-landing check.
- Instructor reported losing situational awareness videoing his student, wing striking a plastic cone with no damage. *3 Lessons learned:*
 - Don’t use handheld devices while instructing.
 - Don’t be overconfident when the student appears to be doing well.
 - Don’t let down guard during final approach on a long, hot day and you are tired.
- Hard landing on student flight: Student rounded out high, instructor thought he had skill enough to handle the situation.
Lesson learned: instructor may have to take over earlier, especially earlier in the season.
- L-23 landed gear-up. P1 had to go to the bathroom urgently, “reverted to standard checklist”, and forgot to put it down.
Lesson learned: Standard checklist must include “gear down and locked” to avoid problems in the future with more complex gliders.
- Flying with ballast: Pilot found out after solo flight in high performance 2-seater that he had had ballast on board. First flight of the day. P1 assumed ballast would not be left in glider overnight.
Lesson learned Pre-flight checklist must have “ballast” on it. Never assume anything. People who use ballast have a responsibility to remove it after use.
- Flight with tail dolly on: Dolly left attached during passenger ride. Towpilot noticed and notified glider pilot. Landing okay. “There were few people at field”

Lesson learned Tail dolly should be sighted by pilot and wing runner before launch.

- Towing through known area of heavy sink: Pilot was out of glide range to the airport during tow in case of a rope break. Tow also hugged ridge “too closely for the comfort of the glider pilot” who couldn’t release because of the altitude.

- Golf cart left attached to glider: Pilot jumped in and drove away, causing the glider to jerk forward.

Lesson learned Always detach gliders from towing vehicles. Check rope before driving a retrieve vehicle.

- Touchdown before threshold: Passenger flight landed in high grass before the end of runway. P1 had not flown in a while, but not little enough to require a checkflight.

Lesson learned Mid-season checkflights for those who have not flown for a while should be encouraged. Spot landing attempts should not be right at the threshold. Given liability concerns, intro flight pilot currency is an issue clubs should look at.

- Groundloop by solo student: Student landed after an hour of flying solo. He didn’t round out well, touched down hard at high speed, and lost control of the glider. The glider ground looped toward the take-off line of gliders and came to a halt very close to another glider. It was a hot day; student didn’t wear a hat.

Lesson learned Pilots need to make sure they are protected from the sun and stay hydrated. “Communications between instructors need to be improved in order to prevent misunderstandings about prior incidents involving students.”

- All-out with slack in rope: Towplane took up slack and braked waiting for all-out. Glider rolled forward, making slack. Towpilot brought power up and then released brakes. Glider was slingshot out of the start. The wing runner was surprised and didn’t let go quickly enough, inducing yaw. Strong winds allowed pilot to continue take-off.

Lesson learned “Towpilot should not apply brakes waiting for all out.” *Safety Officer comment* – the wing runner should have notified glider pilot that there was slack, and done another take up slack. Also, the glider pilot should have considered releasing immediately.

Analysis

The mid-air is clearly the most serious problem this year; it is exceptionally difficult to see another glider. Technology may help us with PowerFLARM, but the best defence is a good lookout.

The use of flight traces during accident and incident analysis makes some of the report less open to interpretation (altitudes agl, etc.)

It is no surprise that low-time pilots with only limited cross-country experience in contest environments have problems. The conflict between points on the scoreboard and rules-of-thumb you’ve been taught (never leave soaring distance of a good field) seems to have been won by pressing on a lot this year.

I wonder if a Novice class with lead-and-follow might not be a better way to introduce pilots to contest flying.

The Nationals, which I attended about half as Scorer, was a long, hard pull with a lot of retrieves required, tiring people out. It was hot and humid, and to me, not flying, many of the pilots were really dragging. At the safety meetings, some suggested that each pilot should make a personal decision on flying. All always did. The current structure of the contests, with Contest Director and Manager as the last decision-making body, may have to be changed, in my opinion. On one marginal day, I found out later that myself, the club CFI, and host club Safety Officer all recommended a rest day – but the day went on for one class. More on this at a later time.

To me, many of the problems could have been solved by a good checklist *which is followed* (shoelaces, canopies, tail dollies, landing gear up).

PowerFLARM is coming – the first 29 are being shipped to Alberta (first to order). I am told by competition pilots that the system works in Canada. Industry Canada will be contacted by the manufacturer for certification. The system is FCC certified in the USA.

The following is from the FLARM manufacturer:

We have performed considerable testing on the units based on feedback and data we received from Uvalde and elsewhere. We greatly appreciate all the feedback and data from customers and dealers. This is where we are and how we are proceeding:

- We had a batch of substandard antennas from our supplier. The manufacturing and testing process has been improved and we have received new antennas with which all units will be retrofitted. We will add a ‘Reverse Polarity SMA’ adapter to all PowerFLARM. This makes it FCC legal to ship without a permanently attached antenna, which makes handling and replacing antennas much easier. It also allows attaching other antenna types, eg. remote antennas (currently not FCC approved).

- During our range testing, we found two capacitors in the circuitry that were not optimum for the US frequency, and this reduced the transmission power. As a result, all PowerFLARM units are being retrofitted with the optimum capacitors.
- Some of the displays had defects; these are replaced.
- A firmware update (v1.04) has been released for better reception of ADS-B and Mode-S. It has been tested and it works great with reception in excess of 9999 feet agl and 20 nm.

- We have found a source for high temperature rechargeable batteries and are in the process of testing them. These may be offered as an option. It is important for customers to use fresh, high quality batteries as the capacity varies considerably. And, if non-rechargeable batteries are used, do not connect an external power source with the batteries installed. Damage to the PowerFLARM will result!

- Brackets are available for mounting the unit behind the panel either in a dedicated cutout or in an existing 80mm instrument hole. Mode C update is in testing.
- IGC certification is unlikely before 2012 as R&D is concentrating on the ‘Brick’ version – IGC/GFAC will need some time to do their testing. Work on the Brick is ➡ p31

Sporting committee annual report

Jörg Stieber, chairman

IGC 2011 Plenary Meeting – Jörg

I attended the IGC Plenary Meeting on 4-5 March, 2011 in Lausanne, Switzerland. A summary of the discussions as well as the full minutes of the meeting are available at the new FAI website: <www.fai.org/igc-about-us/igc-meetings>. Two highlights for Canada are:

Pirat Gehriger Diploma

The FAI's Pirat Gehriger Diploma was awarded to Tony Burton for his many contributions to gliding at the international level and in Canada. In particular:

- Member of the IGC Sporting Code committee since 1998 and key contributor to a major overhaul of the Sporting Code in 1999.
- 22 Canadian records.
- 25 years Executive Director of the Alberta Soaring Council.
- 29 years editor of *free flight*, one of the few gliding magazines with a wide international readership,
- Many other contributions.

Congratulations on this well-deserved honour, Tony!

Canadian proposal on COTS GPS

Our proposal to use COTS GPS height with a safety margin of 100m for Silver and Gold badges was accepted as a year 1 proposal.

I will not be able to attend the IGC annual meeting on 2-3 March in Potchestroom, South Africa. I recommend giving a proxy with voting instructions to the US delegate. The agenda of the meeting, including supporting material, can be downloaded at the above website.

2011 Seeding Rules – Derek Mackie

The previous version of Canada's seeding rules was written in 2000 and captured the best practices of the day. The seeding list was managed consistently and the results seemed reasonable and fair, but over time our practices evolved to where they no longer match the written rules. For instance, when the rules were written in 2000, the 18m Class didn't exist and World Class was new and not flown as a contest class in Canada. As a result, the rules stated that we would publish a seeding list for 15m and Standard, but we were actually publishing a single "FAI Seeding List".

In 2010 a project was undertaken to review and update the seeding rules to align with the evolving practices and changes in the FAI classes. When the project was undertaken, it was envisioned that it would be a simple task of tweaking the published rules and, indeed, some of the content updates were simply administrative to make

them more transparent – how a pilot gets on the seeding list, or how formulae are applied and so on. However, as the rules that were being applied were documented, discussion was triggered about best practices and the direction we should take for some elements. It was decided to take a step back and confirm that the rules were meeting the overall purpose to:

- provide the Sporting committee and SAC with a tool for the selection of the Canadian Soaring Team.
- document the contest pilot pool in Canada for historical or statistical use.
- encourage cross-country pilots to compete in head-to-head speed contests by providing a measure of skill development and experience.
- support SAC in the recognition of pilots' outstanding contest performance.

Input was initially drawn from a small, diverse group of pilots as a sounding board to get some of the basic issues on the table and clear away items that had unanimous consent. Some of the topics emerged as "hot button" items and it was opened to the competition community for wider input for resolution. For instance there were varied opinions about including contest results other than the Canadian Nationals – WGC, Pre-WGC and US Nationals had traditionally been included. Questions arose and were debated at length; if US Nationals were allowed, why not Nationals from other countries? How should these contests be weighted against our Canadian Nationals, if at all? What is the "right" weighting between the most current performance versus past results: 70/30? 51/49? How far back should results be tracked?

Another important topic was the various ways to include a provision to earn seeding points while flying in the non-FAI class. Much time was spent debating what classes should be defined and what they should be called.

A "town hall" meeting at the 2010 Ontario Provincials presented the founding elements and the excellent discussion provided some take-aways for further work. Refinements and discussion continued this winter and in the end, 23 pilots provided input to the rules. There were some fundamental differences in the feedback we got, and not all can ever be resolved to everyone's satisfaction. Nonetheless, the final drafts were distributed to the top twelve pilots on the seeding list from the previous year to confirm that the bulk of comments were captured and to gain general consensus to publish the result.

The Sporting committee feels that the resulting seeding list rules are an acceptable balance of all the ideas con-

sidered and results in a fair and transparent method. The feedback has been generally good after the first full year in use. A review will be conducted after the end of the 2012 season and, if necessary, adjustments made for the 2013 season.

2011 Canadian Nationals – Jörg

The Canadian Nationals were hosted by SOSA in Ontario 29 June to 8 July. With 36 competitors, the Nationals were probably the best attended in the last two decades. It was very encouraging to see a record number of young pilots participating as well as good participation from western Canada.

The contest organizers had planned to field two handicapped classes, FAI Class and Club Class. However, due to the unexpected large turnout of 27 competitors in Club Class, the decision was made to split Club Class into two smaller classes, Club 1 & Club 2, rather than limiting entries.

This decision, which was reasonable under the circumstances and based on a broad consensus among the competitors and the subsequent discussion whether or not to award seeding points to Club 2, prompted a competitor to withdraw from the contest and to demand compensation for his travel expenses and time lost to attend the mandatory pilots meeting. The SAC BoD reviewed the issue and found no fault with the contest organization or decisions taken by the Sporting committee. The SAC BoD tasked our committee to review the rules in this respect and recommend clarification where required.

The difficult weather contributed to 89 landouts. Despite the odds, the competition ended with six contest days for the FAI and Club 2 classes, and five days for the Club 1 Class. Two gliders were damaged in landout mishaps. The winners were:

FAI Class

1	Jerzy Szemplinski	XG, ASG-29	4744 pts
2	Derek Mackie	TT, LAK-17AW	4398 pts
3	Nick Bonnière	ST, LAK-17A	4335 pts

Club Class 1

1	Chris Gough	44, LS-8-15	3592 pts
2	A. Kawzowicz	SU, LS-4,	3219 pts
3	Paul Fish	1W, Discus CS	3113 pts

Club Class 2

1	Pierre Gavillet	64, Libelle H201	3430 pts
2	Jim Fryett	14, Libelle H301	2979 pts
3	Herrie ten Cate	HK, Jantar	2550 pts

The results of FAI Class and Club 1 were submitted to the International Pilot Ranking List. Club 1 and Club 2 were both awarded seeding points.

Recommended changes to National competition rules

Add a provision in Section 2, stating that the contest organizer may limit the total number of competitors or the size of individual classes, due to safety and operational

considerations. Competitors will be accepted on a “first come – first serve” basis.

The Sporting committee also recommends to the organizers of future competitions to add a disclaimer to their published material stating that neither the contest organizer nor SAC will accept any claim for compensation for travel expenses or lost time or any other reason from any person, unless prior approval has been obtained.

7th Junior World Gliding Championships – Chris Gough

Selena Boyle represented Canada in the Club Class at Musbach, Germany flying an LS-1D. She became the second pilot to represent Canada at a Junior World Championships and the first female to represent Canada at any world championships. The weather was challenging for most of the contest and there were landouts on every day. Selena had a rough start but put in a good showing on later days including 10th place on Day 4. Most of the other countries flying in the competitions had at least two members flying on their team. We hope Canada's participation in Junior contests will inspire more juniors to take up cross-country flying and competition and perhaps represent Canada as well. An article about the championships was printed in *free flight*. A blog was also kept by the team: <www.selenapb.blogspot.com>.

Pre-World Championships, Uvalde, Texas – Derek

In August 2011, eight pilots travelled to Uvalde, Texas to compete in “Uvalde Glide”, the pre-World gliding championships. For some, it was a return to a site of many prior contests and to others it was a completely new experience. The last time the Worlds were held in North America, it was also in Uvalde in 1991. Jerzy Szemplinski, Nick Bonnière, Willem Langelaan and Derek Mackie flew 18m Class, while David Springford and Jörg Stieber flew 15m Class. Concurrently with Uvalde Glide, the US Nationals Open Class was held and Brian Milner rounded out the Canadian contingent.

The contest was well run with some minor issues worked out as the organizers tested their processes and systems for the following year. More importantly, the Canadian pilots had an opportunity to acclimatize and overcome some of the unique challenges of operating in the area. Heat, dehydration and flat tires from some amazingly tough thorns were the main concerns. All in all it was an excellent experience and preparation for them, and vital for those who will return in 2012 for the Worlds. All had a good contest with a few minor difficulties with equipment. The final results were:

15m Class

#9	David Springford	2W, ASW-27	95.8% of winner's score
#15	Jörg Stieber	JS, LS-8	85.2%

18m Class

#4	Jerzy Szemplinski	XG, ASG-19-18	89.6%
#7	Derek Mackie	TI, LAK-17a-18	73.9%
#11	Nick Bonnière	ST, LAK-17a-18	65.8%
#13	Willem Langelaan	OX, Antares 18S	48.8%

⇒ p29

Training solutions for club membership growth

IS OUR CURRENT MODEL for training working for us? These challenges are not unique to the Canadian situation. Soaring clubs are on the decline worldwide and costs are increasing dramatically with increased fuel and insurance prices. I fear that many pilots are also flying less as a result, or leaving the sport altogether! Many articles have been written in gliding publications describing the problems and proposing management and organizational solutions. I wish to look at the challenges and suggested training solutions developed by other soaring organizations and discussed by the Flight Training & Safety Committee.

If you need more information on the problems or management recommendations please seek out the many good articles written in soaring publications such as SSA's *SOARING* and *Gliding International*. This article is a collection of ideas expressed in these articles.

The demographics described in these articles discuss several groups. The first are the baby boomers. Many are now just retiring and looking for more active leisure activity. Some may be power pilots bored with the \$200-cup-of-coffee flying. They have resources but most may not be keen on hanging around gliding clubs all day pushing gliders. In addition, many without an aviation background will take quite a bit longer to learn flying skills in their 50s or 60s. Many of these students often leave training after a season because they haven't completed training and the task seems too difficult or too physical.

The second group is primarily under 30 years old and have some financial resources, but family demands can tax the availability of both their time and money. This group is also used to trying out and participating in many activities and used to changing their passions often. They have high expectations for instant gratification and learn fast with technology, social media, and distance learning. A subcategory here are those who are still in school and have little resources for gliding, but great passion and enthusiasm and learn very fast, often getting bored if the training can't keep up.

I have not addressed the other group between these two, the 30-50 year olds, but I think this is where most of our club effort is in

recruiting, perhaps with some club exceptions. As Dr. Phil would say, "Is it working for you?" We need to tap into all the age groups as a resource.

So, what is wrong with our current training? Some SAC members have said that training is getting too long and we have to go back to basics to get people to solo sooner. However we do not want to return to higher accident rates, especially with the complexity and performance of modern training gliders. The demands of airspace use and aircraft require that we do a better job of training to get pilots competent before solo and licence.

The real issue is the *consistency* of the training we offer. Many instructors have different expectations or standards than the student, and students in larger clubs often fly with a different instructor each flight. This lack of continuity or a lack of a disciplined approach to training compounds student frustration and retention.

Our gliding season in Canada is too short and many new club members feel they are expected to spend too much time at the club to do all the jobs required. The result is too few do too much of the club work!

I think the issue for members with new families is that a lack of family-oriented activity at the gliding club pushes many members away. How often have I heard an older member say, "hey, this is not a social club, it's a

gliding club". However, clubs with good social activity, genuine friendliness, and a swimming pool or kids playground seem to be doing better with less attrition. These are some areas where I think we are not doing as good a job as we could and may have room for improvement.

How can we use training solutions to help the situation? *SOARING* has a series of articles called "Condor Corner". The authors have found that the use of a simple desktop simulator with Condor software to work through the flight training curriculum in the winter season has produced dramatically shorter training time, as much as a half, in the actual glider during the following flying season. Also more emphasis on emergency situations, pilot decision making, spins scenarios, etc. can be covered in the simulator during the winter season making better prepared student pilots.

In addition, use of club simulators during the summer flying season can help develop skills such as stick and rudder coordination or to review exercises pilots can't seem to get in the first few flights, thereby speeding up the training by not wasting time in the actual glider. This may help older students who need more practice or students with initial coordination challenges.

Simulation can also help to control the consistency of demonstrations by instructors. It will also improve instructor/student continuity through standardized instructor training. The FT&SC has produced simulator videos of all the SAC curriculum flight demonstrations for the instructor course which can be used by simulator instructors. The video recording feature in Condor simulator software can be used by e-mail to an instructor, or instructors

Proof that a good scan is vital

This is an amazing test/display – especially for pilots! Look at this demonstration:

<http://www.msf-usa.org/motion.html>

You know it's there, but you cannot see it ... for all drivers, knowing this could keep you safer on the road. Keep your eyes moving! It works exactly like it says, and is one major reason people in cars can look right at you (when you're on a motorcycle or bicycle) *and still not see you!*

From a former Naval aviator: This is a great illustration of what we were taught about scanning outside the cockpit when I went through training back in the '50s. We were

told to scan the horizon for a short distance, stop momentarily, and repeat the process. I remember being told why this was the most effective technique to locate other aircraft. It was emphasized (repeatedly) to *not* fix your gaze for more than a couple of seconds on any single object.

The instructors, some of whom were WWII veterans with years of experience, told us to continually "keep our eyes moving and our head on a swivel" as this was the best way to survive, not only in combat, but from peacetime hazards (like a mid-air collision) as well. We had to take the advice on faith (until we could experience for ourselves) because the technology to demonstrate it didn't exist at that time.

can make use of video communications software such as Skype to facilitate distance learning in real time during the winter (see the article in the Sept 2011 issue of *SOARING*). Two computers, a webcam and commercial off-the-shelf controls such as the Logitech G940 are required.

The use of a modern winch system can dramatically reduce training costs and actually make money for a reasonably-sized club. For a \$10 launch fee, a 70-80% profit to the club can be realized above operating costs. Modern winches can pay for themselves within a few years, and then generate revenue for fleet modernization.

Modern winches are safe, reliable, and easy to learn to operate. There have been almost no weak link failures since implementation of automated tension meters. All glider pilots can be trained to operate new winches in a short time, including interested significant others. Unfortunately, too much of our winch experience has been on home-made devices built in someone's garage with solid steel wire launching some older gliders with all-flying tails (known to have emergency recovery problems if climbed too steeply).

I am not saying clubs should get rid of tow-planes. On the contrary, they serve their purpose, especially for some mountain locations, cross-country flying, and some training situations. However, before investing in a second or third towplane, consider a modern winch. Winch launches to heights of 60% of cable length to the glider launch position are possible. They can safely operate simultaneously with aerotow operations using radio communications and procedures. It's done every day in Europe.

How can we minimize student time spent at the club for training to attract those with time constraints? There are aviation management software programs available for the internet that allow students to book lessons and match up with instructors. Student authorizations, declaration of tasks, and flight preparations such as weather, can be managed automatically.

A gliding student with money but limited available time can show up for their booked lesson and pay a premium, then head back to home or work. Members with time but not money (still in school, for example) can run wings, move gliders etc. for time credits on instruction or possibly some wage. In addition, larger clubs can look at employing a general manager or groundskeeper. These members could also be instructors or tow-pilots and could provide their services when

needed between routine maintenance tasks at the club, particularly during the weekdays when it is harder to get personnel.

We also need to start rewarding the too few who do too much. Clubs may need to consider paying for travel expenses etc. for duty personnel who do more than their fair share of the weekend instruction or towing.

What then need to be our training goals?

- We need to make training thorough but as painless, efficient and cost effective as possible for the student.
- Make more use of the internet, modern winches, and simulation, both at the club and students' homes.
- The training needs to be student centred, in that we need to cater to the different learning curves and availability of potential members. Often our focus has mistakenly been limited to only getting students to solo and then leave the rest to their initiative. We know that if we can create a cross-country pilot in the first couple of years in soaring, they will likely take up the sport for a long period, if not for life.

We also know if we keep up the social aspects and treat everybody with respect and provide a friendly family environment (install a pool, above ground if needed) they will not likely leave in the continuing numbers that they currently are.

Dan Cook

Aviation fuel info for motor-glider (and towplane) pilots

Direct your attention to vital background info on aviation fuel on the DG website <dg-flugzeugbau.de/avgas-e.html>.

This important info covers water in tanks and how to prevent it, mogas vs avgas, the problems with ethanol, and a very informative article by Jim Herd on everything you need to know about piston aviation fuel in the USA (and Canada).

3 principles of safe flight

We won't fly if:

- 1 Nature doesn't want us to,
- 2 The airplane doesn't want to,
- 3 The pilot doesn't want to.

Safety is boring until you nearly kill yourself. **Dan Cook**

Attitude is everything?

In most of life, attitude is everything. With the angle of attack, however, attitude means nothing. If the AoA is too big you will stall, even if the nose is pointed straight down.

FAI looks for a rule on cancelling a world competition

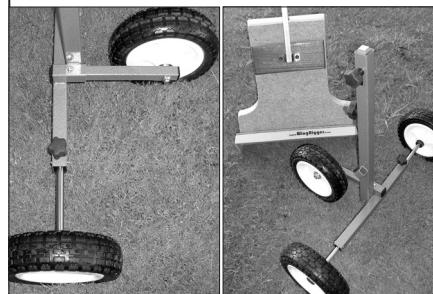
Following fatal accidents at a recent World Championship, the FAI had been requested to provide advice on the situation regarding cancellation of approved FAI-sanctioned 1st Category Events.

The FAI Sporting Code General Section currently provides the FAI with the possibility of cancelling an event for *force majeure*, and empowers a Jury President to stop an event should the organizer fail to abide by the FAI Sporting Code, rules and regulations. However, there is currently no specific procedure, process, or guidance provided in the FAI Constitution to facilitate the cancellation or cessation of an FAI-sanctioned event for other reasons (ex. serious safety concerns).

As a result, the FAI Executive Board has now tasked CASI with preparing an amendment to the FAI Sporting Code General Section. In the interim, the Board also decided to implement, with immediate effect, guidelines as to the process to be followed should the cancellation of an event ever be considered necessary.

Wing Rigger™ Solo Assembly System

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



Video, Pricing, Details: www.WingRigger.com

THE RIME OF THE ANCIENT GLIDER-GUIDER

Doug Winger (from 1973/1 free flight)

*It was an ancient glider-guider that stoppeth once by me:
 "By your long grey beard and your scrawny hand,
 why are you stopping me?"
 "Wait a bit and tarry for I've got a tale to tell
 Of how I shot an albatross and cinched my place in hell."*



*For years I sought the albatross: first one, then two, then three.
 And then a Silver, then a Gold, then Diamonds, one to three.
 Then competition spurred my heart – the golden trumpet blew,
 And I cast my lot with those who fly in heavens filled with cu.*

*Whilst soaring on a ridge one day, enjoying levitation,
 I swooped and soared and wheeled and dived till near the vegetation.
 And then an albatross came by; it was a lucky stroke.
 I followed him most carefully, his soaring skill to note.*

*We flew along both hill and dale through valleys to the sea,
 And down along the crests of waves my mentor tutored me.
 I was so proud to fly with him along the whitecaps lapping,
 I scarcely could believe my eyes when his wings began a-flapping!*

*Water, water everywhere, and all the air did sink;
 Water, water everywhere – "Damn!, I'm in the drink."
 ... We sit there on the bobbing waves, drained of all emotion,
 As idle as a painted ship upon a painted ocean.*

*Then as the last glug burped the air (glass doesn't float that well),
 I made for shore while overhead a gooney bird's loud yell
 Made mocking cry to ships that die in nature's bubbling tub.
 Ten thousand worth of fibreglass made like a sounding sub.*

*And when at last I made the shore some hunters happened by,
 While overhead the gooney bird still shrilled his mocking cry.
 I grabbed a gun and aimed and fired – it was an awful roar;
 The little fiend came tumbling down and fell dead upon the shore.*

*... Old salts say he's a mystery bird that causes winds to blow,
 And when he's harmed the thermals turn to freezing rain and snow.
 Well, this may be; and I know to some, it was a dreadful loss,
 But down by the sea, believe you me, don't trust no albatross!*

It's time to rewrite your club bylaws

The *Canada Corporations Act*, under which most clubs and SAC are incorporated, has been replaced by the *Canada Not-for-Profit Corporations Act*. This is something that all clubs need to be aware of.

The new act supersedes the existing Corporations Act and requires a transition to the new legislation by October 2014. This transition means your club bylaws need to be rewritten and reviewed for conformance with the new act, and your Articles of Incorporation need to be updated and replaced. Failure to make this transition by 2014 will result in the discontinuance of the corporation.

Details can be found in the transition guide:

http://www.ic.gc.ca/eic/site/cd-dgc.nsf/eng/h_cs04954.html

FAQs: <http://www.ic.gc.ca/eic/site/cd-dgc.nsf/eng/cs04973.html>

and the Act at: <http://laws.justice.gc.ca/eng/acts/C-7.75/index.html>

Other resources: http://ahbl.ca/files/E-alert_Files/Canada_Not_For_Profit_Corporatio.pdf

NEW – SAC club membership rebate program for returning members

One of our sport's greatest potential resources is all of the people who have joined clubs in the past but are no longer members. These are people who were interested enough in soaring to take the major step of joining but for many reasons did not continue. This represents a very large pool of people that, if brought back into the sport, could rapidly rebuild our membership.

SAC has launched an initiative to encourage clubs to actively seek out these former members. For any club that returns a member who has been inactive from the sport for greater than one year, SAC will reimburse the club one-half of that member's SAC dues to the club. The member will still pay their full dues because, for taxation purposes, SAC must receive the full payment at the office. The club will then apply to SAC to receive the rebate. Each club can use its rebate in whatever way it sees fit. For more information, contact Eric Gillespie at <egillespie@gillespielaw.ca>.

Glider training at test pilot schools

One of the presentations at the ESA (Experimental Sailplane Association) annual Eastern Workshop was on test pilot schools. The speakers were Rusty Lowry, Technical Director of the US Naval Test Pilot School (NTPS, Patuxent River Naval Air Station, Maryland), and Greg Dungan, head of the glider program at the NTPS.

Rusty discussed the Sierra Wave Project of 1951-1955, with Pratt-Read gliders going to 40,000 feet, and the later (1963-1964) experiments with NASA's M2-F1 lifting-body re-entry vehicle, a glider of sorts. [There is an article on the "Flying Bathtub" in free flight 2006/2. Tony] From this intro, Rusty and Greg moved to an examination of the popular image of the test pilot as dashing risk-taker versus the reality: he or she is a pilot of great experience with a technical background and a logical approach to problems, a person known to be reliable and predictable.

However, even among such well-prepared potential test pilots, many have flown nothing but jet-powered aircraft and have little experience with adverse yaw or handling a fixed-wing aircraft without

power, so that the concept of energy management and the relationship between speed and pitch attitude has not been explored. Hence the need for a few hours of basic glider instruction at most of the western world's test pilot schools: the Empire School (UK), the French school, the USAF school at Wright-Patterson, the National Test Pilot School, and the US Navy School.

Overall, the Pax River test pilot program is an intensive one-year experience (described as "a Master's in a year"), with alternating periods of flying and classroom work every day. It sounds like fun, but maybe that isn't quite the word for it, and maybe most of us couldn't have handled it, even when we were 25-30 years old (except maybe the glider part).

from ESA's "Sailplane Builder" magazine

Airspace in 2011

2011 was a relatively quiet year. Activities consisted mainly of monitoring ongoing reviews and studies in an effort to identify and mitigate issues that might negatively affect soaring's interests.

In the east, the ongoing Windsor/Toronto/Montreal (WTM) corridor project is moving toward completion. Through the year a number of meetings between NavCanada and WTM stakeholders were attended by various members of this committee. A couple of issues have come up that are potentially negative but most have been addressed and for 2012 there appears to be nothing of significance happening for soaring pilots in the WTM area.

Looking forward, 2013 will see some changes on the west side of the Toronto Terminal Control Area (TCA) but most will have little direct impact on soaring in the area and a few may even turn out to be positive. There are indications of some issues arising in the Ottawa and Montreal TCAs and hints that the scope of the WTM review may have been expanded to include Quebec City. This will no doubt keep the committee busy next year.

In the west activity was concentrated on the Edmonton TCA review and the Calgary TCA redesign. The Edmonton airspace review is ongoing with the goal of increased access for the Chipman gliding operation. Due to the complexity of the airspace redesign including reclassification by Transport Canada, map publication dates, etc. we expect changes and implementation sometime in 2013. The Calgary redesign is to accommodate a new parallel runway scheduled for opening in

2015. This redesign has the potential to affect Cu Nim but it is still in the preliminary stages so as yet nothing is defined well enough to make note of.

The glider transponder exemption is still under pressure. This waxes and wanes with events but overall the pressure is building steadily. It is not obvious when or even if it will reach a critical mass but it's something that clubs in airspace with large amounts of jet traffic need to be aware of.

All the proactive measures clubs have put in place over the last decade have helped tremendously, but it only takes a few "incidents" to put the issue back on the front burner. Happily, SAC's profile at the national airspace level remains fairly high and generally positive. While we are not always able to get an ideal solution to all issues we continue to have a place at the table and generally are having our concerns heard by sympathetic ears.

Scott McMaster, chairman

You might be a sailplane pilot if ...

- You have held a conversation with your glider – and you felt it understood.
- You have that one spot on your airplane that you kiss when no one is looking, or after a really fantastic flight.
- You look up at the sky anytime an airplane of *any* kind flies over, and are still impressed or amazed that it is possible for mankind to do what we do.
- You have seen a dream car that really appeals to you and your first thought is, "But could it tow the glider trailer?"
- You have ever been late for a date because you landed out.
- People have asked you why you aren't in church on Sunday, and you have trouble explaining that on most Sundays, you are closer to heaven at 10,000 feet than they could ever be sitting in some building.
- You feel somehow empty inside if you don't make it out to the airport at *least* once a week.
- You have ever left work or school early on an "emergency" when the cu had popping.
- You have ever been at work and looked up at the sky and wished you were up there instead of at work.
- You have ever looked *down* at your workplace during a normal business day, and thought, "Suckers!"
- You've cracked open your first beer of the evening while still sitting in the cockpit after a great flight. Your equally great crew passed it to you.
- You consider a high class meal to be going to the *Steakhouse* by the airport instead of the usual cafe by the airport.
- You are in the air and feel more whole and more at peace with yourself than you could ever possibly feel while on the ground.
- And finally, if you ever have had the instrument panel sitting on the coffee table in the living room.

Come and soar with the bald eagles!

PEMBERTON SOARING CENTRE



Operating daily April to October in Pemberton, BC

- excellent mountain scenery with thermals to 12,500 ft
- camp at the airport, B&B, or stay in Whistler
- area offers a wide variety of summer activities

Glider rentals: Super Blanik

Instruction: glider pilot courses or book a number of lessons, X-C training/off-field landing practice

phone: (604) 894-5727, 1-800-831-2611

e-mail: info@pembertonsoaring.com

web: www.pembertonsoaring.com

Club financing for new gliders

Sylvain Bourque, AVV Champlain

I want to share with you a success story of my club buying new trainers.

Champlain is a 65 member club, and in the winter of 2010 we bought two ASK-21s and a Cobra trailer. One K-21 and its trailer was six years old and the other one had less than a year on it. Total cost: nearly \$230K! Are you wondering how we made this possible at a reasonable cost?

We sold our two Lark trainers and two Pilatus single-seaters for about \$50,000. Our 5200 hour L-13 was sold for the price of the aluminium. It was the club members who financed the missing \$180,000. To encourage members to participate, we offered to pay them back at an interest rate equivalent in free flying and towing time that the club calls "flight credits". We offered an interest rate half way between what the banks gave and what they charge for a loan. This was a good deal for the club and for the loaners.

We also suggested to the members that the annual loan capital could be repaid in membership dues or flights for the coming year. The plan worked, with some members offering loans of \$1000, others up to \$20,000. The average financing offered was \$10,000 from eighteen members in all. In a short period of time, we received more than we needed. What a nice problem! Members were very enthusiastic about this project, being tired of flying old gliders that needed a lot of maintenance and care. In the two years since then, our members are still very enthusiastic. One K-21 is paid for now – the second one is still being financed.

The two K-21 attracted a lot of familiarization flights and new students. Members want to share the pleasure of flying these new gliders with their friends and family. The number of our members and flights rose significantly. The total flying time, number of flights, and profit margin of the trainers has almost doubled. Each glider is doing about 200 hours of flight every year. At \$50/hour and a minimum fee of \$15 per flight (except for cable break training) we make about \$12,000/year in revenue per K-21. Their insurance is nearly \$4800/year each. The \$7000 surplus made by each glider is enough to pay the capital and

interest-equivalent each year. It was possible to finance this project efficiently and in a short period of time without raising the flying fees too much.

We all know that the success of a club is dependent of the willingness and on the efforts of its members. Bravo to all the members of my club who believed strongly in the future of their club! Hope your members are just as enthusiastic.

I hope that sharing our club project idea will help other clubs to find their solution to buy modern ships and, by the way, help promote our sport.



Financement de nouveaux planeurs d'entraînement

Je voudrais partager avec vous un événement couronné de succès à mon club.

Mon club qui a en moyenne 65 membres, a acheté à l'hiver 2010 deux nouveaux planeurs d'entraînement ASK-21 et une remorque Cobra. Un K-21 et sa remorque avait six ans et l'autre avait moins d'un an. Coût total de l'opération : près de 230 000\$! Vous devez vous demander comment avons-nous fait pour rendre ceci réalisable à un coût raisonnable ?

Nous avons vendu nos deux planeurs d'entraînement Lark et nos deux Pilatus pour environ 50 000\$. Notre Blanik L-13 de 5200h a été vendu pour le prix de l'aluminium. Des membres de notre club ont financé le 180 000\$ manquant. Afin d'encourager les membres à participer au financement, nous avons proposé une somme équivalente à un taux d'intérêt versé en utilisation gratuit des planeurs et des remorqueurs que nous appelons crédits de vol. Nous avons proposé un taux d'intérêt qui est à mi-chemin entre ce que les banques donnent aux prêteurs et ce qu'ils chargent pour du financement. Ceci est bon pour les membres et le club.

Nous avons aussi suggéré aux prêteurs que le capital pourrait être remboursé pour payer leurs frais de cotisations ou de vols subséquents. Certains membres ont offert 1 000\$, d'autres jusqu'à 20 000\$. Le montant prêté en moyenne est de 10 000\$ par

chacun des 18 membres. Dans un court laps de temps, nous avons reçu plus que nous avions besoin. Quel beau problème ! Nos membres étaient très enthousiastes de ce projet, étant un peu tanné de voler de vieux planeurs ayant besoin de beaucoup d'entretien et de soins des membres bénévoles.

Deux ans plus tard, nos membres sont toujours très enthousiastes de ces acquisitions. Un K-21 est payé et l'autre toujours financé par des membres. Ces deux K-21 ont attiré au club beaucoup de vols de familiarisation et de nouveaux membres élèves-pilotes. Les membres veulent partager le plaisir de voler dans ces planeurs avec leurs amis et les membres de leur famille. Le nombre de membres et de vols effectués ont augmenté très significativement. Le nombre total de vols, des temps de vols et les profits des planeurs d'entraînement ont presque doublé depuis. Chaque planeur fait environ 200h de vol par année depuis. Au tarif de 50\$ de l'heure et 15\$ comme tarif minimal sauf pour les bris de câbles d'entraînement, nous recevons environ 12 000\$ de revenus net par an par K-21. Le coût des assurances était environ 4 800\$ par an par K-21. Le 7 000\$ ainsi généré comme surplus est suffisant pour les frais d'intérêts et le remboursement de capital. Il était possible de financer ce projet sur une courte période de temps sans trop augmenter les frais de vols.

Nous savons tous que le succès d'un club est dépendant de la volonté et des efforts des membres. Bravo aux membres de mon club qui ont grandement cru dans son avenir. J'espère que les membres de vos clubs seront aussi motivés.

J'espère que le partage de ce projet aidera les autres clubs à trouver une solution qui leur est propre afin de financer l'achat de planeurs d'entraînement modernes et par le fait même promouvoir notre sport. ❖

the Free Flight CD – \$6

244 issues of *free flight* – 1970 to now, and two article anthologies. 40 great soaring photos – for computer wallpaper & club events. Order from editor, payment by check or PayPal. 1970 to 1973 have just recently been added to the pdf archive.

Open Class

#13 Brian Milner GJ, Nimbus 4 85.2%

Canadian Team for 32nd WGC – Derek

The 2012 World Gliding Championships for Open, 18m, and 15m Classes will be held in Uvalde from 28 July to 19 August. According to the IGC rules, each country is entitled to one pilot per class and additional pilots may be added until the contest is full. Additional pilots are added based on the country ranking on the IGC Ranking List. We hope that when the final allocations are determined, Canada will be able to field a team of four pilots. Based on this and the 2011 seeding list, the Canadian Team for the 2012 WGC was selected:

18m – David Springford, SOSA

Jerzy Szemplinski, SOSA

15m – Nick Bonnière, Gatineau Gliding Club

Derek Mackie, Toronto Soaring Club

Team Captain – Ed Hollestelle, SOSA

Ed and Annemarie Hollestelle as well as a cadre of dedicated volunteers will invest a significant portion of their summer to support the Canadian Team. The amount of time, effort and expense to field even the most basic team to represent Canada at a WGC cannot be over-estimated. Fund raising efforts are underway and the pilots have stepped up their training to ensure a good showing. SAC support is very much appreciated by all involved and the Team is committed to making you proud of their efforts.

OLC Canada 2011 – Jörg

The OLC numbers were slightly down in 2011, likely due to the very late start of the season in Ontario and Quebec. The last day of the 2011 OLC season was 10 October. Flights scored in Canada in the last four years were:

	2008	2009	2010	2011
Number of participants	248	264	268	250
Total flights scored in Canada	2226	2636	2594	2513
Total km scored in Canada	407,691	448,290	450,811	410,056
Highest km scored by a pilot	18,150	13,529	14,935	15,781
<i>Trevor Florence in 2011</i>				
Highest km scored by a club	87,103	71,959	70,033	70,092
<i>MSC in 2011</i>				

180 issues of free flight

This issue is the 180th to come out of our house since Ursula then I began this very engaging task in 1981. Thanks to all you photographers and authors who take the time to contribute stories or even a bit of filler – *free flight* depends on you for its content.

I have created pdf files for eleven more years of old issues, from 1970 to 1980. They have been added to the *free flight* archive on the SAC website. This project continues as time and procrastination allows.

Make use of the large “searchable” index on the *free flight* webpage – it is a very useful resource – *free flight* contains a lot of valuable information that *does not* go out of date: safety and training issues, soaring technique, etc, and the history of our sport in Canada (people, contests, gliders, events, etc.). Know also that there is hardly a gliding history question you can ask that doesn't have an answer in Ursula's *The Book of the Best* (go to SAC website Main Menu, then Historical Data). What is your club doing that is of interest or value to others across the country? Oh, and read the fine print in *free flight* occasionally. Cheers

Winners and achievements

Best flight by a Canadian, OLC – Canada

Bruce Friesen, Std Austria T/O, Chipman, AB

610.51 km, 888.6 OLC points – congratulations Bruce!

OLC – North America

Jerzy Szemplinski, ASG-29 T/O, Mifflin Co, PA

1168.6 km, 1038.3 OLC points

Four Canadians submitted flights exceeding 1000 kilometres to the North American OLC.

OLC Canada Champions (6 best flights):

- | | | |
|---|--|----------|
| 1 | Ian Spence, Canadian Rockies Soaring Club | 3646 pts |
| 2 | Bruce Friesen, Edmonton Soaring Club | 3596 pts |
| | <i>Bruce was #4 World (Vintage) & #7 World (Club)!</i> | |
| 3 | Tim Wood, York Soaring Association | 3569 pts |

OLC Canada Junior Champions (6 best flights):

- | | | |
|---|---|----------|
| 1 | Jay Allardyce, Winnipeg Gliding Club | 2124 pts |
| 2 | Emmanuel Cadieux, MSC | 1875 pts |
| 3 | Justin Gillespie, Winnipeg Gliding Club | 1365 pts |

Top Canadians in the OLC North America (6 best flights):

- | | | |
|---|--|----------|
| 1 | Wilfried Krueger, York (7th overall) | 5414 pts |
| 2 | Jerzy Szemplinski, SOSA (22nd overall) | 4484 pts |
| 3 | André Pepin, MSC (41st overall) | 3938 pts |

Chris Gough joins the Sporting committee – Jörg

The Sporting committee welcomes Chris as its fourth member. He is an accomplished contest pilot, having competed in various Canadian Nationals and the Junior Worlds in Finland. Most recently he placed first in Club 1 at the Canadian Nationals 2011 and acted as Canadian Team Captain at the Junior Worlds 2011 in Germany. Chris is an inspiration to our young pilots and will bring the perspective of the next generation of champions to the table. He will continue to administer the contest letter registry.

Thank you to my fellow committee members, particularly Derek who put a tremendous amount of work and energy into the new Seeding rules. Thanks to Ursula Wiese for maintaining the *Book of the Best* and for keeping our feet to the fire when new competition classes require trophies to be realigned. Also thanks to all SAC members. ❖

MZ SUPPLIES

5671 Ferdinand St, Osgoode ON, K0A 2W0 (613) 826-6606

wernebmz@magma.ca www.mzsupplies.com

Ulli Werneburg, exclusive Canadian dealer for:

BORGELT Varios & Flight Computers

CAMBRIDGE Aero Instruments

- CAI 302 computer, vario and GPS FR
- CAI 302A basic GPS navigation and FR
- CAI 303 Nav display for 302/302A

SCHLEICHER Sailplanes

ASK-21(Mi), ASW-27B, ASW-28(-18T), ASG-29(T),

ASH-30(Mi) – new 26.5m 2-place,

ASH-31E – new 18 or 21m self-launcher

Central Alberta

Two words describe the gliding season at Innisfail in 2011 – cold, wet. Little of the prior planning for the season worked out well for us due to conditions of the day. For the first time, the club logged less cross-country on the OLC than the previous year, and had only twelve flying days to the end of June.

Thursday 7 July topped the charts with a tornado touching down near Innisfail bringing with it savage winds and hail. Luckily we did not suffer any damage to club equipment. One member was not so lucky – even though his K7 was safely stowed in a hangar, large hailstones penetrated the skylight and damaged the wing and aileron of the glider. Trailers situated on the field fared well, with only a few extra hail dents. This served as a great reminder to ensure that all equipment is properly secured at the end of each day's flying and be vigilant to changing weather conditions. A member at a camp site eight miles away with his family witnessed the touchdown of a funnel very close by.

The new ASC winch made its way to our club in late June, we did some mid-week and evening flying performing checkflights and tested out the new equipment. Having done much winching in past years, we were especially interested in the quality construction and creature comforts afforded by this new equipment. Phil Stade did a fantastic job in communicating and assembling people from the other clubs to converge on Innisfail to have some fun and learn the ropes of winching. These events do so much to unite the clubs/ members in a common goal.

The club winch was used only a few days this year. We ran it with the new synthetic line, giving launches consistently over 1000 feet using just the grass runway. Arrangements have been made to extend the useful length of line deployed to over 3500 feet with launches of 1500+ the norm.

Student membership is up, with nine on the books now. They really anchored the club this year and provided ample energy to keep operations active. We are looking forward and hoping for a stronger season in 2012 so these students can capitalize on the skills they acquired this year to solo and soar.

The year passed without any major incidents. Given that the activity level at the Innisfail airport increases each year, this is no small

feat. Communications with other users of the space remain as the best tool to safely coordinate local light traffic, skydiving operations and itinerant traffic. All this adds a level of complexity for CAGC students; however, it serves to strengthen their knowledge, awareness, and airmanship. Sharing the airfield with so many other users really makes it a fun and active place to spend the weekend. Overnight camping is popular with skydivers and gliding club members.

The season didn't end with the blanket of snow. CAGC has active projects that will take us through the winter as preparation for the sure-to-be boomer flying next year. Ongoing work on the Twin Lark is progressing nicely; the spar repair and belly skin repairs were expertly completed, and paint on the fuselage is complete. That makes the ship 90% ready with sanding /painting on the wing, instrumentation, and final rigging left to do. John Mulder is working on the recertification and will oversee the final assembly and rigging to ensure that everything is done to the exacting standard required. Our club is so lucky to have such talented people.

As with all gear that tends to sit for long periods of time, we experienced some maintenance problems with the power train on our winch this year. The lesson – don't wash it, it will leak. Given its simplicity, all of this can be overcome with a little winter work to resolve dried out seals. The Bergfalke is in need of a new canopy and plans are underway to replace the aging plastic. Getting together in the winter months is a lot of fun for our members and serves well to keep the interest alive and facilitate a forum for soaring discussion.

Drew Hammond

Saskatoon Soaring Club

The soaring season was again strongly influenced by weather. The area has set three weather records in the past year – the wettest month on record (June 2011), the driest month on record (Sept 2011) and the warmest month on record (Jan 2011). We are now officially into a drought cycle – six continuous months with less than half the average annual precipitation. It will be interesting to see what 2012 provides for soaring weather.

The 2011 season started with a successful ground school with ten participants. As a training glider was a necessity, we negotiated the lease of a K7 glider from the Prince Albert

club for the season. The K7 was used for all instructional and intro flights and one flight test. Soaring and student training activity was quite high considering the number of days lost to weather early in the season.

It was a good year for the soaring pilots, but much of it out of province. Hank Hees completed his Silver with a local flight. He accompanied Skyler Guest to Chipman, AB for an ESC flying week where Skyler flew the three legs of his Silver. Roy Eichendorf took his ship to Cowley and Invermere where he had many good flights including personal bests for altitude (Cowley) and distance (Invermere).

The winch was tuned up and put back into service in August. After some initial (and interesting) currency flights, Hank and Skyler were both trained and certified by Lyle Ashe as winch drivers. Lyle got current on winch launch as an instructor, and helped train Skyler as a winch launch instructor. The winch launch was well accepted with launch heights around 1200-1500 feet common, and some as high as 2000 feet. The plan is to continue a combination of aerotow and winch activity in 2012.

A new propeller on the towplane increased the safety margin for launching the K7 and improved overall towing capability. The club is shopping for a replacement two-seat glider, and hopes to have one in place for the coming season.

John Toles

AVV Champlain

Une saison pleine de succès tant au niveau des activités de vol à voile qu'au niveau des investissements. Nous avons élaboré un plan de développement à long terme pour notre club.

Notre saison a débuté le 14 avril pour se terminer le 26 novembre. La météo ne nous a pas toujours souri durant cette saison, mais le club totalise plus de 1500 vols pour 91 jours d'activités. Nous avons opéré au moins un jour par semaine soit le vendredi. Ainsi, nous totalisons plus de 155 vols pour ces journées soit le double par rapport à l'année dernière. Nos instructeurs ont réalisé plus de 656 vols d'instruction. Nos deux nouveaux planeurs biplaces (ASK-21) et la bonne forme de nos deux avions-remorqueurs (2 x Cessna 150) ont contribué à ce succès. Nous avons augmenté le nombre de vols de familiarisation et avec invités. Le tout fut possible grâce au travail de nos instructeurs, nos pilotes passagers et nos pilotes-remorqueurs qui ont su respecter les principes de sécurité et d'efficacité de l'AVVC.

À ce titre, la sécurité demeure la préoccupation principale de tous les membres que savent

motiver notre instructeur-chef et notre officier à la sécurité. Ce denier a mis sur pied depuis quelques années une procédure pour rapporter les incidents/accidents. Un compte rendu périodique d'incident et d'accident est publié (avec respect de l'anonymat) aux membres. Par ces mesures proactives, l'aspect sécurité est en hausse à Champlain.

Le club dispose de deux planeurs pour permettre aux membres de réaliser des vols voyages. Lorsque nos pilotes d'expérience réussissent des vols de 500 kilomètres et des vols de sept heures, cela motive les autres à sortir. La bonne gestion et le soutien des membres assurent une bonne santé financière du club.

Ainsi, nous avons acheté une tondeuse de type commerciale. Notre gazon est court. Les décollages et les atterrissages sont plus sécuritaires. En fin de saison nous avons fait asphalté une autre portion de la piste. Cela permet de réduire le nombre de bris sur nos appareils. De plus la saison peut débuter plus tôt. Nous réussissons à faire valoir nos droits auprès des agences québécoises de protection du territoire agricole. Nous avons les coudées franches pour nos projets immobiliers.

The soaring season was very successful. Activities began on 14 April and we closed the club on 26 November. The weather was not always on our side, but we got gliders airborne more than 1500 times on 91 days. Operations during the week took place at least one day for 155 flights. The club doubled the number of take-offs made last year. The club did more than 656 instructional flights using our two brand new ASK-21s. The good maintenance and appropriate operation of the towplanes contributed to this performance. A lot of ab-initio flights were done.

Safety is a big issue for l'Association de Vol à Voile Champlain. The CFI and the Safety officer lead and motivate all members to avoid major incidents. The practice of incident reporting has an important place in the club. The safety officer presents a periodic incident/accident report for all members (with anonymous references). By using this proactive approach, safety increases at Champlain.

The club has two single place gliders for cross-country. Experienced pilots show the way. Some have accomplished a 500 km flight (out and return) and stayed up for more than seven hours – not bad for our eastern weak conditions.

The club bought a commercial lawn mower to give our grass an "airman's haircut", and the main cause for groundloops is eliminated.

After closing the soaring operation, AVVC let a contract for asphaltting a new section of the runway. Then, the finish of our aircraft will suffer no more and the towplane propellers will have a longer life.

Claude Tanguay

Rideau Valley Soaring

Flying hours at RVSS were about the same as previous year (2010) and lower than the 5 year average. Total flying hours were 301 vs 282 (2010). Average hours per glider was 53 vs 48. Our 5 and 10 year average for these numbers is 84 and 79.

The club did some repairs to the clubhouse and minor repairs to the existing T-hangars. Our towplane fuselage was completely overhauled, and is ready for another 40 years of service. Due to a ground mishap the aircraft wing was removed, for repair. The factory was

able to return this wing to service in a very short period of time. At the end of the season the engine was sent out for overhaul. The engine had reached the 1500 hour operation point, so the overhaul was expected.

The number of new students was low, which was the primary reason for the reduction in flying hours. A new membership promotion is planned for 2012. We did add one additional instructor (Tom Stieber) to compliment our existing instructors.

A new PIK-20 was added to the field, and good interest in X-C. The "Interclub Contest", in particular, is very popular and encourages new and experienced pilots to participate. I would recommend this activity for any club trying to promote X-C activity. We had one successful 5-hour duration flight, and a few attempts.

Two members participated in the Lake Placid Wave Camp and reported a very successful trip. Recently, the camp has adopted a fly-week which significantly adds to the chances of flying good wave days. The weather was remarkably warm and camping on the airfield, usually only for the hardy, was quite comfortable and members from at least five clubs took the opportunity to mingle at ground level and above. Our Grob 103 did not make the trip to Lake Placid this season, so no new RVSS members were introduced to the event or graduated to P1 at that location.

There is a lot of interest in the "Intro Ride" program, which is advertised on the web. The primary purpose of this activity is to find new student pilots, but it also generates a lot of activity, and increases public visibility.

John Mitchell, president

Accidents / Incidents

from page 19

progressing. We first had to get the problems solved with the portable PowerFLARM before proceeding. The SSA Convention is the target date for prototype units.

- A new superior display is being developed in parallel to make sure the use and features of the portable PowerFLARM and the 'Brick' with remote display are the same.

At this time, all 150+ units that have been waiting to be shipped and are being retrofitted with different capacitors. They should be completed and shipped soon. They are being done in dealer batches as they had been boxed for shipment in September. Some of you will receive them earlier than others. Your remaining portable units will be shipped as soon as they are produced.

In conclusion, what is your club doing for safety training of new pilots to your club? Safety reports are archived in the Roundtable Safety section on the SAC website. As a minimum training effort, these pilots should be asked to review these reports before they get their licences and discuss them with the CFI. What is your club doing now for recurrent safety training? Each spring should start with at least a pilots meeting to discuss club safety issues from last season. You can also use these past reports and the Recurrent Training presentation by FT&SC to base the discussion on what might apply to your club situation. This is an easy risk mitigation strategy.

Finally, I believe we should all start making more use of simulators. An easy simulator is a PC or laptop with Condor glider simulation software connected to (COTS) rudder pedals

and joy stick (less than a total investment of \$1000). A review of the past SAC safety reports will give you an idea of what exercises you may want to fly and replicate solutions on the simulator. Condor gives a good spin simulation compared to other applications (use the ASW-27 or some other high performance glider for your spin recovery training). Instructors: watch for correct control inputs for the recovery! In particular, I have noticed that younger pilots with less experience and a lot of Condor time have a poorer lookout; instructors should watch for this during spring checks.

We were very lucky in several incidents, none of which were new. Reviewing/posting incident reports at the flightline shack, and online, and having safety talks before the day's flying allow us to learn from others. ❖

2011 Insurance annual report

Keith Hay

FOR THOSE WITH QUESTIONS or comments regarding the insurance plan, use the SAC insurance committee address <insurance@sac.ca>; it's usually the quickest and easiest way to reach me. I do try to reply to people within a couple of days.

As you can see in the graph below, our insurance loss ratio "blipped up" last year due primarily to a couple of high value total losses. Despite this, our long term averages continue to moderate slightly which is good news both for our fleet and our continued insurability as a group.

SAC continues to apply a "Claims Surcharge" to those having claims in the last three years. This amount is in turn credited to all owners with a claims-free record in the form of a "No Claim Bonus" at each renewal. For 2011, the plan paid a total of \$8191 to those owners and clubs with claims-free records.

2012 renewals As I write this report, we are in the process of readying Requests for Proposals to send to interested underwriters in the Canadian market. The responses will be evaluated and we will finalize any changes for the 2012 plan. At this time we aren't anticipating an increase to our premium rates. The 2012 policy year will run from 31 March 2012 to 31 March 2013. As usual, coverage will be extended through 30 April 2012 to renewing owners to allow for the renewal process; however, it is important to complete your renewal before 30 April. Failure to do so

could cause your coverage to be void in case of an incident, with no payment of your claim.

Club renewal packages this year will be e-mailed to each club insurance contact as soon as available in late March. Private owner renewal notices will be sent out via e-mail.

Clubs and owners will again be able to re-new their insurance on-line again. The most common issue we had was invalid or missing e-mail addresses. Let us know if you have changed yours. I'll be posting updates and availability on the SAC Roundtable insurance forum. Due primarily to the size of club renewal payments, clubs will need to continue submitting their payments via cheque. Your SAC membership "validates" your insurance coverage, so please ensure that you deal with your SAC membership promptly in April or May by submitting your membership to your club. Failure to be a current SAC member could create a situation where your insurance coverage may be considered void in the case of an accident or claim.

It's also important that clubs forward their membership updates to the SAC Office in a timely manner. Ensure that member information and fees as applicable are submitted for all club members to ensure coverage. Be sure to include life members, cadet/youth members and pre-solo and solo students. Make use of the on-line membership list submission from the SAC website so that the SAC list is as current as possible. If you have questions regarding this update process, contact John Mulder on the SAC Board of Directors.

Starting in May, we will be validating private owner renewals for SAC membership. I will be e-mailing any private owner not showing as a current 2012 SAC member based on the club lists submitted to the SAC Office. We had quite a few cases last year where there was no record of a current SAC member.

Glider trailer insurance As one driver found this year, this insurance only covers physical damage to the trailer itself. All other damage comes under the auto policy. Clubs and anyone towing a glider trailer that is not their own (eg. a club trailer) need to be aware of this – provincial Motor Vehicle Acts consider the trailer to be "part of" the towing vehicle, so we are not able to offer "third party" liability coverage for the trailer.

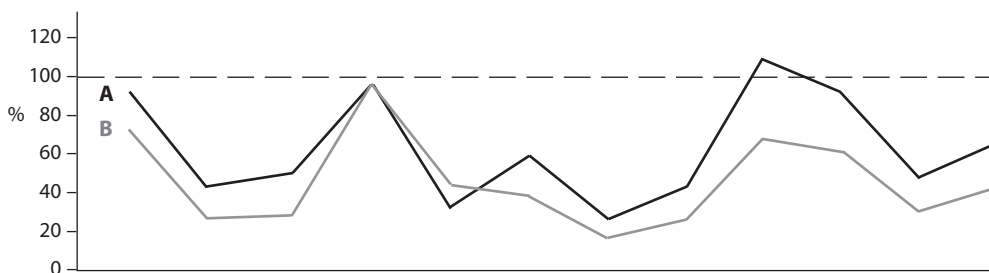
In an accident involving a glider trailer, any damage to the towing vehicle, other vehicles, or people will be claimed and paid by the car owner's insurance. It is particularly important to ensure that anyone towing a club glider have adequate liability coverage under their car policy.

Fuel tank spill coverage Most property insurance, including the policy for our club premises, specifically excludes environmental damages. Some clubs have already approached us in this regard due to government requirements for fuel storage. We are working on sourcing separate insurance coverage for fuel spills from tank storage.

Tank specific insurance policies exist for both above and underground storage tanks. The policies usually cover on-site clean up costs when tanks have leaked their contents into

SAC INSURANCE HISTORY, 2000 – 2011

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Insured Clubs	41	38	35	33	36	32	29	29	23	24	25	23
Total Aircraft	376	306	276	351	368	337	336	313	288	278	295	290
Hull Value (\$M)	10.89	9.49	8.56	13.35	13.60	12.7	12.3	11.7	11.5	12.0	13.1	12.7
Hull Loss Ratio (%) A	92	42	51	97	32	60	26	42	110	96	47	66
Total loss ratio (%) B	73	26	29	96	45	38	16	27	68	63	30	43
No claim bonus paid (\$)						9538	7632	8400	6586	5140	6887	8191
Claims surcharge (\$)						8166	9173	8139	4357	8846	9504	10441



soil and/or groundwater. Tank specific policies may also cover liability to third parties, such as neighbouring property owners, for injury and property damage. However, these policies are restricted to pollution directly or indirectly related to the specific tank(s) underwritten in the policy.

Proper fuel storage and physical environmental protection is important. Depending on the club's location and the volume of fuel, a relatively minor fuel spill can easily result in a \$300,000 or more bill. In some cases, there are government regulations specifying minimum standards for any "new" fuel storage facility. Although existing fuel storage may not currently require upgrading, this could change as concern over environmental protection increases.

Although we are looking at affordable options for insurance coverage, the cost will likely be driven by the number of participating clubs as well as the details of their individual fuel tank setup. One of our first

steps will be to survey clubs about the details of their fuel storage facilities.

Regardless of any insurance coverage, clubs need to be proactive in demonstrating care and attention to proper fuel storage and management. Some things to consider:

- Does your club have procedures in place should a fuel spill occur? Are they written down? Where are they kept? Do those regularly involved in fuelling know where the written procedures are kept? Do the procedures include reporting requirements to regulatory authorities and directions about what to report to the authorities? Is there a regulatory authority reporting phone number clearly written on the procedures manual? Are these procedures reviewed with members on a regular basis, especially those regularly involved in fuelling? Is this member training documented?
- Do you have fuel spill "mop-up" kits and other liquid containment equipment readily available in the event of a spill?

- Do you regularly monitor the condition of your fuel tanks for leakage, corrosion, damage? Or, do you have a contractor undertake this for you? For above ground tanks, do you regularly inspect the structural elements of the tank to ensure their integrity (tank support structures, tie-backs and the like)?
- Depending on the age of your tank, have you considered upgrading to a "double-wall" tank?
- Do you have spill retention berms surrounding your fuel tank to prevent spilled fuel from spreading – otherwise known as secondary containment?
- Do you have sturdy fencing (eg. metal pipe bollards) around your fuel tank to protect against vehicular and other collisions with the tank?
- Do you have old still-in-use tanks (either in-use or out-of-use) that should or must be decommissioned according to regulatory standards?

Here's hoping for a fun, challenging and safe year of flying for everyone in 2012. ❖

Flight Training & Safety from page 16

should be directed to read these reports so they are aware of the safety issues and hopefully not repeat the same mistakes.

OSTIV Training & Safety Panel

Ian Oldaker, chairman of the OSTIV Training & Safety Panel, attended the 19–20 September meeting and a joint meeting with the Sailplane Development Panel.

The T&S panel discussed national accident reports but no significant trends or definitive mitigations were identified. Of note, with computer controlled winch systems, clubs were not experiencing as many safety problems with winching and, in particular, incidents with weak links have been dramatically reduced. The panel agreed that they should develop a proposal to the IGC on how to improve contest safety.

The two panels discussed that LET [the Blanik manufacturer] has completed destructive and nondestructive testing on some L-13 spars and has developed an inspection procedure to identify fatigue and forwarded to EASA for approval. The hope is the costly AD solution might be avoidable in some cases, which is good news.

Sweden and USA are actively pursuing development of the use of simulators in training, with the US taking lead. The UK reported that when champions lose interest in training with simulators, the use of them drops off.

National Safety Program Status

SAC accident reporting has been about 50% this year and we have received only a few club annual reports and no safety audits. We can do much better!

An annual club report template has been prepared and posted on the Training and Safety section of the SAC Documents section. Simply fill in longhand if you wish and scan or mail to SAC. These reports are needed by December each year to provide accurate data for the Safety committee to make their report. If the club is still flying, use 1 November as the fiscal year end for safety reporting. Events after that date can be reported the following year.

If you have been following soaring safety in the USA, you will see that they are also concerned about their accident record, and their Soaring Safety Foundation is looking at ways to address the trend.

What has been the problem with implementing safety programs in Canada and why is participation so weak? Essentially, the barriers are that clubs find the process too difficult and some don't want to make the effort or can't do the work due to lack of volunteers. There may be a fear of liability litigation when safety policy and procedures are stated and perhaps not followed by a club. Club safety culture sometimes does not support formal effort for safety management (proactive measures). Also, the belief may be that only

the pilot is responsible for their safety and this is not the club's responsibility. There may be a belief that formal policy and work takes the fun out of the sport.

The long lead time of program/process outlives efforts of champions who come and go in clubs. There is no legislation requiring mandatory programs in gliding – our participation is voluntary. Transport Canada has mandated some commercial aviation operations (excluding commercial gliding) for formal Safety Management Programs (SMS).

Last and not least, the nature of our Association's leadership is one of advice and guidance – not management, policy, regulation or enforcement. If we cannot solve these barriers, I see the time when we may get swept up into mandatory government programs. Look at the hoops the gliding community in Europe is faced with the formation of EASA!

Personnel changes Sylvain Bourque, SAC President, has been nominated the Director for Safety and Eric Gillespie, Ontario Zone Director, has been appointed FT&SC liaison for the SAC Board. John Toles becomes the Prairie Zone representative to FT&SC.

Dan Cook: Chairman
Dan Daly: National Safety Officer
members: John Toles, Joe Gegenbauer,
Gabriel Duford, Richard Sawyer
SAC Liaison: Eric Gillespie
OSTIV TSP Chairman: Ian Oldaker ❖

cross-wind travel time from page 10

flying in a 10 knot wind with an average airspeed of 30 knots ($R = 10/30 = 0.333$) will experience the same percent increase in travel time for a roundtrip as a high performance glider flying at an average airspeed of 60 kts with a 20 kt wind ($R = 20/60 = 0.333$).

Finally, a fast-travelling glider moving in a 10 knot wind only suffers a few percent increase in travel time (weak drift case). Note that there is always some increase in travel time due to the wind – never a decrease – but a turnpoint in a direction perpendicular to the wind results in the least increase. Also, remember that a decrease in round trip travel time translates to a higher average round trip ground speed for the full trip. We are able to summarize the main results of this formula as follows (keeping in mind the important

assumptions of a constant wind speed and a constant average airspeed during the flight):

- The presence of wind always increases the round trip travel time to a turnpoint and decreases the average round trip ground speed (total round trip distance to and from a turnpoint divided by total time.)
- The increase in travel time is strongly dependent on the ratio of wind speed to average achieved airspeed, the higher the ratio the bigger the increase.
- The increase in travel time is greatest for wind directly aligned with the direction of travel (whether initially upwind or downwind) and least for wind perpendicular to the direction of travel.

Of course, actual situations will often make the analysis less straightforward than that

given above. For example, besides travelling at a high average speed in a direction perpendicular to the wind, are there other strategies a pilot can adopt to minimize the round trip travel time to a turnpoint and back.

This probably gets into such subjects as the variation of wind with height and time, the polar for the glider, the altitude of the flight, the distance to the turnpoint, the location of thermals, the MacCready Theory for optimized flying, and so on. If a pilot is in a “final glide” situation it probably helps to speed up a little during the upwind leg and slow down during the downwind leg. However, in general, there may be an intriguing number of variables a pilot has to consider if the goal is to minimize round trip travel time. The challenge of dealing with all these ever-changing variables is one reason the sport of cross-county soaring can be so enjoyable. ❖

... low end of the polar from page 8

reporting a flat tire on the trailer. We got the directions to go help, only to find that there was no one where the directions took us. Another phone call and some local knowledge got us to Jay's trailer. It required a little creative mechanic work, perseverance and cooperation to get the trailer back on the road with Jay's two volunteer helpers to complete his retrieve. Heading back, Pat and I passed three gliders waiting for their crews.

A lot of that spirit of cooperation went into getting everyone home that day, which now has its special page in National's history.

The following day had us heading to Tillsonburg area again, there were fewer landouts but several of us again got the opportunity

to educate farmers/land owners about our gliding competition. That day I used GPS coordinates to guide Pat to my location, this method is not as accurate as an address. As a result, a passerby stopped to ask a couple of questions and realized the long skinny trailer he had passed a mile back was looking for my field. I called Pat to let her know she was on the right road and only needed to come over a couple more hills. After having talked to many about how I ended up in my field, we are on our way from my last landout of the contest. Personal landout score: 1 Airstrip, 1 Bean field, 1 Corn field, and 1 Hay field – four letters covered – I'm following Dugald's path through the alphabet at a racing speed.

The following morning at the pilot meeting I got a message from farmer Hank of the field I had landed in two days earlier via John Mul-

der who had landed in a bean field on the same farm yesterday, “please tell Ray to ask the task committee to send the gliders somewhere other than the Tillsonburg area – I've met three glider pilots in two days!”

As for my goals, I managed to clear those hurdles with room to spare, the last two contest days by finishing second on each of those days. You've got to love handicapped scoring when you're at the low end of the performance curve. If you've had any contest experience and are even thinking about flying in the 2012 Nationals, GO FOR IT; memories and experience are priceless!

As to goal #3, several of us volunteered to write articles for *free flight* at the awards banquet for the Nationals and I believe my submission is coming in dead last! ❖

magazines

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

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

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

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

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

soaring services

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

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

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

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

SAC Clubs SAC Clubs

Eastern Zone

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

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

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

CVV QUEBEC
St. Raymond A/P, QC
www.cvv.qc.ca
club phone (418) 337-4905

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

Ontario Zone

BONNECHERE SOARING
Dave Beeching (613) 584-9336
beechingd@sympatico.ca

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

GATINEAU GLIDING CLUB
Pendleton, ON
www.gatineauglidingclub.ca

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

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

RIDEAU VALLEY SOARING
35 km S of Ottawa at Kars, ON
club phone (613) 489-2691
www.rvss.ca/

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

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

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

Prairie Zone

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

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

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

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

Alberta Zone

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

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

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

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

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

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

Pacific Zone

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

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

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

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

VANCOUVER SOARING ASSOCIATION
Hope A/P, BC
club phone: (604) 869-7211
hope.gliding@yahoo.com

Directors

President & Eastern

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

Ontario

Eric Gillespie
(416) 703-6362
ekg@cunningham-gillespie.com

Prairie

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

Alberta & Secretary/PB

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

Pacific & Treasurer

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

Air Cadets

National Office

Committee

Airspace

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

Flight Training & Safety

Dan Cook, (250) 938-1300
cookdaniel@shaw.ca
Gabriel Duford
gabriel.duford@videotron.ca
Joe Gegenbauer gegb@shaw.ca
Richard Sawyer
cfzcw@sympatico.ca
John Toles
j.toles@shaw.ca
Safety Officer: Dan Daly
dgdaly@hotmail.com

Insurance

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

Medical

Dr. Guy Thériault
theriaultguy@hotmail.com

Sporting

Jörg Stieber
519-662-3218 (H), 662-4000 (B)
joerg@odg.com
Chris Gough christophermgough@gmail.com
Derek Mackie itshdwrk@gmail.com
Walter Weir 2waltweir@gmail.com
Contest Letters: Chris Gough
Awards: Walter Weir
2waltweir@gmail.com
Records: Roger Hildesheim
rogerh@ca.inter.net

Technical

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

Trophies

Phil Stade (403) 813-6658 (H)
asc@stade.ca

Video Library

Ted Froelich (613) 824-6503 (H&F)
2552 Cleroux Crescent
Gloucester, ON K1W 1B5
tedfroelich@gmail.com





CANADA		POSTES
POST		CANADA
Publications mail agreement no. 40013347		