

free flight • vol libre



4/06
Aug/Sept



Sixty — the new forty. Seventy-five — the new fifty-seven. I read both of these statements in separate articles in the past week. The life expectancy of Canadians is now in the eighties. People are retiring younger and living longer and Baby Boomers are reaching retirement age. I suspect statistics would indicate that glider pilots in Canada are represented in these numbers. More of us are staying healthy and are able to continue flying.

SAC has successfully introduced incentives to attract youth to soaring. There are increasing numbers of Air Cadets and cadet graduates participating in civilian clubs. Membership in SAC is free to Air Cadet members. Badge processing is free for them and for Junior members. We will assist with contest entry fees for Junior members. The Peter Corley Scholarship assists young SAC members in their post secondary education. The Jessie Glynn and Barrie Jeffery Scholarships offer five \$300 flying scholarships to recent Air Cadet graduates. These are supplemented by matching grants from Youth Flight Canada. These enthusiastic young members will be the builders and sustainers of Canadian soaring.

The “boomer” generation is another potentially large market, having a combination of more leisure time (the kids are out of the house), more disposable income (the kids are out of the house), and an interest in staying active. Many were introduced to flying in the past, even to soaring, but at a time in their lives when other interests were more pressing. Some were even SAC members. Others have always wanted to try it, but have never taken the opportunity. They may now need little more prompting than a simple invitation. Hopefully, through club marketing and individual contacts, the invitation can be extended.

I have received positive reports from both the Eastern and Western instructor courses that were recently completed. Both were very well run thanks to Ian Oldaker and Dan Cook. Congratulations to the participants who are now instructors, and to the instructors who upgraded their qualifications.

Airspace has been a hot topic in Southern Ontario this summer. A special thanks to Airspace committee chair Ian Grant, members Roger Harris and Scott McMaster, as well as Board member John Mulder, for their progress so far. Meetings with Transport Canada and WestJet have been very productive.

The last issue of COPA *FLIGHT* had three excellent articles on soaring. Thanks to Tim Woods, Doug Cameron, and Paul Heinmann for their individual contributions, and the folks at York Soaring that were responsible for submitting them. This is excellent publicity that reaches a lot of pilots. COPA has assured us they welcome soaring articles and pictures, so the invitation is there for other clubs and individuals to contribute.

Finally, I want to take this opportunity to welcome Ernst Schneider to the SAC Board to represent the Pacific zone. Ernst flies out of Invermere and brings to the Board a wealth of soaring and organizational experience.

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4/06 – Aug/Sept

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

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Cover

A seriously pretty picture of the foothills 35 km south of Black Diamond, Alberta. Off on a long cross-country task, I and the Russia weren't supposed to be sitting in a pasture at the historic Bar-U Ranch at noon! The view is to the SE and the north end of the Porcupine Hills. The clouds look like they should be working, but after getting to 10,000 feet (6000 agl), it was a straight glide to the ground.

photo: Tony Burton

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SOME FOOD FOR THOUGHT!

Myles Hynd
from *Gliding Kiwi*

Participating in gliding the way we do needs many resources including disposable income, personal ability, and most of all – time. I believe it is spare time, or the lack of it that makes gliding hard to promote.

As a community, we make almost *zero* effort to locate people who enjoy aviation enough to want to spend time on it. When we inevitably fail to find them, we rationalize our failure by saying that people don't have spare time anymore.

... and yet surfers think nothing of spending the whole weekend at the beach, or of driving 300 km in a rattly four wheel drive to get to a beach in the middle of nowhere which might, if the weather is right, have the perfect break ...

... and untold thousands spend their entire Saturday in winter with the football club, or the entire Saturday in summer playing cricket, with nights during the week for practice sessions ...

Gliding's problems have very little to do with availability of spare time and lots to do with our total inability to select and recruit those who 'do' have the time, and who have a lust and joy for the pastime. We need to convince folks that they're better off spending their recreational resources with us than with the cricket club.

GNZ membership constitutes about 0.022% of the New Zealand population. Perhaps we ought to be aiming for 0.1% — a tenth of one percent is about 4200 people. Given the number of people who say, "Yes," when asked whether they've ever wanted to fly, it ought to be *easy* to find that many people. So what are we doing wrong that makes us fail to recruit them?

We have constraints which we have to work under: we aren't made of money, so our clubhouses and accommodation *will* be substandard. We need to be ready before convection starts, and there's a lot of work to do each day anyway, so an early start *is* needed. We want to be out of airspace problems, so distance *is* required. Those are realities we just have to cope with.

But within those constraints, there's still a lot of room to move. If we can make gliding fun, we'll get people who are prepared to give it as much time as surfers, and cricket and football players.

Have a look around your launch point this weekend — are the people hanging around there laughing and having a good time? If they are, that vibe will rub off on visitors, and they'll pick up on the fun. Good times are infectious. If they aren't having fun ... well, let's just say that that's infectious too, and your visitors are likely to be walking away thinking that maybe this whole gliding thing is a bit boring. ■



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 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.

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 contact their Zone Director.

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L'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 véliplanes 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.

vol libre est le journal officiel de l'ACVV.

Les articles publiés dans *vol libre* proviennent d'individus ou de groupes de véliplanes 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.

vol libre 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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Walter Chmela's Hall of Fame induction – a personal perspective

Ivor David

The story of Walter Chmela's induction into Canada's Aviation Hall of Fame in a ceremony held in Montreal on May 27, 2006 was very well described in the last issue of *free flight*. I was one of a group of York members and their spouses who attended the event and I would like to add a few comments from a more personal standpoint.

Officially, Walter was being recognized for "His tireless devotion to the grass roots promotion and growth of soaring, his enthusiasm, inspiring leadership, and years of service with Air Cadet Gliding Programs have been of great benefit to the sport of gliding and to Canadian aviation in general". This, of course, is true, but there is so much more in the details that have not been told.

There were three other inductees that evening: Robert B. McIntyre, Albert Ross Tilley and Fern Villeneuve, all very worthy recipients of the recognition they received, but in my mind one thing set Walter apart from these three men. While they were being recognized for the contributions given as part of their careers, Walter was being recognized not for his career, but his vocation. He had a busy job running his own company as well. I think this makes it an even more remarkable achievement and a testament to the time and effort he has expended over the years, mainly in his work with York Soaring Association.

I first met Walter shortly after arriving in Canada late in 1967. He was the contact person for the York Soaring Association and I went to his home to meet him and talk about joining the club, which I did when the 1968 season started. It was a small club at the time with a single towplane and four gliders and was operating out of the now long defunct airport at Orangeville. I did not know it at the time but Walter had personally purchased all the aircraft.

I recall spending time with him searching for a field of our own. He had three possibilities in mind and was not sure which one would be the best so he bought the three of them. Then in 1969 Walter rented an Aztec at his own expense and we flew up to Chibougamau, Québec to check out a potential new towplane, which he bought. Over the years the club fleet grew to four towplanes and eighteen gliders and Walter owned them all. Eventually the members bought all the "club assets" off Walter with the exception of one towplane, which, incidentally, is still being used for towing.

Walter has been President of YSA since founding the club in 1961. This has not been a figurehead position. I recently made a list of all the jobs that need to be done to run a gliding club: aircraft purchases and maintenance, membership, accounts, banking, field and building maintenance, instructing, towing etc, etc. — I stopped counting at 65. Walter did them all. He had help from time to time but the ultimate burden of keeping things going while at the same time running his own business was his alone.

One thing that has always amazed me over the last 25 years or so is how little flying Walter has done during that period. Apart from the early days instructing and towing, and after the completion of his badge and wave flights he has only flown occasionally, filling in when there was a shortage of an instructor or towpilot. On many occasions when I was Line Chief I would go into the office and try to get him to take up an introductory flight in his beloved 2-32, but generally to no avail. His response was always the same — I'm too busy, I can't leave the office.

Not only did he go to the field on weekends to work rather than fly, he spent many more hours working on club business at home during the week. I'm sure that he still spends more time now in "retirement" on club business than most people spend working at their jobs. But time is moving on relentlessly and those days are coming to an end. Over the last 10–15 years various members have tried, sometimes without success, to relieve Walter of some of the load, but now that he is 80 this must proceed in earnest.

I was sitting with Walter and his wife Eva at the ceremony in Montreal and after he had returned to his seat after being inducted I asked him a question, "Walter, as you now look back on what you have achieved with YSA, building it into one of the largest clubs in Canada, and now this honour this evening — how do you feel?" His answer surprised me. He said, "I'm worried; membership is down, costs are going up, and who is going to do the work that needs to be done".

When all the formalities were over and the photographs taken, most of the York group retired to (where else?) the bar, where more "celebrating" and hangar flying took place. Then at the stroke of 12 we broke into a resounding rendition of "Happy Birthday, Walter" — yes, at midnight Walter reached the "Big 80".

There is no question that Walter is now tired — who wouldn't be after 45 years as "the engine of the train". I tried to reassure him that there is a solid group of mem- ➔ **p26**

Art goes to Sweden

Art Grant,
Winnipeg Gliding Club

Art was again an official at a World contest. Here are extracts from his diary back to the WGC on his adventures in Sweden.



May 24

DEAR FELLOW MEMBERS, I've arrived at the front office of the London Gliding Club safe and sound in the driving rain, Monday afternoon, by buses and a cab from Heathrow. No problems at all. A really neat place, very friendly people (as at any gliding club), and the room, shower, and dining facilities are great. Their bar makes ours look a little shabby! The club hangar has four ASK-21's and three ASK-23's. They tow with a Robin and have a 6-drum winch. And there are about 120 trailers on the field! Next report from Eskilstuna, Sweden.

May 25

After a looonng day I've arrived at the club at Eskilstuna (about 85 km west of Stockholm as the crow flies). Sacrifices had to be made — sleeping (or at least trying to sleep between the damn public address announcements) on the floor at Luton Airport. Ryanair is like WestJet without the jokes. It was

a brand new 737-800; 198 seats very, very, very close together! So here I am. Unfortunately it has poured rain all day. Workers are struggling to get the site completed but I am a day or two early so there is hope. I just moved into my trailer — it's like mine at home but with a bathroom and no heat! Two sleeping bags will be needed tonight so it was fortunate the trailer came with one.

May 28

I finally got down to work yesterday — got registered, got my 'badge', met the rest of the team. We have three weighing stations set up in the club hangar — it's much the same as Winnipeg's but in steel and a lot longer. One of the South African pilots let us use his brand new ASG-29 as a test. All went well; the scales are great. We will have four sets out in the field for the contest. Our second customer was an ASH-25 — it just made it through the hangar doors. The next was an Eta; we had to move the scales outside for that 30m monster! As with our hangar, we can only open half at a time. We have a full slate of appointments beginning at 8:00.

My concerns over beer are unfounded so far. The grocery stores sell low-alcohol beer (up to 3.8%) at a price similar to home. The stronger beer is sold under government control and is much higher in price. I haven't bought wine but sure sampled a lot at the "brie" (aka *brie fleise* — literally 'cooked meat' in Afrikaans, I believe — their version of a barbecue). Uve, whose house the South African team is renting, put eight bottles on the

table! I hope the restaurant at the airfield will open today as this is the first official day.

The South Africans have been looking after me so far — another brie last night at their headquarters. I must learn Afrikaans so I can share in all the stories! There are already disagreements happening over Open class tie-downs; everyone wants to be in the same spot — mid-runway — and the wide wings fill the spaces quickly! Watering is also going to be challenging as there are only four water stations, all in one spot. I would have liked to have cornered the market on big containers. There will be one or two (hundred) sold in the next few days!

May 30

Low overcast, light rain; it's a great day to do inspections! We have completed 53 gliders the last two days — 70 or so to go. Big problem yesterday — an ASH-25Mi rented by a nice young lady from Hungary came for weighing. The all-up allowable mass is 790 kg but with two light pilots it was already overweight. She is devastated because she has rented this to ride the backseat for the contest. There will be a lawsuit, I'm sure!

We had a social last night — one free beer and as many hot dogs as you could eat. The beer in the contest dining hall is the strong beer, at 40 Swedish krona (about 6 bucks!) and my co-worker Markus and I found out that you are not allowed to bring your own! We will find a way around this rule. The weather the last two days was great — cu all day but turning to CBs and huge rain showers in the early afternoon. There have been many landouts during the practice days — and missed configuration appointments as a result.

May 31

Just a few quick notes on my way to work. Rain, rain, rain. No flying yesterday (and nobody wanting to rig and get checked out, of course) and no flying today even though it may not rain — the field is too wet to handle the traffic. The big heavies are getting stuck just coming to us to do the configuration check. I must get to the town for some warmer clothes and maybe a little heater for the caravan. I'm already tired of bread and cheese; the menu could use a little help.

June 1

Eight days in Sweden and still not a day without some rain. It was very cool this morning — a wet 6 degrees — but the forecast is reasonable. Today they gridded those who wished to fly at 4 pm and most are still up two hours later. Our job with the technical inspection is complete. We finished the last glider, an Antares 18-metre

ship, an hour ago. It had a little difficulty making it to the hangar — the main wheel got stuck in the mud and the tail dolly ripped in half, puncturing the rudder. It was patched and is good to go.

Mario, a repair tech from Alexander Schleicher Segelflugzeugbau, helped out with that heavy ASH-25 last night and, with some assistance from the contest director, we were able to pass it through the inspection. Some instruments, the water bags from the wings, and fuel from the wing tank were removed. It will fly, and the nice young lady from Hungary was very happy (we aim to please!). Mario returned this morning with six cold beers for the weighing team.

The contest is setting up to be a great one. The world's top pilots are here as is all of the top machinery. All that we need now is a swing in the weather. Tomorrow will be the last official practice day — practice with a task — and Saturday is the opening. Rumor has it that there will be flying allowed after the opening Saturday afternoon. The pilots need it because several of the practice days were rained out this week. We on the Technical Committee are having a lottery amongst ourselves to see how good we are at picking the winners. That'll be interesting.

On a personal note, I've had all of the bread, meat, and cheese I will ever need — that is breakfast here along with corn flakes. No fruit, no good juice, no toast, no jam, no pancakes and syrup. On the plus side though, the coffee is hot and strong. Both lunches and dinners are hot, offering chicken breast today at lunch and wiener schnitzel for supper, both with boiled potatoes (a mainstay of the Swedish diet, it seems). I never thought I'd miss carrots! Dessert is unheard of, at least at this airfield.

The price of the beer dropped to 35 SK but it is still too expensive for most people. And as a result there is no real gathering place. Last night we ended at the Dutch team dining tent helping them get rid of all the beer they had imported. Don't get the impression that I'm misbehaving — one or two is all that my current constitution can handle.

Off to watch the finishes.

June 3

The opening ceremonies are about to begin. The place is looking really spiffy — everybody has been cleaning and polishing for the dignitaries. The contest administrators have issued uniforms for us — a really nice fleece with the contest logo and a T-shirt.

After we finished constructing the field scales yesterday afternoon, the crew talked me into my first Swedish sauna! That was a new experience. Hot, hot, hot.

Yesterday was my first day without rain since leaving home! I actually had my shorts on for a while, but the days are long and it cools off quickly. Eskilstuna is at N59:23, close to the latitude of Churchill, MB. The sun was up this morning about 4:30 am.

June 5

It's the evening of the second day. I just returned from a retrieve for one of the South African pilots, Mannie. He

landed about 100 kilometres north of here in a pasture in the forest. He smacked a small hole in the floorpan. The glider is now upside-down in the shop next door where Mario is working on glass repairs so it can fly tomorrow.

The weighings each day have gone well. We set up four stations (mine is across the field at the other camp) and each of us do about thirty gliders. Evenings, unfortunately, I am finding long and boring. There is nothing to do on the airfield and perhaps tomorrow I will wander into town — it's only about five kilometres away — and check it out.

I was put to work today at the flight line. I am now wearing a security vest and am in charge of crowd control at the flight line, as well as having to watch for towplanes with tangled lines. The Pawnees here all have retractable towlines, but they won't retract if there is a knot. So all I must do now is find a job after supper! Maybe something will appear.

I am stuck in the competition office. The three sailplane reps are working on two South African gliders — Mannie's ASG-29 whose fuselage repair is almost done (Peter is holding the heat gun while the gel dries) and Arnold Geerlings' Ventus C2xT had an aileron damaged when he landed 4 kilometres short of the airfield over trees and wires! Mario and a helper are also replacing a drive belt on Russell Cheetham's (UK) ASW-22BLE. It broke on the grid and he took an aerotow and flew the task without an engine (and possibly without insurance!). Would you believe that it takes two hours to replace a belt — the engine was removed and taken to our office, the cooling fluid drained, many covers taken off and finally the belt is back on. Re-assembly is underway.

The room is full of internet surfers whom I must kick out when the repairs are done — might not be until the wee hours of the morning ... and I was complaining about the evenings being long. Serves me right. I think I can do this one night in a row! Maybe I'll go for the second bottle of wine — my jacket pockets have wine glasses in them from the first bottle!

June 10

Wow! Two flying days in a row! The last of the Open class has just launched and the room will soon become busy as the crew bring in the start times — they have thirty minutes after the start to post them. Most delay for a while because the pilot may choose to restart.

Yesterday after a delayed gridding the fleet launched after lunch. It proved a good decision as most finished with fast times. The winner of the Standard class was so much faster than the rest of the field that it devalued the day by a whole lot; had he been 10 km/h slower, he would have gained over a hundred more points!

The Safety Committee reported a dangerous situation yesterday at this morning's briefing. Apparently two gliders were much too close in a thermal. First reports from one team captain were that they touched! This was withdrawn but examination of the flight recorder traces showed them less than a metre apart horizontally and less than three vertically. A general warning was ⇒ p25

Flying at Minden

Réal Le Gouëff, MSC



ABOUT FOUR YEARS AGO while reading the SSA magazine, SOARING, I was attracted by an advertisement posted by Soar Minden. This was during the time I was looking forward to flying in various areas to improve my knowledge of different environments. The ad was offering 5, 7, or 10 days packages in Minden that included glider rental, motel, basic instruction, O₂, one tow a day, badge processing if needed, and a check flight.

I started gathering information about Minden and other places (St. Auban in France, the Ridge in Pennsylvania, and other areas around the world). All these gliding sites have different challenges: mountain flying in St. Auban, “the Ridge” for Pennsylvania, wave and 18,000 foot thermals in Minden. Of course, getting to any of these places involved time and an airplane ticket for Minden and St. Auban, or a 1000 kilometre drive for the Ridge. There were also a few problems pertaining to flying solo in the US with US regis-

tered gliders. Canadian pilots cannot fly a US-registered glider unless they hold an American equivalence which is a bit complicated to get now.

At the time I elected to go to France which turned out to be very interesting and also allowed me to see some of my family members. For more information about St. Auban, go to my web site <www.stauban.8m.com>. I also went to the Ridge in Pennsylvania.

As time passed, I thought more about Minden. One of the things attracting me most was the challenge of flying high. High altitude flying and/or wave was relatively new to me. I had been flying in wave in Lake Placid, in France, and at the Ridge but had never really been that high. Due to my limited wave experience, I first thought that high altitude flying was not that complicated and that wave and high altitude flying were synonymous. I was going to learn that I was wrong.

The challenges pertaining to wave and high altitude flying are unique. It's the only type of flying where you may explore the limits of the glider's maneuverability and resistance to stress loads. Flutter, stalls, over-speeding are technical limits suddenly not hidden in the operator's manual anymore, but a fact of life.

It is also the only area of flight where you are also exploring your own physical envelope. In fact I can't think of any other type of flying that will confront you with your physical limits. The glider's envelope and your own limits will edge you into a corner the higher you get where mistakes are unforgiving. For instance if the O₂ fails at 35,000 feet you have about 30 seconds of useful consciousness. At 45,000 it's down to 15 seconds. No need to bail out — you won't have time. This is what they call “the coffin corner”!

Vne and stall close up, a unique problem that you can face. Breaking the glider in flight is not just theory in high altitude flying; this has happened. The ever-changing weather is one more problem with which you have to deal with. For instance, what can you do if you are very high and things are quickly getting overcast 20,000 feet below you?

As for yourself — cold, exhaustion, disorientation, concentration, survivability in an O₂-deprived environment, and dehydration are physiological factors that you need to know about. Finally, high altitude flying is one of the only places where the proper use of a parachute is far from being obvious. If you need to jump you may not survive anyway! If you do survive you may stupidly be killed by the wind dragging you on the ground until you are beaten to death — I saw this once when I was sky-diving a few years back. Indeed, there is a lot to learn. By my reading on the internet, I was just getting a glimpse of all this!

Obviously, the area is not the only place for wave soaring, but it is one of the few commercial operations in North America where very high altitude can be reached. Close to deciding to go, I gathered more information on Minden. Some of my main concerns were:

- First get the US licence,
- Type of glider available in Minden,

Above, Alain and I are at about 21,000 feet in one of Minden's Twin Astirs.

- Find the appropriate timing for a trip to Minden that would fit with my work schedule,
- Find the optimum season for the wave condition in Minden,
- Type of flying feasible in this area.

The US licence The paperwork is not that bad, it just takes a bit of time; the major problem is that one has to deal with an FSDO office in the US. The one closest to Montreal involved a 1000 km drive. Needless to say, the 9/11 events have not simplified this procedure. When you are approved you have a limited time to go to their office. There is no way out of this! Once this time has expired, if it isn't possible for you to go to the FSDO in person, you have to do the whole thing all over. If you don't have a US equivalence for your licence, you can still fly at Minden with an instructor.

Gliders Soar Minden is not the only place to fly in this interesting environment. There is also Truckee and Air Sailing, and many other small airports. But it seems that Soar Minden is well located with wave windows just above the field. To the best of my knowledge no other places in the area have package deals and so many high performance gliders. Its large fleet of gliders and its location make it unique. Soar Minden has four Twin Acros that are relatively roomy and pleasant to fly — they are the real workhorses. There's also a few single seaters: an LS-3, LS-4, Discus B, Mini-Nimbus, and a Grob 103. All are equipped with the necessary O2 systems.

Timing/optimum season/type of flying Minden is open all year and there are two flying seasons: September to April for the wave season, and the rest of the year for thermals. Of course, there will be thermals in winter and some wave in summer. In winter there are fewer flying days than in summer, but on the other hand it's the best wave season. It is a very good place for cross-country, I met a pilot there who makes 500+ km on almost every summer flight!

Wave History Minden has a great reputation for great wave. Thanks to the wave, some pilots have been to great altitudes in that area and done fabulous cross-countries. Wave flying was first discovered by accident in Germany in 1933 by Hans Deutschmann and Wolf Hirth, the latter being one of the two founders of Shempp-Hirth! They apparently ventured on the lee side of the Riesengebirge mountain when they got in wave.

In 1937 Joachim Kuettnner broke the world record by going to 22,300 feet in an open-cockpit Rhönbussard glider. He survived hypothermia (-50F), frostbite and severe O2 deprivation.

A little later (1951–52), the USAF got involved (they wanted to get more info on the jet stream and "clear air turbulence" that bombers were running into at high altitude) and they sponsored the *Sierra Wave Project* where wave altitudes routinely exceeded 40,000 feet over Bishop, California! More recently, Steve Fosset along with Einer Enevoldson in "The Perlan Project" modified a DG-505 for high altitude flying. They are looking forward to explore very high altitude wave, pursuing among other things the current world record altitude of 49,009 feet set in 1986 by Bob Harris. The Perlan Project's sec-

ond step involves the construction of a 95 foot span glider. They intend, with the collaboration of NASA, to explore the next wave level, the stratospheric wave whose existence has been recently confirmed. Jumping from mountain wave to stratospheric wave, they hope to go beyond 100,000 feet.

We know now that wave can lead adventurous pilots to establish not only altitude records but also cover fabulous distances, proven by Klaus Ohlmann when he made his 3000 kilometre world distance record over the Andes in Argentina.

Going to Minden Time passed and I went to various areas until the fall of 2005 when I finally was able to fit Minden onto my priority list. First I was thinking of going there on my own. But discussing the matter with fellow pilots, I found that some of them had interest in going with me. After thinking about it, I ended up believing that a trip with a friend would be much more fun, provided that we could find the appropriate timing. I discussed the plan with Alain Laprade, a club member at Hawkesbury, and both of our schedules were okay.

By that time I had gone thru the process of getting an American licence. We finally elected to go there from 8–14 March 2006. This seven day trip included two days for the flying in and out of Reno and left us five days for flying in Minden, perfect for one of their package deals.

Getting to Minden Flying into Reno, I was struck by the sheer number of slot machines, dozens just at the airport, not to mention all the bars where they are embedded in the bar tables — unbelievable!

Tony Sabino (the owner of Soar Minden) was waiting for us near the bronze statue of a skier in the airport lobby. From there he drove us to the motel. The pick-up at the airport is included in the package, something that I found attractive as I did not feel like running around to find a taxi and a motel at night... Minden is about 60 kilometres south of Reno.

First day We got up a bit early and were struck by the scenery. The east border of Lake Tahoe is a mountain range that's about 5000 agl, "the Sierras". Parts of these mountains were covered with a thin layer of snow, adding to the beauty of the scenery. It was a bit on the cold side and there was an inch of snow on the ground that quickly melted. The temperature was 4–8C.

At 9 am we phoned Tony and he came to pick us up at the motel which is about 5–10 km south of Minden Airport. On the first day we had some ground school. We read the local procedures and the operator's manual of the Twin Acro. All this reading was a bit time-consuming. Fortunately, prior to our arrival I had found much of this information on the web, but it was not on the Soar Minden website where it should have been in the first place. I mentioned this to Fred (one of the instructors). He said that the website will be updated sometime in the near future.

Then I had to do some check flights. During the course of these checks the weather closed down. It left as fast as it came and after about an hour things cleared up and

we were back in business. I completed my check flights, intending to see if I could fly well enough to fly on my own, and familiarize myself with the local procedures.

The landing pattern is right hand, always on the east side of the runway for the gliders and the towplanes, and on the west for power traffic. There are a few runways to choose from but 95% of the time it's runway 30, used even with an impressive crosswind. In fact these check flights were very good practice for crosswind takeoffs. Runway 30 has a taxiway and a dirt runway on either side. If the traffic gets hectic (up to 100 glider movements a day in summer, plus private traffic and sometimes water bombers), a glider can still elect to land on 30 taxi (30T) or dirt runways (30R). At the end of the ground roll you are requested to roll out of the way to allow traffic behind you to land if need be.

The airport is at 4718 feet. The runways are very long; you just need to use about one third of them for landing or take-off. Runways criss-cross each other in the middle. To prevent any possible collision, one must never cross the centre intersection where they meet.

The frequency is 123.3 for gliders and 122.8 for Minden traffic and ground control. Once on the tarmac while preparing yourself and your glider, you are advised to monitor the traffic on 122.8. When ready for takeoff you will probably launch right from where your glider is on the parking area on the right side of runway 30. They will turn your glider at about a 45° and there you go! Keep the wings straight and turn the glider with the rudder while the towplane picks up speed. This is unusual, but it works very well and has the big advantage of keeping the runway clear.

Upon entering the circuit you are requested to call just before joining the downwind leg, and then on downwind. We usually start the landing pattern at 6000 feet (about 1300 agl).

The instruments in the gliders are basic and their condition is okay. It must be difficult to keep everything in top condition considering the number of pilots using these gliders. The Twin Astirs look reasonably good and they work well. If need be you will be provided with a barograph (you will need to notch it in the air) or you can request a flight recorder for an extra \$25 a day. Oxygen is included in the package and you will frequently need it since the airport is almost at 5000. Sometimes you may need it right off tow if towed up to 5–6000 agl (11,000 asl) in search of the wave. Though this day was mainly about formalities, it was still very interesting. Lots of paper to sign — I must have initialled 15–20 times! We also had to take out special insurance (not included in the package) of about \$250.

At the end of the day I made my first flight with Alain, my club partner. Once done with the flying we were taken back to the motel (also in the package) and we took advantage of the fast food culture.

You get to meet odd people in Minden. One fixture is Hod Taylor, 81! He got to 42,800 feet high in a Standard Austria in 1967. This man has 10,000 hours of glider and 28,000 hours power! He was there almost every day and gladly answers your questions. I got to learn a few inter-

esting things from him. With that much experience he was an invaluable source of information.

The next day the Reno forecast was terrible. But, like they say, it can be bad in Reno and flyable in Minden. This is true! It is almost useless to listen to the weather forecast from the TV, it does not reflect reality. We got up once, but somehow quickly got back on the ground. There was a bit of wave activity though, and on the second tow we connected with it. Thanks to the towpilots who are very helpful, especially for newcomers like us. The day ended up being less than what we were hoping for but it was reasonable. Since there was a bit of snow, the scenery was gorgeous. The mountain range and the valley were simply beautiful to look at from up there.

The third day was a bad day ... overcast and nothing happening. So we went walking in town and took advantage of the fast food culture again!

On day four we went up once and came down pretty fast. We got up again and had a very good thermal flight. The thermals at this time of year are narrow, difficult, and we lost a lot of altitude between them. Still, this day was very useful to accustom ourselves to the area.

Last day Day five was our last and best day! It was much warmer, 10–15C. We got to the airport and got slowly prepared while waiting for our turn. We finally got up around 1pm. At our request, the towpilot got us right into the wave. From there on we slowly climbed with the vario showing 2–3 knots. We quickly got to 10,000 feet and put our masks on. Fitting the whole thing needed some attention. Then we tried the intercom in the mask, but while it was working on the ground it wasn't operating properly anymore, we don't really know why. As a result, speaking between the front and back seat became difficult and very cumbersome. Each time one of us wanted to say something we had to partially remove the mask which led to constant adjustment of the straps holding the mask. At about 14,000 feet, we notched the barograph, imperative if one wants an official record of the flight's height gain.

We continued to climb and around 16,000 we got on the radio to open the wave window. I tried to contact Minden ground for awhile, but we got no response. At some point we thought that our radio was out of order and that it would be impossible to get access to the window. After about 20 minutes of relentless attempts on all possible frequencies, to whoever would relay our message, we finally got ground control. By that time we were at 17,800. We were requested to stay below 18,000 while they worked on the wave window. Since we were a bit north of the window we took advantage of the waiting to fly (below 18,000) and get back to the wave area. About ten minutes later the window was opened up to 28,000 until 5:30 pm.

We gradually climbed and got repeatedly drifted back of the front edge of the wave, but were able to get back in position. The higher we got the colder it was, and the straighter we had to fly into the wind. We topped twice at 21,000 but could not get any higher. By that time I tried to get some water but the bottle had frozen up and I couldn't open it. Anyway I was so cold that icy water would have cooled me down even more.

About 5:20 we elected to slowly get closer to 18,000 — and at 5:25 we received a general call from Minden ground, advising glider traffic that the window would close in five minutes. At precisely 5:30 we were all asked to report our altitude individually. Unfortunately, our radio was receiving but could not transmit! Ground control realized that we were in a bit of trouble with it and asked us to click once for every 1000 feet above 15,000. So I clicked twice because we were back to 17,000. Upon reception they answered saying, “please confirm your altitude by clicking once for yes and twice for no”. We clicked once.

By that time we were about 50 kilometres south of Minden almost over Alpine airport. We decided to make a final run up to Carson about 100 kilometres north from where we were and then get down as the sun was getting close to the horizon. Still in wave, we traded lift for speed and got to Carson. In fact, we were close to Reno which I had confused with Carson, but fortunately we were out of their airspace.

How cold was it? — we were told later that it was between -20 and -30C. This is okay for a few minutes but after five hours my body was shaking from head to toe, and there was nothing I could do about it. We had foreseen that it was going to be cold and wore a good deal of clothing, but this was still not sufficient! Next time I will do better.

Getting the glider on the ground was a bit difficult with every part of me shaking, but I managed to do a very good landing. Getting out of the glider wasn't easy either as I was so cold I could hardly move and could barely feel my feet anymore. Simply walking made me look like an elder getting out of a nursing home for the daily walk. It took awhile for me to warm up and I was a bit concerned about possible frostbite. We ended the day in front of a good pizza.

Wave and high altitude flying Prior to going to Minden my wave knowledge was (with hindsight) pretty basic. I now think that it is important to understand that wave and high altitude flying are two different things. They are linked, but each have challenges of their own — you usually need wave to do high altitude flying, but you don't need to go that high to get into a wave! In fact, in the past, of all the times that I was in wave, I only needed oxygen once! You will be somewhat cold in a wave but you will always be very cold at high altitude. I haven't even mentioned the rotor that accompanies wave soaring. The rotor is frequently the way in and out of the wave, and in Minden rotor forces of 20g have been recorded! The list goes on. To summarize Minden:

On the plus side:

- We had our best ever wave flight and learned a lot about the wave and how to take advantage of it.
- We used a good type of glider for this type of flying (the Twin Acro).
- The scenery is fabulous.
- When present, the waves are fantastic.
- High altitude flying has to be given respect.
- People are friendly.
- Minden soaring is the only one offering this convenient type of set-up (environment, good selection of gliders, package deal) for wave flying.
- The towpilot will get you in the wave if they can.
- The staff are knowledgeable and well-organized.

- Once you know the rules, things are straightforward.
- The wave window is easily accessible and openable.

The cons:

- We were unlucky with the weather, but this is not predictable. Altogether, we were able to fly just a little over ten hours in five days . . . I was hoping for more.
- The gliders are in reasonable condition but less than what we expected.
- The package deal is good but one can spend a lot more than the advertized price.
- The instruments, especially the radios and intercom, don't work well. This leads to the painful problem of talking through the mask while at high altitude.
- There should be a lot more information about procedure on their website to help pilots to get up to speed faster.

Would I go again? I learned a great deal about wave and high altitude flying in Minden. Experimenting is a very good way to learn about theory. Going again would mainly depend on the time I have available and what I want to do. If I want cross-country then it's going to be in summer. If wave is what I look for, then I will go in fall or late winter. Despite the difficult weather, this trip was very interesting and we got to learn a lot more than we first expected.

I would really like to go again and hope to get to higher altitudes. I would certainly bring a little more clothing and a few more things to make life easier. ■

Status of Minden airport as a soaring site is under pressure

comment in the Pacific Soaring Council's *WestWind*

Gliding began at Minden in 1964 and there was a regular wave camp by 1969. The airport rapidly became a great place for tourist pilots to gather and camp for the wave and especially the long XC flying south down the mountains and east into the Great Basin. Camping, tiedowns, rigging, and launching were convenient and easy.

Over recent years, however, a combination of unsympathetic management, county commissions, developers, and a less-than-inclusive airport master plan have added more and more pressure and taken away most of the soaring-friendly aspects of staying there for the soaring community. Gliding activities have been pushed to the undeveloped east side of the airport where there are no services or utilities ... “It is [now] a hot, unsheltered, uncomfortable and inconvenient pit of an airport”, states one local user. Two soaring businesses have closed — one owner stating that he couldn't tolerate the management any more.

However, the various players are beginning to realize that soaring tourism dollars are a very significant factor in the county's revenue, and both the gliding and light aircraft groups are pushing back with some success.

The Nats

It sure didn't look good there for a while

Martin Brassard
Contest Manager

THIS YEAR THE NATIONAL SOARING CHAMPIONSHIPS were held at SOSA Gliding Club in Rockton, Ontario. To say that it was different might be an understatement, but thanks to a great team we managed to pull it off. We had planned for three classes: Club, Standard, and 15m. Just like the two previous years we didn't have enough 15m ships and the contestants decided to have a combined Racing class, handicapped and without water. So we ended up with two handicapped classes, Racing and Club.

Now let's start with the weather ... what weather! The contest officially started on Monday, 26 June with the first practice day but we didn't get our first official flying day until 1 July. And what a day that was; all the pilots were so anxious to fly in anything remotely soarable we launched in marginal conditions that deteriorated a few hours later. I'm not sure if it's a record for the Canadian Soaring Championships but every pilot landed out! That evening we were hosted to a Burger Night by the Junior soaring team. Thanks guys.

That wasn't the first day we had launched the grid; well, half the grid anyway. We attempted a first launch a few days earlier and by the time half the gliders were in the air a line of thunderstorms hit the field. Some pilots landed right away while others decided to fly away and come back once the storm had gone by. One pilot lost his way and landed at Rockton a few kilometres away. Another pilot, Dale Kramer, decided to go on course since he was already in the air and managed to fly the

task and come back to the field. Well, at least our scorers Andrew Corrigan and Luke Szczepaniak got to practise using the software. We had a wonderful pig & lamb roast which made up for a sad flying day.

After that first day we had another attempt at a flying day where only a few pilots managed to get on course. The day was scrubbed but some protests were lodged. According to the new rules, the first protest stated that we met the conditions to call it a scoring day. A counter-protest was then put forward about another technicality and the jury was called and had to decide whether or not the day would count. In an interesting twist, the first protest was accepted that the day should count and the second protest was also accepted which reversed the first protest. Confused yet? In the end, the day did not count. More protests were brought forward; however the final decision stuck.

We got Day 2 on 4 July and had many landouts again and it was not a 1000 point day for either class. However the leader board changed hands in both classes. Day 3 was a good day and the big surprise was Adam Zieba winning the day in a Blanik in the Club class. Don't bet against Adam no matter what type of glider he's flying! It was a close day for the Racing class with six pilots flying over 300 kilometres while most of the others managed just under that distance.

It finally looked like we would get our minimum four days scored to make it an official contest and morale

Early days notes from Christine Futter (ST crew)

There's been nothing to report except for the weather: thunderstorms, heavy rain, high winds, cirrus. First practice day – rained out. Second practice day - nobody even rigged. Wednesday, first contest day, 28 June – same story – showers moved in during the launch, so the day was scrubbed. Dale Kramer (K1) was able to fly the course for fun, and Nick Bonnière (ST) flew to the south and tippy-toed back from there.

The GPS tracking system that he and Frank Vaughan have been working on for the last four years is functioning but the antenna wasn't quite high enough and the signal was limited by the tall trees around the club. On a non-flying day, Dale Kramer climbed one of the taller trees close to the club house and the antenna is now considerably higher. Thanks to this system, I could watch Nick getting lower and lower, and thinking that 1800 feet msl at SOSA is considerably closer to the ground than 1800 msl at Pendleton. He managed to make it back to the field with no problem.

A crowd of people stood around the computer watching Dale fly the course on the screen until they could move outside to watch him come back for real with a scorching contest finish.

The final day, 7 July *Today, finally, it looks as if we are going to have a good day. There were cloudstreets in every direction, the wind wasn't as strong as it had been previously, the air was much drier, and the sun was shining. The task committee set an 4 hour area task for both classes. Turnpoints for the Racing class were Aylmer, Dundalk, Plattsville, and back to Rockton – a nominal distance of 372.6 kilometres. For Club class it was Aylmer, Toronto Soaring, and back to Rockton – a nominal distance of 303.24 kilometres. Although it looked so good, it was tricky in places, as some pilots found to their cost; however, the airport manager at Tillsonburg now knows how to run wings.*

was up for all. There were of course more protests and discussion about the earlier protests. Day 4 was another good day and Adam won again in the Club class — who says you can't go cross-country in a Blanik? Jerzy Szemplinski distinguished himself with a fast win in the Racing class. The last day (7 July) was by far the best — Jörg Stieber said that there aren't many days as good as that in Southern Ontario. Results proved him right — Dave Springford won the day, flying 362 km at almost 90 km/h in the Racing class while Kerry Kirby in the Club class flew 318 km at close to 80 km/h. What a way to finish the contest! The Racing class was particularly closely fought as the final scores show. We all celebrated at the Holiday Inn in Cambridge with a great meal and prizes for the winners.

Even if we didn't get great weather we did get lucky. There wasn't much rain so we all stayed dry. Most evenings we organized "swamp tours" using the "Argo" sponsored by Jörg. We took pilots and crew who wanted a tour of our grounds. We even floated them across Newman Lake hidden between the runways and took a drive in the creek and then mad crop circles. No one got hurt but some did get nervous ...

I must also thank all our sponsors and all who helped with the organization of the competition. Without their help we wouldn't have managed to be successful. ■

Scoring notes

Scoring speeds and distances shown are the handicapped values

Penalty codes:

- "a" airspace violation
- "f" no flight recorder data
- "p" administrative

		1 July			4 July			5 July			6 July			7 July			total score					
		pos	spd	km	pts	pos	spd	km	pts	pos	spd	km	pts	pos	spd	km		pts				
2006 CANADIAN NATIONAL SOARING CHAMPIONSHIPS																						
CLUB CLASS																						
1	Sergei Morozov	1	—	107.9	400	2	41.0	80.0	a365	3	57.2	247.6	864	3	66.8	218.3	943	2	75.7	299.7	946	3518
2	Anthony Kawzowicz	2	—	98.2	364	1	52.4	107.2	477	2	57.7	229.8	873	4	55.2	197.3	780	3	73.2	291.5	915	3409
3	Kerry Kirby	3	—	85.2	316	4	—	84.2	209	4	54.1	222.1	818	7	47.0	164.6	664	1	80.0	318.3	1000	3007
4	Adam Zieba	9	—	44.7	a0	3	49.7	96.6	453	1	59.6	302.3	900	1	70.8	273.6	a965	6	—	—	f0	2318
5	Chris Razi	5	—	69.0	256	9	—	—	f0	5	55.7	222.6	842	2	69.2	216.3	a957	6	—	—	f0	2055
6	Derek Mackie	7	—	43.7	162	7	—	59.0	146	6	—	105.5	155	6	53.6	170.6	757	5	64.2	263.4	802	2022
7	Allardyce/ Gough	6	—	56.0	208	5	—	71.4	177	8	—	9.4	14	5	53.7	258.5	a457	4	72.9	288.8	911	1767
8	Ron Cattaruzza	8	—	42.6	a68	6	—	62.9	156	7	—	104.3	153	8	—	99.0	156	6	—	—	f0	533
9	Hans Berg	4	—	80.6	299	8	—	32.9	82	9	—	dnc	0	9	—	dnc	0	6	—	dnc	0	381
RACING CLASS																						
1	Dale Kramer	1	—	133.5	400	8	57.5	97.5	372	5	67.9	275.1	968	3	70.9	253.9	945	2	82.0	327.8	988	3673
2	Dave Springford	6	—	97.7	293	7	60.1	89.3	390	4	68.2	274.4	972	5	69.3	266.6	924	1	83.0	335.4	1000	3579
3	Nick Bonnière	10	—	83.3	250	3	68.8	104.7	446	2	68.8	276.5	980	2	72.5	239.5	966	9	77.2	307.8	929	3571
4	Walter Weir	2	—	112.3	336	4	63.2	101.0	410	6	67.1	267.6	956	6	68.5	223.1	913	7	79.0	314.3	951	3566
5	Jörg Stieber	4	—	104.5	313	1	71.8	107.7	465	9	62.9	268.2	a881	7	68.0	224.1	907	4	81.0	323.0	975	3541
6	Andy Gough	11	—	61.1	183	2	69.4	112.3	449	7	66.9	285.3	953	9	67.1	333.6	894	3	81.0	323.5	p937	3416
7	Ed Hollestelle	3	—	110.2	330	10	—	88.6	177	1	70.2	280.2	1000	4	69.5	230.6	927	5	79.7	315.4	960	3394
8	Willelm Langelan	12	—	60.3	181	6	61.1	95.4	396	2	68.8	276.5	980	11	62.8	233.0	a837	6	79.1	315.2	952	3346
9	Jerzy Szemplinski	5	—	102.0	306	9	—	93.0	186	8	63.8	263.6	909	1	75.0	236.6	1000	8	78.2	311.6	942	3343
10	Jim Carpenter	9	—	91.9	275	5	62.7	100.9	406	10	60.5	267.2	863	8	67.3	251.9	897	11	73.8	292.7	889	3330
11	Marian Nowak	7	—	95.6	287	12	—	71.2	142	11	58.0	288.6	826	10	63.7	208.1	850	12	73.3	292.7	882	2987
12	Roger Hildesheim	8	—	95.3	285	11	—	80.9	162	14	—	65.9	100	12	54.6	191.0	728	10	74.5	296.9	897	2172
13	Steve Newfield	13	—	59.1	177	13	—	—	f0	12	57.3	263.0	816	14	—	103.6	135	13	69.9	275.8	841	1969
14	Parker / Smith	14	—	0.0	f0	13	—	f0	0	13	—	161.2	243	13	—	134.0	175	14	—	—	f0	418

Just a sample landout story

Walter Weir, 2W

I GOT MY ASW-27B in the spring of 2002 and I've already put more than 900 hours on it. I have failed to get home quite a few times but always managed to land at an airport, never *aux vaches*. The 2006 Canadian Nationals changed that!

After three days of waiting for weather it looked like we had a flying day on 1 July, although not a very good one. The forecast called for winds of 18 knots increasing later in the afternoon with a high overcast moving in. Our task was northwest to Toronto Soaring, southwest to Embro, then east back home with a time limit of 3 hours. Both turnpoints had 30 kilometre radius circles meaning that

we could call the TP made if we got to within 30 kilometres of it, but to score well we had to go far enough to use up at least 3 hours.

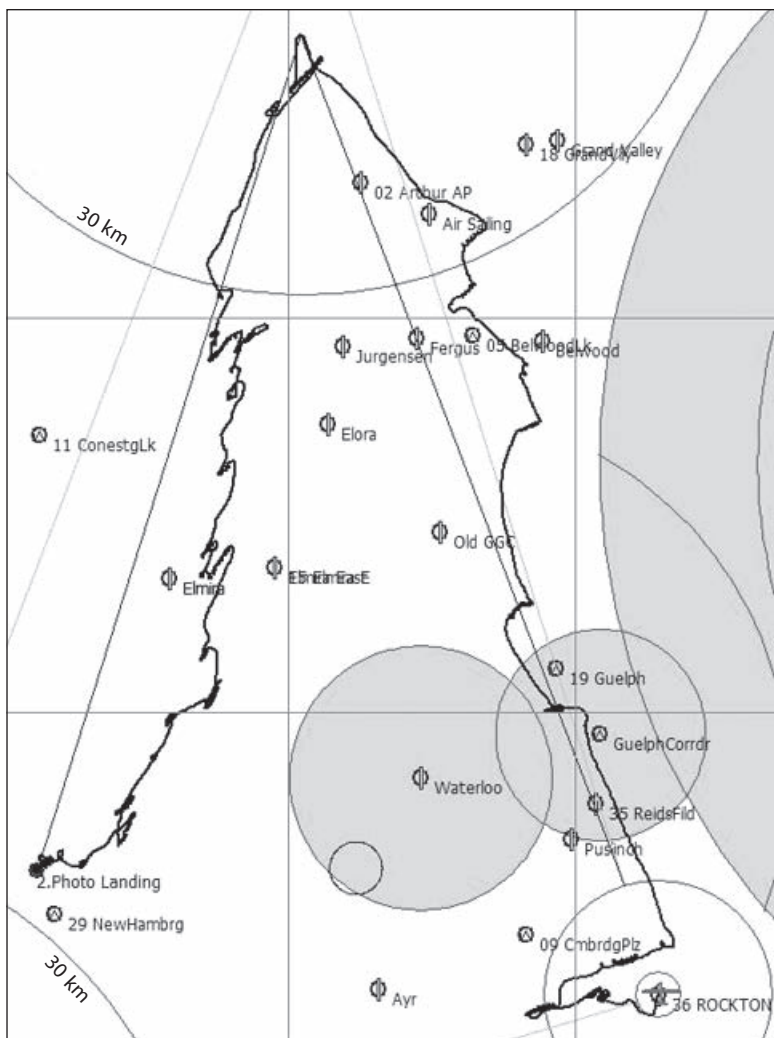
Conditions were great at first. I got to 6100 msl before the gate opened. The run to the northwest in a crosswind went well and I did 64 km at 76 km/h. Then the bad part started — southwest directly into the wind which had increased to 21 knots. The high overcast came in, and most thermals got me to less than 4800 msl. At one point I scratched my way back up from 1200 agl. I toiled on for another hour and a half covering 40 km at 27 km/h. I had only 3 km left to go to touch the 30 km circle and then I could blow home in a quartering tailwind but it was not to be.

Now less than 800 feet above ground in a thermal averaging less than zero and blowing away from my goal at 21 knots, and with no airport anywhere in reach, it was time to visit a farmer.

All the fields were crosswind. The ASW-27 has a good strong undercarriage and will take rough ground but the wings and tail boom are fragile to say the least. If I catch a wing in the crop I'm going to break this airplane. That brown field looks good from here. It might be rough plowed so I need to land along the furrows. That won't be easy in this crosswind. There's a tractor in the field and it seems to be pushing, not pulling, it's implement. The ground is two shades of brown, one which has been worked by the tractor and one yet to be done. If I set up to land over the tractor I can choose the smoothest side on short final.

I scared the bejesus out of the tractor driver but the field was beautifully smooth on both sides of the line and the landing was uneventful. The tractor driver was Jamaican, wearing a parka jacket in the 28 degree heat! I apologized for landing in his onion field, which he was hoeing by tractor, and for ruining some of the crop. He told me I had frightened him half to death but that he didn't think Mr. Pfenning would worry about a few onions.

It turned out that Wolfgang Pfenning (of Pfenning Organic Farms) was a power pilot who had soloed gliders in Germany and so I got a royal reception. There must have been ten Jamaicans pulling the tow rope to get the glider to the end of the field. Andrew Corrigan and Barbara arrived with the trailer less than an hour after I landed thanks to Andrew's intimate knowledge of the area, and we were back at SOSA in plenty of time for dinner with another gliding adventure in the log book. ■



Virtual Soaring

It's getting really realistic!

Al Stirling, Cu Nim

Unlike more fortunate countries, soaring in Canada doesn't occur year round; typically it's from snow melting to snow staying. That time frame can vary considerably depending on the part of the country one lives in. So what does one do in the off-season to satisfy the flying craving? Well, one could take a trip to some part of the world that offers soaring year round (or at least during our winter). To accomplish that, however, requires time and money — items that are in short supply to many soaring pilots.

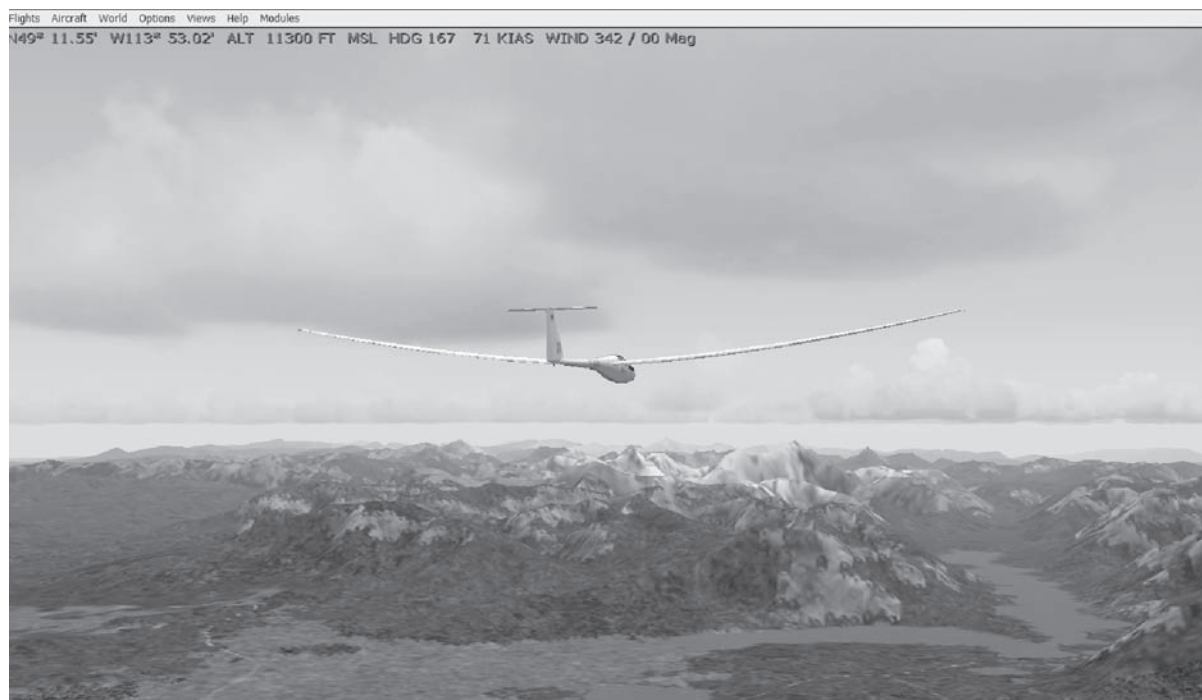
An alternative is to try virtual soaring. That's soaring in the comfort of your own home with the aid of a computer. It's essentially a computer game, but without all the sex and violence. There are a couple of games strictly related to soaring, but my choice is the most recent version of Microsoft's *Flight Simulator 2004 – A Century of Flight*. You may be thinking, I've tried that and I'm not going to waste my time flying Microsoft's default glider, a 2-32. I agree. You don't have to.

There is a large virtual soaring society out there that over time has developed a large number of products for the virtual glider pilot to use. The best part is that you can download most of them for free. A large selection of gliders, from vintage to the most recent, has been created. They usually have fully functioning control surfaces and spoilers, and some even have opening and closing

canopies. By fully functioning, I mean one can see the control surfaces move while moving the controller (usually a joystick).

The gliders are usually equipped with the normal instrumentation including yawstring and audio vario. For navigation most of the gliders include Cambridge's GPSNav and LNav instruments. To make full use of these instruments, there is a program that allows one to use specific turnpoints and to create tasks relevant to any flying area. Although this technology is relatively old, it is still very functional. If one wants to use something more modern for navigation one can hook up their PDA loaded with *WinPilot*, *SeeYou* or the like. This is done through a little add-on program called *GPSout* which sends standard GPS sentences from the flight simulator through a serial port connection to the PDA. Sometimes these connections can be a little finicky, but I've managed to do this with a Dell Axim V51X through a Blue-tooth connection to my computer. As each set-up is slightly different a little experimentation will likely be necessary. However, this is an ideal way to learn how to use the PDA moving map software before the soaring season begins.

I've included some screen shots in this article to whet the appetite before I go into brief descriptions of the basic requirements to get started.



Flying an ASH-25 close to cloudbase towards Waterton Park village.

As in real life soaring, one needs lift in the virtual gliding world in order to stay aloft. As you probably guessed, there is a program that can do this as well. The most recent thermal generating program will create both random thermals and ridge lift over a specific area. It is very customizable enabling one to adjust the strength, height and size of the thermals. It also incorporates sink between the thermals that the early generation thermal programs did not have. It even allows one to build up to three permanent house thermals. For ridge lift a little up-front work is necessary to create slope files in the area one wants to ridge soar. This is not difficult and the documentation on how to do this is very good.

Actually, I prefer the ridge lift to thermals. There is something very satisfying in hearing the audio vario pitch increase as one flies into the optimum part of the ridge. Depending on the ridge one chooses and the wind settings selected, long distances can be attained. My favourite is flying from the Sparwood / Elk Valley Airport which accesses a very long mountain range to the north. The downside is that as one gets closer to the ground, the terrain loses the apparent detail as seen from higher altitudes. However, this perception quickly diminishes as one's attention diverts to avoiding the numerous "trees" sticking out from the mountainside. *Google Earth* can be a big help in determining which ranges are good candidates for ridge lift.

The advantage of using *Flight Simulator* in addition to all the third party software available for it is that one can set it up to fly from one's home field. I fly at the Cu Nim Gliding Club southwest of Calgary and Microsoft has the Cu Nim's field in their airport database complete with runways and hangars. As a matter of fact, 23,760 airports around the world are listed from which one can fly — Microsoft has essentially modelled the entire planet in 3D. Some areas are rendered with more detail than others, but if one wants to fly in an area that has minimal detail, I'm sure there is an add-on download that can improve the level of detail.

Another cool feature of *MS FS9* is the multiplayer mode. Using this feature, one can compete with other virtual glider pilots through either a LAN or internet connection. Competing pilots load up a common flight and weather scenario and once a connection is made the race is on. If all pilots have the same slope files for ridge soaring, the ridge lift will be the same for all on-line pilots. However, unless specific thermals are created for multiplayer mode, each pilot will have their own individual thermals. That means if one sees another virtual glider thermalling, it is most unlikely that one will find lift in the same spot. This definitely eliminates leaching. This situation is described in the documentation that comes with the lift program.

It's kind of neat flying with another glider in multiplayer mode considering that someone from either across the city, province, or country is piloting the virtual glider one is seeing on the computer monitor.

A downside of using *MS FS9* is that there is no aerotow function (at least not yet). However, most of the newer gliders have a virtual winch launch feature that will get you up. Once released it's very important to get to the lift immediately if one wants to have an extended flight — just like in real life soaring.

Computer A relatively new computer will allow a reasonable frame rate while providing a high level of detail. An internet connection is necessary to download the various add-on programs and gliders. An internet connection will also allow one to fly with other virtual glider pilots in multiplayer mode if so desired. My computer has a 3.4 GHz processor with 1 GB of RAM and a video card with 128 MB of video RAM. I get pretty good results with this setup. If one doesn't want to get a new computer right away, upgrading the video card can improve the performance considerably.

Joystick with Coolie Hat and Throttle Lever These are relatively cheap these days and this should be the mini-



Cockpit view of an ASH-25 nearing Waterton Park. Its panel is very realistically rendered.

mum configuration. The joystick obviously emulates the joystick in the glider. The "Coolie Hat" allows one to pan around to improve the situational awareness. The biggest downside to computer simulated flying is not having realistic views of the outside world. One has to use the keyboard or joystick to look in other directions. However, one gets used to it after awhile. The Throttle Lever can be reconfigured to be used as spoilers so that one can apply varying amounts of spoiler as needed when landing. All the usual glider functions such as gear up or down, flap position, trim, and spoiler use can be done through the use of the keyboard, joystick or mouse.

Rudder Pedals By adding these one can practise side-slipping and slipping turns. They are also used for directional control during takeoffs and landings with a crosswind. One can get by without them but they do add another element of realism to the simulation. Instead of getting rudder pedals one could get a joystick that has the rudder control incorporated in a twist handle, but it really isn't quite the same.

Okay, now that the (relatively) expensive part has been taken care of, here is the cheap portion of the set-up.

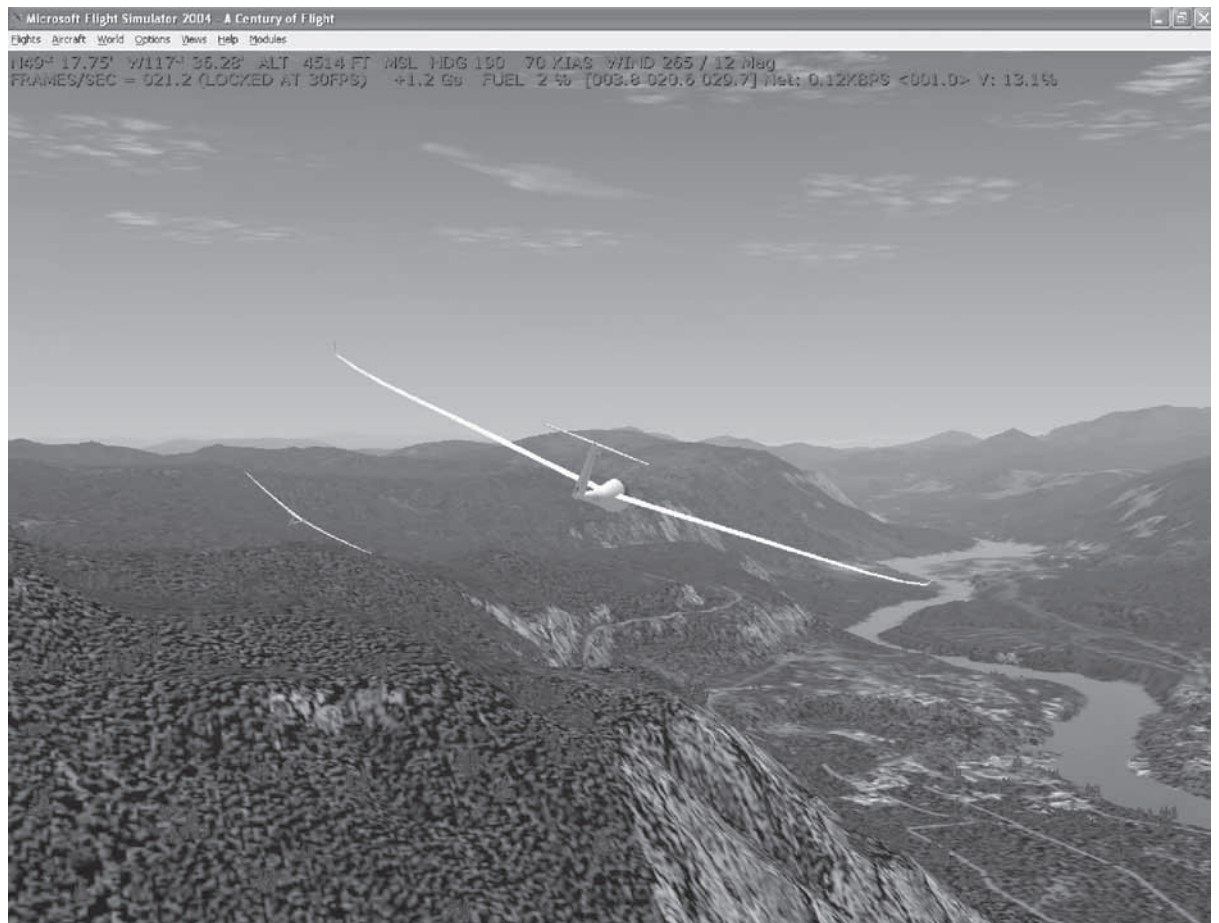
Flight Simulator 2004: A Century of Flight (aka FS9, FS2K4 or Flight Simulator 2004)

This is Microsoft's most recent version and should cost around \$40. Once installed, one can fly many different types of power planes from many different airports under many different weather conditions in any season and time of day. With an internet connection one can also download real time weather conditions that are

updated every 15 minutes. To get into virtual gliding, however, one has to download a few additional programs and, of course, the gliders. Most of the programs and gliders can be obtained through SOAR at <http://www.virtualsoaring.org/goto.html>. This website is devoted to virtual soaring and contains much information about virtual soaring and links to other excellent sites. It's essentially an international virtual soaring society.

Gliders Numerous sites have gliders available but the easiest way to access most gliders compatible with FS2004 is directly from the SOAR site. From the Welcome to SOAR page, select downloads from the SOAR menu, then Aircraft, then FS2K4. Clicking on "The Gliders of Wolfgang Piper" heading will take you to his website where he has a large selection for downloading. As you'll see, the gliders range from vintage to the very modern. Glider installation is usually straightforward but some text editing of FS9's "ini" file will be necessary. Most gliders include pretty good documentation in the Read-Me files on how to install them. Clicking "Links" in the SOAR menu brings up a list of many links to other websites along with a brief description of what you'll find there. Most of the add-on programs you'll need can be found in this list.

Waypoints and Tasks The program that you'll need is "FSZweverView 2.exe", available at www.fszwever.com. It is a program that allows the transfer of waypoints and tasks to the glider's GPSNav. This is done through a text file containing a list of waypoints in a format compatible with the Cambridge GPSNav. Along with some basic diagnostic tools, the program also allows one to save a ➔ **p24**



A Duo-Discus catching up to an ASH-25 in multi-player mode.

Going further & faster

Pete Masson offers tips on how you can increase your cross-country speed

from *Sailplane & Gliding*

A

Glide

B

Climb

I'M NOT REALLY INTO RACING, I'm more of a distance pilot... a much over-used phrase. Let me introduce you to a basic equation: $distance = speed \times time$. If you have more time, you can go further! The only trouble is that the soaring day is limited. So actually, if you want to go further on any given day, you do have to go faster.

So, what do we mean by faster? We mean average cross-country speed. I'd like to introduce you to another way of looking at the above equation, more appropriate to what we are trying to do: $task\ time = time\ cruising + time\ thermalling$. So all of our time is either thermalling (staying still over the ground, gaining height), or cruising (using our height to gain distance). So to decrease total time (that is, go faster), we can either spend less time cruising, or spend less time thermalling – it's as simple as that! Well, almost.

How do we spend less time cruising? Primarily, we need to fly faster between thermals. However, we'll also lose more height. Because we need to gain more height, we'll need to spend more time climbing. We'll need to find some sort of balance there, which we'll have a look at with some MacCready theory. Also, the closer we stick to track, the less distance we'll have to cover.

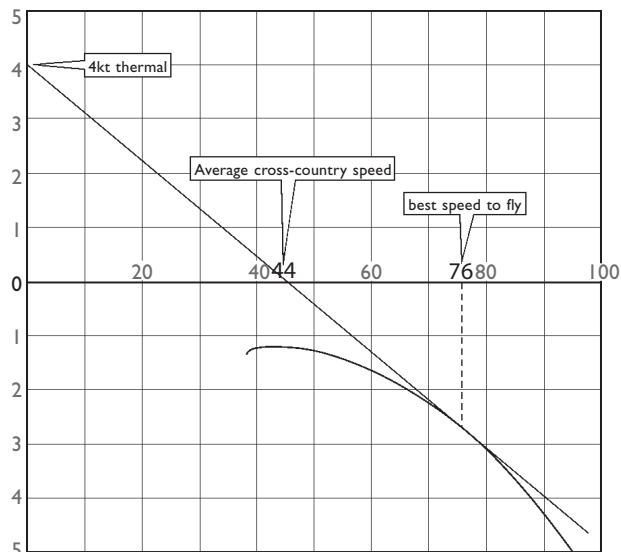
How do we spend less time thermalling? Quite simply, we need to find stronger climbs. Strictly speaking, the most important factor is our average climb rate over the whole flight. You can think of this as the total height gained in thermals (from the moment you roll into each turn to the moment you roll your wings level on track) divided by the amount of time spent turning. Many flight analysis programs will work this out for you. You'll almost certainly find that this average is lower than you thought! Of course, if you cruise efficiently, you will also have to spend less time thermalling – for example, if you can gain some height in a straight line, you won't have to gain that height by stopping in a thermal.

MacCready theory Most of us have come across MacCready theory by the time we go cross-country. What I want to do is to look at the important points while also

considering its limitations. Firstly, why is it useful? It tells us:

- the best speed to fly between thermals, given that we know what the next thermal strength is.
- the theoretical average (cross-country) speed from the top of one thermal to the top of the next (A to B in the diagram above).
- If we are cruising, it tells us the best speed to fly (faster in sink, slower in lift).
- how fast to fly if there is any wind – but *only* if we are flying to a point on the ground: that is, final glide or gliding into a TP (faster into wind, slower downwind).

Let's have a look at my DG-101's polar below. If I know my next climb is 4 knots (achieved average, remember – including the faffing around at the bottom and top), I draw a line from 4 kt on the y-axis to a tangent on the polar curve. Where the line meets the curve is the best speed to fly between thermals. Where the line cuts the x-axis gives us our average cross-country speed – that is, from the top of one climb to the top of the 4 knot thermal we will take (so we are assuming no height loss). So



my best speed to fly is 76 knots, and my average cross-country speed will be 44 knots (81km/h).

We can do this for a variety of climb rates:

Average climb rate (kt)	1	2	3	4	5
Speed to fly (kt)	57	64	69	76	81
Average XC speed (km/h)	42.6	61.1	72.2	85.2	90.7

We can also look at what happens if we fly at a speed other than the theoretical optimum. So, if we know the next climb is 4 knots, and we choose to fly at 60 knots, we draw a line from 4 on the y-axis to the point on the curve, which is 60 knots (see above). This gives us an average cross-country speed of 42 knots (78 km/h). So, let's see what happens at a variety of MacCready settings (cruising speeds) in the case that we climb at 4 knots.

MacCready setting (kt)	1	2	3	4	5
Cruising speed (kt)	57	64	69	76	81
Average XC speed (km/h)	75.9	79.6	81.5	85.2	83.3

What should strike you about this is that the speed that you cruise between thermals doesn't have a big bearing on your average cross-country speed (halve the MacCready setting from 4 to 2 knots, and speed reduces by only 6.5%). However, your average climb rate has a very large effect on your cross-country speed (halve the climb rate from 4 to 2 knots and cruise speed reduces 28.3%).

Of course, there's another effect when we change our cruise speed – our glide angle. Using my DG-101 with the 4 knot climb rate example again, at 76 knots the glide angle is 27.1:1. At 64 knots, the glide angle is 33.7:1 – I can go 24% further! That means I can sample 24% more thermals. That means I have more chance of getting a better thermal.

In practice, if flying at the 2 knot setting means I actually get 4 knots every time, rather than an average of say 3 knots (because I'm flying faster and having to take weaker climbs to get to the 4 knot climbs), my average cross-country speed actually goes up by about 7 km/h! Put another way, achieving a high average cross-country speed is as much about the thermals that you can reject as the thermals you take. By flying slightly slower and having the option to reject weaker climbs, we can actually go faster!

Flying with water ballast involves similar considerations. Carrying water means that you can fly faster in the cruise for the same height loss. It also means that your climb rate will be reduced, not only because your sink rate at thermalling speeds is increased, but also because it may be harder to get to the core of the thermal. Finding the correct weight to fly at is again a balance.

Everything so far is all very well in theory. However, MacCready theory makes many assumptions. It's important to know these so that we can understand its limitations.

Some of these assumptions are:

- The next climb is the strength you predicted (how good are you at predicting the future?).
- You are able to reach the next climb of the predicted strength (ie. the ground doesn't get in the way first!).
- Air between thermals is still: no lift or sink.
- Thermal strength is constant throughout its depth

(remember, it's actually the *achieved* climb rate that counts).

- It doesn't work in the way described for wave flights.

To optimize our performance we should also slow down in the lift and speed up in the sink. How close should we stick to the theoretical speeds? Consider that we're flying at 70 knots and the variometer indicates we're now flying in some rising air. It takes a vario about two seconds to react to this. Once we have this indication, let's say that it takes another second for our brain to react and apply an input to the controls of the glider. If we pull back, maybe it'll take another four seconds to slow to 50 knots. In those seven seconds, the glider has travelled some distance. We are now flying at the right theoretical speed for the air 250 metres behind us – potentially we are back in sink, and flying much slower than we should.

So, if you try to rigidly follow the best speed to fly, you are acting on history, you won't feel the air all that well (which bumps are your control inputs and which are due to the air?), and you are also creating drag by wagging the controls! In practical terms, pick an appropriate speed for your position and the conditions, and try to stick to it, unless:

- There is a general trend in the air movement (for example, you are under a street);
- You are expecting to fly into a thermal;
- You are leaving a thermal (and expecting sink);
- The next few clouds look better/worse than you previously thought.

So, practical speeds to fly? Well, as a rough guide:

Weather ahead looks dodgy?	0-1 kt
Weather ahead looks ok?	1-2 kt
Weather ahead looks very good?	2-3 kt
Weather ahead looks fantastic?	4 kt

In my DG-101 (without water), that equates to speeds of about 55 kt, 60-65 kt, 70 kt and 75+ kt. With my LNav, I basically use the MacCready setting to shut the bloody thing up when I'm cruising!

We've now looked at the theoretical side of how to go faster. The key point is that flying at the optimum speed only makes a few per cent difference to our speed. I've shown that, as I was once told, there are three key things that will give you a faster cross-country speed:

1. climb rate
2. climb rate
3. climb rate.

If flying slower than the optimum allows you to increase your average climb rate, then you can increase your average speed (which is the ultimate goal!). As important as making sure that we find the best climbs is making sure that we can reject the worst climbs. After any racing day, you can listen to pilots' banter. Invariably, for those who had a good day the story will be: "It was easy – I only stopped for 4 knots and never got low". For those who had a bad day the story will be: "It was awful, I kept getting low and had to top up in 2 knots all the time". How can two pilots flying in the same sky, who maybe even started at the same time, have such different stories?

I know from my experience of those "bad days" that, more often than not, a bad day is caused because at some point I found myself in a situation where I had to take a weak climb (thus reducing my average speed). I found

myself taking a weak climb because I ran out of options (I had to take it as the risk of outlanding was becoming too high). I probably ran out of options because I hadn't planned the previous part of the flight very well. I almost certainly hadn't planned that part of the flight well because I wasn't fully aware of what my options were, so didn't see them eroding. The competition pilot on top of his game is constantly appraising his situation and the environment he's in to ensure he never has to take a weak climb.

A comparison to snooker is a good one: great players always think several shots ahead and also have in the back of their mind, "what if this next shot doesn't work?" So, what I want to do is help you build a big picture of the things that will help you go faster – that is, help you to achieve a higher average climb rate over the *whole* flight.

Increasing your climb rate The first place to start is the thermal itself. There are three things we can do to help:

- Find the thermal efficiently;
- Centre quickly;
- Leave efficiently (before climb rate drops).

Finding thermals seems almost like a black art. How can you find an invisible volume of air? Well, as any soaring pilot knows, we aren't entirely without clues. Cumulus clouds are the obvious start – they are effectively telling us a little bit of history (where the thermal was at our height a few minutes ago). The closer we are to cloud-base, the better they are as a guide. If you know where to look under the cloud, even better! The sunny or windy sides are often worth a try. With experience you may even be able to pick out subtle details (such as movement in the cloud, or change in 'colour') hinting at the best bits.

On a bigger scale, we should be comparing the layout of the clouds to our task, and performing a 'join the dots' exercise. Think of your next turnpoint as the far side of a river, and each of the clouds is a stepping stone. What is the quickest, easiest way to get to the far side? Other gliders and birds turning may be a good clue – if you're climbing nearby, they may even be useful for determining if you could be doing better if you move to them.

Ground features are perhaps good for a 'bigger picture', but may be more essential on those days without any cu. When looking at the ground, have a think about how it would warm up – picture yourself in the environment. If you were standing in a town or ripe wheat field, you'd probably feel warm, so they are likely to be good thermal sources. Sun-facing hills or power stations are highly likely to be good sources. Also, remember that thermals tend to roll up the sides of a hill and come off at the top.

When you fly into a thermal, be ready to turn... and be as equally ready to reject it! If you are rejecting it, you have hopefully thought a few steps ahead so that you know where you are going next. If you do a turn and the thermal isn't there, then is there any point in doing another circle in almost exactly the same place? Perhaps the hardest part of this is to understand what a thermal 'feels' like.

Centre quickly Once we've found our thermal, we need to centre on it. That's a whole article in itself! There

are a host of techniques we can use to help find the centre. Ideally, as you fly round the thermal, you need to form a mental picture of where the thermal is and 'put' the glider in the circle which achieves the best climb rate. If in doubt, make sure you are flying smoothly so that you can feel the air, rather than confusing the feel of the glider with your rough inputs.

Leaving climbs efficiently To leave a thermal efficiently, we ideally need to look at the cloud so that we can be as diligent at choosing a high-energy route out of the thermal as we were on the way in. We also want to try to make sure that we don't hang around for a few more turns while the climb deteriorates. After all, that would decrease our average climb rate.

If you want to look at it another way, if you do one extra turn at the top of a climb without going up, you have wasted 20 to 30 seconds. If you do that every thermal, that could be (say) eight thermals per hour. On a five-hour flight, that might be 20 minutes. You could have gone over 6% further/faster on that factor alone! Most wasted turns at the top of thermals are likely due to not having a plan. Again, while climbing up, we should have been looking ahead to find out what our options are, and in particular working out what our next step will be, so when the climb rate has dropped below an acceptable level for our position, we can level our wings and go.

Build a 3D picture of the task area What are the factors that affect our decisions on a typical cross-country task? Here are some suggestions:

- Ground features (power stations, ridges, towns, water, low ground, high ground)
- Weather/clouds (cumulus, altocumulus, cirrus, fronts, wind strength and direction, streeting, wave, etc)
- Other gliders
- Landability
- Airspace
- Glider performance (more climbs are within reach of a better glider)
- Your ability (as you get better, the better you are at finding climbs)

The first three factors are looking at where the energy is (or isn't) in the sky – primarily, we should be making decisions based on these. Earlier I mentioned things to look for to find climbs efficiently. Equally, on the flip side watch out for likely problems – areas that have been covered by cirrus or spread out will not be as great for thermals as sunnier areas, and neither will wet lowlands. Can you see lots of gliders low and not turning ahead? Remember, we can go faster by not getting into trouble ourselves! The last four are aspects that won't help us in our quest for a stronger climb, but do have a bearing on the decisions we make.

Know your options Once we've built our 3D picture of the sky and our environment, we need to work out how we're going to play this game of snooker. Before making any decisions, we need to know what our options are. Which potential climbs can we reach? Are there any lines of energy near our track? Is our track likely to be restricted by airspace? Are there reachable, landable fields where we are going? What happens if our plans don't work as expected? It's also worth thinking about how good our options are – is a route with one fantastic

option better than another route with two okay options?

Consider this: when you are high, you can reach lots of thermals and therefore have lots of options. If you have a street in front of you, you have lots of options. If you have lots of options, you can reject the worst ones. When you are low, you have fewer options and are more likely to have to take the worse options. If you are flying parallel to a volume of airspace, you maybe only have half the sky available to you – that is, half the options. If you only have one landing option, your soaring options are tied to your need to be able to reach it should you not find a climb in time to turn back.

What I'm saying is, *options = speed*. If you have a lot of options, you can afford to reject the not-so-good ones. If you have few options, you are forced to take what you get. If you are getting into a situation where your options are reducing, think about how you can stop them eroding further. Even though there are 4 knot thermals, we're only half way to cloudbase with a big gap to the next clouds: perhaps it's time to take 3 knots before our options erode so we have to take 2 knots?

Make plans So, we've built this big 3D picture of our task area. We know what our options are. Now what we need to do is to put them all together and make some plans. I always have three plans available:

- 1 *Long-term plans*: the big picture. For example there is airspace close on the right side of my track, so I'd like to bias my track to the left where possible.
- 2 *Medium-term plans*: the next few steps. For example the next few clouds we are going to sample – there's a great line that's left of track but it has lots of options so it should be quicker than gliding straight across the blue hole that's on track.
- 3 *Short-term plans*: what's my next decision? For example, what is the next cloud to try? What route shall I take under this cloud?

The plans all have to lead into one another of course – there is no point in choosing a medium-term plan that makes the long-term one unachievable! Plans should

also be flexible – that is, have more options available. Any plan is an amalgamation of our chosen options, but most decisions are based on probabilities so we are likely to get them wrong fairly regularly. When they do go wrong, we need to know what the other possible options are so that we can make some quick decisions and come up with a new plan. Remember: if we have to do a couple of turns in zero before we make a decision, we have just reduced our average climb rate.

If we're racing cross-country for several hours at a time, it is (or should be) very hard work. There's a lot to concentrate on, and it's easy to get distracted. Once you are distracted, it's very easy to stop making plans, and this is when you are most likely to get yourself in an unnecessary hole.

Try to recognize things that distract you, and do what you can to fix them – it might be an uncomfortable sitting position, or it might be that you are too eager to use all the functions in your expensive PDA software. If you can eliminate these things, you will have that bit more capacity to contemplate the energy in the sky.

Conclusion I hope you now have a reasonable idea of the things you should be concentrating on to enable you to go faster cross-country. There's a big world of information out there in the sky, and 99% of what's going to help you go faster is outside the cockpit. It's down to you to interpret it to make best use of it.

If you're ever getting yourself into a hole, the first trick is to recognize the fact. The next step is to work out what your options are, and finally to make some plans which will get you back running again. And remember: the key factor that will ensure you go faster is your average climb rate. ■

Pete Masson is a British Team Coach and the 2001 Club Class World Champion. Graphics by Steve Longland.

PS What you know for sure, isn't; and 'Stigler's Law' states that "no law is named after its true discoverer". See the next issue on the origins of the "MacCready theory". Tony

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safety & training

The OSTIV meetings, June 2006

Ian Oldaker

Chairman, OSTIV Training & Safety Panel
SAC Director of Operations


The International Gliding Commission's OSTIV Training and Safety Panel (TSP) and the Sailplane Development Panel (SDP) met for three days in early June in Eskilstuna, Sweden. The World Gliding Championships took place at the same time from the local airfield. This report concentrates on the TSP meeting and some items discussed with the SDP.

Representatives from major gliding countries were present as the TSP concentrated on recent accident types and trends. Reports from several countries showed that stall/spin accidents account for a majority of crashes, with distractions as a major problem. Other accidents involved the occasional bailout after for example, a badly rigged glider that became disabled, or after mid-air collisions (3 fatalities in Germany from this cause). Poor rigging caused a double fatality when one wing of an RF-5 folded on takeoff. Similarly, the *Hotellier* control system connectors have been implicated in a number of incidents/accidents as the older gliders using these connectors come into the hands of less-experienced pilots. Attempts to pick up the wing (instead of releasing immediately) on the initial take-off roll were responsible for many serious accidents, so much so that the TSP were quick to recommend that the training of new pilots should include releasing immediately if the student has difficulty initially keeping the wings level at this point. Accidents from instructors pulling the release low down to simulate a launch failure also accounted for many accidents. Again the TSP recommend low-level simulations be demonstrated only, with students only practis-

ing interruptions from 100m and higher. The SAC FT&SC is working with these recommendations, and changes to the SAC instruction manuals are being made prior to posting on the SAC website.

Instructors *late to react* to take over control is another continuing problem area in a number of countries. Takeoffs with long grass, fatigue after long flights, low-level launch failures followed by attempts to land back at the launch point accounted for several accidents in 2005. A person on the ground was killed by a fast and low glider finishing a task in the UK. Side-by-side two seaters were again a problem for the left seat pilots because their handling of the stick and the airbrakes are reversed and in a moment of stress can move the wrong control.

It is interesting to note that Finland has not recorded a fatal gliding accident since 1991; they have approximately 25,000 flights annually with 1950 pilots, approximately the same number of flights annually as Canada.

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The UK rep reported the number of write-offs has remained static at about 15 per year since 1987, in spite of a 30% reduction in activity over the period! This is likely to remain the same unless serious action is taken to try to reduce this rate. One interesting observation is that military clubs in the UK have a crash rate that is three times lower than in civilian clubs. The BGA accident rate with *trial lessons* (intros are required to be given basic instruction by an instructor in the UK) is considered unacceptable, with poor weather and lack of supervision mentioned as contributing factors. The UK is now embarking on a major safety initiative, led by the BGA Chairman.

New licence format coming

Transport Canada is proceeding with a plan to replace existing pilot licences with a new style licence document. As a government document, the current licence does not provide very good security and has no photograph of the holder associated with it and it needs a separate validating medical certificate. ICAO doesn't specify a format for pilot licences, although it does specify what data must be on a national licence.

Because the format for licences is not specified in the CARs, TC has no requirement to consult with industry on the format, but kept associations informed as the new format developed. TC decided that the new licence format must include secure photo ID along with a means of showing all licences held, medical certificates including renewal stamps, PPCs, etc, in one document. The best way of doing this was to create a multi-page booklet format document that resembles a passport. It will be the same size, shape and made of the same paper as the Canadian passport, with the same durable cover and printed by the same company. This results in a significant cost savings over any other format.

The new licences will be issued to existing licence holders at no cost and will include the new language proficiency rating. Pilots will be required to provide a photograph for the

SAC Western Instructor Course

The five day course was conducted 10-15 July at the Edmonton Soaring Club. The facilities and aircraft (2 Pawnees and 2 L-23) were excellent. All the participants felt that they benefited greatly from their training experience. With 7 instructors from ESC and 5 of

them earning their Class II SAC rating, the club will be in good shape for instructors. ESC CFI, Bob Hagen, said with such a great turnout and commitment from his instructors, it will help the club with training consistency and standards. The course was blessed with four days of excellent flying weather and some good crosswinds.

Dan Cook



Back row, l to r: Niel Siemens (ESC towpilot), Paul Chalifour (Cu Nim) deputy course director, Graeme Craig (ESC), Ron Cattaruzza (ESC), Roy Eichendorf (Saskatoon), Richard Lewanczuk (ESC), Wayne Watts (ESC), Henry Wyatt (ESC), Bob Hagen (ESC) towpilot, Dan Cook (CD).

Front row, l to r: Dave Luukkonen (Saskatoon), Abe Preisinger (ESC), Dale Brown (CAGC), Les Oilund (Grande Prairie), Phil Stade (Cu Nim), Guy Blood (ESC).

identification page of the licence. This may either be a current passport photo with a guarantor's signature, or a photo taken at a Transport Canada office.

The presence of a photograph on any government identification requires a valid term of no more than five years. This means licence holders will need a new photo and licence every five years. The new licence format has some distinct advantages to pilots. It will provide a secure licence that will combine all needed personal aviation documents into one booklet that is easy to carry. Because it has a secure photograph, it should make identifying yourself at airports easier. The

main disadvantage is that licence holders will have to have their photo taken every five years, and when you see a CAME for your medical you will have to remember to have them stamp and sign all booklets.

Licence holders will receive a notice from TC asking them to provide a photograph and giving instructions on how to do that. The new licences should be in the mail to existing licence holders some time in mid-2007.

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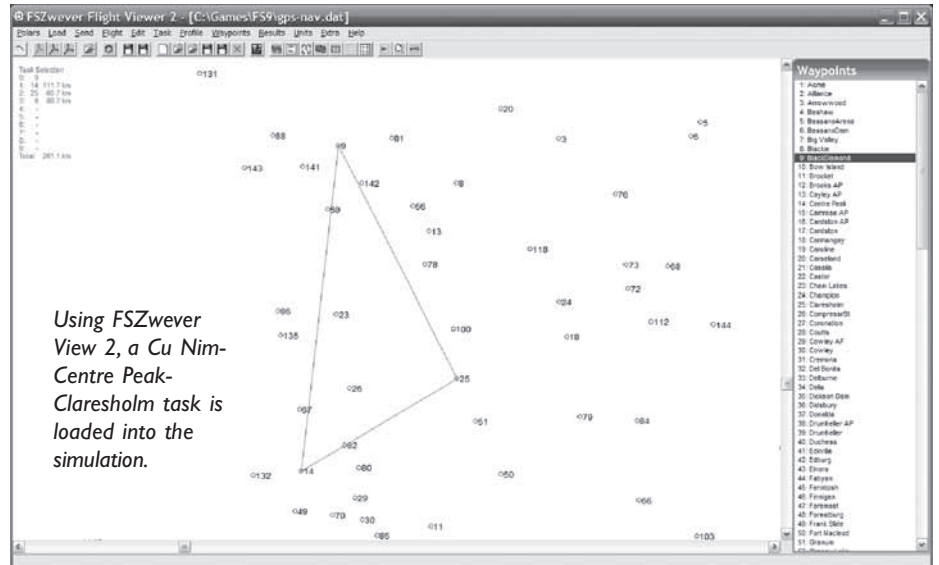
virtual flight as an .igc file that can be viewed later using *StrePla*, *SeeYou*, or similar programs. If you don't have a waypoint list compatible with Cambridge, there are waypoint files available for many places around the world and can be downloaded from <http://soaring.aerobatics.ws/TP/>. These are easily edited, simple text files.

Lift To soar you'll need a program that creates lift. Eric Carden has created such a program. Not only does it create random thermals, but ridge lift as well. You can access his site from the SOAR main page or it can be accessed directly at <http://x-c.home.att.net/>.

For any of the add-on programs to work, you'll need a copy of *FSUIPC*, accessed at <http://www.schiratti.com/dowson.html>. Also, from this site, you can download *GPSout* if you want to hook up your PDA or other moving map software. Some programs include the *FSUIPC* program, but it can be quite old — make sure you have the most recent version. All these add-on programs are free. Some have the option of upgrading to a version with more features for a fee, but it's usually not necessary.

If you want to really enhance your flight simulation experience, you should download additional programs that improve the level of detail and the look of the terrain. These do cost money, but the price is modest. Also, one can download them and once paid for, can be used right away. This is much better than ordering the CD by mail and having to wait a week or so. That's if you're comfortable using your credit card on the internet. I've been doing it for years with no problems (knock on wood).

In my opinion, the best way to improve the look of the simulation is to increase the detail in the terrain mesh. This definitely renders the mountains and foothills with more realism.



Using FSZwever View 2, a Cu Nim-Centre Peak-Claresholm task is loaded into the simulation.

If you want to fly in the mountains, then improving the terrain mesh detail is highly recommended. With it installed, one can actually recognize Centre Peak west of the Cowley airfield, otherwise it's just another bump in the Livingstone Range.

FSGenesis has a large collection of terrains for many parts of the world at a very reasonable cost. For example, one can get 38.2m terrain for BC and western Alberta, Ontario, and Atlantic Canada for about US\$12. Go to <http://portal.fsgenesis.net/> and have a look around.

Another site that has interesting products can be found here. They specialize in making the terrain look more like the real thing.

Programs such as *Ultimate Terrain* and *Birds-EyeView* are programs one can purchase for a reasonable price which improve the look of the terrain. They have a lot of features and are definitely an improvement over Microsoft's default terrain. Take a look at them here:

Ultimate Terrain:

<http://www.scenerysolutions.com/UT.html>
Birds Eye View: http://www.fspilotshop.com/product_info.php?products_id=425

Another very interesting add-on program one can purchase is *ActiveSky*. Although Microsoft's default weather and clouds aren't too bad, *Active Sky* is an excellent program one can buy to improve the weather features and the look of the clouds and sky. Details on the product are at <http://www.hifisim.com/>.

It's amazing how extensive the third party market is for both commercial and freeware add-on products to enhance *Flight Simulator*. To get an idea how extensive, go to www.flightsim.com or www.avsim.com.

So to summarize . . .

- Install a copy of *MS FS9*.
- Hook up your joystick and make sure it all works by taking a quick flight in the Boeing 747 or whatever.
- Download and install some gliders.
- Edit *FS9.ini* appropriately to accommodate the gliders.
- Download and install *FSZweverView 2.exe*
- Load the appropriate waypoints (and task if desired).
- Download and install *Cross-Country Soaring* (the lift program).
- Download and install *FSUIPC*.
- Configure all programs as per the documentation.
- Launch *MS FS9* and then go and do some virtual soaring.

This may seem like a daunting task, but it should only take a couple of hours to set up. So what else is there to do when it's -20C and snowing outside.

If you have questions on how to set up certain programs, most of the answers can be found on the SOAR site — especially through the message board or related links or, if all else fails, contact me at sirris@shaw.ca.

Happy soaring.

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issued to all pilots to be more cautious. Today is forecast to be blue. It is not a task I would like, heading off over the Swedish forest and lake country with only a hope of thermals! But they will go because it is a contest.

June 11

Yesterday proved to be an interesting day. Most starters made it home but many of the Standard class, who were sent a bit more easterly, didn't make it. Some of the landings yesterday were interesting. "3AG", an Italian ASG-29, had a pretty severe ground loop shortly after touching down. It looked like a ballet maneuver, turning about 340 degrees about the main wheel as it slid down the runway. Small damage to the aileron on one wing, fixed by Super Mario overnight.

Today it continues to be hot, hot, hot! It is difficult to believe that a field that was so wet just a week ago can be so dry now. Much beer will be sacrificed to the soaring gods today as the forecast is for a couple more days of this. Today we gridded later than usual as a late start was in order. They finally launched the 15m class only to cancel the day before the start gate opened. At least the pilots and crew were kept busy for a few hours.

June 13

Yesterday we flew another day in weak conditions dictated by the huge high stalled over the contest area. A blue day with predicted weak thermals to maybe 1500 metres. Pilots were very critical of the Polish pilot who was first. He dumped water in the gaggle, which destroys the lift, kept cutting into the core in front of other pilots, and did none of the work in finding thermals in the blue. And he has been doing this for 20 years! The contest administrators were obviously told of this because another lecture on gaggle flying was delivered at briefing.

The Standard class launched last and there were huge gaggles while the pilots struggled to gain enough altitude to start. Unfortunately they waited too long and nobody made it home. The lift just died in the last 30 kilometres or so. There were only a few finishers in the 15m class and quite a few of the 18's landed out as well. The highway to the west of Eskilstuna was loaded with trailers and the fields by the road littered with white fibreglass!

The organizers just launched today's fleet — I can hear Open class motors through the office door — they're all on short tasks again. At the briefing a rest day was announced for tomorrow! Most pilots I talked to are upset with the decision. They want to fly, not rest. Tomorrow's weather is predicted to be bad in the afternoon with an approaching low but the day should really be cancelled at that morning briefing if the weather is poor. At

least one captain was protesting so we'll see what happens.

Tonight should be a good one. The Germans and Dutch are co-hosting a party. There is rumor of three or four HUNDRED litres of German beer and food by the Dutch! Could be a long night.

June 15

Getting close to the end and I feel somewhat sad that I'm almost in shut-down mode already. When I left you last I was headed to the German/Dutch party. After the captains' meeting protesting the rest day, Rainer, the German captain, was heard to say, "Rest day! Damn! We're going to run out of beer!" He was right — 400 litres was soon gone.

It rained a bit as the cold front passed but soon the sun was shining. Yesterday was a beautiful, clear, cool day. Two older Germans who attended the last days of both the Mafikeng and Leszno Worlds showed up. These are the guys who spotted me in Leszno and called me Gandhi because I was so tanned and hairless in South Africa! They brought me a CD of photos from the WGC in Poland.

This morning I was moved to a different scale. I think Dick was afraid I was becoming too familiar with my 'family' of gliders on the other side. Many of them came over to ask where I was! It is flattering to be missed. But at the new scale I got to meet up with a lot of pilots and crew I have been missing by being isolated on the far side. I was in great spirits this morning and "entertained" the crew with my singing!

I met Dr. Pirker, the guy who invented the final glide calculating method that is on my *Pocket StrePla*. He wants reports of my success with it but I had to explain I'm not really the guy to evaluate final glides! At lunch, I was between "Dr. Winglets" (Mark Maughmer) and "Dr. Bugwipers" (Herber Pirker). Neat! Winding down. The guys on the scale crew insisted on providing me with a ticket to the final banquet as their guest. Great people here, I'm sure I have mentioned. There will be good racing today but there is some worry as all the gliders are flying in the same small area. I hope it goes well.

June 17

The last competition day! Gliders are gridded after the last weighing, the 'sniffer' is up and the towplanes are ready. A medium task today which will probably take each class about 4 hours — time enough to get down and packed and then get ready for the final dinner.

The South African team are a great bunch of people! I will miss them all dearly. The time has just flown by and now that we finally have the Swedish summer here, the days are very easy to take.

The Open class ships are passing overhead, very high, as they had the airfield as the third turnpoint in the task.

The last two days have been good flying weather and the finishes are exciting. Sorting out 8 or 10 gliders landing at the same time on this field is a sight to behold, especially if several are big wings as happened yesterday. The contest finishes are just spectacular! The SA team has come home each of the last two days. When Mannie landed Thursday we at the SA office gave him a huge cheer, which he said he really appreciated. He could hear it when he opened the canopy and had a big smile on his face.

June 22

How the time flies! When I last wrote we were awaiting the finishers for the last contest day and I was preparing for the final party. And now I'm back home in Carberry, Manitoba.

The final results did not change on the last day except "Y" (Georgio Galetto) was moved off the podium by a Swede, Borje Eriksson, much to the delight of the hosts. It was a great soaring day and the finishes were superb, as usual. Still photos just don't do it — 8 or 10 gliders on final from far off over the trees, sorting themselves out with speed finishes or straight-in landings. A true aerial ballet.

The closing ceremonies were mercifully brief. I arranged a ride to the station with my two German buddies from the past contests and tried to sneak away — I hate goodbyes. Steven and Marion chased me down as I loaded my bags — he wouldn't let me go without a kiss goodbye from Marion. Wonderful people! At the train station I was sitting outside reading a book. Someone sat next to me and also read. One of the Finnish ladies came along and, as we spoke, the guy next to me looked up. It was "WO", Wolfgang Janowitsch, heading back to work for the Austrian airlines. We shared the fast, quiet, cool, super-efficient train ride (I love the trains!) and parted at Stockholm station.

The Great Swedish Adventure continued for three days more in Stockholm. I had booked a convenient hotel across from the station. With a Stockholm Card (allows free transportation, many boat tours and museums) I enjoyed the city I had briefly visited — two hours — in 1997. It is a beautiful place but quite expensive. The bags were re-packed and the Arlanda Express provided transportation to the airport, about 60 kilometres north of Stockholm. Twenty minutes at 150 km/h (I really love those trains!) The duty-free shop relieved me of my last Swedish krona.

Home through Munich and Montreal. New friends to visit someday and connections to another contest forged. Thanks for putting up with me. ■

bers at York who know what has to be done and are willing to do it. Things may not always get done the way Walter did them but they will get done nevertheless.

At York we face the same challenges all clubs face, the need to bring new members into soaring and to remain financially sound. This is a legacy that Walter has provided for us and the most important tribute we can pay to Walter is to pick up where he is leaving off so that he can have the peace of mind that the club is in good hands. It's a challenge I know our members will accept.

We who were there and observed Walter getting the recognition he so richly deserves have no doubt that it was one of the highlights of his life. It was a very emotional event for him. For us too, representing all the members of York who were not there, just being there was an occasion we will always remember with fondness and a highlight in our own personal and somewhat less illustrious aviation activities. It was a very memorable evening indeed.

I feel on very solid ground saying on behalf of all the current and past members of York Soaring Association — CONGRATULATIONS WALTER, WE'RE PROUD OF YOU.



FAI badges

Walter Weir

3 Sumac Court, Burketon, RR2, Blackstock, ON L0B 1B0
(905) 263-4374, <waltweir@ca.inter.net>

The following badge legs were recorded in the Canadian Soaring Register during the period 7 May to 11 July 2006.

DIAMOND DISTANCE (500 km flight)

Kerry Kirby	Great Lakes	502.0 km	Jantar	Tottenham, ON
Jan Juurlink	Great Lakes	509.0 km	Ventus BT	Tottenham, ON
Martin Jones	Rockies	501.2 km	Discus B	Invermere, BC

DIAMOND GOAL & GOLD DISTANCE (300 km goal flight)

Marc Arsenault	ACE	322.1 km	Pik-20B	Julian, PA
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SILVER DISTANCE (50 km flight)

Paul Fish	SOSA	60.7 km	SZD-51	Rockton, ON
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SILVER ALTITUDE (1000 m height gain)

Guy Blood	Edmonton	2280 m	PW-5	Chipman, AB
Paul Fish	SOSA	1430 m	SZD-51	Rockton, AB

C BADGE (1 hour flight)

2838	Guy Blood	Edmonton	2:25 h	PW-5	Chipman, AB
2839	Jan Juurlink	Great Lakes		see Diamond dist.	
2840	Paul Fish	SOSA	2:29 h	SZD-51	Rockton, ON

Congratulations to Kerry and Jan, whose Diamond distance flights (done on successive days in June) are the first in eastern Canada since August 1999.

Walter Chmela's induction presentation at the Aviation Hall of Fame ceremony in Montreal in May. On left is MC Jack Boddington, pinning the medal to Walter. On Walter's right is Dr. Assad Kotaite (president of the International Civil Aviation Organization) with the fancy tassled cushion that held the medal, and Victor Bennett, Chairman of the Board of CAHF, holding the certificate to be given to Walter.

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Jantar, C-GDPJ, 1978, encl. trailer, 508h, current annual to May 06. Asking US\$20,000. Further info contact Orlan Dowdeswell at (306) 789-3302 or <odowdeswell@accesscomm.ca>. At Regina.

Libelle 201, CF-TQL, #113, 1515h, fresh CofA, all ADs complete, enclosed trailer, located in Edmonton. \$17,500. Dave, <loretta@second-impressions.com> (780) 221-8535.

PW-5, C-GLDY, well cared for PW 5 in excellent cond. \$35,000 with good Avionics trailer, \$26,000 without trailer. Evelyne, <evcr@telus.net>, (250) 342-9602. Pictures and more info at <http://web.mac.com/ewsflys/iWeb/PW5/PW5_Intro.html>.

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PW-5, C-GBVL, 1998, 272h, ATR57 radio, Volkslogger, National 490 chute, Azimuth fully encl. aluminum trailer. \$26,000. <jim.kayer@rogers.com>.

SZD-36 Cobra-15, C-GQWQ, 1977, 897h. No damage. L/D 38/1, A-1 condition, kept in hangar. Modified Pik-20 fiberglass trailer. Located in Toronto. Asking \$15,000. Charles Kocsis (416) 908-5638, <karoly_cobra@yahoo.com>.

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Genesis 2, '98, 331h, 100% race ready. Excl. cond., CAI302, 303, SageCV, WinPilot, ATR720C, trailer, chute. US\$45,000. Dave Mercer, <djmrcer@telus.net>, (780) 987-6201, Alberta.

SZD-55-1, C-GSZZ, 1994, 1100h. No damage. Full contest panel: LX4000, Masak Lift Director, Colibri FAI Recorder and ATR 760 transceiver. Mint cond, gel coat is perfect - sold as a complete turn-key soaring package including clamshell trailer and ground handling gear. Go to <http://tinyurl.com/knftth> or <doug.bremner@sympatico.ca>.

Nimbus 2B, C-GAJM, 1977, #25, 1120h, 20.3m, 49:1. Flaps, tail chute, 110L water ballast, Filser LXFAL flight computer/GPS/final glide calc, chute, trailer, and all glider covers. An absolutely beautiful flying machine, and proven competitor. Based at York. \$37,500. Peter Luxemburger <iluv2soar@yahoo.ca>.

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G109B 2-place touring motorglider, 1985, original owner, 675 TTAf, 530 TTE. Photos and specs at <www.tinyurl.com/jct94> Contact Jim at (905) 793-3477 or <jim1@rogers.com>.

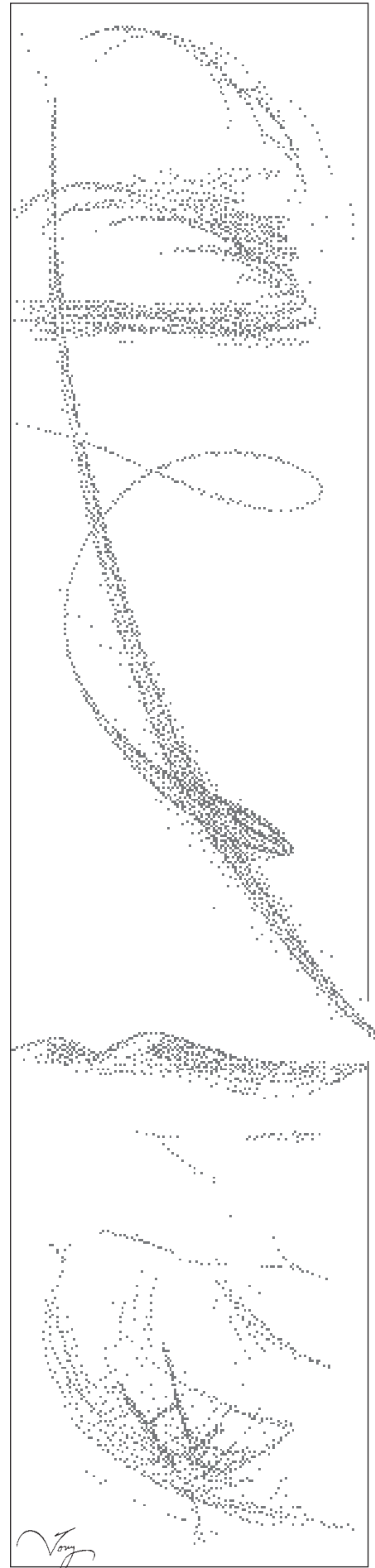
magazines

GLIDING & MOTORGLIDING — world-wide on-line magazine for the gliding community. Edited by Val Brain, <www.glidingmagazine.com>.

GLIDING KIWI — Editor, John Roake. Read world-wide with a great reputation for being first with the news. US\$40. Personal cheques or credit cards accepted. NZ Gliding Kiwi, 79 Fifth Avenue, Tauranga, New Zealand. <gk@johnroake.com>.

SAILPLANE & GLIDING — the only authoritative British magazine devoted entirely to gliding. Bi-monthly. US\$45 per year airmail, US\$35 surface. <beverley@gliding.co.uk>.

SOARING — the monthly journal of the Soaring Society of America. Subscriptions, US\$43 price includes postage. Credit cards accepted. Box 2100, Hobbs, NM 88241-2100. <info@ssa.org>. (505) 392-1177.



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