2010 Winter

free flight vol libre

Priorities

John Toles SAC President

FOR THIS EDITION OF PRIORITIES I have invited each of the directors to provide a brief update on their areas of responsibility. With the changes in office management, it will be very important for directors and committee chairs to be current on issues. So far, things are working out well. I will begin with an overview of highlights from the recent Board meetings. The regular fall SAC Board meetings were held in Ottawa on 14-15 November. There was no pressing new business. Most of the meeting content involved working on policy and planning issues and fine tuning the change in office management. On the 13th I had a very productive meeting with Jim McCollum, who is retiring as long-serving SAC Executive Director, and with Tanya Storing, COPA's office manager and coordinator for SAC office responsibilities under the recently implemented SAC/COPA Management Agreement. On Saturday afternoon, the Board met with Tanya at the office for introductions and policy discussions. Jim attended the Saturday morning session where an agenda item was a financial review of the various funds. As well, a transfer of duties of SAC Treasurer to David Collard was discussed, with policies and procedures for both David and Tanya. Membership and database options were discussed. Tanya is going to configure the database to include club positions for quick and efficient contact and communication. For example, a club officer (treasurer, safety officer, etc.) could be contacted by e-mail with important information or updates on an ongoing basis.

Both resolutions passed at the 2009 AGM were successfully implemented during the year. David and Eric will provide more detail. We discussed the establishment of a new trust fund for the Youth Bursary Program so that individuals may make donations to expand the program. SAC 2009 membership receipts for income tax purposes will be sent out in the new year. This had previously been done in October, along with requests for donations to the various funds. Those who have been regular donors in the past were sent a letter providing an opportunity to again donate in 2009. The plan for future years is to include receipts, membership cards, and requests for donations in one package, possibly in the form of a printable e-mail, as memberships for 2010 come in.

It was a busy weekend with a full agenda of items. A summary is available on the documents section of the SAC web site for those wanting more detail. I hope to see you at the upcoming SAC AGM in Vernon. Hopefully, you can come for the meeting and extend your stay for a spring vacation in the Okanagan region.

John Mulder

SAC AGM Mark your calendar and come visit Silver Star resort outside Vernon, BC – one of the few places in Canada where golf, gliding and snow skiing can all be done the same day. For the really hardy, water skiing may be an option also. Add a few days to the trip and spend some time exploring the sights around Vernon and Kelowna.

The AGM will be held Saturday afternoon on 27 March following the SAC awards presentation luncheon. Prior to the AGM on Saturday morning, Dan Cook and the Flight Training & Safety committee have planned some recurrent training for glider pilots, students and instructors using the SAC flight simulator. Dan has spent many volunteer hours with instructors from around the world discussing training and safety. He has put together a recurrent training program that encompasses the items where weakness in skill has been evident and which training could improve. Using the simulator, videos and briefings, Dan will bring the best of those programs for us to preview. The weekend schedule is on page 5.

Nationals The 2010 Nationals are also coming west! North Battleford, Saskatchewan is the location for the 2010 Canadian National Soaring Competition, 15-25 June with 13-14 June practice days. We have held competitions in North Battleford the past two years to test the locale, and everyone enjoyed the facilities and the soaring conditions while a few pilots also enjoyed the multiple landout options. There are almost no airspace concerns, several small community airports for turnpoints and landout fields, and thermals to 10,000! You won't want to miss this one. The organization has begun and we have an experienced contest director, and an experienced meteorologist. We have the support of the local town, airport and Air Cadets. We also hope to incorporate some fund raising during the competition with some silent auctions, draws, and other entertaining activities.

The two Western Canadian Provincial contests had participation from all levels of pilots and aircraft and we plan to continue to use the contest as an opportunity to fly some cross-country and learn from the experienced pilots you share the briefings, meals and sky with. Don't be intimidated by the "Nationals" title, it should be another fun-filled ⇨ **p5**

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2010/1 – Winter

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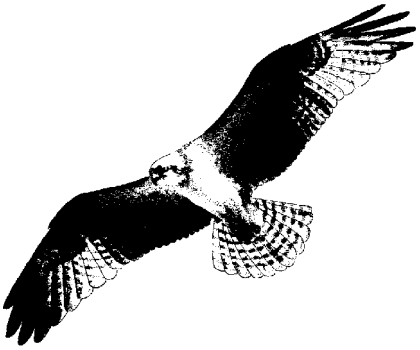

Cover
Here is a lovely scene to contemplate when there is snow on the ground. Fence row wildflowers and a flock of white sailplanes at the 2009 Ontario Provincials – a seriously bucolic scene.
Photo: Maria Szemplinska

A generic club "Member-of-the-Year" introductory speech

Peter Neary, Cu Nim

MOST WOULD AGREE THAT THE CLUB has been at a crossroads over the past few years. Club discussion is often centred on how to increase membership, thinking that this is the key to not only the survival of the club but to negotiating this crossroads. What you might not be aware of is that during its early years, the size of the club back then was not as important as the enthusiasm of its members. I am sure that the joy they received from gliding was no less than our enjoyment now with our much expanded facilities. Our success in negotiating this crossroads should be measured by the size of the smiles on our members' faces, not by our numbers.

So I put it to you that it's not the number of members that will ensure we still exist in fifty years but rather the quality of our members. If the last few years are any indication of the type of members we will have going forward, I think the future of the club is quite secure.

A club either needs a lot of people or people that do a lot. It needs people to answer calls from the public and to book intro flights. It needs people to get the water running in the spring and to maintain the grounds throughout the year. It needs people to schedule students and arrange duty instructors. It needs people to manage the fiscal concerns of the club whether it be managing the books or paying the bills. It needs people to greet strangers that show up at the field. It needs people to keep the planes flying and sometimes to help put them back together when they get broken. It needs people to encourage flying late into the season and towpilots to accommodate these crazy individuals. The club needs people to repair the ground equipment when it becomes unserviceable as well as to champion improving field conditions through the purchase of new equipment, whether it be aerating the soil or explosively aerating gophers. It needs people to deliver and pickup airplanes from AMEs. It needs people to manage the move to soaring camps and to ensure the safe return of the equipment at the end. The club needs people to teach ground school and distribute club announcements and the minutes of its meetings. It needs people to clean and manage the clubhouse and stock supplies. It needs people to take the message of gliding to airshows and schools as well as do intro flights. It needs people to update and distribute membership lists and other club information. It needs people to put new siding on the old hangar and take parachutes for repacking. It needs people to volunteer to be the field manager, run wings, and record take-offs and landings. The club needs people to DI aircraft and inspect the runway(s) in the morning and sit on safety committees after accidents. The club needs people for dozens of other jobs that go unnoticed every season that I haven't listed here.

It's difficult to choose one person over the rest when the club couldn't exist without most of its members. Like most years, the executive had a difficult time picking from a long list of hardworking members to come up with the "[Club] Member of the Year". But we have , and I'm sure you will agree he/she is most deserving of this award. He/she has worked tirelessly to ensure that [club] will be around long after we are all gone. He/she has had a hand in almost all aspects of the club, including many of the tasks I mentioned previously, all the while balancing family life and numerous other responsibilities. Our club would be lost if not for so many hardworking members, but I believe that negotiating these crossroads would have proven to be much more difficult if not for his/her special and ongoing efforts.

I ask you to raise your glasses to our "[year] member-of-the-year", _____ .

Applause! Cheers! Hoopla!

The
SOARING ASSOCIATION of CANADA

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

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

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

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

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

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Deadline for contributions:

10 **March, June**
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ASSOCIATION CANADIENNE DE VOL À VOILE

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

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

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

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

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

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

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Priorities, continued

competition and an opportunity to fly some cross-country, log some OLC points, and see how your day compares with your peers. If you would like to participate but are not interested or able to fly the contest, many hands are needed to help with the flight line and land-out phone, or crew for those who find themselves short. Often the ground support folks come away with better stories and experiences than the pilots. We also need a scorer, so if you enjoy working with computer software and USB memory sticks, we have a job for you in North Battleford! To volunteer or provide more info or ideas, please contact me <*johnmulder@shaw.ca*> and I will direct your inquiry to the appropriate individual. This competition is being co-hosted by the Alberta Soaring Council and Soaring Association of Saskatchewan.

Eric Gillespie **Competition support** At the 2009 SAC AGM a motion was passed to allow for greater support of competition pilots and teams at both the World and Junior World levels. Annual funding is now available at $10 per paid SAC member to a maximum of $10,000. SAC monies will be provided on a matching basis ie. pilots who apply must raise equal amounts. This year's applicant was Chris Gough who competed in the World Juniors in Finland. His funding application was unanimously ⇨ **p27**

SAC AGM

27-28 March 2010, Vernon BC

The SAC AGM venue will be the resort village of Silver Star in Vernon BC. We hope that the attraction of family outdoor recreational activities will offer you more opportunity. Silver Star offers some of the best alpine and cross-country skiing in Canada. In addition, skating, tube town, snowshoeing, and many other non-ski activities are available. Gliding and golf opportunities may be arranged based on interest. Why don't you extend your stay before or after and enjoy the many recreational activities that are available. Go to <*www.skisilverstar.com*>

Special hotel rates for SAC members – reserve with Silver Star Holidays, 800-663-4431 or 250-558-6083 room info: <*www.skisilverstar.com/home_showSection_ID_623*>

Special WestJet rates for SAC members <*www.westjet.com*> (refer to acct# QC6253) Fax booking request forms to 1-800-582-7072 or e-mail <*conventions@westjet.com*>.

Saturday indoor soaring program

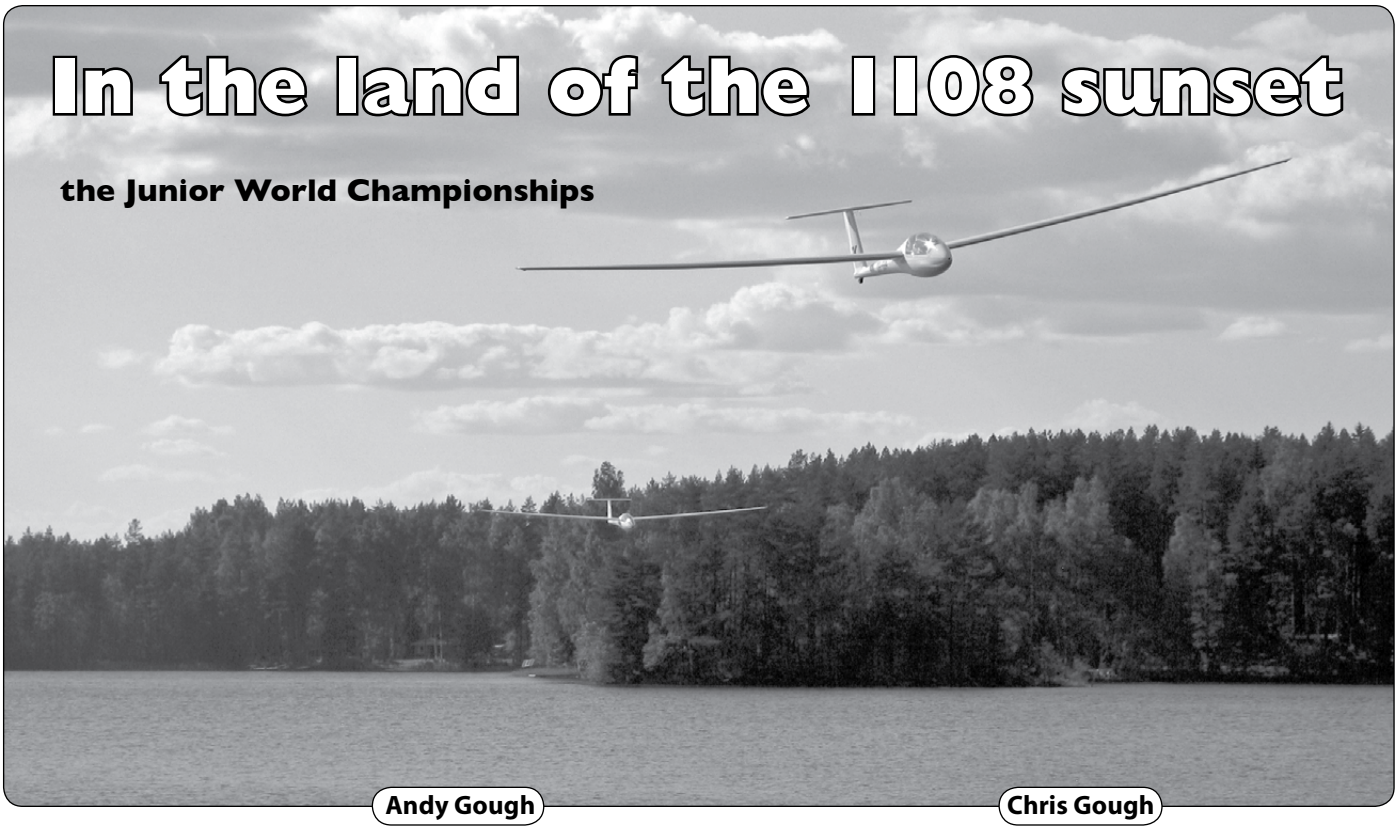
Morning	Recurrent training - simulator use
Luncheon	with SAC trophies & awards presentation
Afternoon	Annual General Meeting
	Recurrent training - simulator use
Evening	SAC banquet & speaker (depending on response)

Sunday indoor soaring program

Morning	Instructor refresher training - open simulator use
Afternoon	Instructor forum

In the land of the 1108 sunset

the Junior World Championships



Andy Gough **Chris Gough**

RÄYSKÄLÄ, FINLAND, IS THE CONTEST SITE where an audacious 1000 km task was set during the 2003 European Championships, 38 of 42 competitors completed the task. A unique opportunity for my son Chris to fly in this fabled soaring paradise surfaced when it was suggested that he should fly for Canada in the 6th Junior World Gliding Championships in 2009. But who was going to pay for this adventure? Funding was to be made available but it became apparent early on that it could be a long time coming and that the only people who could be persuaded to make up the additional team members, crew and team captain would be his mother and father.

Chris reserved a package deal for an LS-4 and a Volvo station wagon crew car. Due to its handicap, the LS-4 is not the ideal glider to fly in Club class competition but Chris has had plenty of time in one, and comfort and familiarity are important considerations when flying a long contest. The first glitch surfaced on the entry deadline day – where was Chris' name on the entry list? A couple of e-mails established the problem lay with the contest organization and a few days later the entry had been acknowledged on the official list.

We were greeted in Helsinki by Timo Korvenpää who had rented us the glider and car. On the drive to our destination we noticed the development around the Helsinki area was very like Ontario. As we drove further north away from the city it looked very similar to the Muskoka region north of Toronto. Unlike Muskoka, the farm fields we saw looked very landable. On the way to pick up our car we passed the airport at Räyskälä. It was past 4 pm and the grid was packed with gliders competing in the Finnish Nationals. This definitely was not

AFTER FLYING IN THE 2007 CANADIAN NATIONALS and having a couple of good days I was encouraged to fly in a Junior Worlds. That year it was being held in Rieti, Italy which was too soon for me to fly but I would still be eligible to fly in Räyskälä, Finland in 2009. I spoke to Jim Carpenter who assured me that although there were a lot of trees and lakes, it was nothing to get too worried about. My parents agreed to help with the preparations and crew for me. As a member of the SOSA junior organization I had access to funds I had helped raise to aid juniors in cross-country and competition flying and there was a possibility of future SAC funding.

At the same time I was trying to get some flying in during the winter and found an opportunity to tow from Benalla, Australia for five months. Benalla held a number of contests during my stay and I flew in the Australian Junior Nationals or 'Joey Glide' in an LS-7 the club loaned to me. It was nice to fly with a bunch of people my own age for once and I got a chance to meet the two pilots who were headed to Räyskälä. I had a poor first day but managed to move myself up a bit afterwards and won one day along the way. The time in Australia was great but the flying was quite different to what southern Ontario and Finland have to offer.

In the Junior Worlds there were two classes: Standard (36 pilots) and Club (46 pilots). Most of my glider flying has been in my father's LS-8 so Standard class seemed like the best option but finding an LS-8 was difficult. There was an LS-4 available which I am familiar with since SOSA has two of them so I decided to fly Club class. My father was appointed team captain and while I was in Australia he took care of registration and finding a place to stay. We arrived two weeks early so I could get some practice

a 1000 km day and Timo wondered aloud what they were all doing there in such miserable overcast weather. It was 6 June, and the day had started with the removal of a thin layer of snow from the wings of tied down gliders. (They did finally fly a task and enough pilots flew greater than 100 km to make it a day.) The following day we arrived at the airport about noon while the Nationals were launching. The soaring weather looked better but the forecast high was still only a chilly 15°C.

The contest airport is run by the Räyskälä-Foundation which serves about 1000 sport aviation members, 350 or so being glider pilots. Activities include model flying, parachuting, ultralights, power, and gliding. Refueling and maintenance is available on site, other facilities include a restaurant, motel, and a huge campground with between 150 and 200 trailer and tent spots located in the woods adjacent to a lake. The airport restaurant, *Café 26*, is also the main information hub with a number of TV screens showing current satellite weather and airspace information. High speed internet is also available. The airfield is surrounded by a number of lakes that complement the Finnish sauna tradition. Sit and bake in the sauna, then jump in the lake to cool off. The sauna is an important part of the lifestyle, deeply embedded in the Finnish psyche.

The next ten days were disappointing. We had counted on getting in some practice before the main event but all the weatherman could dish up was rain, cold and gloom. The first good day it was a little too good and Chris experienced his first field landing when he got caught under some rapidly forming spreadout.The 30 km straight line distance to Chris' landing spot took almost 60 km of driving to get there, the myriad lakes usually doubling the actual retrieve distance. The farmer was somewhat uncooperative and we ended up having to carry the glider out of the field.

In our second week there was a smaller Regionals-like contest, "Jannen Kisat", billed as "just for fun". This seemed like a good opportunity for Chris to get some practice in the actual contest area. As we entered the hangar for the first briefing, my eyes were immediately drawn to a gallows gibbet complete with hangman's noose attached to the wall to the rear of the podium. Fun contest maybe, but discipline was still to be part of the proceedings. Contest management communicated with pilots using text messages to pass status reports on briefing times, launch times and any other timely information that normally takes a lot of coordination but was effortless by cell and essentially left organizers and competitors a lot more free time. Only two of the seven days of Jannen Kisat produced contest days.

The European teams were able to drive to the contest, affording them many opportunities to cut costs – equipment rental being one of the major savings. The Dutch were camping in a huge tent city and many teams chose this option to reduce expenses. The cost of competing is much smaller and is probably ⇨ **p8**

in the area. Unfortunately the weather didn't cooperate, but we had time to install the instruments we brought from my father's glider. We decided it was best to be familiar with the flight computer in particular. There were a few glitches and we needed to replace a battery but everything was sorted before the competition.

A week before the worlds I flew in Jannen Kisat, a very relaxed contest much like SOSA's Mudbowl. I was the lone junior flying the contest while pilots from other countries were practising their team flying separately. The first four days were cancelled but for the last two days the weather really turned around. I was happy I flew this contest because although my scores were not that great we sorted out my battery problem and I got to see how the locals fly the Finnish conditions. The other teams were showing up during the contest including the Australians. Nathan Johnson, who won the Joey Glide I flew in was also flying an LS-4 in the Club class. His partner, Andrew Maddocks, was flying in Standard. Since Nathan and I were flying the same glider and same class we agreed to try flying together. Both of us normally like to fly by ourselves so it took a bit of getting used to.

The first practice day, Nathan and I started together but I soon got ahead of him after the first turnpoint. He must have flown very well because he caught up at the next turnpoint and we continued on together. I broke away from the pack to arrive home first. I had a speed of 104 km/h over 356 km, the second best raw speed for the day. I was happy with the flight although after handicapping it put me in seventh place for the day.

The second practice day we were set a modest 261 km to give us a rest before the first day of the contest. It was a shame we wasted the day because one of the Club pilots did 990 km in a Ventus 2c. Nathan and I flew together again and we were joined by Matthias from the Swiss team, also in an LS-4. We stayed together well that day and it payed off when we went through a blue area. I flew the task at 108 km/h which was good for second place on the day and the other two were close behind. I was feeling good after the two practice days but I knew the two big teams Germany and France had not been submitting their flights and it meant nothing to the real contest. ⇨ **p9**

Andy

enough motivation for the Europeans to favour a European bid to host a World championships over one from another continent.

Better soaring conditions and warmer temperatures arrived at the start of the practice days. Chris and two other LS-4 pilots from the Australian and Swiss teams agreed to cooperate and communicate with each other and formed a loose team-flying alliance.

The contest procedures were straightforward, we would arrive at the airport shortly after 8am and rig in time for me to attend the team captain's meeting at 9. All communications were directed through the team captains who were responsible for ensuring their team pilots were fully briefed and understood the many special requirements relating to safety, airspace and other issues of the day. Lynne and Chris would take the glider out to the grid and on the journey to the grid each day the aircraft had to be weighed. If there was a lineup, Chris would leave Lynne to finish the gridding on her own to make it to the pilot briefing at 0930. Grid time was at 1045 when the grid would be closed for a possible first launch at 1100. Generally launches started between 1130 and 1230. Once the pilots were launched we spent our time next to our two radios until they left on course. If it was a long task we had some time to go to the beach or catch up on shopping and chores.

The organization was well orchestrated and was run with a relatively small crew. The proceedings were conducted in a serious and professional manner with a dash of humour which kept everyone on-side and in a good mood. The early days saw long tasks in some great conditions but nevertheless challenging. As the weather deteriorated, challenging but doable tasks were set. The toughest day produced 46 landouts, with the longest time in the air, 9-1/2 hours, last finisher at 2140, and the last retrieve arriving home after 2 in the morning.

Although this was a Junior Worlds, the standard of competing pilots was no less than one would expect to find at a regular world championship event. Chris can hold his own in flying ability. The difference in performance in a contest comes from discipline and experience, both of which is difficult to come by in our declining Canadian soaring environment. The German team demonstrated great mastery of the team flying concept and dominated the competition taking first and third positions in both classes and their number three pilots still placing high in the top ten.

The Finnish summer can be a little wearying at times and we did wonder in the period before the contest started if the temperature would ever get above 15°C. On the plus side it was a great experience to see a soaring event dominated by so many young people. There was a vibrant air that was evident beyond the launch and the finish lines. On Day 2 the finish line showcased the most exciting arrivals I have seen in a long time. After Day 2, to discourage hotdogging, finishers were routed to the alternative finish lines across the trees and provided drama and perhaps less safety when pilots were flying marginal final glides. The only damage sustained in the contest were minor field landing dings. The safety record in this contest was a tribute not only to the contest organization but also to the experience and high calibre of flying skill demonstrated by the competitors.

After the awards ceremony we spent our last day in Finland in Helsinki. The city is fairly small, about the size of Hamilton, Ontario. Most of the main sites were walking distance from our hotel. Dodging rain showers, it felt more like late fall than the beginning of July. It was just 6°C the following morning when our cab arrived to take us to the airport.

Observing the elements of the contest confirmed much of what is already common knowledge but not readily accepted by many. On most days the 30-year-old unballasted Club class ships performed within 5 to 15% of the latest and ballasted Standard class ships. Experience and practice are the essential elements in advanced cross-country flying, more so than having the latest equipment. The majority of the pilots had many hours and experience, gained from frequent flying and practice. Most had access to winch launch, 4–500 metres enough to get away. Cost considerations were abandoned and aerotow became the favoured launch method when towing to lift was the only viable option. Affordable launching promotes activity and produces safe and experienced pilots. Most if not all countries had more soaring pilots than Canada. Finland has a soaring season comparable to ours and, with a population of only five million, has 2000 glider pilots and fielded a junior team of six pilots.

A cohesive team identity was clearly identifiable in the majority of the teams present in Räyskälä. It was obvious their national soaring organizations were firmly behind them and the teams represented that interest. Some SAC members perceive world contest (or any contest) activity as no more than the ambition of individuals and having no connection to the majority of the SAC membership. This perception is the reality we create when our national organization fails to take ownership and provide leadership. Without the sanction of SAC and the Aero Club of Canada, participation by Canadians in FAI world contests is not possible. Given this, it is important that SAC stamps its identity on the team by taking ownership of the team and the selection process, this will signal to all SAC members that the team has been selected to represent SAC. SAC also needs to be instrumental in crafting the team, its image, identity and funding. Anything less leads to disorganized confusion and possible resentment.

Before we start another debate on the Roundtable about World contest seeding and selection, maybe we should open our minds to some of the more successful practices that promote activity, skills building and, ultimately, safer flying. Debating funding and seeding for a diminishing pool of pilots is not going to advance World or any other contest flying in Canada. We need to start looking after the member who will join tomorrow and start removing the barriers that prevent a timely progression from first flight to first cross-country. This is the first time Canada has participated in a Junior World championship – our current practice may make it the last. ❖

Chris

The official opening of the contest was held in front of the cafe and as promised was short and efficient. The FAI flag was raised and the CD said a few words. Then we went to the daily briefing and were handed a 531 km task. The night before there were rumours of a 750 km task so I was not too surprised at the distance.

The grid closed every morning by 1045 and first launch was scheduled for 1100. The skies did not look anything like a 500 km task would be possible. The Club class was at the back of the grid that day and when they were launched an area of cirrus drifted over the airport. I was close to the back of the grid and watched the first guys launched scrape away from under 1000 feet right over the airport. By the time I launched things had cycled and I had an easy climb to cloudbase. Nathan and I met up before the start and waited for some starters. Since we had the higher performance gliders in the class, our plan was to let the others go ahead and then catch them up while having them mark thermals for us and then push ahead at the finish. This was much easier said than done and we only managed to do it on one day.

I was doing well most of the way around but made a bad decision to break from the group I was flying with to try a different cloud street. At the end of the flight I had to get through a big blue patch and a bunch of us got low scratching in 1–2 knots. I ended the day with 93 km/h but first place did 100 km/h in a Cirrus. It was a tiring day getting back at 1910 especially after flying down low in the blue for so long.

The second day of the contest we were given another long task at 480 km. This was the best day of the contest for me. I started with Nathan and Matthias but soon lost them behind me. I managed to catch up with a pack ahead of me and then pushed ahead of almost everyone at the end. My speed was 104 km/h, the best raw speed of the day. After handicapping I was pushed all the way down to 14th. It was a bit frustrating to beat everyone by five minutes and finish so low but I knew that would be one of the trade-offs with flying a higher performance glider in Club class.

My best day of the contest was followed the next day with my worst. The task distance was 359 km, short compared to the last couple of days. We were the last to leave and had a great start following cloud streets and only stopping in five or more knots. Then I pushed a bit too hard looking for another 5 knot thermal and ended up 1000 feet above ground scraping in a knot trying to get back up. While thermalling I drifted into airspace. That ended my day by landing me out at that point. It was the worst day to do that because everyone else got home and the highest speeds of the contest were reached. I entered the day overall in 19th place and finished in 43rd. It was disappointing but there was a lot more flying to be done so I could not get too down. The next day was cancelled for weather and we had the Aussies over to our cottage for dinner.

The fourth day was a much trickier day and our first turn area task was called. I got stuck coming home and had another bad day but at least got speed points. For the fifth day I turned out my best flight of the contest if it were not for getting stuck coming home again. I was behind in the start gate and Nathan and Matthias went ahead of me. I started about fifteen minutes later and had a great run. At one point I met up with the Czech team and stayed with them as we went through a blue hole of about 30 km. We then had to go back through the same blue hole to the next turnpoint. On the other side of it we caught up with Nathan and Matthias. Looking at the trace I was a long way ahead at that point but then had a problem finding a thermal to give me final glide. I struggled in a knot a few times before finally finding something decent. The Czechs found a thermal right away and beat me home. I achieved my highest placing at twelfth for the day.

The sixth and seventh days were struggles where I was just happy to get home. The eighth day was one of the most interesting days I have ever flown. There were long streeting cu that slowly built up and started raining. When they were working they were fantastic and even while it was raining I found some good lift. The streets were usually around 20–30 km apart which made it difficult to go any direction other than parallel to the wind. At the last turnpoint there was a big gaggle and the guys at the top had enough height to final glide home. The guys at the bottom, including me, had to scrounge for something. I went on course into the blue and found some weak thermals down low but they could not sustain me for long and I ended up landing out next to Devin Bargainnier of the American team. There was a ditch between the road and the field we landed in but it was not a problem as we had two sets of crews and pilots to do the lifting. Almost half the field landed out. The next day was cancelled so a few of us went into Helsinki to a go-kart track. It was in a nuclear bunker constructed when relations with the Russians were not so strong. Andrew Maddocks from Australia won the race.

For the ninth and last day since Nathan and I were far out of the running in the contest we decided to start early to get home for the last night party. Some in the start gate caught onto some wave including Nathan. He then lost it and we ended up starting under the clouds. We made it home nice and early and had plenty of time to exchange our instruments, clean the glider and make it to the bar on time. The last night party included a local band and later at night a few trips into the sauna.

The weather was excellent for the contest and we flew nine of eleven days. Including the practice days and one day before, I flew 12 of the last 14 days. The level of flying was higher than I have ever flown before. I think I came back a much better pilot and I was really impressed just how good some of the pilots were. The two who impressed me the most were Vytautas Rasimavicius (CI) from Lithuania and Rasmus Ørskov (1F) from Denmark. Looking at the traces, both of them were always out ahead by themselves finding the best conditions where most of the others were sticking closely to the gaggles.

This was the last Juniors I was eligible to fly in. I'm headed back to Australia this winter and I'll have a chance to fly in another Joey Glide before I'm too old to qualify. ❖

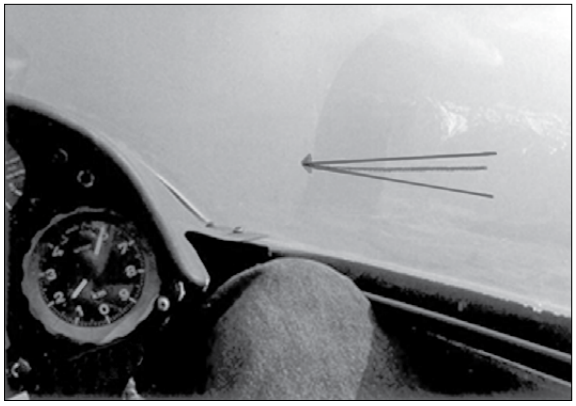
the AoA string

Siegfried Piontkowski, from *Magazin Segelfliegen*

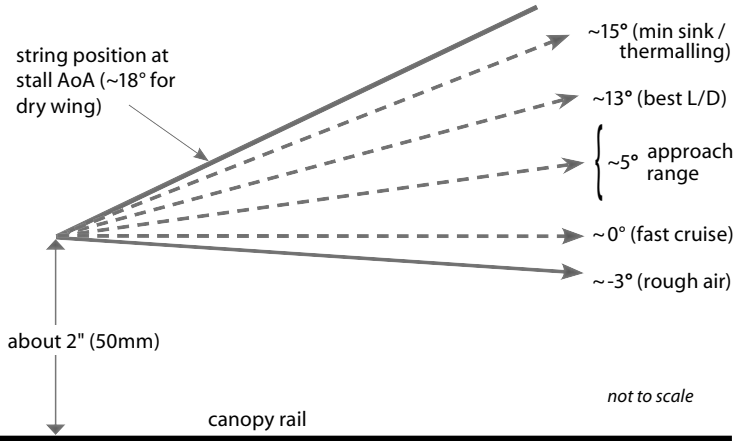
a visual monitor of angle of attack

GLIDERS USUALLY DON'T HAVE STALL WARNING sytems, even though they could do with one as soaring is done so frequently close to stall speed. Because airspeed is only one condition indicating stall (vertical acceleration plays a role too), it makes more sense to measure the angle of attack (AoA). It is amazing how little the solution of a "stall string" features in most text books, let alone being described.

The procedural description of a lift (angle of attack) indicator can be found in Helmut Reichmann's *Cross Country Soaring*. What is the use of this angle of attack indicator? It is the clear, early recognition/detection of undesirable aerodynamic control habits and indication of the danger zone of stall. Correctly used, the indicator will aid performance soaring, and should be a permanent component of training and not be absent from any trainer.



Typical string orientation at various AoA's (flight regimes)



The angle of attack is quite easily made visible by a string attached to the side of the canopy. The string should be about 30 cm long and be taped about 5 cm above the canopy rail. The orientation of the string will provide a clear indication of the angle of attack during thermalling, winch launch, and positioning of flaps. The string always reflects the current angle of attack under the effect of *all* parameters, not just airspeed: all-up weight, acceleration due to turning or stick movements, and gusts.

The normal angle of attack range for most airfoils is from +15° to -5°, measured between the airfoil chord and the free airstream direction (although during inverted flight it can reach -10°). If the entire range of airflow is marked at airspeeds of interest, the pilot has an excellent stall warning device at his disposal, the function of which is described below.

The string works independently of position and mass. Therefore the errors described in Reichmann's book do not exist. The biggest benefit lies in the early detection of flow separation in all positions and attitudes, may it be during winch launch or with high wing loading, during turning or round out or with bug-infested wings or rain, as well as at all flap settings. Flow separation is at the same point with all flap settings, only the airspeed is different.

What is the AoA string?

The string shows the current angle the airflow assumes across the canopy surface relative to the airfoil chord. Note: This airflow over the cockpit area of the fuselage and the position of the string on the side of the canopy will exaggerate the string's angle; it could be as much as 50% or more of the actual angle of attack of the wing.

Angle of attack changes continuously due to internal factors (pilot input) or external factors such as vertical and horizontal air movements. Piloting an aircraft is a constant control loop between internal and external effects to achieve steady flight. This goes for all flying conditions, be it straight-and-level or turning, winch launch, landing, and at all wing loadings and attitudes. It is just as valid for "borderline" flight like too slow or too fast. Fly too slow and the glider falls from the sky, too fast and the aircraft could break up.

Thus the lift (angle of attack) indicator is not a new invention but the replacement of the still-valid pitot system to a simple string indicator at the canopy in sight of the pilot. For everybody, early detection of too-slow flight means, "if I continue to do what I'm doing, the aircraft will stall". So the side string shows the impending stall before it occurs, directly indicating the mistakes I'm about to make. It is a hard-to-ignore visible warning.

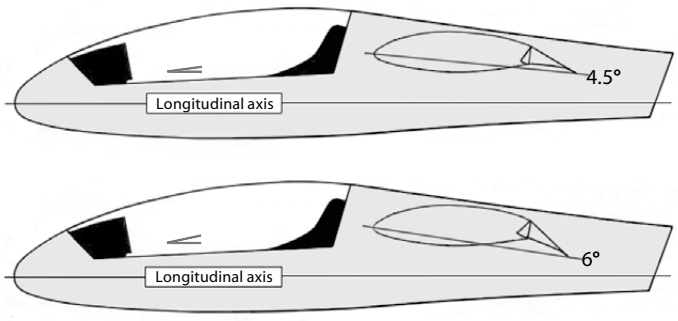
What can the AoA string do?
It delivers an unambiguous sign about the current state of the aircraft. If you remain always within the functional range of the angle of attack, the aircraft will fly. It supplies good information, but you need to interpret it. The side string can tell you a lot, but you must come to the correct conclusions and act accordingly.

What is the AoA string good for?
- It can improve my flying technique.
- It can show mistakes.
- In the event of an impending accident, it can break the causation chain.

The above only works if the pilot correctly interprets the string position and apply the right corrective action.

Where does it belong?
Ideally it would be best placed on the longitudinal axis of the glider, but this is possible only on very big canopies. A good location is about 30 cm ahead of the clear view panel where it can be untangled if needed and where it is easily in sight. The range of its movement is marked inside the canopy.

Calibration for your glider
Glider with 70–90 kilogram pilot weight, no water ballast. Attach the woolen string to the outside of the canopy in view of the pilot. Fly close to stall speed according to the flight manual (35–38 knots as a rule). Just before reaching the pre-stall buffet, mark the position of the end of the string on the inside of the canopy using an arrow-shaped piece of adhesive tape. Now fly best glide speed (say it's 54–59 knots from the flight manual), and again mark the end of the string with an arrow. Next the landing approach speed (from the manual, usually 43–46 knots) and mark with an arrow. Lastly, fly rough air speed taken from the manual (say 81–97 knots) and set the mark at the end of the string there.



Flap position as well as airspeed affects the wing AoA.

When done, draw lines on the inside of the canopy from the string anchor point to the min sink and the rough air points using waterproof ink or another material such as narrow dark drafting tape.

For the cross-country pilot For gliders with flaps, the string will also indicate non-optimal flap settings during cruise. The diagram below shows that for a given flap setting with no change in airspeed, the airflow over the wing changes as will the resultant string angle. The drag is then more than optimal, and one can change the speed or correct the flap setting to regain the visual representation of the best result.

Thermalling can be done, depending on the structure of the thermal, at max lift or min sink. As long as you keep the string below the dotted line (diagram on the previous page) there will be no flow separation that results in reduced lift and which could lead to an incipient spin.

For the trainee and experienced pilot
In this case the string is an aid to control the climb angle during a winch launch. When utilizing maximum lift in this instance (not max angle of attack) the launch is optimized and one reaches highest altitude for the launch conditions. Flying without reference to the instruments can be exercised very well too. The safe location for the string position moves down by about 2–5° with rain or bug-affected airfoils. If you keep the string always clearly below the top line, flow separation over the wing that could lead to an incipient spin will not occur. Flow separation always results in less than optimal climb, and is extremely dangerous during a winch launch.

There is one disadvantage to the AoA string: extreme yaw angles will falsify the indication of the safe range positively or negatively depending on direction of yaw. The angle of attack does not change. If the string is fitted to the right side of the canopy and the yaw is left, the string will show flow separation too late. A more or less pronounced downward yaw flow in the area of the string will develop in this example. The error will be smallest in the area of best glide and biggest close to flow separation. One cure would be to attach a string to each side of the canopy and interpolate accordingly, or just don't yaw excessively.

The 5° line is the recommended angle of attack for final approach. An approximate reading is sufficient for optimization and orientation. The truth always is, "just about right is better than exactly wrong".

Now go and have fun with the evaluation of the technical basics, the practical experimentation, and the handling of this terrific safety indicator. ❖

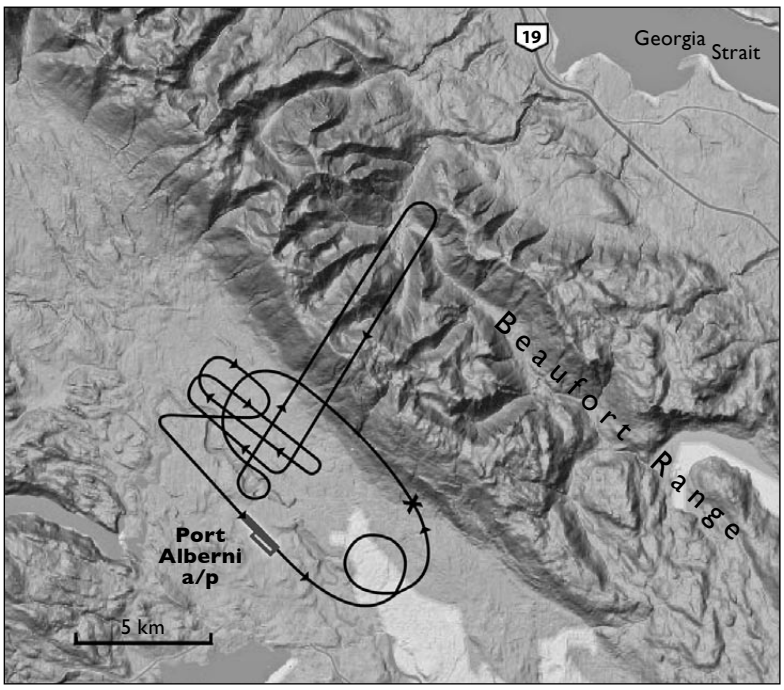
There is a short French video on YouTube showing an AoA string and how closely it matches an audio stall warning. Go to <www.youtube.com/watch?v=hLLpCK_F7Cg>.

Wave over Port Alberni

Greg Millbank, Alberni Valley

I almost didn't make it out to the airport on Saturday 19 September because I got tied up in the "Alberni Toy Run" of well over 500 motorcycles travelling between Qualicum Falls and Alberni. Apparently motorcycles never go faster than 30 km/h. I was going to turn back to Nanaimo, but traffic was so snarled that returning looked as difficult as going forward. I finally made it to the airport at about 13:30, about an hour later than planned. However the PW-5 was ready to go, so I was in the air at about 1350, which isn't too bad. I asked to be towed straight over to the Beaufort Range and released at about 3500 feet (3250 agl). You could see from the ground that there was a lot of lift on the ridge. As soon as I released from the tug, things were really cooking.

The wind was crossing the ridge from a more northerly direction than usual, and it was creating strong lift all along the ridge. I radioed back to Andrzej Roznowski from the Vancouver Island Soaring Centre and he decided to bring the PW-6 out for half an hour to sample the situation for himself. Although the wind was quite strong at 4500 feet, surprisingly it was not very turbulent along the ridge, although in places the PW-5 was climbing at close to 10 knots. I hung out at a spot fairly far north along the ridge and waited for Andrzej to get in the air. After about 20 minutes, I heard him call his release, and soon I saw him climbing up towards me a few miles to the south. At that point I was at about 6000 feet.



It was surprisingly cold in the shade of a layer of stratocumulus, but out in the centre of the valley there was a big blue hole with lots of sun, so I radioed Andrzej that I was going out there to try to warm up while he climbed to my altitude. I expected some degree of sink, but I was prepared to trade some altitude for heat.

The lift was about 3 knots out in the middle of the blue hole, and very smooth air! It soon dawned on me that something special was going on. Andrzej was at about 3500 or 4000 feet and I radioed him to come over because it felt very wave-like to me although there was no visible sign of any. When he arrived we both began circling in the blue. It soon became apparent that the best lift was in a line more or less parallel to the ridge, but about two miles to the westsouthwest of it.

As we got higher the lift got stronger. The little PW-5 was going up like a balloon – almost all the time at 5 kts and often at 8 and even 10 kts. Andrzej was doing similarly well about 2000 feet below me. We radioed back and forth giving each other our positions and altitudes and the rates of lift, so we were able to map the local part of the wave.

In short order I was at 10,000 feet, and the lift tapered off to about 1.5 kts. At this point Andrzej was still about 2000 feet below me. I radioed him saying that we had to find a transition to the next wave up in the series because ours was running out. Then I headed downwind out across the ridge towards Denman Island where a large wave cloud was forming.

I have almost no experience with wave conditions and decided to go for something I could see. It was a mistake. I didn't get very far over the ridge and the clouds that mostly covered it before I was in horrendous sink. Apparently what goes up must come down and it was coming down hard. I put the PW-5 into a steep turn, but by the time I got through a 180, I had lost 500 feet. In fact, I lost over a thousand feet in not much more than 30 seconds. I was terrified that I might be sucked down into the clouds and onto the ridge below. Thankfully I was soon out of it.

As I headed back into the blue hole, Andrzej was now 2000 feet above me. He had simply stayed with the low

Andrzej, left, and Greg – test pilots of the west coast's wave.

rate of lift when he reached 10,000 feet and kept working his way upward little by little while I was going down like a brick. I searched around to the west of his position and encountered some pretty strong lift. Andrzej found it too, and I think it was stronger at 10,500 than at 9000 where I was. The PW-5 climbs like mad, and although Andrzej was soon at 11,000 feet, I was already at 10,500. The lift got stronger as we went up and soon Andrzej was at 12,500, and within a few minutes I arrived at the same altitude. Due to lack of oxygen and an ATC clearance, we held our altitude at 12,500, which wasn't easy, and just flew around a little while to enjoy the scenery.

It was beautiful beyond what I could have imagined. At one point Andrzej passed over me about 150 feet higher. The PW-6 was outlined against the dark blue sky and backlit from the brilliant clouds below us. It looked like it was made of polished silver. All around us were high strato-cumulus, and small wave clouds could be seen way out, possibly over the Pacific. It seemed that you could almost see all the way to Japan. It was a really glorious moment.

However, all good things must come to an end so Andrzej started his descent. He reported that with full airbrakes, he could only get 2 knots down. I stayed up a little longer, holding 12,500 feet by cruising about with half brakes, and then finally put the airplane into a benign spiral at about 55 knots and full brakes. I put my hands behind my head where it was warm, and just enjoyed the ride. I was getting about 6 knots down. My toes were freezing.

Down to about 8000, I could barely believe what had happened – it seemed dream-like. In spite of my toes, I pulled the brakes in, trimmed for 40 knots and started to climb again, just to see what would happen. In about 15 minutes I was back at 12,500 feet. I hardly touched the controls the whole way – just steered with my feet using a very little bit of rudder. It was amazing, like riding a balloon.

With no oxygen, I elected to go right back down to below 10,000 feet. I put the little plane into a spiral again. At 9000 feet I closed the brakes and flew around for half an hour just thinking about what had happened. Then, spoilers again, and I continued on down to a landing for a flight time of a little under three hours, all as smooth as can be. When I got down through the big blue hole, I could see that the whole adventure took place not more than 2 or 3 miles north of the airport. A lot of the time we had been directly over the airport – very small and virtually unnoticeable way down there.

So, wave definitely happens in Alberni, and in this case it was very strong wave, at about 12,000 feet it was really starting to pick up again, giving the PW-5 close to 9 knots of lift from time to time and a very steady 6 knots. With oxygen and a clearance we could easily have gone very much higher.

When I left the ground, I never would have guessed what was in store for us. There was very little evidence of wave cloud formations from the ground. Once we were at 10,000 feet or so, we could see that small wave clouds were forming all around, but from the ground there was just strato-cumulus blowing steadily eastward. Afterwards, people on the east coast of the Island reported that there had been many very large lenticular clouds up and down the coast. Except for the big one over Denman Island, I never saw them. The wave conditions had been a complete surprise to us in Alberni. What a day! ❖

the C-GOLF hoist

Martin Sanderse, York

SEVERAL CANADIAN GLIDING CLUBS have an infrastructure that accommodates accessibility for the disabled. Once that infrastructure is in place for pilots and students, club intro flights become available to all. In spite of some initial fears and reservations, members at these clubs are bringing soaring to those that find accessibility difficult. At York Soaring, the enthusiasm of the disabled participants is infectious so that when a busload of disabled intros arrive, everybody's happy!

However, helping those with limited mobility into the gliders can be challenging in both understanding what is required and how it should be done. Striking the balance between providing unwanted help and not recognizing what help *is* required was initially intimidating to some members at our club. Fortunately, the disabled exhibit a great sense of humour when they speak frankly.

In addition to the usual range of emotions about flying, the physical disabilities of participants range from minimal to extensive. It became obvious though, that the problem was not with the disabled person. Although they shouldn't have to, the disabled are willing to endure an extraordinary amount of discomfort and inconvenience to be able to fly. One way or another, they are going to get into that glider. In the words of one young woman, "You get used to being manhandled around if you have a physical challenge." What was more of an issue was the club members' discomfort with the process – they didn't know what to do, or how to do it without injuring themselves while lifting participants into the gliders.

The design criteria of a hoist included provision of a set of components arranged for maximum flexibility so the requirements of any individual could be met. We wanted to avoid having wheelchairs on the flight line or too many people crowded around the gliders during the transfer. We needed a method less awkward and uncomfortable for the disabled.

During the winter of 2008/2009, a third generation hoist was developed to simplify the transfer process and to provide structure to the activity. Previous iterations of hoists were unsuitable for the grass field or were too awkward for convenient use. The present hoist was built onto an electric golf cart that was completely refurbished and upgraded to handle the loads, and it remains useable for towing gliders around the field.

Using the hoist, it is possible to transfer participants to and from the gliders on the flight line fast enough on a "one-tug weekday", but on weekends it's better to pull the glider off the line for the seating transfer. Participants can now be transferred to the glider with only two operators. One of them can be the wing-runner but usually an extra person helps to guide the participant's feet. After a summer of using the hoist, we have found that getting the disabled to the gliders has become almost as engaging as the flight itself.

When it becomes clear that using the hoist would be helpful for an individual, we provide them a general overview of the procedure. This gives the participant a context to make decisions about the specific help they may need at the various steps:

1. Move to the golf cart seat so you end up with a sling under you.
2. Secure yourself on the seat and travel to the glider.
3. Lift into the glider.
4. FLY!
5. Lift back onto the golf cart seat.
6. Travel back to clubhouse.
7. Return to the wheelchair or walker.

There are a many ways to apply the hoist to a situation. At each step of the process, we give the person options. They are usually the best ones to make the particular decision, but we have found that the disabled group's leader, if on hand, or a family member, prods us with suggestions. We also tell participants what others have found helpful.

The following items are the major components used in the hoist:

Hoyer sling The standard Hoyer sling can be put under the person in the wheelchair, or they can slide onto it with the seat in the lowered position. The sling can be rigged in several ways, some more comfortable than others. The intent is to leave the sling in the glider during the flight, so we have several available. One of our pilots forgoes the sling entirely and does a chin-up onto the seat.

Seat The transfer seat on the back of the golf cart can be lowered to the same level as a wheelchair or the seat bottom of the glider. In its raised position, it's as high as the side of a glider. This feature is desirable for those with walkers or for those who want to slide over to the seat with the sling on it as they would onto a chair. We can use just the seat belt, or keep tension on the sling for upper body support.

Winch The two speed manual winch is a fully "person-rated" winch that is used to rescue workers from confined spaces or inaccessible locations. It's faster than an electric winch, is easily controllable, requires little maintenance, has no batteries, and avoids safety issues involved with end-of-travel limit switches. If you forget to release the seat belt on the passenger before lifting them from the chair, it's obvious and causes no injury.

Lifting beam and trolley The mechanical arrangement allows the travel beam to remain horizontal, lowers the centre of gravity and total height, and avoids a heavy winch over the person's head.

Outriggers These can be lowered to decrease any bounce from the rubber tires during the lift and to increase the hoist lifting capacity.

Anyone operating the hoist requires training and a "check ride." The phase one check exists to make sure that the hoist is secure so the golf cart could be used as it always was. The second phase check was given in groups of six, which permitted some role-playing and simulation of specific problems and challenges that might be encountered during actual use of the hoist. These classes were very well received by club members and there are now enough people checked out that there hasn't been any problem in staffing during our summer operations. Since it is not too difficult a process to learn, it is necessary to ensure that members' attitudes don't become too relaxed about the need for the check ride.

We plan to solicit the opinions of users to make some of the details more user-friendly. We might be able to remove the outriggers entirely as no one has found the slight bounce of the cart tires and springs disturbing. We haven't used the lowered seat option that often, but removing it would be to no advantage. A better storage compartment for straps, cushions, and glider ballast weights is required. It would be an advantage to have a scale built into the hoist discreetly since often the disabled are not sure of their weight, which makes load and balance checks for the gliders more difficult. By spring the hoist will be in its final configuration.

There has been a great deal of interest in the hoist from as far away as Australia. Clubs have recognized that it is necessary to consider the logistics of getting the disabled into the gliders. The *Freedom's Wings* program encourages clubs to recognize these issues as part of the planning process. It's not essential to have a hoist, but it makes things a lot easier!

Thanks to Tony Firmin for the calculation of the structural material sizes, to Richard Sawyer for advice on specific construction details, Charles Petersen for arranging the funds, Yuri Danylych for being the "test pilot," and to Melanie Dennis assisting in training and for managing user check rides.

the Ontario Provincials

Derek Mackie, Toronto Soaring

THE TORONTO SOARING CLUB hosted the 2007 and 2008 Ontario Provincials and they were a lot of fun. The impact on the club has been dramatic with many members discovering the thrill of head-to-head competition and task-oriented cross-country flight. TSC has seen its membership grow from a scant 19 in 2007 to 30 today, and there are eight more gliders on the field. Coincidence? I think not. Hosting a contest is tremendous fun and we love to see Deleurant Field filled with gliders, campers, tents, friends and family from all over. It is, however, a lot of work and the club members volunteer to take on extra projects to prepare, repair and clean the facilities, then run the contest. At our spring AGM, the topic of the Provincials was raised and there was unanimous support from the members to take it on again if no other club was willing. This was a real concern since the interest of clubs hosting contests in Canada seems to have waned – even the Nationals are having difficulty finding a home. After the 2008 Nationals were cancelled, SOSA stepped up for 2009 to put on a fun, low-frills, yet delightfully challenging contest. Shortly thereafter, it became evident that if there was to be a Provincial contest in Ontario, we would have to do it. The work was minimal as we had done much of the major work in previous years.

As the Labour Day weekend neared, the long range forecasts were looking very good and the pilot list began to fill up. The guest-filled contest team was recruited: contest director, Larry Springford (York); grid boss, Neil Wilson (SOSA); scoring, Luke Szczepaniak (SOSA), and I did what I could as contest manager, weatherman and chief towpilot. Great Lakes Gliding again moved their operations to TSC for the weekend, providing a much-needed towplane and towpilot for the launches. (There is an excellent symbiotic relationship between TSC and GLGC and we often combine social and flying events.) The third towplane was brought in and flown by veteran Christel Juergensen.

Day 1 The pilot meeting was called to order, a task committee was elected and the administrative decisions made. We would fly two classes: FAI and Club. Each would be handicapped, FAI was allowed water. Club was meant to essentially follow the IGC Club class rules. The name of the game was FUN while fostering competition-driven skills advancement. FAI class dealt with an assortment of 18m, 15m and Standard ships that were too few in number to make individual classes, and a very competitive group was the result.

The forecast called for decent conditions with 4 kt thermals, 6000 foot bases and winds from the northwest at 5 kts. It was questionable whether it would be blue, but there were some decent markers. FAI class was given a 3-hour Turn Area Task (TAT) with turnpoints at Mansfield (20 km), Stratford (35 km), Hanover (30 km), and Dundalk (10 km). Large circles were necessary to accommodate the wide range of aircraft performance. For instance, the ASG-29 needed to plan for distances at perhaps 120 km/h while the other end of the spectrum could expect to make about 75 km/h. In Club, a performance spread from 50 to 85 km/h could be expected. A 2-1/2 hour

Maria Szemplinska

TAT was called for them with Mansfield (20 km), Stratford (35 km), and Hanover (30 km) turnpoints.

The FAI class made decent times around the course with some challenging areas causing two pilots coming in under-time and two landouts. Jerzy Szemplinski (SOSA) won the day in his ASG-29, covering 321 km with an incredible speed for Southern Ontario of almost 107 km/h (actual). Handicapping adjusted things up a bit to just over 90 km/h. Dave Springford (SOSA) wasn't far behind, followed by Chris Gough (SOSA), both in LS-8s without water. This wasn't much of a surprise as Jerzy and Dave went to the Worlds last year and Chris had just returned from the World Juniors. Club class also had a quick day with good speeds, though there were some frustrations on course for two pilots who had to accept distance points for missed turnpoints. Randy Neilson (GLGC) had a great day, flying 219 km over 75 km/h (actual) for 1000 points. Jim Fryett (York) was close, followed by up-and-comer Herrie ten Cate (SOSA) flying their club LS-4.

TSC capped the day by putting on an excellent East Indian dinner, lead by Tasneem and Ruby Hashmi, that set the backdrop for re-telling of the day's adventures well into the night.

Day 2 The forecast showed good lift of 4-1/2 kts, but lower cloudbases of around 5000 feet and winds out of the northeast at less than 5 kts. Of concern was getting enough altitude early enough to open the starting gate, and then later, there was potential for overdevelopment. It wouldn't be prudent to delay. The same 3-hour TAT was called for both classes with TPs of Mitchell (35 km), Hanover (25 km), and Milverton (25 km). The day was a challenge. There was strong lift but not all the clouds were honest and there were large areas of strong sink. In some areas as the overdevelopment took effect, towering cu – some with rain showers – or large dead zones had to be circumnavigated. There were more than a few low-saves and some no-saves. This was one of those days where everybody learned something.

Again in the FAI class, two pilots finished under-time and two landed out, while the speeds were off the day before. Ed Hollestelle (SOSA) took the day, squeezing 304 km at almost 85 km/h out of the conditions. Only 41 points separated the top four. Jerzy ran into some trouble so was off his usual pace, allowing Dave to slip into first place overall.

The less-experienced Club class pilots had a little more trouble reading the conditions and only three were awarded speed points. Several made the decision to return without reaching the last turnpoint and the rest landed out in their attempts. Herrie showed he was a serious contender by handily winning the day, covering 208 km at nearly 61 km/h, followed by Jim, and Stan Martin (York). This shuffled the leaderboard, with Herrie and Randy swapping first and third while Jim held on to second place.

The pilots returned to find the beverages ice-cold, and the chili pots steaming-hot. Competition isn't fierce only in the sky at Toronto Soaring, it's also in the kitchen where members try to out-cook each other. Later, it was time for the bonfire and Bill Cole, our resident pyro, set to work. He takes pride in preparing and lighting the large brush piles that collect at the club, using his trademark fuse. His previous attempt was "disappointing" and he was eager to demonstrate his improved technique in the liberal application of accelerant. For the first time in Toronto Soaring history, the lighting of the bonfire was accompanied by a chest-thumping concussion and no waiting to enjoy the warmth.

Day 3 Contest life began to hit its stride on Day 3. People settle into the routine: breakfast, pilot briefing, rig and wash the gliders, load the task into the computers, grid and wait. Wait? That seemed to be the pattern for all the contests attended this year, but for this Provincials, there was no waiting – the weather gods smiled on us and we were launching immediately every day. The forecast was interesting; Southern Ontario was going to be overcast with the exception of an east-west swath of good conditions right through Toronto Soaring. Here there was promise of 4–5 kts up to 6000 with winds from the southeast at 8 kts. The uncertainty was if the hole would close in or overdevelop on us, so again it was prudent to get things moving without delay. Again, a common 3-hour TAT was called for both classes: Hanover (25 km), Dundalk (15 km), and Milverton (25 km). The sniffers said it was good to launch, so off everyone went.

The day started as a drag race with cloudstreets on track, often with strong thermals appearing just when you needed them. In a word, the conditions were "fun" and speeds were high. However, as the day wore on conditions to the south started to deteriorate, making the final legs a real challenge for some. Everyone made it home and received speed points in FAI class. Once again, Jerzy won the day, covering 315.5 km at 102+ km/h, closely followed by Dave and Chris. The competition was heating up as Jerzy again took the lead overall from Dave by

2009 Ontario Provincial Soaring Contest

FAI Class					Day 4		Day 3		Day 2		Day 1	
	Pts	ID	Name	Glider	Rank	Pts	Rank	Pts	Rank	Pts	Rank	Pts
1	3677	XG	Jerzy Szemplinski	ASG-29	2	878	1	1000	6	824	1	975
2	3662	F1	Dave Springford	LS-8	3	873	2	955	3	958	2	876
3	3574	44	Chris Gough	LS-8	4	840	3	952	2	959	3	823
4	3533	JS	Jörg Stieber	LS-8	1	906	5	903	4	948	6	776
5	3515	A1	Ed Hollestelle	LS-10	6	810	4	919	1	989	4	797
6	2653	TR	Sergei Morozov	SZD-55-1	5	822	7	817	9	220	5	794
7	2644	N1	Marian Nowak	Egret	9	706	6	884	5	848	8	206
8	2324	SZ	Luke Szczepaniak	SZD-55-1	7	785	8	803	7	736	9	0
9	2287	TT	Derek Mackie	Mosquito	8	727	9	782	8	473	7	305
Club Class												
1	3511	14	Jim Fryett	H301 Libelle	2	964	1	913	2	669	2	965
2	3143	S1	Larry Springford	ASW-20	1	1000	2	852	8	402	5	889
3	3118	AF1	Dave Cole	SZD-55-1	3	962	5	739	5	522	4	895
4	3024	EH	Randy Neilson	ASW-19B	8	853	8	616	4	555	1	1000
5	2976	MX	Bill Cole	SF-27	4	953	4	768	7	457	7	798
6	2948	Z1	Stan Martin	Mini-Nimb	6	919	3	809	3	648	9	572
7	2836	SU	Herrie ten Cate	LS-4	5	923	10	227	1	750	3	936
8	2553	KO	Stan Maj	SZD-55-1	9	572	6	713	6	516	8	752
9	2495	PM	Dave Gossen	ASW-20	7	884	7	705	10	105	6	801
10	668	AT	Roger Hildesheim	SZD-55-1	10	0	9	326	9	161	10	181

right ~ Chris Gough
below ~ Sergei Morozov

photos: Maria Szemplinska

10 points, and less than 100 points separated the top four positions. Club class, starting only half an hour later than FAI, found the second half of the task area challenging. Randy and Herrie, who had been doing so well, both landed out, opening up the contest. Jim maintained his cool and took the day with 221 km at 73 km/h. Larry was in hot pursuit with Stan coming in third, now twice in a row. The upset landouts gave Jim a comfortable lead, while Randy hung on to second and Dave Cole snuck into third after being fourth for two days. Only 258 points separated eighth place from second in Club class!

After such an exciting day, it was fantastic to get back to the clubhouse for some refreshments and settle in to a tasty Hungarian Goulash dinner prepared by guest chef Norm Naranciuk. It just doesn't get any better than this!

Day 4 The last day of any contest is bittersweet, especially a short one. If the flying has been good you want more, on the other hand people want to get back home, so there is a conflict. The forecast was pretty good: 4–5 kt thermals, cloudbase at 5500 feet with southeast winds at 6 kts, and there should be decent cu to mark the way. However, it would be overcast to the south and the possibility of some high cloud north. A compromise cats-cradle task was called with TPs of Hanover (25 km), Badjeros (10 km), Burbank Field (10 km), and Mount Forest (5 km), at 2-1/4 hours for FAI and 2 hours for Club.

The first two legs were fast, but pilots who didn't go deep into the first turnpoint were in for a surprise at the second, as a distinct airmass change precluded deep penetration into it, and the smaller circles for the remaining turnpoints limited options. As a result, several pilots were under-time in both classes and there was a single landout in Club class. FAI class had a tight finish with Jörg showing the right stuff with 211 km at 93.5 km/h, edging Jerzy into second and Dave just barely into third for the day. Jörg's late surge wasn't quite enough to unseat the top three, however. In Club class there was another close finish with Larry taking the top position with a speed of nearly 83 km/h over 167 km, while Jim placed second and Dave finished third for the day. The final standings are shown on the scores table.

The Toronto Soaring Club would like to thank the pilots and their crews for coming out. It is always a treat to get together with old friends and make new ones and I can't think of a more fun way to get to know people. It is inspiring to fly with and against more experienced pilots and I'm thankful of their willingness to share their knowledge to help fledgling race pilots.

I would like to thank the many members of TSC who put in so many hours of hard work preparing the club, especially to Dave Mulders for the new Spa! Thanks also to all the volunteers who spent their time and effort to run the contest. Special thanks to Luke Szczepaniak, Larry Springford, Neil Wilson, Lucille and Sonia Hildesheim, and the members of the Great Lakes Gliding Club for all their badly needed help. ❖

Le motoplaneur "Taurus"

Guy Courchesne, Champlain

En 1975 je suis en première année au CQFA, formation des pilotes au cégep de Chicoutimi. Après une année, je suis contraint d'abandonner, ma vision n'est plus 20-20. C'était l'époque où les hôtesses de l'air devaient avoir leurs dents naturelles et les pilotes 20-20 d'acquitté visuelle sans correction. Je quitte Chicoutimi et je fais ma licence privée à l'aéroport de Beloeil et je poursuis mes études en architecture. Arrivé sur le marché du travail, je démarre mon entreprise, pas d'argent pour voler, je reviendrai à l'aviation quand j'en aurai les moyens.

Trente ans plus tard, en août 2007 mon cousin me dit que le club de vol à voile Champlain a un moto planeur, un planeur qui décolle sans être remorqué, je trouve l'idée géniale, je n'avais jamais entendu parler d'un tel aéronef. En route vers Ottawa pour un chantier de construction je m'arrête au MSC pour faire un vol d'initiation sur le Krosno avec Évangéliste Saint-George.

Le lendemain, je tape « motorglider » sur Google et le Taurus est apparu. Qui vend cette machine? Je trouve le dépositaire Pipistrel du Canada Guy Deschènes qui est à Shefford près de Granby, je lui demande si je peux l'essayer? Il me dit qu'il ne l'a pas "stock" et qu'il faut aller à l'usine en Slovénie pour l'essayer. Je me suis donc rendu à Ajdovcina en Slovénie le 21 septembre et j'ai fait un vol en Taurus (voir « Taurus motorglider » sur YouTube). C'était mon deuxième vol en planeur. Je rencontre le président de la compagnie Yvo Boscarol, il m'explique les qualités du planeur et je visite l'usine qui est d'une propreté immaculée, tout est numéroté, bien classé et bien rangé. L'usine est en chantier d'agrandissement, les aéronefs de Pipistrel se vendent bien, il y a 18 mois d'attente pour le Taurus.

Je ne connais pas grand-chose monde du vol à voile, je ne sais même pas qu'un planeur peut faire des vols voyages, je ne sais pas non plus si le Taurus est bien classé dans le monde des planeurs. Tout ce que je sais c'est qu'il y a une liste d'attente de 18 mois et que le vol que je venais de faire m'avait vraiment impressionné. De retour au Canada, après quelques jours de réflexion, j'ai décidé d'acheter un Taurus et d'attendre 18 mois pour le voler.

L'été 2008 je fais ma formation planeur sur le Lark à l'AVVC, je suis présent au club à chaque fin de semaine pour finalement réussir mon test en vol à la fin de l'été.

Printemps 2009, le Taurus arrive au Québec, je fais mon premier vol le 18 avril. Depuis j'ai fait 150 vols et 88 heures. J'ai fait deux vols voyage en solo au cours de l'été, 100 et 130 km. Le Taurus est un planeur formidable avec lequel j'ai beaucoup de plaisir. Faut l'essayer! ❖

In 1975 I was in first year at CQFA, the pilot training school in Chicoutimi. I am forced to give up after a year as my vision is not 20-20. It was the time when the stewardesses had to have their natural teeth, and pilots have 20-20 without visual correction. I left Chicoutimi and I did my private licence at the airport in Beloeil and continued my studies in architecture. On arrival in the labour market, I start my business; no money to fly, I'll return to aviation when I have it.

Thirty years later, in August 2007, my cousin told me that the Champlain glider club has a powered glider – a glider which took off without being towed. I find the idea great, I had never heard of such an aircraft. Enroute to Ottawa to a construction site, I stop at MSC also and get an introductory flight in the Krosno with Evangeliste Saint-George.

The next day I type "Motorglider" on Google and the Taurus emerged. Who sells this machine? I found the supplier, Pipistrel Canada, is Guy Deschènes at Shefford near Granby, I asked him if I can try? He said he did not have it in stock and I would have to go to the factory in Slovenia to fly it. So I went to Ajdovcina, Slovenia on September 21 and I made a flight in the Taurus (see *Taurus Motorglider* on YouTube). This was my second flight in a glider. I met the company president, Yvo Boscarol, who explained the qualities of the glider. I visited the factory which is immaculately clean, everything is numbered, well listed, and tidy. The plant is expanding. Pipistrel aircraft sell well, and there is an 18 month waiting list for the Taurus.

I do not know much about the world of gliding. All I do know is that there is a long waiting list and the flight that I had just made really impressed me. After a few days of reflection, I decided to buy a Taurus and wait.

In 2008 I did my glider training at Champlain with the Lark glider, I am present at the club every weekend, and finally pass my test flight in late summer. Spring 2009, the Taurus comes to Quebec, I made my first flight April 18. Since then I have made 150 flights and 88 hours. I made two solo cross-country flights during the summer, 100 and 130 km. The Taurus is a great glider with whom I have great pleasure. You must try it! ❖

911 at Chipman!

something to consider

Trevor Finney, ESC

SATURDAY 23 MAY DAWNED CLEAR AND COOL. The usual noises could be heard as pilots emerged from the bunkhouse and holiday trailers scattered around the field. By 0930 the "Air Bike", a microlight, could be heard puttering around the sky. No one paid much attention to the noise until it abruptly stopped with no aircraft on the runway. Dale wanted to know why the sound of the motor had stopped so suddenly, and a brief search revealed Bob ambling back to the airfield. He had had a forced landing and although the "Air Bike" looked a little the worse for wear, Bob was unhurt, barring a few scratches. The "Air Bike" was returned to the hangar and Bob was examined for any other injuries. Pride was a little piqued, but he was otherwise unhurt.

During the rest of the morning the gliders and towplane were pulled from the hangar and underwent their usual daily inspection. The flightline trailer was towed to the start of runway 10 and the Puchacz and ASW-15 soon joined the Blaniks. The first glider off was the Puchacz with an uneventful tow. The next glider off was a Blanik, KDX, with student Steve in the front seat and instructor Bob in the back. The tow was short and KDX returned to the field with no radio contact. The approach was fast and a little erratic, and the landing anything but smooth. The glider weaved down the runway and groundlooped at the southeastern end, effectively blocking the next tow from proceeding.

As the dust settled around KDX, the front cockpit flew open and Steve climbed out yelling that Bob was non-responsive and had blood coming from his mouth. The nearest folks to the aircraft were Guy and Dave, both very good friends of Bob's. They rushed to see what they could do for him, only to confirm that he was semiconscious and bleeding from the mouth. Thoughts of internal injuries from the "Air Bike" incident were a possibility. Luckily Guy had his cell phone and immediately phoned 911. After describing Bob's condition and giving his location he walked quickly to his car to lead the summoned ambulance to the site. Dave stayed with Bob to monitor his condition and assist where possible.

In the meantime, Steve had moved up the runway towards the start of the runway. He met Barry and the two of them climbed onto Barry's car and drove along the runway to the flightline trailer at the launch point. Once the message had got to Wayne, the duty instructor for the day, all flying on the field came to a stop. Wayne climbed onto the quad and swiftly drove the length of the field to KDX to relieve Dave who went in search of first aid equipment usually kept in the clubhouse. Barry and Steve returned to the aircraft to assist further.

The ambulance siren could be heard rapidly approaching by this time, and Guy led them directly to the aircraft. The two EMTs emerged and, carrying their medical bags, approached the glider. As they got to Bob and started examining him for injuries, Bob grinned and said he was fine … it was all a simulation!

The facts Yes, it was a simulation, but not one that I would suggest others try – the emotional strain on close friends not in on the play can be large.

Aim To highlight any number of situations which we needed to assess at our field regarding first aid and emergency response. What equipment do we need on the field so that emergencies can be managed efficiently, and so that no further incidents occur? What facilities are available and how long do they take to deploy?

Areas of concern What would the response have been if no one had been near the stricken glider/pilot – how long would it have taken before anyone noticed that there was a big problem? Should a first responder stay with the injured person, or go for help (assuming no cell phone or radio functioning)? How can we make sure no further injuries could come to those at the emergency site? How do we make pilots in the air aware of an emergency on the runway, and where should we get them to land? As often as we consider *Options* as part of our pre-takeoff checks, should we as a club be doing regular *Options* scenarios for possible emergencies also?

Results This was the timeline as of the landing:

first assistance arrives	30 seconds
911 is called	1:33 minutes
flightline trailer is notified	4 minutes
duty pilot/instructor reaches scene	8 minutes
EMT arrives on site	13 minutes

Conclusions As an unrehearsed situation I think the response was realistic. We have some Academy Award-winning actors in our midst, Bob and Steve in particular. To those who were unwittingly thrust into this stressful situation, my apologies. As the organizer of "The Scenario", I'm seeking protection from those who threatened me with dire things when they realized it was a setup. Keep vigilant so that we can take care of one another. ❖

EMT & 911 were in on it. When Guy called 911, he was asked if it was a simulation. Guy, knowing nothing about a simulation, said "No". Bob only informed Steve when they were in the air … a really good impromptu performance. EMT was given the heads-up when the glider took off. They understood that they were to be alert but not to be in their vehicle at the time of the 911 call. They also had to be prepared for other possible injuries, eg. someone colliding with the stricken glider if things went awry. *Trevor*

Towplane-glider mid-air avoidance

Bill Burner

THE OCTOBER 2008 ISSUE OF SOARING magazine had an analysis of a mid-air collision between a just-released glider and its Pawnee towplane. Some of that author's comments were made to develop the point that he was surprised that a towplane could possibly hit a glider which had just released. The next paragraph is some of his text from that analysis *(I have added my comment text in italics):*

"Wow! How did that happen? … (after releasing tow, this is what) I usually experience … the towpilot has turned left, put the stick forward, and chopped power … he is able to lose altitude quickly. Therefore, neither aircraft is still at the same altitude as the other. The towplane is usually lower than the glider … I, in the 2-33, can focus on staying in the lift – the towpilot can watch his engine temperature, and start to scan for traffic for the return to the runway. *(By context, "traffic" implies potential traffic conflicts in the landing pattern, not the just-released glider.)* … Neither the towpilot, nor I in the 2-33, is watching for one another unless it is just a circuit pattern tow. *(By context, it is not necessary to look out for each other because separation between the towplane and the just-released glider is automatic due to their altitudes, which are virtually guaranteed to be different.)* This is pretty much what I have done on aerotows for 32 years."

The erroneous assumption here is that separation is automatic because the altitudes will be different.

No – in my experience with the Pawnee, I will gain an average of 300 feet immediately after glider release, despite an immediate gentle power reduction. This gain occurs rapidly – within 30 seconds – and I am certain that during that period I am going up faster than the released glider.

Therefore, in fact, on virtually every one of my tows, there has been an altitude conflict that is typically going to occur after the first minute or two of release, when I finally start to descend. That would be obvious to any glider pilot who has done a clearing turn off tow and checked to see where I am. If he cannot find me it's probably because he is not looking up high enough – I am going to be above the horizon for the first couple of minutes, I can just about promise you that!

The solution, of course, is that *each* aircraft is responsible for avoiding the other. It should be an absolute mandatory requirement for the glider to do a clearing turn off tow in order to locate the towplane just to make sure he is not doing something unexpected. Who knows, perhaps the towpilot had to make a sudden unusual turn because he was dodging someone else. The glider pilot must make some sort of a maneuver that will bring the towplane into sight shortly after release. It is a pretty safe assumption for the glider pilot to make that of all the things in the sky right after release, the one that is closest to him will be the towplane, and he should at least check on it.

The towpilot's responsibility presents a different set of problems. My standard practice is to immediately make an approximately 90° turn to the left at release and then to fly on that constant new heading for at least 30 seconds at about 80 mph. I do this to get the maximum horizontal separation I can from the release point. Note that this is not necessarily the maximum separation from the glider because I do not know where it is going after release. However, the best way to get separation is to fly directly away from the glider's last known position.

A problem with this tactic is that I am putting the glider at my six o'clock, deep in my blind spot. He could be chasing me – I would not know that. However, if he were, hopefully he would have me in view. This is a safer tactic than the towpilot doing a 360 clearing turn and staying in the release area and in a position or height where sighting the glider would be difficult.

A small exception to the above is the rare circumstance of a wave-off. If the towpilot waves off the glider, the glider pilot must presume that the towplane is having a real emergency. He will not know what the problem is, only that his immediate release has been demanded, and that the emergency aircraft has the right of way. If the towplane has lost power, the towpilot is now flying the "glider" with the least performance. Therefore, in the event of a wave-off, the glider pilot must immediately release but *not turn right*. He should slow down, clear the rope, and *keep the towplane in sight* until he has made the best assessment possible under the circumstances as to what is going on.

If the wave-off is close to the ground, well, life's not perfect and it is every man for himself, but all should do their best to maintain situational awareness.

The key point that needs to be made is that altitude separation must not be assumed or relied upon to prevent any towplane/glider conflict or mid-air.

Points to remember:

- The glider pilot has an obligation to do some sort of a clearing maneuver immediately after release that will enable him to locate the towplane and assure that it is not doing something unusual.
- The towpilot has an obligation to maximize the horizontal separation, most likely by flying at a constant heading directly away from the release point for at least thirty seconds.
- Both pilots must be alert and aware of the fact that there is an impending altitude conflict, and it is likely to occur within the first few minutes of release.
- Wave-offs are frequently used in training situations like a rope break, to surprise a student with the requirement for an unusual landing pattern as well as to confirm that he recognizes the wave-off signal. The focus then becomes how the student sets up the landing – ie. wave-offs are quite often treated as a glider problem. *A true wave-off is a towplane problem, not a glider problem.* We need to train to that contingency.

Rope breaks should be trained for by the instructor pulling the release – anywhere, any time he wants. Wave-offs for student training should be used only to simulate a towplane emergency. They should be done at a high enough altitude to allow the student to demonstrate that he understands that his first job after releasing is to follow the towplane for a while to observe it, if feasible.

Here is a list of six possible glider pilot misconceptions:

1 Separation from the towplane is guaranteed by the difference in altitudes, which always occurs.
2 The towplane immediately descends after release.
3 The towpilot's field of view is as good as the glider pilot's.
4 The glider does not have to worry about clearing the towplane and can immediately focus on a search for lift.
5 The towpilot always knows where the glider is after release.
6 The glider has the right of way after a wave-off.

Reprinted courtesy of the Soaring Society of America

Criticism is good

Criticism is the basis of instruction. Every effort of every pupil should be criticized verbally and dispassionately, unless the pupil has wantonly disobeyed his instructions or the laws of common sense.

If a pupil has done badly, he should be told how he could have done better. If a pupil has done well, he should be told how he could have done better, but in this case, he would also be told how he could have done worse. This is very important, since many hundreds of wasted hours are flown by pupils with apparent success – wasted because the pupils have either unconsciously made mistakes or not consciously avoided some dozen of mistakes which they might have made.

Unless a pupil knows all the possible mistakes and can give reasons in words for not doing the things which constitute those mistakes, he is liable at any time to make one of those mistakes without warning. The instructional value of success is absolutely nil unless the pupil knows, and can say in words, why it was that he succeeded and did not fail. It is therefore a waste of machines and petrol to let solo pupils take off, fly around, and land again at their own sweet will, uncriticized, because with criticism much more value would have been obtained from the flight.

The fact that the aeroplane is intact after a solo flight is no proof that all has gone well. The pupil may have made in a small degree or shown a tendency to make several mistakes which could be stopped by criticism from an instructor watching from the ground. If he is not stopped, the pupil will some day make the same mistake in a greater degree and wreck a machine simply because he did not know that such a mistake was standing by ready to be made …

from an early RAF training manual.

What, me worry?

Martin Hellman writes interesting stuff. He is the co-inventor of public key cryptography, the technology that secures sensitive information over the Internet. He has worked for over 25 years to reduce the threat posed by nuclear weapons using a closer examination of risk analysis (his current project is described at *NuclearRisk.org)*. He is a glider pilot with over 2600 hours.

Here is the speech he gave at a Pacific Soaring Council soaring safety seminar: <*www-ee.stanford.edu/~hellman/soaring/PASCO_2007_talk.html*>. He examines this list of maneuver categories that can bite the complacent:

- High-speed low passes
- Crossing ridges at low altitude
- Close-in ridge flight
- Becoming enveloped in clouds
- Landing out in difficult circumstances

The soaring world has experienced fatalities among experienced pilots in all five categories, so they warrant examination. He looks at these from the point of view of, "it's a 99.9% safe maneuver" (one that you can execute safely 999 times out of a thousand). But there is a bad byproduct of doing things successfully many times – the attention getting fear level that you have the first few times you do it evaporates as you become comfortable with the maneuver. But that confidence is really complacency, which glider pilots know as our worst enemy.

How often have you had this feeling when you do something out of the ordinary? It's safe … I have done it hundreds of times – go for it! But if you do a 99.9% safe maneuver 100 times, you stand about a 10% chance of being killed. That one remaining time in a thousand there will be an accident, possibly it will be fatal.

Do yourself a favour and read his article.

The life of glass gliders

When composite gliders were first built, there were a lot of unknowns. Design life for early designs was 18,000 hours, with 3000 hours adopted as the initial service life. As they reached 3000 hours, more information was gathered and extension schemes were developed. Metal fatigue in the control systems resulted in some ADs and periodic replacement of parts. Prior to JAR22 and EASA, OSTIV provided some guidance. Those early glass sailplanes tended to be overbuilt and some may well be flying in the 22nd century. Of the 10 original Phoenix, at last check 9 remained airworthy, now 50 years old. Design, materials and methods have moved along. Will modern ships prove to be as robust? Time will tell.

from rec.aviation.soaring

On having your last flight

As a glider pilot, only two bad things can happen to you and one of them will …

1 One day you will walk out to the glider knowing that it is your last flight.

2 One day you will walk out to the glider *not* knowing that it is your last flight.

Bye-bye lift

(the Everly Brothers visit the 2009 Nationals)

apologies from the Bald Eagle

Bye-bye lift,
Bye-bye altitude.
Hello farmer dude
I think I'm a gonna land.

Bye-bye lift
Bye-bye working band
Hello, furrowed land.
I felt that I could fly.
Bye-bye my lift, good-by.

There goes that top gun
He really flew.
The sky looks crappy,
It's turning blue.
I was the leader
'Till he slipped in.
Good-by to trophies
That might have been.

Bye-bye lift,
Bye-bye altitude.
Hello, farmer dude
I think I'm a gonna land.

Bye-bye lift
Bye-bye working band.
Hello, furrowed land.
I felt that I could fly.
Bye-bye my lift, good-by.

I'm through with gliding,
I'm through, by Jove.
I'm through with searchin'
For clouds above.
And here's the reason
That I'm so free,
My lovin' vario
Went silent on me.

Bye-bye lift,
Bye-bye altitude
Hello, farmer dude
I think I'm a gonna land.
Bye-bye my lift, good-by.

Bye-bye lift
Bye-bye working band
Hello furrowed land.
I felt that I could fly.
Bye-bye my lift, good-by.

GPS Position Recorders ~ SAC approval procedure ~

The Sporting Code now allows the use of Commercial Off-the-Shelf (COTS) GPS units for recording position evidence for Silver and Gold badge legs. Each model of GPS must be approved by the country where it will be used (refer to the Appendix to Chapter 4 of the Code and to the Annex C OO & Pilot Guide).

If you have a unit that may meet the requirements of the Code and seek SAC approval for its intended use, answer each of the questions listed below in order. Submit your answers in electronic form to the SAC Badge Chairman. Also submit the operating manual and manufacturer's specifications in electronic form (or two paper copies) and two sample .igc files from the unit (along with the files in the original recording format if it is not .igc). The submission is to be verified and signed by the applicant and by a separate SAC OO. A list of approved units will be held by the Badge Chairman.

Answer the following questions in order (Bracketed references are to paragraphs of the Appendix to Chapter 4 of the Sporting Code.)

1. Make and model of the COTS unit.
2. Name of the software used to download files in .igc format.
3. Name of the software used to validate the .igc files. (para A-6)
4. Describe in detail each step of the download and verification procedure.
5. How do you know that the unit uses the WGS 84 Earth Model? (para A-2)
6. How do you propose to prevent a change of Earth Model during flight? (para A-2)
7. How do you know that the .igc file will not contain averaged or predicted fixes? (para A-3)
8. Can the unit produce fixes of at least one per minute? (para A-4)
9. What special procedures should be followed for installation and down loading? (para A-9)

Walter Weir
<waltweir@gmx.com>

Hello from Tanya

Hello, my name is Tanya Storing and I would like to introduce myself as the voice you hear when you phone SAC. I have been working for COPA as its office and financial manager for the past three years and served as the membership administrator since 2000. Along with my duties at COPA, I will now help to manage the office work for SAC with the support and assistance of your directors.

I look forward to serving both the SAC clubs and individual members, and I hope that my experience and the expertise I have gained while working for COPA will help to bring a fresh experience to your contact with the new Soaring Association office. I can always be contacted by e-mail by or telephone (613) 236-4901 ext 109.

Photo left to right: John Toles, Tanya Storing, and Kevin Psutka, COPA president.

Factors in a glider purchase

- It's not only L/D that you must care about. Ease of assembly, auto control hook-ups, hinged canopy? What do you want to do with it – float around the field, badges, records, contests, OLC miles, aerobatics, performance in rain/bugs/etc.? Also, published L/D is a sales number and rarely accurate.

- Must it be glass? Lots of excellent performance in other types of construction. The Ka6 and SF-27 are excellent examples of past World championship designs that still fly extremely well in many conditions – especially if you plan to stay within 100 km of home. You can get a Silver in these, no problem.

- Condition is a huge price driver. A refinish job can cost $20–30K. A canopy replacement will run you $5000. Corrosion?

- Equipment is a huge cost driver. A current competition instrument panel will cost $5000. You can pay now or you can pay later. Ground handling equipment? Parachute?

- Spare parts? Many designs (ex. Pik-20) have no source for spares.

- Don't underestimate the value of a good trailer. If it's not set up well, you won't take the glider out of the box. The trailer doesn't need to be a $15,000 clamshell to be good – some clamshells suck. The handling equipment is key.

- Can it be imported?

- Can the glider cockpit comfortably fit a 6'-5" pilot? Cockpit comfort for your body shape is incredibly important. For instance, the Jantar cockpit *can* be comfortable, but people with an average arm length find it difficult to reach the instrument panel. Some cockpits have limitations in shoulder width or thigh support. Planning to be strapped in for 5 or 6 hours or more!? or a 1.5 hour 'float' where you can tough out the pain in the seat pan? How often will you fly your investment if you hate to sit in the cockpit?

There are lots of excellent bang-for-the-buck gliders out there. Talk to owners before you buy, then take all their advice with a grain of salt because your needs and desires are different. Dream! Buy! Fly!

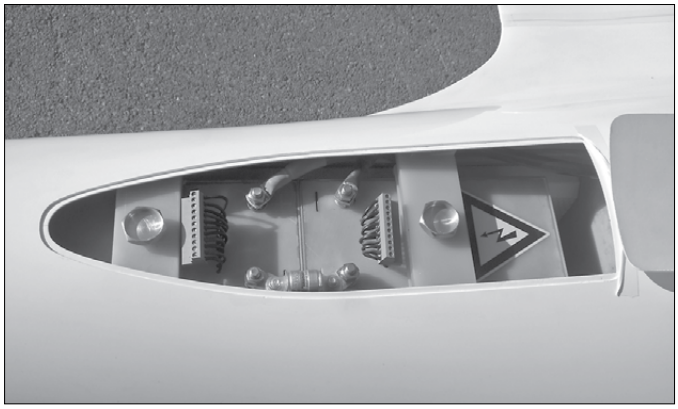
Derek Mackie

The Front Electric Sustainer project

The creators of this system are Luka Znidarsic and his father, Matija. Both are experienced Slovenian glider pilots, mechanical engineers and the dealers for Schempp-Hirth and LAK. They have developed a very neat sustainer system comprising a nose-mounted brushless 5 kg DC motor of their own design driving a small 0.9m diameter carbon fibre prop that folds against the side of the fuselage when stopped. The 95% efficient motor is powered by two 11 kg lithium ion batteries behind the wing to balance the weight of the motor.

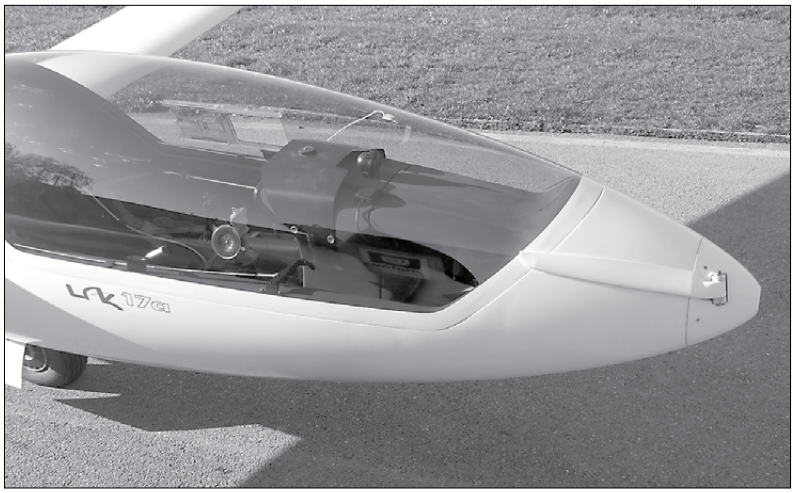
The system has been installed in a LAK-17. At full power (rpm) and charge the glider can climb at 300 ft/min for about 4600 feet or cruise at low power for an hour and about 120 km. System advantages are:

- Electric motor is smaller and lighter than combustion engine.
- Virtually silent propulsion – no loud exhaust, no ear plugs.
- Clean – no gas smell, no oil film on the tail, and no oil to mix.
- Only moving parts are the prop and the motor bearing and rotor.
- Virtually vibration free, almost no maintenance.
- Instant restarts, just flip a switch and open the "throttle".
- Full torque from zero to max rpm.
- No loss of motor performance at altitude.
- Low carbon footprint, especially with solar charging (might be on top of your trailer).



Work is ongoing on EASA certification of the FES system. It can be installed in all LAK-17 sailplanes and it will be possible to upgrade other gliders as long as they can physically accept the total 35 kilogram added weight in the fuselage. In Canada and the USA, homebuilts would be the class most easily able to legally incorporate such a system. More info, photos and a video are on the website <*www.front-electric-sustainer.com/sailplanes*>.

Tony Burton



Tom Pawelkiewicz presents some data out of Wings & Wheels.

Glider	*TT*	*Yr*	*US$*	*L/D*	*$/LD*
ASW-15		1975	13,500	38	355
ASW-20	2200	1981	31,500	43	733
ASW-20	1400	1984	40,000	43	930
ASW-20	1760	1983	37,000	43	860
ASW-20	815	1977	39,500	43	919
ASW-24	1200	1993	45,000	44	1023
DG 300	812		32,500	42	774
DG 300	800	1984	37,900	42	902
DG 300	1700	1986	40,500	42	964
Discus A		1992	42,000	43	977
LS-3	1822	1979	16,500	41	402
LS-3			29,900	41	729
LS-4	1051	1981	33,000	40	825
LS-4	466	1982	45,000	40	1125
Nimbus 2	1277		24,500	48	510
Nimbus 2	2055	1977	33,000	48	688
Pik-20D	1620		21,000	42	500
Pik-20D	1815	1976	25,000	42	595
Pik-20D	1457	1977	24,900	42	593
Std. Cirrus	990	1971	18,900	36	525
SZD-55	300	1997	48,000	43	1116
SZD-55		1999	48,000	43	1116

At the Cowley summer camp, Shaw Cable was on hand to video the gliding activities right at the time a first solo was taking place. After landing, Jim Neff from Cu Nim was presented his wildflower bouquet by CFI Al Hoar and then got the usual bucket shower, with the unsuspecting young girl reporter *way* too close.

Canadian Team update

In the last issue of *free flight* we announced the Aeroplan pooling program during the month of October in support of the team. I am happy to report that 240,000 Aeroplan miles were donated to the team. This is enough to provide flights for four team members over to Europe next summer for the 15m, 18m, and Open World Championships in Szeged, Hungary. Many thanks to all those who donated their miles.

We have also just heard from WestJet (thanks to John Mulder) that two flight passes have been donated to the team. While plans have not yet been finalized on how best to use the passes to raise funds for the team, the initial thought is to raffle these flight passes amongst the soaring community.

For the 2008 Worlds, some of you may recall that the Canadian team was cut from three to two pilots as a result of the contest being oversubscribed. At the time we voiced our concern over the procedure used, as did some other smaller soaring countries. This has resulted in some improvements thanks to the hard work of Canada's IGC representative, Jörg Stieber, who negotiated the recognition of the Canadian Nationals in the IGC pilot ranking list calculation. The inclusion of our Nationals raised Canada's country ranking six positions on the list, which will improve our chances of holding three spots for the 2010 Worlds.

The opening ceremonies for the contest in Szeged are on 24 July and the closing ceremonies 7 August. The team web page is <*www.sac.ca/team*>. We will once again report on our preparations prior to and progress during the contest on blogs that can be found on the team web page.

A soaring seminar is in the plans for Ottawa this coming March. The date has not yet been selected, but watch the SAC Roundtable after Christmas for the date and seminar topics. The proposed date will be mid to end-March and the venue is planned to be the Aviation Museum in Rockcliffe.

Dave Springford

ESC in 2009

The Edmonton Soaring Club has had a real bounce-back year. Everything that could keep us out of the air seemed to come together in 2008. This year, the tables turned and we got off to an early start with some of the best soaring opportunities early in the year. We almost doubled last year's flights as well as spending two and a half times as much time in the air. There were 683 flights in 2008 and 1161 so far this year as I write (we were still flying mid-November) and 1014 flying hours against only 411 in 2008. Even pilots who were not interested or prepared for cross-country flights could be seen 20 or 30 miles away just testing the air currents.

Bruce Friesen had a marvellous run of cross-country flights and didn't let up until he had fulfilled one of his soaring goals for a 500 km out-and-return in his Std. Austria *(story in ff 2/09)*. For a couple of days he held the top flight of the day!

It wasn't always easy to get people to stretch their wings; I had to cram a flight recorder into a glider and tell Dale Armstrong "Just go up and head off to St. Paul for your 50K – sign here and get going!" He got there, and on the way back he met a friendly farmer (and a couple of cops investigating the reported "crash" by a neighbour), but by then his Silver distance was in his pocket and a big smile on his face for a completed Silver badge.

We did have a few landouts this year which just shows that we were at least trying. Gary Hill bought a Jantar and after just about two hours found out that his first flight in it was going to include a landout. Later on, a goal of a 300K round trip to Kitscoty finished his Gold badge and got him his first Diamond. Walter Mueller came down from Grande Prairie and showed us if you don't quite have the course figured out legally the first time, you just go up and fly a 300 km triangle the proper way – no big deal. Selina Boyle did her full Silver badge in one flight and learned that you have to make a declaration if it is going to be valid. Dick Parker took the Blanik up for his 7000th glider flight.

We had a resurgence in membership this year with some of the keener members keeping the instructors pretty busy. We even put on a special ground school so one member could get his licence after only four months and another could write the Transport Canada glider exam before heading back to New Zealand for the winter.

We had a lot more than just flying going on this year. The clubhouse got a little bit of

Mick Petroff

Australian Jonny Durand, a world-ranked hang glider pilot, flew the "Morning Glory" wave cloud on a project for Red Bull. He produced some spectacular footage of this unique weather phenomenon, a video of which is at <*www.youtube.com/watch?v=RMdyT-rIXao*>. The above photo appeared on the "Astronomy Picture of the Day" web site in August. An article on the origin and structure of the Morning Glory is in the 5/95 issue of *free flight*.

TLC and a new roof, and work was done on the runway to fill in some of the low spots with some of the high spots. We added a very nice L-33 Solo to the fleet. We insured it by phone on a Friday and flew it on Saturday. Then, while it was parked safely in the hangar, the trailer was blown down the runway and destroyed in the big wind storm (*story in the previus issue*). It wasn't the only trailer damaged – the club also lost our PW-5 trailer, and four of our members' trailers and gliders were damaged that same night.

We've ordered a new towplane engine to be installed this winter. We got our fuel tanks moved and approved to government standards, a project that stretched over two years. We got a hoist mounted on the Kabota tractor to lift handicapped people in and out of the gliders but we haven't gotten a sling yet. (The first hoist was stolen from the hangar during the break-in).

Our flightline software got all tweaked and high speed internet put out to each end of the runway so we could enter all of our flights into the computer system live. We built a flight simulator with three LCD TVs and a sit-in cockpit for those rainy day flights. This summer you were even able to see what was going on at the field before making that long drive by looking at web cams.

We have some big plans in the works for next year. The RV park needs some electrical upgrades before we host a practice contest for the Nationals and we are planning on a new hangar. A full-time on-site security residence is also in the planning stages due to the clubhouse and hangar break-ins. We will need to spend more thought on this one. We thought it would be least expensive if we put some kind of yard space with a mobile home pad at the entrance to the property.

Gary Hill

The great benefit of owning a wooden glider is that the parts grow on trees.

Interesting shift work

On my last flight this year from Chipman on 16 August this year, I attempted a small triangle flight: Chipman/Two Hills/Vegreville and back, but only made it as far as Vegreville. After several attempts to get back to Chipman from there, I even got too low to make it back to the Vegreville airport and landed at the southwest corner of town in a summer fallow field.

Looking for an access to the highway, I found that I was in the yard of the Alberta Agricultural Research Station with the gates locked and no one in sight. It was Sunday evening.

There was a small man gate (person gate?) which was open, so I was able get out on the highway to intercept my retrieve crew. We drove around the section to find a way in from the back but the field gate on the west side was also locked. When we came back to the front entrance we were fortunate to find a watchman who, after several phone calls, finally found someone to give him permission to open the gate for us. The watchman went with us out to the field to make sure no damage was being done to those research plots; he also helped us with the derigging.

Afterwards we went to *Tim Hortens* for supper – the only place still open. We invited the watchman too, who now has had the most interesting shift of his career. It was after midnight by the time we finally got back to the airfield.

This was one of those flights where the retrieve was more exciting than the flight, although I enjoyed the flight too, especially the safe landing.

Walter Mueller

Smile, Walter. Now 89, Walter flies his Open Cirrus cross-country as much as he can and completed his Diamond Goal this summer. He is a member of the Grande Prairie, AB club, which at this time is barely existing, so he flies mostly at ESC and at the Cowley camps.

Got a good retrieve anecdote? – send it in to me.

† Willi Deleurant

Willi Deleurant, a founding member of Toronto Soaring, and the man who more than any other was responsible for its success, has died at the age of 93.

Willi immigrated to Canada from Germany in September 1953 and was joined soon after by his wife Maria and son Ralph. In 1954, he was part of an aviation-minded group, many of whom were military pilots during World War II, from the German Club in Toronto which soon established an airfield near Belwood Lake, north of Guelph in Southern Ontario.

In 1969 Willi led a small group of pilots who bought the field at Toronto Soaring's present site as growing pains dictated independence from the German Club. Much hard work, with Willi leading the way, turned a century-old farm into an airfield and the club, though always small, has prospered there ever since. In spite of entreaties from some members in the early days, Willi always resisted the call for private allotments on the field and for ownership by a select few. He believed that all members should have an equal share in the club and this philosophy has continued to the present.

His drive, determination, energy and, as those who knew him will attest, his stubbornness have all been the building blocks on which the present club is based. In all of this he was supported by his wife, Maria, who was ever-present at his side on the airfield. From 1969 until he ceased an active role in the club's executive, Willi was firmly against the club taking on debt which it may have had difficulty honouring. Thus progress was slow, but none-the-less sure, and during one or two lean years the club had no problems surviving because it owned the gliders and the field unencumbered. This was primarily thanks to Willi.

As a glider pilot, Willi was a leading light in the early Canadian soaring scene, winning the Nationals in 1960 and 1965 while placing highly in other years. In 1970 he represented Canada at the World Championships in Marfa, Texas. As a mentor, Willi provided his comrades at Toronto Soaring with years of soaring instruction, wisdom and tales of adventure in the days before cell phones, GPS and internet chat.

I had known Willi since I joined Toronto Soaring in 1971 and over the years he became a good friend. He sat behind me while I learned to fly in the club's Bergfalke and his wise counsel on all matters soaring was always taken to heart. Ultimately, the thing I and many club members respected in Willi the most was that no matter how much you disagreed with him you knew that Willi's motives were selfless and totally for the benefit of the club. So, soon after he stopped flying in 2003 our field was officially named Deleurant Field. No finer tribute could have been made to the man who made it all possible for those of us who followed and whose legacy surrounds us every time we fly.

While Willi kept the club free of debt for so many years, today it does have one enormous debt which it will never be able to repay – the one to Willi. Toronto Soaring salutes you, Willi, and bids you 'Blue Skies', high scattered cu, and a fond farewell.

Geoff Le Breton

Priorities

from page 5

recommended by the SAC Board of Directors and approved by the Sporting committee. As a result, $9711 was awarded. It should be recognized that the pilot and his family have donated $2000 of this amount back to the contest fund. The Board anticipates receiving an application for the Canadian World Team in Szeged, Hungary in 2010. So, with the assistance of the Sporting committee, more specific guidelines are being written to streamline the application process and give more direction to applicants. The Board looks forward to working with the Sporting committee and all pilots who compete at every level as we continue to recognize and support this aspect of our sport.

By-laws update As many members are aware, SAC operates pursuant to a series of by-laws, a number of which have been modified or supersede the original documentation that established SAC. Some time ago we recognized that many matters need to be brought up to date. As a result, legal counsel was retained and work has largely been completed now. We hope to circulate the proposed revisions in January and have them voted on at the 2010 AGM.

David Collard

Youth Bursary Program I am pleased to report that the 2009 Youth Bursary Program provided financial assistance to twenty participants from eleven clubs ranging from BC to Quebec. Nine were Air Cadet SAC members, three were female, seventeen male. There were two more applicants than bursaries available. The $10,000 provided by SAC was matched by the sponsoring clubs. Youth Flight Canada also provided fourteen bursaries, all to York Soaring. Letters of appreciation from the recipients support the general feeling that the bursaries were well-used. Here is a summary of a letter I got from one of the enthusiastic recipients:

I would like to thank you for the amazing experiences I have had that was only made possible by the SAC flying bursary I was awarded … I dedicated my weekends to soaring in Hope. I got over 8 hours of PiC soaring time and nearly doubled my total PiC time. … On one memorable flight I achieved a flight time of 2 hours and 10 minutes with nothing better than 100-200 ft/min lift, and a max altitude of 3500 feet. This was only possible because of the skills I learned at Hope.

On another remarkable flight I achieved my personal best in altitude gain. I released at 3000 feet agl and managed to soar all the way up to 7700 feet. This was a huge accomplishment for me, and a significant challenge as the wind that day was blowing from the east, when almost traditionally it blows from the west, so lift was found in completely different places than usual. All members at VSA were extremely friendly and approachable and were willing to give me tips on soaring such as where I could expect lift, centering in thermals, and using the wave. I also got to observe, help, and learn how to rig and de-rig a glider.

This bursary gave me the opportunity to learn to fly a more advanced glider than the 2-33A I trained on. With VSA I flew faster, higher, and longer than I ever had previously. My personal best records went from a longest flight of 37 minutes, a max speed of 90 mph, and a max altitude of 4000 feet to a record of longest flight of 2 hours and 10 minutes, a max speed of 115 knots, and a max altitude of 7700 feet … The skills and experience gained from VSA thanks to this bursary will be used for the rest of my flying career.

Sincerely, Dan Ryan

SAC initially committed to a three-year program, but if the popularity and success continues, the plan is to continue and expand it. We are considering a number of ways of expanding the program, including a Trust Fund for member donations, corporate donations, merging and expanding the Air Cadet Fund. ❖

Tony Burton

Here is a membership opportunity clubs should always try. This glider was taken to an EAA chapter meeting last spring, rigged, its structure described, and the sport explained. You will meet and influence a knowedgeable and curious group predisposed to consider a better way to fly.

Vintage sailplane meet in Finland

Jämijärvi's small airport hosted vintage glider enthusiasts during the traditional Jämi Vintage Flight camp – held 13–18 July, 2009. Ten vintage gliders of the fifty in Finland were on hand, and nineteen pilots attended. Different tasks were flown depending on the weather.

The PIK-5C stood out. Kalle Temmes designed the prototype of the training glider in 1945 as his Master's thesis (PIK is the name of the Finnish academic flying club). The glider saw its maiden flight in 1946. The design was developed further, and PIK-5b and PIK-5C versions were born. The 5C in the photo was built in 1958. It is owned by Jukka Pikkusaari, who recently renovated it. The PIK-5C is an all-wood glider: wing span 12.5m, length 6.4m, weight 120 kg, best L/D 1:17, minimum sink 0.95 m/sec, and stall speed 45 km/h. PIK-5C, OH-188 combines a fostering of old traditions with Finnish know-how in wood engineering in the construction and renovation of airplanes. Vintage builders have been cooperating with Finnish wood firm UPM to get their high quality pine suitable for aircraft construction.

Central Alberta is 20 years old

In August, the Central Alberta Gliding Club held a dinner and a breakfast to commemorate its 20th anniversary. Although the weather was a little bit damp and chilly, several past members and visitors from other clubs were there to help us celebrate. Everyone enjoyed a fabulous steak dinner with all the trimmings as well as the pancake breakfast the next morning.

The CAGC has a unique history. Originally the club was founded by power pilots looking for a new challenge in aviation. The founding members all contributed financially to buy their first glider – our 2-22 C-FOZS. The club didn't begin flying regularly until two years later after the aircraft had been substantially refurbished. Because of the lack of instructors and experience, only those holding power licences were accepted as new members at that time. John Mulder and Dean Gillrie did all the instructing during the first several years.

Eventually ab-initio students were accepted, and the club has transformed into a traditional gliding club with soaring as the focus. CAGC has won the SAC Roden Trophy for soaring skills development the last two years in a row. Try to join us in 2014 for our twenty-fifth anniversary.

Carol Mulder

FAI badges

Walter Weir

3 Sumac Court, Burketon, RR2, Blackstock, ON L0B 1B0
(905) 263-4374, <*waltweir@gmx.com*>

The following Badges and Badge legs were recorded in the Canadian Soaring Register during the period 15 Sept. to 15 Nov. 2009.

SILVER BADGE

1038	Andrew Blanchard	Rockies
1039	Zach Marton	York
1040	John Leach	SOSA
1041	Emmanuel Cadieux	Montreal
1042	Richard Fortier	Champlain

note e-mail change!

***DIAMOND GOAL** (300 km goal flight)*

	Gary Hill	Edmonton	315.9	Jantar	Chipman, AB
	Walter Mueller	Grande Prairie	332.3	Open Cirrus	Chipman, AB
	John Gruber	Cu Nim	308.7	Std Cirrus	Blk Diamond, AB

***GOLD DISTANCE** (300 km flight)*

	John Gruber	Cu Nim	308.7	Std Cirrus	Blk Diamond, AB

***GOLD ALTITUDE** (3000 m gain)*

	Ray Ochitwa	Vancouver	3335	ASW-15B	Hope, BC

***SILVER DISTANCE** (50 km flight)*

	Andrew Blanchard	Rockies	55.0	PW-5	Invermere, BC
	Zach Marton	York	85.1	Grob 102	Arthur E, ON
	John Leach	SOSA	88.5	SZD-51-1	Rockton, ON
	Emmanuel Cadieux	Montreal	52.5	L-33 Solo	Hawkesbury, ON
	Drew Hammond	Central Alberta	63.0	RS-15	Innisfail, AB
	Richard Fortier	Champlain	60.1	Pik-20B	St-Dominique, QC
	Dale Guenter	SOSA	57.3	SZD-51-1	Rockton, AB

***SILVER DURATION** (5 hour flight)*

	Andrew Blanchard	Rockies	5:11	PW-5	Invermere, BC
	Zach Marton	York	5:21	Grob CS-77	Arthur E, ON
	Neil Wilson	SOSA	5:24	SZD-51-1	Rockton, ON
	Daniel Houde	Montreal	5:19	Grob CS-77	Hawkesbury, ON
	John Leach	SOSA	5:08	SZD-51-1	Rockton, ON
	Krzysztof Wiercioch	SOSA	5:21	SZD-51-1	Rockton, ON
	Ken Armstrong	Vancouver	6:10	Dimona Xtr.	Hope, BC

***SILVER ALTITUDE** (1000 m gain)*

	Andrew Blanchard	Rockies	1230	PW-5	Invermere, BC
	Zach Marton	York	1025	Grob CS-77	Arthur E, ON
	Ron Cooke	Quebec	1430	LS-4	St-Raymond, QC
	Marc-Antoine Delarche	Montreal	1170	L-33 Solo	Hawkesbury, ON
	John Leach	SOSA	1165	SZD-51-1	Rockton, ON
	Daniel Tayles	Central Alberta	1420	1-26	Innisfail, AB
	Richard Fortier	Champlain	1365	Pik-20B	St-Dominique, QC
	Ken Armstrong	Vancouver	2800	Dimona Xtr.	Hope, BC

***C BADGE** (1 hour flight)*

2914	Vincent Hendricks	Rideau Valley	1:12	Grob-103	Kars, ON
2915	Andrew Blanchard	Rockies	5:11	PW-5	Invermere, BC
2916	Zach Marton	York	5:21	Grob CS-77	Arthur E, ON
2917	Steve Ulrich	Gatineau	2:24	ASK-13	Pendleton, ON
2918	Neil Wilson	SOSA	5:24	SZD-51-1	Rockton, ON
2919	Marc-Antoine Delarche	Montreal	3:05	L-33 Solo	Hawkesbury, ON
2920	John Leach	SOSA	5:08	SZD-51-1	Rockton, ON
2921	Krzysztof Wiercioch	SOSA	5:21	SZD-51-1	Rockton, ON
2922	Andreas Raffeck	Central Alberta	1:02	Bergfalke III	Innisfail, AB
2923	Dale Guenter	SOSA	see Silver dist.		Rockton, ON
2924	Félix Antoine Noël	Quebec	1:30	L-13 Blanik	St-Raymond, QC
2925	Ken Armstrong	Vancouver	6:10	Dimona Xtr.	Hope, BC

soaring services

magazines

FAI BADGE SUPPLIES

Order through FAI badges chairman – Walter Weir
<*waltweir@gmx.com*>

Note: item 5 not stocked – external purchase approval is given

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

Order these through the SAC office

33	FAI 'A' badge, silver plate pin *(available from your club)*	$ 3.00
34	FAI 'B' badge, silver plate pin *(available from your club)*	$ 3.00
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Valcourt, QC
Marc Arsenault
marcarsenault@sympatico.ca

AÉRO CLUB DES OUTARDES
St. Dominique A/P, QC
http://aeroclubdesoutardes.iquebec.com

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

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

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

Ontario Zone

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

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

GATINEAU GLIDING CLUB
Pendleton, ON
www.gatineauglidingclub.ca

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

GUELPH GLIDING & SOARING ASSN
W of Elmira, ON
www.geocities.com/ggsa_ca/

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

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

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

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

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

Prairie Zone

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

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

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

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

Alberta Zone

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

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

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/

Pacific Zone

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

ASTRA
martin_dennis@precisiongutters.com

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
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