

free flight • vol libre





More lost friends As I write this, I have just returned from Hawkesbury where I attended a funeral service in memory of Robert Gairns, a man of undying enthusiasm for our sport. It was a very simple and moving ceremony, the way Bob would have done it, held in the main hangar. At the invitation of MSC's president, Peter Trent, over 200 people attended, his friends from SAC & EAA. While the papers wrote that Bob, a confirmed bachelor, had no family in Canada, it was obvious to anyone attending that his real family is the Montreal Soaring Council, and to them I offer my most sincere condolences. I did not know Mike Cook, having met him only once in Vancouver. He too will be missed by his family, friends and fellow club members.

What caused the four fatal accidents this year are more than likely different sets of circumstances. Some of them may even remain undetermined. Nonetheless, I do hope that this will prompt each and every club to review, reassess and reinforce their safety measures. We owe this much to our departed friends.

Membership shenanigans, take 2 This may sound like a road movie. First of all, I got feedback from a few individuals about this issue. That in itself is unusual. Most people were surprised and appalled. Well since then, more instances and from the same organization. Read this: Walter Weir got two badge claims from individuals who have never been SAC members. Hard to believe that these individuals are in their first year of membership. As I mentioned before, another member contacted the office to find out why he needs a Silver badge to be a SAC member. What is strange, in every instance, the club once contacted, claims it is a mistake. Folks, the cost of running SAC has to be supported by all those who benefit from its existence and the work its volunteers do for all of us. I am getting more and more upset when I see gouging. We are looking at what legal action we could take against those who collect SAC membership fees from their members and fail to pass them on. Believe me, we are serious.

1999 Nationals Next week I will be sending out plaques to the pilots who came in second and third place in the Sports, Standard & 15m classes. I want to thank Heri Pölzl for making this possible.

New chairpersons I am happy to announce, at least for those who are not frequent visitors of the Roundtable on our web site, that Jörg Stieber now chairs the Sporting committee. He replaces George Dunbar who has decided, after many, many years of great contributions beginning in 1969, to retire from the committee. George has served SAC in different capacities over the years beginning with SAC Secretary in 1954, including a stint as Director-at-Large from 1991-'94.

Frank Cwikla is succeeding Dave Hennigar as chair of the FAI Records committee. Frank is also from WGC and will be kept busy as more people are making record claims. Dave chaired the Records committee for five years. I thank Dave who, incidentally, remains as chairman of the Air Cadet committee.

Robert Gairns Pourquoi, me direz vous, voudrais-je vous parler de ce vieil écossais célibataire qui, au surcroît, ne disait pas un mot de français. Bob est mort au le 4 septembre, jour de mon anniversaire incidemment, au commandes se son PIK-3, planeur qu'il avait restauré ces derniers mois. Permettez-moi de partager cet anecdote avec vous, anecdote d'autant plus inattendue que Bob était un modèle de la frugalité légendaire des écossais. C'est en 1990, et en tant que président de AVV Champlain, je travaille fébrilement à emprunter, auprès des membres la somme nécessaire à l'achat de notre terrain de Saint Dominique. Un matin, je reçois, à mon bureau de Kodak, un coup de fil de Bob, que je connaissais à peine et surtout de réputation. Il me demande si je peux le recevoir. Il se pointe donc à mon bureau et après quelques mots de courtoisie me tient ce discours. Il me dit qu'il a été mis au courant de notre projet et qu'il croit fermement que le vol à voile à besoin de clubs francophone solides dans la région de Montréal et que cela passe par l'achat d'un terrain. Sur ce, il dépose sur mon bureau un chèque de \$5000, somme que nous lui avons remboursée quelques années plus tard.

Bob est mort à 81, un homme comme j'apprécie, un homme qui avait ses bottines au même niveau que ses babines. En clair, ses actions étaient au même niveau que son discours. C'est pas courant. À bientôt.

Pierre Pepin president

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Le journal de l'Association Canadienne de Vol à Voile

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Cover

Here's Emil Kaminski in some heavy sink over SOSA this summer.



The Zen of Editing

Tony Burton

SOME TIME AGO, a comment came my way that perhaps the number of reprints appearing in *free flight* might be reduced if the editor gathered several issues worth of back-up articles and material to fill blank pages as they arose. Leaving aside the point that my main use of “borrowed” articles is to compliment the content mix, not just top it up, the practicalities of building such a treasure trove (the accurate jargon is “slush pile”) clearly had not been considered by anyone who had tried editing even a club newsletter.

This thought moved to the front of my mind again about two weeks before the “deadline” of this issue. At that time I had little except the promise of a world contest article, the Mud Bowl story, and a few smaller reports. Not exactly panic time yet, but it looked like it was going to be a skimpy 20 page issue.

Then what always almost seems to happen, happened. Barrie Jeffery e-mailed to ask if I might want him to send me a book report on Sir George Cayley and the first glider. Is the Pope Catholic, etc!? Then Art Grant sent me his harrowing tale of an almost accident. Then Charles Yeates e-mailed me to say how much he had enjoyed the World Class contest in Poland ...

... The zen of editing kicked in...

Let's see ... arm-twist Charlie; not for a “blow-by-blow” story, but for a sense of the feel of a one class competition — the story is excellent and well complimented by Kris' experiences as crew. In a Calgary library I found a picture out of a 19th century magazine which illustrated Barrie's review nicely. A paper by Fred Weinholtz on the marketing of the PW-5 (or the lack thereof) was in the Australian magazine and that was a good tie-in with the World Class story. Jim McCollum phoned to suggest that “Soaring Stuff” go in this issue for your Christmas gift buying — two more pages filled. The June *SOARING* magazine had an intriguing article on the design requirements for ultralight gliders to soar continuously in “microlift” conditions. I contacted the author for further clarifying text, and this technical material further points the way towards where many of us may go in the 2000s. Now, what to do for the editorial page? Earl Menefee presents his thoughts about why we all bother with this sport or why I'm bothering to do *free flight*. Perfect — now some odds and ends to fill “Hangar Flying”, and then make the whole mess look pretty and error free.

Then on the deadline day, what should appear on my e-mail but a complete analysis of Art's almost-accident by his club's safety officer, a report from the CAS cross-country clinic, and a valuable safety culture discussion from Ian Oldaker. So, out goes the ultralight sailplane design article (it will be in the next issue), another planned accident analysis, and the club address list in order to stay within 28 pages, and this small diary of events got long enough to be promoted to an editorial in its own right.

Voilà! From despair to one of the better issues you will read, all in about ten days. Of course, by now you will probably appreciate that living on the edge like this is nervous making. If you want to see a *free flight* with lots of local colour, remember that *you* enjoy reading someone's story because they wrote it for you — do the same for them — and give me fair warning too! And you thought being an editor was dull ... ❖



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, issuing FAI badges, record attempts, 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), or send a fax. 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 high-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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5th January, March
May, July
September, November

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 aéro-clubs nationaux. L'ACC a confié à l'ACVV la supervision des activités véliques 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 véliques 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 en couleurs ou noir et blanc seront appréciées, mais s'il vous plaît, pas de négatifs ni de diapositives.

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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Pour signaler un changement d'adresse ou s'abonner, contacter le bureau national à l'adresse à la gauche. Les tarifs au Canada sont de 26\$, 47\$ ou 65\$ pour 1, 2 ou 3 ans, et de 26\$US, 47\$US ou 65\$US à l'extérieur.

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Honours to a much reprinted article

I was pleased to read in the Apr/May *free flight* that Jörg Stieber had received SAC's "Best Author" certificate for his outstanding article on Collision Avoidance. It was only procrastination that prevented me from writing earlier to congratulate him. Seeing his article in the current *Sailplane & Gliding* magazine in the UK finally reminded me that I should write to express my thanks for such an excellent article. I believe it should be considered essential reading for all pilots and should be incorporated in the SAC instruction manual.

Terry Beasley

Jörg has been reprinted in many English language soaring magazines — a reflection not only of the excellence of the article itself, but also of the serious concern internationally on the rash of mid-air collisions which have occurred world-wide in the past several years. Tony

On Okanagan traffic and accidents

Initial radio reports talked about a glider being involved (at Penticton), but it became apparent soon that was not the case. It appeared that a Mooney and a Cessna did not see each other, and used opposite runways. The investigation now centres around what caused the pilot error.

This has, of course, made us extra aware of the need to look out and be always attempting to keep that 3D picture of traffic as clear as possible in one's mind. Our club (Silver Star) has adopted a 10 o'clock briefing with some safety aspect brought up and discussed. We have an active skydiving operation at our Vernon airport along with a fair bit of other traffic, but our Unicom seems to work well. One safety concern I have is that airlines seem to be cancelling IFR quite often around Vernon on approach to Kelowna and they seem to roar through from anywhere from 11,000 to as low as 3000 feet. Even if we had transponders it wouldn't help as WestJet does not carry TCAS nor do they monitor 122.8. The only preventative action we can take is to be on ATIS at Kelowna and advise the airliners of our existence.

Mike Cook was a friend and we talked soaring over the phone once in a while. Looking back at thirty years of soaring I think of Frank Archibald, Keith Duckham, Don Mills from VSA, and a friend of mine in Holland who had an elevator incorrectly hooked up and now is wheelchair bound ... and that brings home the need to exercise caution and leave no room for error.

Hans Kruiswyk

† Bryce Stout

Erin Soaring suffered a major loss with the death of Bryce Stout in a glider accident. Though he had been a member for only 12 years, he had become such an important part of our organization that it seemed like he had always been with us. He had served in official capacities as director, president, and CFI — he wanted to see that things were done in an orderly and correct fashion. It was common to see him on the tractor mowing the runway. He often made a point with his inimitable humour, and he was an accomplished pianist.

Bryce started his gliding career in Winnipeg and flew in Regina and SOSA, prior to joining Erin. Bryce was involved with SAC on the Insurance committee.

We at ESS know that we have lost an enthusiastic instructor, worker and, most of all, a friend. We extend heartfelt condolences to his wife Ruth and his family and friends.

To honour Bryce, we have set up a scholarship fund whose purpose is to provide the major cost of glider training for one or more students of high school age each season. We expect to obtain charitable status with Revenue Canada to make donations tax deductible. Donations may be sent to: The Bryce Stout Soaring Scholarship Fund, c/o Erin Soaring, Box 36060, 9025 Torbram Road, Bramalea, ON L6S 6A3.

Peter Rawes

Thanks for free flight

When I first started gliding last season at Saskatoon Soaring, I emailed you asking for back issues of *free flight* and I'm *still* working my way through them. They've provided me with some great reading during my breaks between classes at university, and sustained my interest in the sport through the long Saskatchewan winter. Now, as my second season of soaring comes to a close, I thought I'd drop you a line and say thanks!

This has been a good year for me in the sport. I managed to get my licence, and got to fly a couple different ships. Once I'm done playing the world's oldest university student and get back to work, I may even buy a glider of my own, or at least a share in one.

Keep up the good work on *free flight*. I really look forward to every new issue. They fit in my backpack and provide food for thought and for my spirit through the interminable non-soaring season.

Dave Luukkonen

The Inventor of the Aeroplane

Book review, **Barrie Jeffery**

WHO DID INVENT THE AEROPLANE? I have asked the question of a few friends and relatives recently, and got the strangest answers: "Didn't Bell have something to do with it?" "Well, the Wright Brothers were the first to fly a powered plane successfully, anyway!" "That Italian guy who painted ceilings?" ... What *are* they teaching in schools these days?! Actually it's not that simple. The question of who should be credited with an invention rarely has a clear-cut answer that all can agree on. Ideas seem to occur and prototypes to be realized when the mind set of humanity reaches a certain fullness, and coincidences of insight and accomplishment are common. But Laurence Pritchard, C.B.E., secretary of the Royal Aeronautical Society for twenty-five years, has no compunctions about his answer to my question. His book may convince you. After reviewing voluminous notebooks, journals, and letters that were made available only in the late 1950s, he wrote the book, *The Inventor of the Aeroplane*, which answers my question of who *did* invent the aeroplane — Sir George Cayley.

"Right", you may say, "Of course! ... but who the dickens was Sir George Cayley?"

Born to inherit a large estate in Yorkshire, Sir George lived from 1773 to 1857. He trained under two respected and open-minded men of scientific and engineering interests. Sir George himself became a true applied scientist and creative engineer. While his consuming interest was the idea that man could and would learn to fly, he also had time from his land management duties to invent the "tension

wheel" (forerunner of the bicycle wheel), the first artificial hand, and the caterpillar-style tread, and he contributed to the design of an important auditorium.

He was also a consummate observer of nature, particularly of birds in flight. He knew the wing loadings of a range of birds, *inter alia* noting that sea birds had generally higher weights per square foot of area ("probably after they had breakfast", a friend of Sir George observed).

History's first human flight occurred in Montgolfier's balloon when Cayley was ten years old. While balloons were a subject of much of Cayley's thought and writing, he never wavered from the thought that the only alternative for sustentation in the air, the "inclined plane" would eventually prove to be a superior device for airborne travel, and that speeds as much as 20 to 100 miles an hour might be achieved.

Cayley was a man of some standing in society, and his interest in flight did not come without the exercise of moral courage. Lord Stanhope wrote to him, for instance, about the proposed formation of a society to promote the discovery of aerial navigation: "publicity ... might expose to great ridicule the individuals who encourage the discovery."

Cayley did his homework. He measured the flight speed of birds, and related the resistance (lift) of their wings to the speed of flight. By comparing their glide angle to the angle of their wings, he determined their angle of attack and was thereby able to resolve the forces of lift and drag on the bird. Recognizing that the drag was the only thing that required the application of power in level flight, he formulated the dictum:

The whole problem is confined within these limits, viz. to make a surface support a given weight by the application of power to the air.

As early as the late 1700s, Cayley had deduced the principles and resolved the flight problem into its theoretical components as described above. He set them forth in a paper in 1804.

His work was far from being limited to theory. He made whirling-arm force measurement devices to measure the resistance of surfaces of a known area. He made shapes of equal cross-section, weighting and dropping them to determine the relative drag. For instance, a circle with a 6" diameter was compared with a streamlined shape. Each was weighted until the dropping speeds were equal in a 30-foot drop. Cayley found that the circle had 4.8 times the weight of the elongated shape. He

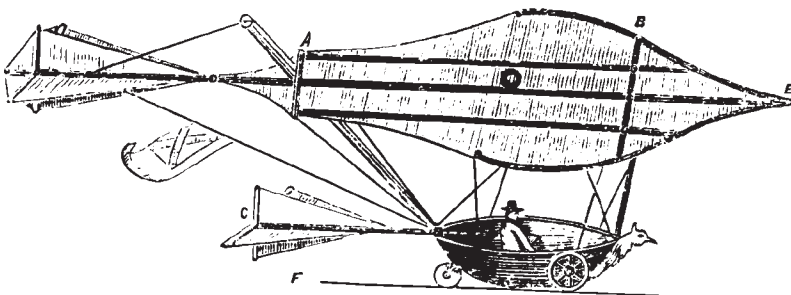
Mechanics' Magazine,

MUSEUM, REGISTER, JOURNAL, AND GAZETTE.

No. 1520.] SATURDAY, SEPTEMBER 25, 1852. [Price 3d., Stamped 4d.
Edited by J. C. Robertson, 166, Fleet-street.

SIR GEORGE CAYLEY'S GOVERNABLE PARACHUTES.

Fig. 2.



postulated a minimum-drag shape based on the measured cross-sections of trout and dolphins. Cayley's postulated shape was shown by von Karman to closely fit a NACA airfoil.

Having established the practicality of controlled gliding flight, and demonstrated it with models large enough to carry a man, he turned his attention to the problem of power. In this he was eminently successful in establishing the principles (by 1807), and even working models, of 'air engines' having 'the power of a horse but weighing less than a man'. They didn't work well though. It was a case of cost and the limited facilities he could bring to bear on the manufacture of engines, working with one hired technician on his estate. His cylinders of copper sheeting were just not a good enough fit on the pistons. He realized that air had much more potential as an expansive medium than steam, and even made an experimental engine in which the air was heated on each stroke by a shot of gunpowder. Steam engines were well developed by Cayley's time but the weight was prohibitive, of the order of 200 pounds per horsepower. Although later engineers like Napier, Sterling, and Ericsson had more success with air engines, Cayley was 'actually successful in realizing power from them'; and he was widely recognized as the original inventor.

Of greatest interest to us were his model and full-scale flying machines. Here are some of the characteristics of them, and principles he observed so obvious to us today:

- The wings should be canted up at the outer ends (dihedral) and the centre of gravity should be below the centre of lift for stability.
- The centre of lift is not at the centroid of a surface (unless the surface is perpendicular to the flow), but is some distance forward of it when the angle is acute. Cayley had done tests with surfaces set at angles varying from 3 to 18 degrees to the airstream, a hundred years before the well-known Wright Brothers wind tunnel experiments.
- A horizontal "rudder" (stabilizer) fixed some distance behind the wing is needed to effect stable gliding flight. The rudder should be set at about 8 degrees to the angle of the wing in order to produce a steady glide.
- A vertical rudder can be used to turn the craft to one side or the other.

Cayley made models, 'large enough for aerial navigation'. One craft had 300 square feet of wing area and weighed 56 lb, or 140 lb gross with loading. (He says elsewhere that a 14-foot square would be adequate to support a man — he was more concerned with structural integrity than aspect ratio.) Of the flight tests in his 1804 paper, he says:

It was beautiful to see this noble white bird sail majestically from the top of a hill to any given point on the plain below it with perfect steadiness and safety, according to the set of the rudder, merely by its own weight, descending in an angle of about 8 degrees with the horizon.

Pritchard notes: "This is the first recorded study of gliding flight in the history of aeronautics." The flights must have taken place at least 100 years before the Wright Brothers'

successes. It is something of a tragedy that the records of manned gliding flight in Cayley's gliders were not recorded in the detail that his other work enjoyed. Sir George's son "who succeeded him at Brompton, disapproved of his father's activities, and tried to conceal traces of them." Sadly, one of the gliders ended up serving as a roost in the chicken yard at Brompton. The best evidence puts the first manned gliding flight as occurring in 1849. It seems "a boy of about ten years of age was floated off the ground for several yards on descending a hill, and also for about the same space by some persons pulling the apparatus against a very slight breeze."

Cayley's granddaughter wrote in 1921:

"I remember in later times hearing of a large machine being started on the high side of the valley behind Brompton Hall where he lived, and the coachman being sent up in it, and it flew across the little valley, about 500 yards at most, and came down with a smash. What the motive power was I don't know, but I think the coachman was the moving element, and the result was his capsize and the rush of watchers across to his rescue. He struggled up and said, "Please, Sir George, I wish to give notice. I was hired to drive and not to fly."

She wrote the following year that she believed the flight had taken place in 1852. The point about 'motive power' is interesting. Although 'well aware of the advantages of the airscrew', Cayley experimented with ornithoptering surfaces because of simple leverage mechanisms he was able to use, and the coachman may have been vigorously flapping 40 square foot wings while the main surfaces provided the 'sustentation'.

Otto Lilienthal was three years old at the time of this flight, and he has been justly celebrated as one of the greatest figures in the history of flying. He flew fixed wing gliders 'successfully and progressively' from 1891 to 1896 'while studying the subject exhaustively' (*Everyman Encyclopedia*), and became the first casualty. But the names of Cayley's first fixed-wing aviators, boy and man, are lost to history.

In 1843, 14 years before his death, Sir George Cayley was praised as one "who may almost be called the father of British aerostation". He was also respected by all as a kindly, humane man. In 1961 Captain Laurence Pritchard has called him the 'inventor of the Aeroplane'. The gliding movement has perhaps the best claim on him, and might well call him, based on his pioneer analysis and experimental work of 200 years ago, 'The First Glider Builder'.

Norman Emmott (*One Foot on the Ground*, Lugus, 1992) quoted a member of a company building the inventions of my old friend W/C Jerauld G. Wright, whom Emmott called "the closest thing to a genius that I have ever met":

You can't learn to invent, and you can't be taught, or take a course in inventing. You have to be touched by the finger of God.

If anyone has been so touched, Sir George Cayley was. ❖

The Inventor of the Aeroplane, J. Laurence Pritchard, C.B.E. Max Parrish, London, 1961

26th World Gliding Championships

Christine Futter, Gatineau QC

3 PILOTS REPRESENTED CANADA at the 26th World Gliding Championships in Bayreuth this summer. Nick Bonnière and Ulli Werneburg flew ASW-27s in the 15m class and Ed Hollestelle flew an LS-8 in the Standard class. They were supported by several crew. Annemarie Hollestelle and Kurt Hertwig crewed for Ed; Udo Rumpf crewed for Ulli; I crewed for Nick and also acted as Team Captain and reporter; and George Szukala, who is now stationed with NATO in Germany, helped crew for Nick and gave valuable assistance to anyone else who needed it.

Unlike St. Auban, which is in the Alps, the terrain around Bayreuth is much more like what we fly over here in Ontario. However, there was one difference, and that was in the outlanding fields. Here in eastern Ontario, we have lots of big, flat fields. In this part of Germany, there are many more very small fields that slope up, down, and across the ground, so this was one more feature to be thought about when planning an outlanding. When we first arrived, few of the fields had been cut, but the excellent weather of the first part of our stay meant that, every day, more hayfields and wheat fields were being cut. This gave more to choose from, and none of the Canadian pilots had to make a landing in an unsuitable one — occasionally in a distant one, perhaps, but not in one that was obviously hazardous.

Our pilots, unfortunately, weren't up with the leaders, though their scores were between 77 and 87% of the winners' scores. You can look at that in whatever way you like. In a 100 metre dash, you are out of the running with 99.99% of the winner's time, so percentages are not a

useful comparison. It also tells you that with almost 90% of the winner's score, you still finish in the mid-thirties. Whatever the reasons might be for this, our pilots did acquit themselves well. Each achieved a competition personal best in distance or speed or both. Unfortunately, the distances and speeds achieved by other pilots were greater. "The important thing is not to win but to have taken part," sounds good but it doesn't really ring true. Having said that, what did the Canadian team do in Bayreuth? (Those of you with access to the Internet <www.magma.ca/~bonnfutt/World99> will have been able to read the daily reports we sent back to Canada, but not everyone has Internet access.)

Nick and Ulli and I started off at the Schleicher factory in Poppenhausen, about an hour from Frankfurt by train. This was where Nick and Ulli picked up their gliders, and it was at the nearby Wasserkuppe that they flew for the first few days, managing to check out a number of turn-points, and even flying to Bayreuth, 150 kilometres away, one day. The Wasserkuppe is the site where gliding first developed as a sport. Lilienthal leapt off hillsides in northern Germany, but it was at the Wasserkuppe that people first got together in organized gliding activity.

From the Wasserkuppe, Nick and Ulli went to a gliding club at Zell, a turnpoint about thirty kilometres from Bayreuth. Ed was already there, as were the French and New Zealand teams. They flew there a couple of days and then, finally, moved to Bayreuth for the practice days. The weather at this time was *fantastic*. People were calling it 'Texas weather' because it was warm and dry with a high cloudbase — not contest weather at all. This was all to change once the contest proper got under way, but while it lasted, it was great. Not that it stopped Nick and Ulli from landing out. They needed just one more thermal at the end of one practice day, but that wasn't to be. Foolishly, since the instructions were so clear and straightforward, we didn't take the GPS coordinates with us on the retrieve. Big mistake. Germans like to have road signs pointing to places you've never heard of and can't find on the map so you have no idea if you are going in the right direction or not. However, we did finally find them, but I think that may have influenced their thinking when they landed another day at a small airport about 35 kilometres away and took aerotow retrieves back to Bayreuth — much to crew delight.

This trip was the first time I have used a GPS for finding Nick when he has landed out, and it was great. The other two retrieves we made were relatively straightforward, but in both cases, the GPS got us right to the spot. If we had had it for the first retrieve, at least we would have known if we were going in the right direction and per-

photo not available for pdf file

The team at the opening ceremonies in downtown Bayreuth, l to r: Nick Bonnière, Annemarie Hollestelle, Christine Futter, Kurt Hertwig, Udo Rumpf, Ed Hollestelle, Ulli Werneburg, and George Szukala.

haps wouldn't have driven up and down quite so many suburban streets in our attempt to get out of the city.

The "real-time" flight recorders were the big news of this contest. Up to 15,000 people a day world-wide were accessing the site and watching the pilots go around the courses. During the early part of the contest, both Nick and Ed carried them, so we were able to see how they were doing, though with a short delay. Later, the leaders were the ones who carried them, so no more Canadians were featured. The gliders were also accompanied on course by motorgliders filming what was going on. The footage will be used to produce a video that will be ready in the fall.

Another new thing, to us at least, was the Cat's Cradle distance task. Pilots were given a mandatory first turn-point (which could be more than 100 kilometres away) and a selection of about twenty other turnpoints they could use, and a specified length of time to complete the task. Up to this point, it sounds similar to our PST tasks. However, you only got points for distance, not speed, and when the end of the allotted time ran out, that was the distance flown as shown by the GPS. This means that, as the time is running out, you can fly downwind as far as you can until the time expires. That is your finish point for the task. Then, hopefully, you tiptoe back to the airport and, in this contest, pilots got a 15% bonus for landing there.

There was considerable emphasis on safety, in the air and on the ground, for gliders, vehicles, and pedestrians. Some of the days, when all the gliders came back at once, it seemed impossible that they would all manage to land safely, but they did. The runway sloped up to the midpoint and then down the other side. Gliders would come hurtling in, land either just before or just after the brow of the hill and would then disappear, leaving spectators with the impression that over the hill there would just be a tangled mass of shattered fibreglass!

There were five runways, four on the grass and one concrete, and pilots announced which one they intended to use. This helped maintain some order in the chaos. They were also strongly encouraged to make straight-in landings so, again, this lessened the chaos. At least this meant that most of them were going in the same direction.

Launching 123 gliders using about twenty towplanes took close to an hour and twenty minutes. The Standard class took off from a runway on one side of the airfield and the 15m and Open classes from the other. Each class had a different drop point and start point, so this helped separate the gliders. The towplanes were Wilgas, Robins, a Husky and a Zlin. Most of them were German, but there were also Polish and Russian ones. For some reason, the towpilots never managed to master the art of switching to all-out without having a hesitation that allowed the glider to run over the rope if pilot and wing runner weren't very alert. In the 27s, the wheel brake is on the end of the spoilers, so Nick took off with spoilers open. Other gliders took off with crew hanging onto the tail to hold the glider back until the towplane really did go all-out. They also used much shorter tow ropes than we are accustomed to. Nick and Ulli really didn't care for the Wilgas. They could get off the ground, but then they

climbed very slowly to the release point at 2000 feet, which makes for an uncomfortable ride when you are full of water on a short rope.

The first two tasks were well over 500 kilometres — not something we are used to in Canadian contests. However, this was during the 'Texas weather' period, so was perfectly possible. Even on less good days, the task committee set tasks over 400, and on really awful days, they were sent off on tasks of close to 300 kilometres. The task committee and the pilots benefited from meteorological reports given by professional weathermen who were glider pilots. (They kept talking about very small windows that might allow tasks to be flown but weren't, so the South African team went to the local equivalent of Home Hardware and bought them an actual small window.) Unfortunately, it didn't do much for the weather. After the first few days of unexpectedly fantastic weather, conditions reverted to the more typical German weather we had been expecting. Out of fourteen possible contest days, the pilots flew only seven.

It's certainly an experience to compete in a world championship, but it must be demoralizing to fly your fastest or longest flight and still only finish in the bottom third of the pack. I am sure our pilots have the potential to finish higher, but how are they to do this? More competitions to sharpen their competitive skills? Here, that would mean flying in the States and most people can't afford to take time off for our Nationals and also for US Regionals or Nationals. More funding so they could take more time off and fly more competitive ships at home? Sure, but where is the funding to come from? Gliding may be great for forming character and instilling a sense of responsibility and self-discipline in young people — but not in vast numbers of them here in Canada, so it would be difficult to convince governments to fund us. Businesses sponsor those activities that will bring benefits to them, and again, the number of people involved in or interested in gliding is very small, so the return on the investment would be very small. That said, we were all grateful for the support we did receive from *Kyber Pass*, *Hakmet*, from *Air Canada* as a company and from individual *Air Canada* pilots, and, of course, from the people who contributed to the Wolf Mix Fund and to the SAC World Contest Fund. Thank you everybody.

Results

Standard – 47 gliders

1	JM Caillard	France	Discus 2a	6616
2	JRP Coutts	New Zealand	LS8	6502
3	L Aboulin	France	Discus 2b	6467
35	E Hollestelle	Canada	LS8	5773

15 Metre – 43 gliders

1	G Galetto	Italy	Ventus 2a	6618
2	S Ghiorzo	Italy	Ventus 2	6537
3	S Raimond	Netherlands	ASW 27	6463
36	D Bonnière	Canada	ASW 27	5212
38	U Werneburg	Canada	ASW 27	5084

Open – 32 gliders

1	H Karow	Germany	Nimbus 4	6623
2	JW Andersen	Denmark	Nimbus 4T	6578
3	B Gantenbrink	Germany	Nimbus 4T	6452

⇒ p25

LESZNO – the feel of a 1-design meet

Flying and crewing at the World class competition

Charles & Kris Yeates, *Bluenose SC*

HOLDING THE WORLD CLASS competition and the European Women's Gliding Championships at the same time in Leszno, Poland, was fortunate for me. It brought into focus the feel of a one-design competition compared to traditional class competitions.

First reaction: twenty-five pilots flew the PW-5 enthusiastically in a hard fought contest in changeable weather that thoroughly tested a full range of skills, judgement and stamina as should international competition at all levels. It was completely satisfying though ego-bruising for all whom did not share the awards podium. Julien Henry and Frédéric Hoyeau of France flew brilliantly and consistently to win the top places, while Sebastian Kawa of Poland came in third. On reflection, these were the same feelings that I had experienced in World Gliding Championships of years before — twice at Leszno in the Open class, once in England in the Open class and once in Argentina in the Standard class. So what was different this time?

1. The one-design competition created a level playing field. A pilot truly measured his/her abilities with those of the other pilots, not their pocketbooks.
2. The PW-5 performance polar requires more all round pilot effort because one is flying 34/1 compared to 58/1 in the Open class. More thermals are needed for a given distance, so a greater percentage of a task is spent circling. This highlights and emphasizes the need to find lift lines, choose the best thermals and use centering skills

to get fastest climb rates. Crossing gaps is more difficult and judgement of the best potential route is essential. In such circumstances there is a higher risk of errors that cost points and spread competitor scores on a given task. The French and Polish teams used team flying to great advantage in these conditions.

An illustration from a couple of years ago could make the point. At Waikerie, South Australia, I made a checkout flight in an ASH25E. We circled in the first thermal to 9000 as the cu built rapidly over inhospitable ground to the north. We went north because the L/D of the ship and a motor reduced landout risks to almost nil. *We never thermal-turned again.* A 530 kilometre triangle was completed at 123 km/h. We dolphined along as cloud-base rose to almost 12,000, and thermals whooshed. It was so docile that my checkpilot went to sleep for more than an hour and a half. It was an extraordinary afternoon — but would it have made a testing contest day?

3. The World Class glider is light, making assembly and gridding easy. The ship is amazingly agile in the air, but the crew of a PW-5 really appreciates the ease of disassembly in fields. One day we had to carry "YC" piece by piece out of a rye crop that stood over four feet high. There had been no better choice. The landing was accomplished by a round-out that delicately lowered the tailplane into the crop at forty knots airspeed. The glider stopped in fifteen metres as if on an aircraft carrier. Low mass and inertia meant no damage.

4. Every PW-5 was equal — well, almost! The Jury inspected each ship to ensure it fitted Class size and shape specifications and that it would be ballasted to fly the competition within a couple of kilos of allowable gross weight. However, the French pilots plus five others noticed a subtly written change in the rules for this competition that allowed moving ballast to the tail area for optimum location of the C of G. By a smidgen this improved climb rates and the L/D at cruising speeds, and this arrangement had good effect after forty hours of focused flying. It is expected that when the next comps are held in Spain, all PW-5s will have ballast in the tail.

5. Competition pilots can buy performance polars as fully equipped gliders and trailers and enter one's class of choice for:

World Class	PW-5	34/1	\$ 40,000
Standard	Genesis 2	45/1	\$ 90,000
15m	ASW27	48/1	\$125,000
Open	ASW22B	60/1	\$195,000

As most soaring friends are not interested in competitions or performance cross-country flying, the second hand sailplane market is searched regularly for the best



L/D for the lowest dollar by clubs and aspiring first time private owners. Fortunately, the PW-5 is a good club machine for fun flying that can also satisfy cross-country and contest urges all the way to world championships.

Conclusion: One-design competitions are more like traditional class contests than they are different, and there are advantages to competing in the World Class.

One leaves international events with special memories and the PW-5 competition was no different. For example:

- The adventure of taking our car, glider and trailer to Europe by 'roll on – roll off' vessel. It was slightly cheaper than renting the equivalent rig over there.
- Leszno – delightfully quiet town of 50,000 – the well equipped apartment – the first supermarket but no strip malls – exceptional number of tall "model quality" fashionably dressed women (first remarked by Kris, first noticed by Charles?) – huge grass airfield at edge of town, well equipped as a permanent training centre.
- Weekend parachutists from the local club tumbling out a dozen at a time from an Antonov AN22 biplane – with the instructor bellowing steering instructions via a bull horn from the ground.
- Shapely Kathrin Woetzel of Germany (placed 9th in the World Class final results) wowed everyone as she routinely assembled, prepared and gridded her ship while dressed in a wee bikini.
- Getting antsy after a week of unusable weather, the task master jumped at a meteorologist defined "window of opportunity", and assigned all classes out and return tasks with cu bases of 3000, lift of 2-4 knots and twenty knot headwinds. What a struggle! – 66 of 68 ships landed out. The two French PW-5 pilots got back – brilliant flying but it was a No-Contest because no other World Class pilots made the required 100 kilometre minimum scoring distance. Alena Netusilova (Czech 15m pilot) pushed too far and elected to land downwind only four kilometres from the finish. She stalled into a grain field and bruised three vertebrae, damaged her Ventus 2A and left the contest.
- Cat's Cradle tasks (distance over a fixed time interval with defined area and limited turnpoints) were formidable, especially when a 15% bonus was earned by all pilots landing back at Leszno. Do you continue along a strong convergence line with an hour of the time interval left or do you turn for home? This was a real decision that faced me. I followed the street. While I flew further than the winners, they got back at the end of the day and I did not, so the 15% bonus gave them the win.

The next day, a second Cat's Cradle was launched knowing that many cu-nims would bloom. Cloudbase at 4000, rain and weak to non-existent thermals between storms made for another intriguing day. Pushing through the mists with sheets of rain on one side and a curtain of cloud hanging down a few hundred feet on the other 'with no gyros' was a risky business. The German Team Captain asked that the day be cancelled an hour after the launch as the first storms appeared before the start gates opened, but the organization said no way. Fortunately there were no incidents to mar that contest day.

If I had the chance to compete again at the world level, the World Class glider competition would be my choice.

The supporter's view – Kris

As Crew / Team Captain / Wife, the World Class competitions at Leszno, Poland generated many memorable experiences for me.

Last winter Charles signed me up for SCUM, an American group described as soaring's most "Supportive, Competent, Understanding and Misguided" persons (*also Sailplane Crew Union Member – ed*). Leszno was a grand place to learn and polish my skills as a hard working SCUM.

I first crewed for YC in Brandon, Manitoba during the 1998 Canadian Nationals and was lucky to meet experienced crew women who patiently taught me valuable crewing lessons. Most of all they worked hard to keep me calm, as I've got a tendency to panic first and think second! In the weak soaring conditions at Brandon, there was ample opportunity to learn map reading, to retrieve from farmers' fields and to follow basic driving instructions like, two miles to fork in road, then first left after the big oak tree! Luckily for me, Manitoba had straight roads and lots of folks who understood English – Poland, on the other hand, presented a real language challenge. Because of all the Zs, (Przybyszewo, or Wloszakowice, for example), pronunciation and communication was quite problematic.

The first retrieve was easy. I took down the detailed directions from YC using a pair of mobile phones, found Mariusz, an English-speaking university grad and glider pilot, and Rafal, a local guy, hooked up the trailer and away. It was a breeze. We sped as fast as possible over two-lane highways and through small villages to YC which was hidden in a field of four foot high rye. It was amazing to see the PW-5 nestled in the crop with a group of enthusiastic children keen to help carry out the dismantled bits one by one. Sign language sufficed and the task was accomplished in jig time.

I learned each retrieve could be an adventure. The time the trailer detached *twice* just outside the airfield stands out vividly! I learned many things that day, first of all, to check the hook-up, even when told by Rafal it was okay. Before calling Charles to advise we'd be late, I had sense enough to get help from Bob Hurni and Pat Tuckey (USA) to see that all was in hand – I didn't want to add to the pilot's stress load. Now I am a more knowledgeable and experienced hooker-upper.

Retrieves were what added excitement to our lives, especially the one that took us to an abandoned Russian jet airfield. YC and François Pin (USA) both landed there at the end of a Cat's Cradle. We followed the American crew much of the way but they disappeared ahead al-though, curiously, they somehow arrived later. We found friendly locals to lead us the final few kilometres. At one point it was startling as we left a good-sized village and headed down a lonely country road that deteriorated into a *narrow* dirt track in the forest.

We wondered if maybe we were being lead down a garden path. It was wonderful to burst out of the forest and arrive on the end of a huge paved runway but ⇨ p22

A perfect solution for clubs

a proposed fix for the PW-5 marketing disaster

Fred Weinholtz, from AG/Skysailor

I WOULD LIKE to draw your attention to the fact that, with 40,000 gliding members in the German Aero Club, one third of the world wide gliding community lives and flies in our country. The nearly 1000 German clubs still stick to the system of the late 1920s, which was created to guarantee that everybody interested could afford the pleasure of gliding. This was and is achieved by the iron principle that all work to be done within the community is done on an honorary basis by all who are able to do it. This principle includes all club members, the president as well as the winch driver, the secretary and the instructor.

In my club, 86 active members are flying eleven seats on four double-seaters and on three single seaters, all owned by the club, 25 members are students, without a licence. Past experience has shown that a sufficient number of students is the backbone of successful club operations. The cost for the members are: yearly subscription including insurance is 400DM adults, 200DM youth. One winch launch is 6DM for adults, 4DM for youth. One gliding hour (depending on the type) is from 12DM (K8) to 24DM (ASK-21 or Twin Acro), and free after four hours in a single flight. At an average of 50 launches and 40 hours per year, the total costs are about 1000DM for youth (25DM/hr) and 1500DM for adults (37.50DM/hr).

Looking back at the development of German clubs during the last 50 years, I recognize several double seater plus single seater pairs used for instruction and practice in certain time periods (see table below). Merely by the purchase of a new PW-6 double seater and PW-5 pair for instruction and practice, instead of buying the more expensive gliders, a club can save 40% or 60,000DM. Even more money could be saved as a result of cheaper insurance, recovered hangar space, simpler (light weight) trailers, lower maintenance, etc, etc. I am sure no glider pilot has got any doubts about how important the availability of money is for club survival.

Just fifty years ago the PW-5 would have been a "super-orchid", ardently longed for its performance. Today, the glide

The IGC backed the wrong horse by trying to stimulate world records and world championships for the World Class. They did not take into consideration the fact that more than 90% of all glider pilots around the globe are absolutely uninterested in these matters.

angle and the minimum sink are even below the ones of the Club Class. But does not a glide ratio of 33/1 meet perfectly the expectations on a glider for instruction and practice? Does the World Class glider not fulfill the wishes of the masses of gliding folks who desire nothing more from soaring than fun, excitement and recreation? Is a glider able to perform all legs of a Gold badge, including Diamonds, not good enough for a club? Moreover, does it not meet the requirements of those who want to compare their skills with others, who are eager to fly contests and records? Is it not competitive on all levels up to world championships?

It must be a real pleasure to accommodate double the number of PW-5s in a hangar compared to normal standard gliders. And whoever complained about the painfully strenuous ground transport of the heavy two-seaters — particularly in beginners' courses on hot summer days — will welcome the lightweight PW-6 very much.

In the air the PW-5 is easy to handle and extremely maneuverable. I myself flew in a thermal a number of sixteen second circles with about 45 degrees of bank without touching the stick, just by a well-set trim. Because of the narrow radius of its circles, this glider often climbs better than other leading competition sailplanes. This, of course, decreases the difference of the cross-country performance by more than would be expected from the simple comparison of glide angles.

The trailers for road transport can be a lot lighter and consequently simpler than the ones used for conventional gliders. And what a great relief it is for the instructor if he has to send only one person to retrieve a pilot after his Silver C distance. Last but not least, the winch launches are cheaper because less fuel is consumed and the release height is increased, and the cables are less loaded and last longer.

Not long ago the World Class idea was launched with much enthusiasm. Cleverly invented and carefully formu-

Year	Two-seat / single-seat pairs of training ships flown	Cost of pair (DM)	Glide angle	Avg. monthly income in Ger	Cost of pair (mo. of income)
1954	Doppelraab / Grunau Baby (est. cost if bought)	12,000	18	450 DM	27
1960	Rhönlerche / Specht doubles, K8 / Spatz singles	18,000	23	700 DM	26
1970	K7 / ASK-13 / Bergfalke doubles, K8 / Spatz singles	30,000	27	1200 DM	25
1999	ASK-21 / Twin Acro doubles, ASK-23 / LS4 singles	150,000	43	3500 DM	43
	But if a PW-6 / PW-5 pair were used	85,000	34	3500 DM	24

lated rules had the task to consolidate the importance and to secure the continuation of this class into a far future. Careful market analysis indicated a world wide demand of approximately 4000 World Class gliders. But no such thing has happened. Just 220 PW-5s have been sold in five years and the demand has already faded.

I want to repeat some arguments I put forward ten years ago. The IGC backed the wrong horse by trying to stimulate world records and world championships for the World Class. They did not consider the fact that more than 90% of all glider pilots around the globe are absolutely uninterested in these matters. And more than 9/10 of the last 10% are bound to other classes and types of gliders. Not the least because of their good financial situation they fly "orchids", or at least gliders with glide angles better than 40 for purchase prices of three to ten times more than that of a World Class glider. The remaining one percent are a bit more than 1000 pilots. Some of them have bought World Class gliders. The others obviously have not got the money, or are for other reasons not interested in buying a glider at all and prefer to depend on their clubs.

It is a great pity that the IGC neglected the needs of the gliding clubs — especially the European ones — and tried to satisfy the (supposed) requirements of the few handfuls of top pilots, an error which, to my great regret, IGC makes far too often. IGC is in my opinion top-heavy in favor of "the upper 1000". Instead, they should have taken into consideration that more than three fourths of all glider pilots on our globe fly in the European clubs, and that the views in these clubs regarding the sport of gliding are certainly positive and healthy, but differ a lot from the views of clubs overseas — and even more from the views of many top competition and record pilots.

To convince the European clubs, a marketing strategy would have been necessary which had at its centre the value of World Class gliders as a pair (double and single seater) for typical club operations: instructing, practising, and pleasure flying, including cross-country flights. The possibility to fly world records and become a world champion with the PW-5 should have been mentioned as a welcome extra, *not* placed at the centre. In spite of this error, interest in the larger gliding value of the World Class was surprisingly encouraging in the beginning. I had not expected that, because the German manufacturers of conventional sailplanes really did not sing the praises of the new class. Obviously they had not realized that they, in particular, could capitalize on a gliding population that would grow because of a successful World Class.

But the opposition of the German sailplane industry would not have been necessary to damage the World Class. I am sorry to say, but the PW-5 manufacturers in Swidnik did everything themselves to prevent the World Class from achieving the success so many hoped for. They really made every effort to follow a most unprofessional marketing policy. They themselves strangled the sprouting and even the least interest in the PW-5 by not reacting to letters, faxes, and telephone calls. They ignored rigorously the most legitimate wishes of their customers. Coolly they refused to install simple technical equipment like a TE probe in the fin, automatic control connections, simple ballast fixtures, etc. Their outrageous

price policy, contrary to the terms of agreement with IGC, and their incredible refusal to pay the agreed price reduction for the PW-5s sent to the World Air Games in Turkey, took care of the rest.

Then, a fatal winch launch accident occurred in Innsbruck. Today we know that this crash was not caused by the glider, but by wrong actions of the winch driver and the pilot, obviously from lack of experience. It is a great pity that a few glider pilots misinterpreted and spread rumours about this accident in an absolutely irresponsible way. They promoted a bad reputation for the PW-5, claiming it as dangerous and unsafe on winch launches, and this did considerable damage to the credit of the PW-5. The result was that a number of clubs dependent on winch operations for reasons of cost dropped all consideration of purchasing a World Class glider.

Hearing this story, a pessimist would say now that the great idea of the World Class has faded away. But glider pilots are optimists. So they should recognize that it is worthwhile to set the little glimmer of life for this class ablaze, to fan the flames, and by this to achieve the ambitious goal of reviving worldwide gliding as sport. But how can we succeed:

- 1 We must find reliable manufacturers who bring PW gliders to the market in perfect shape and who treat their customers as if they really want to sell the glider. (*The NZ "Gliding Kiwi" reports that PZL Bielsko in Poland is going to start manufacturing the PW sailplanes within six months. This factory is now in private hands with a large injection of Austrian capital. ed.*)
- 2 We must convince German manufacturers that they would be the most favoured beneficiaries of an increasing gliding community caused by a prosperous World Class.
- 3 We must explain to the clubs that the PW gliders are safe in all operations, easy to fly in the air and handle on the ground, with pleasant characteristics, and considerably less expensive. Moreover, they are good for Diamond flights, and for records and championships on all FAI levels.
- 4 The manufacturers and dealers must market pairs of PW-6s and PW-5s to the gliding centres, let the club members fly these gliders, and rent them for small charges to club courses, gliding holidays and weekend activities.
- 5 Let us report enthusiastically in our magazines on thrilling and successful flights, on good results of instruction activities and other interesting stories in connection with the World Class.

We must keep our faith in the World Class and plead its cause wherever and whenever we have got the opportunity to do so. I am sure it will be worthwhile. ❖

Born in 1926, Fred Weinholtz played a prominent role in the revival of German soaring after WWII and directed the World Championships in 1981. He has instructed since 1955, competed actively from 1960-70, and earned his Diamond badge in 1976. He is past vice-president and secretary of the IGC. IGC declared him "Secretary of Honour" for life in 1997, and FAI awarded him the Lilienthal Medal (1991) and the Bronze Medal (1997). A widely published writer, he has received numerous other honours in a lifetime of aviation achievement.

Flying in the mud or dust (bowl that is)

A new pilot's intro to contest soaring

Eric Gillespie, SOSA

SOON AFTER COMPLETING the Silver badge and 300 kilometre Diamond Goal flight (see the 4/99 issue of *free flight*), other pilots began suggesting that entering a gliding competition might be the next step in a logical cross-country flying progression. However, still being quite new to the sport, I found the thought of a contest somewhat intimidating. The rules and scoring systems appeared relatively complex and difficult for a novice pilot. As well, competition stories of large gaggles and straight-in landings etc. did not sound all that attractive. However, the "Mud Bowl", SOSA's annual club soaring contest was quickly approaching, and with a bit of encouragement from some of the senior pilots, I decided to enter.

The origins of the Mud Bowl seem to differ depending on who you ask.

When it began it was held in the spring, hence the term Mud Bowl, according to some observers. Now that the contest has been moved to early August, it has more recently been dubbed the Dust Bowl, a name that it has certainly lived up to, at least for the past few years. At the same time, this seems to be an unofficial moniker, as the contest organizers continue to refer to it as the Mud Bowl. This lends support to an alternative theory, that the contest was named after the original trophy, which was supposedly made of mud. Given that a trophy no longer appears to exist, this supports this second version of events. In any case, the contest has been popular for many years with both SOSA pilots and with those from other clubs, who have always been welcome to participate and who often do.

The spirit of the Mud Bowl has been, and was again this year, completely that of a "fun fly". The rules were kept very simple, allowing pilots to do a three hour PST (Pilot Selected Task), with the only exception being a final mandatory turnpoint within approximately 10 kilometres of the field to better organize returning traffic. Otherwise, every pilot was free to choose a task that suited their own aircraft and personal level of comfort. As has also been the case in the past, this year's competition attracted a full range of entries from 1-26 drivers right up to ASW-27s and the like.

This year, there were over twenty participants each day. However, a well-organized launch grid with three tow-planes and reasonable weather kept gaggles to a minimum around the start gate. At one point I realized that I was in a thermal with seven other sailplanes. Still, by keeping an appropriate spacing between aircraft at the same altitude and learning not to get overly concerned with planes more than 500 feet above or below, I found that everyone including myself remained comfortable.

The range of entries meant that in addition to being able to fly with some other relative newcomers, pilots were often able to share part of their flight with both former and current Canadian champions, who have also competed for Canada at the world level. For me, this was a definite highlight of each day's flying.

Day One of the contest was cancelled due to heavy rains and associated thunderstorms that were severe enough to knock out power throughout the area for a number of hours. Day Two proved to be better, with competitors flying flights at speeds in excess of 87 km/h.

Day Three was the best in terms of weather, provided that pilots were able to deal with some of the heavy overdevelopment that occurred in certain areas. While a few land-outs did occur, the best speed posted was 107.7 km/h over a distance of about 325 kilometres. In the end though, very little emphasis was placed on scoring, other than for the top three or four positions (congratulations to Wilf Krueger in K2 who ended up being the overall winner). For the rest of the field, considerable leniency was permitted to keep the contest fun, including allowing some scoring even though turnpoints had been missed, allowing turnpoints that officially were not part of the contest, and allowing relights and fresh starts for planes that landed out during the course of the day.

Perhaps the two biggest smiles of the weekend, that also exemplified what the Mud Bowl is really all about, came on Day Three.

Part way through that afternoon, a pilot announced that he was in the process of landing out and would not be returning to the field by air. Shortly thereafter, he called that he was not going to land out, as he had "found some lift, so that I can now go and land out somewhere else" ... which he did. A bit later, the club's 1-26 also landed out, as it had the day before, and a number of times earlier this season on various badge leg attempts. Once again in the spirit of the contest, the pilot was able to obtain an aeroretrieve and was permitted to relaunch and fly a second flight as part of the competition. Knowing the history of the 1-26's escapades, when the pilot announced that he was indeed re-starting, Contest Ground's only comment over the radio was, "well I'll bet your crew is really happy to hear this!"

Generally, after the flying ends, some form of social dining event has traditionally been organized for at least one of the evenings. This year was no exception, with "Italian Night" on Day Two. It was great for a younger pilot to be able to sit and chat with much more experienced pilots who had flown on the same day, ⇨ p25

A concept of soaring

Earl
Menefee

from
Sailplane Builder



FOR YEARS I'VE WONDERED what it is that attracts so many of us to soaring. What is so compelling? Most of us who are addicted will admit that it is a lot of hard work. If that's true, why do we find the appeal of motorless flight so strong that at times we lose sight of, or perhaps even deny, our common sense duties and obligations? Surely, these questions have bothered others of us too. Also, it is very likely such questions have been asked by those affected by a loved one's soaring, but who themselves do not directly participate in this time-consuming activity.

Well, for once let's look at soaring and its associated activities directly in the eye, and question what we find there. This may not be the best course to follow, since occasionally it happens that when we chase a question down to its ultimate end, we discover an answer that is not exactly what we had hoped to find. But, let's take that look anyhow.

First there is without a doubt, the beauty of it. There are fantastic vistas of aerial scenes exposed to what would otherwise be unknowing eyes. Views heretofore enjoyed only by the wild soaring birds. Sights of such colour and magnificence passed too quickly in powered aircraft to be readily absorbed in our minds. The slowly sweeping masterpieces of nature are laid out before our view while man's scars gradually disappear to their proper insignificance. Even the beauty of the flight itself, a seemingly effortless, wheeling glissade across the sky, either to some pre-named goal or just for the love of it. Or, the beauty of the aircraft themselves which are, through a long process of evolution, gradually approaching the quintessence of aerodynamic perfection.

All this and more if we keep on searching. There is the release we feel (or escape, if

you will) from our daily and sometimes humdrum lives. This alone is enough to cause some people to continue their interest in high performance gliding.

Often when soaring in a gradually ascending and controlled gavotte of circling sailplanes, or perhaps coasting along the windward side of a cumulus street, we find ourselves near the top of the infinitely soft water vapor cotton balls beholding the elegance of these clouds and of the changing landscapes far below. We may then become aware of a sense of detachment from everyday concerns. It's a separation from worldly cares experienced in few other ways. The solitude and quiet can become so complete that signs of human existence (other than our own) have completely disappeared and we are left alone with our conscience and Healer in a manner seldom achieved in the life of the non-soaring man.

A hedonistic pursuit? Perhaps. For even all the other facets of the soaring game such as constructing, instructing, crewing, repairing, flying the towplane for some other lucky blighter, or even working with others on the same dreams and compulsions on soaring organizations of even national importance, can all bring a large measure of pleasure just due to association. The days, even years we may spend in building or lovingly repairing a sailplane, are all touched with a certain magical glow simply because we are continually aware, as we stumble on, that this too has something to do with soaring and, as such, that it is enough to make it all enjoyable. When the time does finally come for the first long anticipated flight, it unfaillingly seems to make such sustained effort worthwhile. Hundreds, even thousands of hours of groundwork fade away and are readily compensated for by the completion of a terrific hour or two of seemingly effortless flight.

Also, there's the challenge of it. We dare to emulate the birds — they that appear so free — though they too are confined by gravity, worldly cares and family obligations which may not be so apparent to us. But man has, for perhaps longer than recorded history, envied their apparent escape and exultation. We too can rejoice in a soaring flight well done. The adventure of it is sometimes fraught with a dash of danger that makes the uninitiated question our actions with a jaundiced eye. Our answer to their concern is, of course, that we do it for the same reason that man has always taken up his challenges. Soaring stirs his heart. For its very essence is beauty, and in this he glories and finds his love of it.

In theatre, it is the accolades and the applause that create in some actors a continual need of recognition, while to others in the same craft it is the thrill of knowing that they have achieved a near perfect performance. To the soaring pilot who has savoured the magnificence of a glorious flight without power, little else will suffice until he too has tasted it again and again.

Finally, in time, the realization comes that perhaps inexorably advancing age, or maybe ones native ability, or even personal financial resources do have their limits after all, and he (or she) recognizes that one can taste only so much of the wine before the bouquet slowly begins to fade. So, he then may recall the beauty he has enjoyed due to his soaring activities, the pleasure of just being associated with motorless flight, and with the people with the same dreams and flight aspirations.

He may at that time begin to settle back to earth, knowing he has shared in one of the most intriguing and beautiful of sports in his allotted time on this earth. ❖

Cross-country? Let's go!

"Cross-country soaring may initially seem like a leap of faith, nonetheless that faith develops from time spent soaring and in contact with more experienced pilots."

observations by **Ray Wood, Andrea Kuciak, Eric Gillespie, "the Eagle" & Terry McElligott**

THE ABOVE QUOTE is taken from the manual supplied as part of this year's Canadian Advanced Soaring cross-country clinic, which was held at SOSA. For anyone in the clinic doing their first low final glide, heading toward a distant runway that seemed awfully far away and absurdly close to the horizon, it became a sort of mantra. But it worked.

There's no big secret to cross-country flying. Instead, you have to consider a lot of small ones. Holding a cross-country clinic at your club is a great way to decipher those little gems of knowledge. In keeping with the CAS philosophy of cross-country for everyone, there were students of all skill levels at the clinic. The 1999 event was held on 16-20 August. Sunday the 15th was a day of high cloudbases, light winds and wide thermals. Tuesday and Wednesday, 17 and 18 August, were interesting flying days, as was the following Sunday, when an informal post-clinic contest was held. Monday, Thursday and Friday were bad weather days but they were profitably spent in lectures. The clinic instructors and shepherds included Dave Springford, Jörg Stieber, Scott McMaster, Tim O'Hanlon and Tony Rywak. A good technical manual covering cross-country tactics and soaring weather was supplied.

So, four out of eight days were flyable, counting from Sunday to Sunday. Shepherded cross-country flights were accomplished ranging from 100 to more than 300 kilometres, depending on conditions, time and comfort levels. Talk about learning curves! There was something for everyone. What did the students have to say?

Ray Wood, a relative newcomer to soaring, has done duration flights and Silver distance attempts. He did not fly in this year's clinic, but participated as a very interested observer who looks forward to flying next year.

Ray's thoughts: "I think the CAS clinic is probably the best stick to beat the 1-26 habits out of a budding X-C pilot. The insights into making a sailplane go fast over the anticipated route have moved me forward a long way (pun intended!) If it could be arranged for more two-seat training at such events, I'm certain the experience would be of great value. As it stands, with the knowledge gained last week I am a better, more confident pilot now." And Ray was only there to watch!

Andrea Kuciak, also relatively new to cross-country, says: "... the one thing I really hadn't been taught before was the whole statistical concept of being able to find more

thermals the farther you go ... it sounds obvious when written like that but Jörg Stieber's presentation on the subject of when it pays off to get as far as you can, really drove the idea home. Enough so that I am starting to get over my 1-26 tendencies of staying in one spot."

"My big lesson was to keep moving, so as not to get fixated on lift that was substandard for the day, unless I was under my working band (the altitude band in which you stop to climb in only the best lift). In correlation to that, I had it pounded into my head that I should always be looking for lift in the direction I want to be going — in other words, toward the next turnpoint."

"I would also like to mention final glide exercises ... (they) taught me a lot about what a final glide looks and feels like, not to mention how to properly use a final glide calculator. We did a final glide from Reid's Field (a strip about 14 kilometres away from SOSA) from 2000 feet and still did a contest finish."

Andrea and instructor Scott McMaster did this and some respectable cross-country distances in a Grob 103, a two-seat glider many people think of as a ship you use for intro flying, not to take cross-country or use for final glide practice.

Jim Kayer was the lone participant from outside SOSA at this clinic. He came from Toronto Soaring with his PW-5. "For me, the high point of the clinic was meeting all the other students. There are people out there who struggle with the same things I do. I was disappointed that there was no one there from any other club. I believe that the cross-pollination that results from bringing together people from different clubs helps everyone involved, and helps the sport of gliding. *free flight* should encourage participation by members of other clubs. I'll be back next year and will campaign to get other members of Toronto Soaring to join me. I was also inspired to obtain a flight computer such as a "Varicalc." These things are not a high priority at Toronto Soaring and I need an outside influence to show me what I am missing."

Sounds like Toronto Soaring might be signing people up to its own cross-country clinics in coming years.

Eric Gillespie, who wrote about an interesting Silver distance attempt in a previous issue of *free flight*, flew his Silver badge and shortly thereafter a Diamond Goal flight — all in his second year of flying. He said:

"In terms of the clinic, given that the opportunities to fly were somewhat limited by the weather this year, I believe that the biggest benefit came from the fact that a number of experienced pilots were available to ask and respond to all those questions that rarely can be answered while rigging or waiting on the flight line. Once a person can say that they find the basic idea of ⇒ p22

It's only a mistake if ...

Art Grant, Winnipeg GC

On a flight early in my training I mis-read the altimeter and pulled off early. My instructor at the time, Jeff Tinkler, gave me some advice that has stayed with me. "It's only a mistake if you do it twice," he said, "the first time is a learning opportunity!"

Each fall I relate this lesson to my students. As an educator, I want my students to feel comfortable taking risks and making mistakes. One thing I do ask of them is to let us all share in their 'learning opportunity'; so that we don't have to all make the same mistake. I am now going to follow my own advice, and give you an opportunity to learn from my "mistake": As you'll see, it's one that most people don't get to learn from by personal experience!

July had been among the most memorable months of my life. I had completed the SAC Instructor Course at Cu Nim with some of the most wonderful people I've ever met. I had vacationed in BC with friends and relatives. I had met some great people from VSA and the Invermere club. I had experienced the incredible highs of soaring in the mountains at Invermere and the terrible low of losing a good friend and fellow pilot in Mike Cook.

I had not flown my Jantar since returning to Starbuck two weeks ago. The day looked promising — light and variable winds and a few cu popping. I rigged and begged a tow to the flight line. My lousy number meant I was the last plane at the flight line to launch. A quick positive control check and I was away. Because of the numerous members and a few fams waiting at the flight line, I made sure that the takeoff was smooth. Gentle forward stick to get up on the main wheel, gently back when the speed was right, ease off the runway, stay low behind the towplane, and follow him up. Great!

The aerotow was uneventful. The day was beginning to die, with few bumps to lend encouragement. Oh, well! I need the circuit practice. Off tow at 3000 feet agl, I turned towards the last bump and trimmed. *What the hell?* Full back stick and still 55 knots? Something is not right here. Ballast? No, I don't need any in the Jantar. Trim? No, it's a spring, not a tab. Then, little things from the morning began to surface in my mind.

I have always had some difficulty installing the horizontal stab on the Jantar. It is, for me, a finger-biter, and it's difficult to see what's happening. It 'felt' like it connected, the sliding sleeve clicking into place. I lowered the

stabilizer into its fitting, gave the elevator an up-and-down waggle and checked visually to see the stick moving. Seems right! At the flight line, I was already buckled in and ready to go when I called a club member to help me with a positive control check. At the back end, we had some confusion with the 'up elevator — down elevator' check, but I let it pass.

"Tango Oscar Whiskey, this is Oscar Romeo Romeo. I think I have a problem here." I asked the towpilot to form up with me to check my elevator. Full back stick, he sees only straight and level elevator. Damn! What to do? Fly the plane and think!

Jumping is an option. I've never used a parachute. I'm not sure I like the thought of trying, and my partners will be upset with the mess that option will leave their airplane in. (Why this was a problem, I'm not sure.) The plane is still flying. I have little control over the airspeed — I can lower the nose, but it takes a long time to come back up when I pull back. The duty instructor suggests I experiment with the dive brakes. Full out, the airspeed increases to about 68 knots. Back in, the speed returns to 55 or so. At 2000 feet I decide I'll take my chances and land the plane. Gear down — no affect on the airspeed. Tighten the straps. Ground suggests using the long diagonal, possible because there is little or no wind. Other pilots have stayed off the radio.

I set up for a real long final — about a mile and a half back at 800 feet or so. Spoilers cracked about an inch or so seems to give me about the right rate of descent. Going well. At about 30 feet above the ground the plane pitches forward and I'm getting a real good look at a wheat field. Spoiler in (automatic), the plane gently levels out on its own, and I sink into the runway. A long controlled roll-out and the plane stops. Canopy up. Raindrops begin to fall. Then it all hits me! Deep breathing to control the flood of emotion. A few tears (of joy?). A short prayer of thanks. It was not my time.

Jim Oke pulls up in the retrieve vehicle and I unbuckle. After I climb out, Jim reaches in and pulls the stick back and forth. The elevator is not moving. Examination confirmed what I knew. The sleeve was locked in place, but not over the connection. Down-elevator could be had when the tube bumped the connection up, but up-elevator was not possible.

Back at the flight line after the handshakes and hugs, some ideas emerged about preventing this from happening again. For starters, I don't plan on installing the hori-

zontal stabilizer on my own ever again. Visual confirmation of the connection is a must! Positive control checks will be done before buckling in, and I will make sure the helper on the other end knows what to feel for. We'll have a training session for him and other newer pilots.

Howard Loewen has an addition to the way he does his positives, and it will be added to mine ... he has the helper not only feel for control inputs, but has the helper move control surfaces to see that he has feedback on the controls. We surely would have caught the unhooked control using that!

I've had to work really hard on being methodical in my approach to flying. It seems I still have some work to do. Did I make the right choice? The outcome was certainly positive, but many things could have changed that. The rain that fell right after I landed might have upset the delicate balance. I might have been unable to handle gusts on final. I was lucky! A few of my fellow pilots have said they would have jumped, but they weren't there. I couldn't bring myself to leave a perfectly good plane, and what a wonderful plane my Jantar is.

So please learn from my 'learning opportunity': I've been given another chance and promise not to let it become a mistake.

Safety Officer analysis

Larry Morrow, WGC Safety Officer

I would like to begin by thanking Art for his willingness to discuss this incident openly and pass on some lessons to other glider pilots. Discussing this incident and examining the glider revealed several opportunities to find the unconnected elevator before takeoff. I'll focus on these opportunities.

1 The horizontal stabilizer was installed by the pilot alone. This task is not easy for one person and a helper would have made it easier to hook up the elevator connection properly and inspect the connection before mounting the stabilizer.

Inspection of the aircraft with the elevator unhooked showed that the elevator droops down and does not move when the control column is moved. When the elevator is held in the neutral position, forward movement of the control column after a certain point will deflect the elevator downwards. This happens when the vertical pushrod in the fin moves upward far enough to contact the fitting on the elevator. When the control column is held back past this contact point the elevator is free floating.

During flight the pilot could only move the elevator downwards from its free floating (neutral) position. The pilot's weight was

light enough that the glider flew at an air-speed around 55 knots when the elevator was not disturbed. This balance point was enough to let the glider be aerotowed, maneuver in free flight and land with a small amount of spoiler extended under smooth conditions.

2 No Daily Inspection of the glider was performed. A DI would have revealed the problem if the control column were moved to its limits since the elevator would not move (see above). Also, moving the control surface as part of the DI could have revealed the problem since the elevator would not be constrained by the control column and the trim spring. For pilots who are unsure of the difference between the feel of an elevator with trim tabs versus one with an internal spring trim (most modern gliders), it would be worthwhile to examine several types of aircraft with an instructor.

The range of movement of the elevator is also different with the connection hooked or unhooked. No measurements of the angles of travel were performed but the elevator appears to droop to a larger angle than when it is hooked up and will not move upwards to its normal angle because of interference from the fittings in the tail.

3 A proper control check was not carried out as part of the pre-launch checks. The problem would have revealed itself visually at this point if enough of the elevator is visible when seated in the glider. Art has stated that when he is seated in the aircraft with the restraint system tight, it is difficult to see the tail of the glider. Reflecting on this later I realized that most people, myself included, tighten the restraint system when first entering a glider. However when using the CISTRSC checklist, "Straps" is the third item on the list and "Controls" is the first. Is this order intentional to allow the pilot to properly examine the control surfaces before tightening the straps?

4 A positive control check was performed, but the person securing the control surface was not experienced. The person at the tail expressed some concern that the control did not feel properly secured, but the pilot felt under pressure to launch and disregarded the comments. The glider was off the flight line for a considerable period of time before launching but the check was carried out just before launch. Art was engaged in moving gliders and helping other pilots at the flight line. A few minutes set aside beforehand might have helped to find the problem.

In conclusion, there were many opportunities to discover the unconnected elevator. We have discussed the incident in detail and new procedures are being adopted. This article has been a detailed look into the incident and I would like to thank Art again for his cooperation. ❖

Safety Culture revisiting a philosophy

Ian Oldaker,
Chairman, Flight Safety & Training

IT'S VERY UNFORTUNATE and sad when a pilot gets killed, but it does happen, and we always hope that it won't again. How can we prevent another fatality you ask, and how can we prevent the smaller but also costly accident and more numerous incidents? Perhaps an examination of our individual responsibilities — to ourselves and to others may help. We need also to look at how disciplined we are to our flying, in other words, how we approach the next flight.

An accident that occurs in a club has a profound effect usually within the club, and sometimes more broadly within the soaring movement. Perhaps one of the more significant lessons that are learned from a particular accident and the responses to it is that there is often a broad measure of misunderstanding of what went on and of the actions taken to prevent a recurrence.

One of the unfortunate things about human beings is our failure to realize that an accident is very often the result of people not learning from the experience of others; we ignore obvious dangers because the safe solution is embarrassing — it seems "silly" or is "expensive". We often forget that the cost of the accident can be far higher, particularly if someone is hurt or killed.

Responsibility

A responsible pilot is one who accepts full responsibility for the consequences of the decisions and actions that he or she makes. It also is the ability to act independently. Here we have a problem, because there are some of us who feel that we should be able to make an overriding decision; there are the CFI and instructors interested in a safe operation! Okay, this is the case for early solo pilots perhaps, but eventually we hope that each of us is given the responsibility to make all our own well-judged decisions.

An experienced pilot recently told me that a few years ago he was at a site where a local pilot was about to fly under marginal (for him) conditions. My friend told me he was concerned for this pilot's safety but, being in another country he was reticent to come out directly and say, "don't fly today". The pilot did say that it was no problem, and that he could handle it. He got into difficulties and subsequently crashed and was killed.

If this situation were to present itself in your club, what would you do? Do you feel a responsibility to the other pilot? We should think about this, work up a scenario or two, so that when a real-life situation occurs, we

are ready with the words, and can provide the needed advice and cautions. If you are an experienced pilot, the pilot receiving the counselling should be able to accept the advice with good grace.

Discipline

We rely on a host of systems and organizations in our daily lives to maintain their discipline to do things right. For example, an amber light means caution, slow down, the red is next. Look what happens when drivers accelerate — accident rates go up! We are losing the discipline of an ordered life. It is all very well to say, "I have enough rules and regulations in my 'normal' life, why can't I be free on the weekends?" I'm afraid that freedom comes with the price of maintaining a certain discipline so that we all know what the other person is going to do next. That's why we both turn to the right if we are on a collision course!

When a person is disciplined, it can mean that they are orderly, they have good self-control and that their behaviour is ordered. We try to instill a disciplined behaviour into our pilots... do we? Yes, as far as checklists go, but do we extend this to ensuring that the pilot always follows the same routines when he or she goes to fly? There is nothing worse than being distracted when doing the pre-takeoff checks, or when rigging, for example. Do you ensure that the pilot is free to do these things in a consistent manner? Not only must the pilot be disciplined to do these checks and to rig his glider correctly, but assistants such as wing runners must be disciplined too.

Incident reporting

The purpose of having incident reporting is to be able to get details of fixes and operational practices to as many pilots and clubs as possible. An example here is the sending of notifications by the Soaring Association to all clubs and organizations flying gliders in Canada. Without the quick notification of serious problems to SAC, it cannot respond in a timely and responsible manner. Many incidents go unreported because the pilots feel they are inconsequential or that some form of disciplinary action will be taken against them. This is unfortunate, as how can we adequately review our practices if we lack information? Although the FT&S committee is currently not asking for all incidents to be reported to the SAC office, it is strongly suggested that clubs keep track of their own incidents. This should be done by the club's Safety Officer, anonymously if necessary even within the club, so that the lessons from the incident do not become lost. We can and should learn from the mistakes of others, because we do not live long enough to do them all ourselves!

Ideally, clubs should be collecting and then analyzing the data that comes from all sources, whether it is how to improve our

cross-country speed while maintaining safety at a high level (read height above ground and choosing a field to land in!), or how to avoid bending our glider. To help in this, I have suggested in the past that we aim at developing in all our clubs a 'Safety Culture.' Information on incidents and of course accidents will ideally come from the pilot(s) involved, observers on the ground and from maintenance people, instructors and so on — in order to get a well rounded input for analysis and remedial recommendations. Terry Southwood published an article on how to analyze and learn from incidents (*ff 1/98*), and the club Safety Officer should review this from time to time, to get the most benefit from looking at the club incidents.

After an accident

After an accident many people say, "It won't happen to me because ... 'I'm too careful/experienced/disciplined'; 'I fly a different glider'; 'My glider doesn't have... (choose something)'; 'Sure, the pilot may be more careful or fly a different machine; however, is this not simply an escapist's excuse? It can't happen to me (I'm invulnerable), they say. Instead if the pilots were to openly and fully discuss what went on, then the reasons for the incident could be better understood. Perhaps the need to share with others outside the immediate group or club would then become more apparent. Instead of an incomplete understanding of the events leading to the incident, we might recognize a whole lot more goes on before the incident comes to an end. In other words, we will develop a far broader outlook of the potential contributors to accidents and will be able to better assess our responses and our club's practices when looking at other pilots' incidents.

Immediately after an accident we tend to blame it on something that we can relate to, often on our own practices. The broader implications of club or training procedures (rules), of the weather or pilot factors (eg. food, fatigue) and of the aircraft itself may get forgotten in the rush to "explain" it. It is too easy to explain it quickly and to defend the explanation rather than to take a breath, obtain other opinions and to look into some other factors. After an accident there is often a tendency to rush into "doing something" to hope that the problem, if there was one, will go away; or to try and prevent a recurrence by instituting or revising a rule (restriction).

Discussing accidents

Before we change our *modus operandi* there can be a host of issues to discuss, particularly if a rash of accidents or incidents has occurred. It is only by collecting and identifying common factors that we can begin to recognize trends and to take appropriate actions. If a club does not analyze its incidents and/or does not share the data in the longer term with the broader base of pilots in the Association, then we may never learn the right lessons from our accidents and incidents.

Many of us have been in soaring for 20-30 years, and we have seen a thing or two. How often do we say that history has repeated itself? We have learned our lessons — we hope — by listening to others and by keeping alert. Pilots newer to soaring have not yet felt the need perhaps, nor the responsibility to think deeply about safety and the implications of their flying habits. As competent pilots we believe we know how to handle ourselves and to avoid the obvious accidents. There is a bit of a complacency attitude in this statement, and we must beware — the most recent fatal accidents have happened to experienced pilots.

Thinking about difficult events

Consider this: the most difficult situation that we will have to handle is the event we have not yet anticipated and thought about. And the most difficult situations for the new pilot are those that have not been experienced or analyzed. Therefore we need to train our students and ourselves to be as competent as possible so that there is a good chance for us to deal with the unexpected. We cannot expect every situation to have been thought through beforehand! If we neglect to train ourselves to think through various scenarios (or chains of events), are we 'setting up' ourselves for a later accident because we are relaxed and have a comfortable feeling that all is well?

Minimizing risk

Our whole flying environment needs to be one of a Safety Culture in which the philosophy is to minimize risk. Recognizing that people make mistakes is a first step, but then we must minimize their consequences and maximize the chances that the mistake will be recognized and corrected before it is compounded. Notice that the onus for safety here is on the individual recognizing the error and correcting it, not on institutional rules or regulations. Yes, these help, but too many stifle individual initiative and should be looked at critically. Encouragement and acceptance of a review of all incidents are part of the Safety Culture. This minimizes the chance that problems will be omitted or neglected because of too rigid a set of rules and lists of responsibilities for individuals.

Are we guilty of learning too slowly from our own mistakes and those of others? We should constantly talk about our flying, the way we would handle different situations, whether to fly or not to fly under the prevailing conditions, whether to push on or not on a cross-country flight, and so on. But this should be done with care and responsibility bearing in mind the idea of a Safety Culture which hopefully will allow us all to improve continuously our own techniques and our training of up-and-coming pilots.

The SAFETY culture

The Safety Culture demands that every action we take related to flying has a safety implication or thought behind it.

- Why do we fly a standardized circuit prior to landing? *So we have adequate height for our final turns for one thing!*
- Why do we do a walk-around inspection prior to each takeoff? *Someone once found a safety pin had fallen out of the elevator push-rod connection.*
- Why did the canopy fly open? *The pilot had not been trained to positively check the closing of it (and had not been briefed adequately when converting?)*

I don't mention the larger issues of chains of events leading crashes into the trees on take-off, or of stalls and spins and so on, however these often start from the more simple examples just given.

The Safety Culture demands that we start our pilots on a safety oriented path — a cerebral path — from their first day of training and that we consciously feed them safety thoughts and train our pilots to be disciplined and consistent; for example, before getting in, always check:

- Am I ready to fly?
- Is the aircraft ready to fly, locks off, tail dolly off, etc? and
- Is the weather suitable for me to fly?

We should always do these checks quite consciously and in the same order.

Thinking ahead

When training pilots prior to solo, the Safety Culture demands that we teach them to think ahead — what are the consequences of their actions? Where and how will the sailplane be flying one minute from now, two minutes later, in other words to have a good mental picture of the flight several minutes ahead and at all times. After solo the Safety Culture requires us to openly discuss problems and to think through incidents. It also requires us to share our experiences, so that others may learn from our flying and avoid making the same mistakes once again.

Instructor meetings

If your club does not now hold instructor meetings and/or club get-togethers to discuss flying, seriously think about it. To start with, regular instructor meetings, at which safety issues are included as a priority, are vital. You will be surprised how many incidents will appear out of the woodwork. Some of them may sound innocuous enough taken individually, but when taken as a whole may show a trend that should be looked at further. I am continuously surprised at the positive reactions to such meetings when incidents, their causes and suggested remedies, are discussed openly and without recrimination.

Consciously develop and maintain a Safety Culture as a way of training your up-and-coming pilots to think, act, and fly "safety"! If doing so may save the life of a friend of yours, isn't it well worth it? ❖

hangar flying

Sporting committee change

Earlier this year, Charles Yeates resigned as chairman and George Dunbar took over temporarily. In August, the SAC Board confirmed me to the committee and I will serve as the new chairman. George has retired from the committee, leaving Colin Bantin and Tony Burton as members. Thanks for the good work, George, you have contributed so much over the years, particularly in the details of competition scoring/rules. The soaring community is certainly indebted to you. It's an honour to follow in your footsteps.

I want to thank the SAC leadership for their confidence and also for the clear direction that came with the mandate. In my opinion effective communication with the general membership, and with competition pilots in particular, is essential for the Sporting committee to do its job. The SAC Roundtable, *free flight* and the Advanced Soaring e-mail talk line will be the media to discuss the issues we are working on. I hope this will create a broader-based interest in contest rules, team selection, etc. and trigger ample feedback. Without everyone's input, the committee would be working in a vacuum, some would call it the ivory tower. We are looking forward to hearing from you.

The committee has been busy this year. Work done and in progress is (in no special order):

- setting format for and building a Canadian national turnpoint database.
- refining the competition rules as they apply to the use of GPS, and working with Nick Bonnière on the parameters of his flight recorder design.
- redesign of Canadian record forms to mirror the new Sporting Code.
- ongoing discussions on the philosophy and rules for seeding Canadian pilots to a growing list of international soaring competitions.

- consideration of some of the requirements of the Canadian speed-to-goal record category.
- to suggest solutions to the dilemma that due to the proliferation of international soaring events, limited SAC funds make it impossible to support all these events in a meaningful way.
- completion of work on the new FAI Sporting Code by Tony on the IGC rewrite committee.
- development of appropriate rules for entry level competitions to round out cross-country programs and badge flying.

Jörg Stieber

New Canadian TP database

The Sporting committee, on behalf of SAC, will be maintaining an official database of turnpoints in Canada. I am currently assembling this database and the results will be made available at the SAC and CAS web sites.

This database will provide a single source for turnpoints in Canada that can be searched, sorted and filtered as required for any application. It is intended to be the definitive source for up-to-date and accurate turnpoint and related information such as airports and landing fields. For example, turnpoints to be used for an upcoming contest can be identified by the contest organizers from the existing records. I can then update and correct as required, and they can be directly retrieved by contestants from the database. All corrections and changes will be controlled and the latest version from the database can be considered the official list.

A similar initiative is underway by the IGC for a worldwide database. The database is being maintained in a master worksheet of an Excel spreadsheet. The information can be provided in a format suitable for downloading to specific flight recorders or to other

TP databases, as a stand-alone spreadsheet to search, sort and filter yourself, a word processor table for printing out, a comma-delimited ASCII file for general use such as loading to a flight recorder, etc.

The entire database (in any format) is rather cumbersome to export, so I can prepare the data as separate smaller files (in XL, Word, or ASCII) depending on your requirements.

So far I have over 500 from Alberta to Quebec, but I need as much new input as I can get. Go to the SAC or CAS web sites to find out what data fields are used for each TP record. This database is only as useful as the accuracy and currency of the data. I will only be the keeper of the data, *not* the originator.

If you want to contribute, modify or correct any data let me know and I will send you what I already have. I will keep track of any changes and notify everyone on the Roundtable or by other means.

Colin Bantin

Ontario Soaring Association

As you know, the fall/winter is our busy time of year. This year is no exception. Below is a list of events along with approx. target dates.

Nov 20	Dinner & fall meeting
Jan 15	High altitude familiarization
Feb 12	Women in sport orientation
Feb 26	Air Cadets orientation
Mar 11	General meeting/soaring seminars

The dinner and meeting is a chance to meet some of your peers in an informal setting. This has worked especially well in the past with members new to the sport. Venue is the *Muddy York* in Toronto. The meeting should take about 15 minutes after dinner. If you are interested in coming to the dinner (spouses welcome!), please reply via e-mail so that we can make the necessary arrangements.

High altitude orientation involves a trip to a site operating an altitude chamber. A briefing on the effects of lack of oxygen at altitude is followed by a trip in the chamber. We will



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most likely be renting a bus for this. Seats for the chamber are first come/first served. If enough people are interested we will try to lay on another trip.

The two orientation sessions allow your club, if interested, to put its best foot forward with two groups under-represented in our sport. "Women in Sport" will be from Universities/Colleges around Toronto. Air Cadets will be the graduates of the training program, who will be looking to advance in the sport.

The general meeting and soaring seminars again follow a format that has worked well in the past. Here is a good chance to start to get ready for the upcoming season.

The most current info on all of the above can be found at <www.interlog.com/~kwithrow/osa.html> Email: kwithrow@interlog.com

Ken Withrow

† Robert Gairnes

The Montreal Soaring Council and, indeed, Canadian soaring, lost an outstanding individual when Bob Gairnes was killed in an accident on September 4. He was making his first flight in his PIK-3c, which he had spent the last few months restoring since purchasing it last year. He took off by aerotow to a height of 2000 feet and some ten minutes later was seen to spin into the ground. Bob had not been active in MSC for a few years but had taken a season's checkflight this spring. I believe that it was his nostalgia for older wooden gliders that prompted him to buy the PIK. I know he expressed concern to me that if he had not bought the glider it may have been scrapped.

MSC records do not go back far enough to show how long Bob had been a member of the club, but I believe he joined in 1956, as I know he was already an active member when I joined in 1957. He had served several terms as a director of MSC, including a term as President. He had also been an editor (possibly the founding editor) of the club's newsletter, *Downwind*, and had also been editor of *free flight*. He crewed on several occasions at World Championships. At one time he was quite an active contest pilot and he had owned several gliders: a Skylark 2, followed by a Libelle 301 and an ASW-20. He also served as an instructor for many years.

Gliding was not Bob's only aviation pursuit, he was very interested in homebuilding and had been a member of EAA for many years. He was a regular visitor to the world-renowned Oshkosh conventions and made many friends there. To my knowledge over the years at various times he had owned, or had shares in, a number of aircraft including a Tiger Moth which he purchased with Oscar Estebany when the club needed another towplane (it was later purchased by the club); a Stinson L-5, and a Luscombe. I'm sure

that there were others! He still owned a Wittman Tailwind, and a Stampe biplane which he bought in France and had a good friend, Ben Price, fly it to England for him. It was then shipped to Canada and, due to his multitudinous other activities, Bob took several years to refurbish it. He flew it for the first time early this year.

Being a true blue Scot, Bob was an enthusiastic Scottish dancer and a regular attendant at the Maxville Highland Games.

Despite all the activities I have mentioned, Bob was a very private person and no one seems to know anything about his family or his earlier life. We do know that he was a graduate engineer and a Quaker who, as a conscientious objector, drove an ambulance in China during the '39-'45 war.

Although a truly frugal Scot, Bob could also be very generous. He always brought a gift when he visited friends, and I have heard that he gave very generous help to the Champlain club when they were raising funds to buy their own field.

Bob was never married and lived alone. We do know that he had many friends and was a prolific letter writer who leaves fond memories with many people.

Terry Beasley

SAC Trophies update

It's that time of year, when most potential trophy winning flights have already been flown. Look over your logbook, or remind a friend who has done well this summer, to check for possible trophy eligibility. Trophy forms are available on the documents page of the SAC website <www.sac.ca>.

Last year one pilot missed out on the "200" Trophy, not realizing that pilots with less than 200 hours P1 time as of the beginning of the soaring season are eligible for the award. The moral of the story seems to be: when in doubt, enter an application or ask the Awards chairman.

One award category of recognition much overlooked by both pilots and instructors is the SAC *Significant Flight Certificate*. The flight doesn't have to be a badge, trophy or record contender to be judged significant, these are rewarded already. In fact, the pilot doesn't even have to be licensed to be eligible. The only criterion is that the flight be judged "significant", considering all related factors, for whatever reason the nominator thinks is especially noteworthy.

For example, a two-hour soaring flight that is achieved by a low-time student flying dual might be seriously considered, as would a near-record-setting flight by a top pilot, or by reason of the location, sailplane flown, or the pilot. Documentation for this category need not be as detailed as that required for tro-

phies, although the committee must be satisfied that the achievement actually occurred as claimed. Send completed trophy forms or significant flight nominations in *now* to:

David McAsey, SAC Awards Chairman
#47, 2300 Oakmoor Drive SW
Calgary, Alberta T2V 4N7
<mprsoar@agt.net> Fax: (403) 281-0589

Sheer stupidity in 2 parts

#1 The authority which runs Berlin's Tempelhof airport now requires sailplanes to have noise emission certification. Sailplanes without this certification have to pay the same landing fees as an aircraft with a take off weight of 24,000 lbs. A German glider pilot thought he would test the system, only to be sent a bill of 276 Marks for his trouble. *Aerokurier*, the German aeroclub's official magazine, has declared this the pinnacle of incompetence, arrogance, and ridiculousness.

#2 Air Navigation Services declared eclipse time is night time. A piece of bungling or a real concern? On 6 August, the German Air Navigation Services announced that at the time of the eclipse on 11 August, the Frankfurt and Munich Flight Information Regions (FIRs) were considered to be night time. This not only covered the actual period of two minutes of totality where the moon is covering the entire sun, but the complete period of the eclipse event between 1000 and 1115 UTC.

The DFS points out that flying at this time requires the pilots to have a night flight licence. Furthermore, this means that there are no gliding flights allowed in the Frankfurt and Munich FIRs at this time while power traffic must file flight plans for flights through their airspace.

Canadian sweep US Region 8 Sports class contest

Canadians took 5 of the top 8 places over four days in Sports class held at Ephrata, WA (site of the combined US Sports and World class comps next year). The top three pilots flew home-builts: Tony Burton (RS-15) 3665 pts, and Paul Tolson (HP-18mod) 3498 pts.

Transponders soon obsolete?

All the past hand-wringing over a "suitable" transponder for sailplanes may soon be solved by new GPS technology which will render radar-based transponders, TCAS, and perhaps a lot of ATC hassle obsolete. Design and testing is proceeding on a system of GPS receiver, on-board transmitter, and a panel display which would indicate precisely where every aircraft is in one's area. Already, a "fixed-base" system like this operated at the World Gliding Championships. The future capabilities of such a display system with on-board software is remarkable. Stay tuned.

cross-country soaring appealing, then the quicker one acquires knowledge the better."

"The clinic provides an ideal forum for gaining information quickly on just about every aspect of the cross-country experience. Because a number of instructors are involved, people can benefit from general sessions, and at the same time receive individual attention to address their own specific needs and concerns. I would say that I learned at least as much in one week as I had in the rest of the season about the theory, as well as many of the practical aspects that are involved in cross-country flight."

"Some of the members of our class this year had also participated last year. After attending the clinic, I can understand why they returned for a second session. I know I will be doing the same next year."

During the CAS clinic, students tagged along behind more experienced instructors, each in their single seat sailplanes except Scott McMaster, who flew back seat in the Grob 103 with a student in front. It was always encouraging to spot the shepherd's glider nearby, like a guardian angel with a good vario. A participant (who has asked we use his nom-de-plume, "the Eagle") wrote:

"I had tried, on my own, to fly out of gliding range from the field and had landed out twice during both days of the SOSA Mud Bowl contest in August. I had become apprehensive about setting out alone, and therefore really enjoyed the encouragement and perceived safety of flying with a shepherd."

In this case, the shepherd was Tony Rywak. Terry McElligott had not done cross-country flying for some time and wanted to review some skills.

"It was fascinating to observe a dry cold front by flying through it. On the Wednesday of the clinic, a dry cold front was forecast to pass by the area midafternoon and we discussed it. The cooler air resulted in lower cloudbases and there was a wind shift. That can affect final glide and the day's working height band. I had flown in this type of condition before but had not given it much thought. This time I was able to identify it as it was occurring."

"Sometimes lift weakens as it nears cloud-base. Why waste time in it? Move on toward the goal. Sometimes we stop and circle in weak lift without considering there may be better lift farther on. Again, why bother? It's counterproductive. Move on toward the goal and seek the stronger thermal we know must be ahead.

In the clinic, we explored an extra dimension of climbing without circling, by weaving around in the bands of energy under the

clouds and dolphin flying. You can fly a lot farther seeking lift that way than you would have by stopping to circle. Yes, there's an art to it. It very nearly requires a sixth sense, but it can be done with practice.

If you've been thinking of starting a safe cross-country flying program at your club, the knowledge base in Canadian Advanced Soaring could be very helpful."

There is one postscript worth mentioning. A pilot not involved with the clinic arrived at SOSA at the end of a cross-country attempt

from another airport. The aircraft arrived at a very low altitude and, after an abbreviated circuit down the wrong side of the runway, turned just over the trees and landed in the middle of the runway. At the very least, two topics covered in the clinic could have lowered this pilot's stress level: final glides and safety margins, and proper use of the radio.

CAS is there for everyone: email Dave Springford for details at <springford-d@rmc.ca>. The link to the CAS website is <www.sac.ca/cas/casintro.html>. Next year, maybe you'll fly at a CAS clinic. ❖

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there was no sight of gliders. Finding them required driving several hundred yards until we could see over its crown. This revealed two tiny specks (YC & TS) looking very alone at the other end of the 9000 foot runway. Our pilots were totally shocked that both retrieve crews came through the woods from different directions and couldn't understand how or why we didn't come via the airfield gate — ah, sweet mysteries of life.

While the retrieves gave us excitement and scenic views, there were many other special memories. For me, getting to meet fellow crews from other countries was grand. The Americans, several Germans, and especially the Australian and New Zealanders turned Leszno into a magical place. We were able to share stories, jokes (with and about our pilots) that helped keep the spirits up as we awaited the dreaded landout calls. The Polish folks we got to know made us feel very at home and welcome. Poland is a country that has experienced many hardships and yet people retained their dignity and pride through unmentionable times.

Poland and crewing in the World Class comps was both an adventure and immense fun. What a great way to travel, meet super people, to be challenged, grow and learn. While I've a lot to learn yet about being an effective SCUM, Leszno was a satisfying start. ❖

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25 Words or Less

Susan Snell, who maintains the SAC Supplies page of the SAC website, would like to add a very short description of each of the books that are for sale above. This is to aid members who are considering a book purchase. Those of you who have read any of the books on the sales list, e-mail Susan a description <sps@lark.gawd.mb.ca>. Can you do a book review in 25 words or less!

New – free flight magazine binder

The SAC office has new binders for *free flight* and they look quite attractive. They are a marbled blue with the SAC logo and the name of the magazine on the spine. Each binder will hold 12 issues. The price is \$12.95 per binder (plus applicable taxes and a \$4.25 shipping charge).

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A retrieve the German way, 9 Aug – Day 5

Right from the start we knew that it would be a retrieve day. The pilots had announced many times that they were low and would land out here or there but kept going and going. When we finally received the word that Ed Hollestelle had landed out, we were ready to go. By that time it was almost 8 pm.

We had a stretch of Autobahn to travel, but after only two kilometres on it, we hit one of their famous "Staus" (traffic jams). It took more than one hour to drive twenty kilometres! It was not going very well. It got dark and after getting off the Autobahn on the little country road, we were in the part of the country that used to be East Germany.

You could definitely tell the difference. The signs were smaller, the roads were not good, and by that time many people were in bed already. When we finally got to the village where Ed was supposed to be, we hit major construction and could not get to the other end of the village where Ed had been waiting since 7:30. Kurt scouted around with his car to find a way out — turning a trailer around in a street just one lane wide was not something I wanted to do. Fortunately some nice ladies showed up and one even spoke a little English. After we explained what we needed to do and where Ed was, they were willing to show us the way around this roadblock. First we decided to make sure that Ed was where he said he was and made a quick phone call to the mobile he had with him. Our flashlight came in handy. The phone booth was pitch dark and most of the stuff inside was broken and dilapidated. Yes, he was still there on the side of the road. The ladies went ahead and after five minutes of left, right, left and around they showed us the way and there he was ... hungry and thirsty.

It was 11:00 and nobody had thought of offering him anything to eat or drink. The field was a big just-cut wheat field. What made the farmer not too pleased with Ed was that he interfered with his baling so he had told Ed to get out of the way. Just as we were ready to take the plane apart, Kurt remembered that he left his wallet in the phone booth. So he left in a hurry to try to find his way back. (It worked out okay, but it took a while and he never found his way back to us again.) As Ed and I were putting the airplane away, he realized he had just missed a big rock as we stumbled over it in the dark. We left a note for Kurt on a post, just in case he did come back, then went back to the airport in Bayreuth.

We weren't the only ones that arrived at 1am on the airfield. The whole Standard and 15m class had landed out, some even in the Czech Republic. There was still a party going on at the airfield, but all we wanted was something to eat and a bed. ❖

Nick has lunch in the shade before launch.

photo not available for pdf file

and to share their thoughts over a very good dinner.

Overall, after two very full days, it was clear that the Mud Bowl was an ideal first introduction to the arena of contest flying. The rules, scoring, and general approach of the organizers and pilots was casual enough to keep things quite relaxed, while at the same time allowing those who flew to feel that they had gained some very valuable experience and insights into what being in a competition actually involves.

I for one made a number of discoveries about contest flying, including the fact that you should not use one GPS for navigation and a second GPS to drive your flight recorder (as I mistakenly did). You'll end up missing the "beer can" on your data logger trace at each turnpoint virtually every time. In addition, I discovered that it is not good to fly near the start gate until you are ready to start. Your GPS may record any trip through this area as a start, even though you do not actually announce your start and go out on course until much later (in my case, 1 hour and 10 minutes later, which ended up being quite a significant penalty.) While these types of "oops's" are obviously not wonderful, it would seem to be far better to have them identified and corrected in a fun contest such as the Mud Bowl.

Otherwise, I found the entire experience extremely interesting and educational, and far less imposing than I had initially thought it might be. I would personally recommend next year's Mud Bowl (or similar contests such as the May Fly at the Gatineau Gliding Club) to pilots at almost every level who have an interest in broadening their knowledge of cross-country flying, while enjoying some good fun and entertaining camaraderie all at the same time. ❖

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The following badge legs were recorded in the Canadian Soaring Register during the period 11 July to 9 Sept 1999.

DIAMOND BADGE

92	Pierre Parent	ASTRA	World #6364
93	Rodney Crutcher	Cu Nim	World #6367

GOLD BADGE

285	Attila Kardos	Vancouver
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SILVER BADGE

913	David Ridding	York
914	William O'Brian	Quebec
915	Ray Wood	SOSA

DIAMOND DISTANCE (500 km flight)

Pierre Parent	ASTRA	517.2 km	G102 Astir	Ephrata, WA
Rodney Crutcher	Cu Nim	506.5 km	Ventus	Invermere, BC
Richard Willems	Air Sailing	504.9 km	ASW-19B	Belwood, ON

DIAMOND GOAL (300 km goal flight)

Stephen Benedek	SOSA	302.6 km	Std Jantar	Rockton, ON
Attila Kardos	Vancouver	302.3 km	Std Jantar	Invermere, BC

GOLD DISTANCE (300 km flight)

Stephen Benedek	SOSA	302.6 km	Std Jantar	Rockton, ON
Attila Kardos	Vancouver	302.3 km	Std Jantar	Invermere, BC

SILVER DISTANCE (50 km flight)

David Ridding	York	62.1 km	Skylark 2B	Arthur E, ON
Ray Wood	SOSA	62.2 km	1-26	Rockton, ON

DIAMOND ALTITUDE (5000 m gain)

Harald Schnetzler	Vancouver	6280 m	Laister LP-4	Minden, NV
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GOLD ALTITUDE (3000 m gain)

Harald Schnetzler	Vancouver	6280 m	Laister LP-4	Minden, NV
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SILVER ALTITUDE (1000 m gain)

Harald Schnetzler	Vancouver	6280 m	Laister LP-4	Minden, NV
William O'Brian	Quebec	1300 m	Blanik L-13	St Raymond, QC
James Snow	Vancouver	1200 m	Blanik L-13	Hope, BC

Ray Wood	SOSA	1190 m	1-26	Rockton, ON
Jean-Claude Corbeil	Outardes	1160 m	Blanik L-13	Bromont, QC
Claude Monteith	Outardes	1050 m	Blanik L-13	Bromont, QC
Francis Ringwald	Outardes	1390 m	Blanik L-13	Bromont, QC

SILVER DURATION (5 hour flight)

James Snow	Vancouver	5:10 h	Blanik L-13	Hope, BC
Ray Wood	SOSA	5:15 h	1-26	Rockton, ON

C BADGE (1 hour flight)

2625 Ellen Papenburg	York	1:21 h	1-26	Arthur E, ON
2626 Marguerite Varin	MSC	1:05 h	Krosno	Hawkesbury, ON
2627 James Snow	Vancouver	5:10 h	Blanik L-13	Hope, BC
2628 Lina Dib	MSC	2:51 h	Krosno	Hawkesbury, ON
2629 Claude Monteith	Outardes	1:50 h	Blanik L-13	Bromont, QC
2630 Francis Ringwald	Outardes	4:22 h	Blanik L-13	Bromont, QC

Ray Wood of SOSA did his entire Silver badge in two consecutive weekends in a 1-26! Congratulations, Ray.

FINAL NOTICE – Get your badge claim in before 1 December or wait until April for it to be homologated.



SOARING 2000
calendar

conclusion of an era

Now in stock – the Soaring Society of America wall calendar, \$18 + \$5 p&h. Order from the SAC office for a saving over the US price.

SAC SUPPLIES FOR CERTIFICATES AND BADGES

1	FAI 'A' badge, silver plate pin	\$ 6.00
2	FAI 'B' badge, silver plate pin	\$ 6.00
3	SAC BRONZE badge pin (available from your club) (12 for \$55)	\$ 6.00
4	FAI 'C' badge, cloth, 3" dia.	\$ 6.00
5	FAI SILVER badge, cloth 3" dia.	\$12.00
6	FAI GOLD badge, cloth 3" dia.	\$12.00
7	FAI 'C' badge, silver plate pin	\$ 5.00
8	FAI SILVER badge, pin	\$45.00
9	FAI GOLD badge, gold plate pin	\$45.00
<i>Items 7-12 ordered through FAI awards chairman – see Committees list</i>		
<i>Items 10, 11 not stocked – external purchase approval given</i>		
10	FAI GOLD badge 10k or 14k pin	
11	FAI DIAMOND badge, 10k or 14k pin and diamonds	
12	FAI Gliding Certificate (personal record of badge achievements)	\$10.00
	Processing fee for each FAI application form submitted	\$15.00
13	FAI badge application (download from SAC website forms page)	n/c
14	Official Observer application (download from SAC website forms page)	n/c
15	SAC Flight Trophies application (download from SAC website forms page)	n/c
16	FAI Records application (download from SAC website forms page)	n/c
17	Flight Declaration (download from SAC website forms page)	n/c

Please enclose payment with order; price includes postage. GST not required. Ontario residents, add 8% sales tax. Items 1-6 and 13-18 available from SAC office. Check with your club first if you are looking for forms.

ARTICLES ACVV POUR CERTIFICATS ET INSIGNES

Insigne FAI 'A', plaqué argent
Insigne FAI 'B', plaqué argent
Insigne ACVV BRONZE (disponible au club)
Insigne FAI 'C', écusson en tissu, 3" dia.
Insigne FAI ARGENT, écusson en tissu, 3" dia.
Insigne FAI OR, écusson en tissu, 3" dia.
Insigne FAI 'C', plaqué argent
Insigne FAI ARGENT
Insigne FAI OR, plaqué or
<i>Les articles 7-12 sont disponibles au président des prix de la FAI</i>
<i>Les articles 10, 11 ne sont pas en stock – permis d'achat externe</i>
Insigne FAI OR, 10k ou 14k
Insigne FAI DIAMAND, 10k ou 14k et diamants
Certificat FAI de vol à voile (recueil des insignes)
Frais de services pour chaque formulaire de demande soumis
Formulaire de demande pour insignes
Formulaire de demande pour observateur officiel
Formulaire de demande pour trophées de vol de l'ACVV
Formulaire de demande pour records FAI
Formulaire de déclaration de vol par feuille

Votre paiement devrait accompagner la commande. La livraison est incluse dans le prix. TPS n'est pas requise. Les résidents de l'Ontario sont priés d'ajouter la taxe de 8%. Les articles 1-6 et 13-18 sont disponibles au bureau de l'ACVV.

Trading Post

Personal ads are a free service to SAC members (please give me the name of your club). \$10 per insertion for nonmembers. **Send ad to editor**, not the national office, Box 1916, Claresholm, AB T0L 0T0
tel/fax (403) 625-4563, free-flt@agt.net

Ad will run 3 times unless you renew. Please tell me if your item has been sold sooner. Maximum ad length is 6 lines and subject to some editing as necessary.

single seat

Skylark 4, excellent condition, instruments, O2, barograph, parachute, trailer, hangared at GGC. \$11,000. Bill Park (613) 947-1371 <bill.park@ccrs.nrcan.gc.ca>

Monerai-S, C-GTMY, low hours, professionally built, enlarged tail, centre-stick mod, standard equip. Encl trailer. \$5000 obo. <barnes_leigh@connected.bc.ca> (250) 286-6378.

Tern, C-GWKW, 845h, amateur-built in 1978. Always hangared, no accidents, L/D 34:1 @ 54 kts. Basic inst incl Cambridge audio, 720 chan radio, Strong chute. Encl trailer. Several 300 km triangle flights less than 5 hr. More info at <<http://www.accolade.ca/gliders/>>. Owner: Wolfgang Weichert, call: Juergen at <juergen@accolade.ca> or (613) 746-7685.

HP16, C-GAUZ, 534h, basic instruments, Winter audio vario, Tost winch hook, Schreder trailer, self-rigging equip with tow bar & wing wheel, covers. asking \$15,000. All parts for a motor conversion also available, \$2000. Willie Deleurant (416) 755-0359.

Std. Libelle, CF-QJS, #86, 862h, radio, computer/vario, chute, trailer instruments, hangared at Beaver Valley Soaring Club. Asking \$22,000. Phone (519) 599-6749 or email <ruthumm@bmts.com>

PIK20Bc, C-GXWD, carbon fibre, 820h, vg cond, new paint, Ball 400 c/w netto & cruise, Edoaire 720 radio, chute, O2, gear warning. Call Lee Coates at (403) 242-3056 or Denis Bergeron at (403) 526-4560.

ASW 20, C-FNVQ, NDH, 1160 h, 372 launches, good cond. Cambridge Nav director/vario/audio. Sage mechanical, back-up audio, radio, Smiley bags, solar panel, O2. Good homebuilt trailer. \$43,000. Peter Foster (905) 584-1920 <pede.foster@ibm.net>

Ventus B, C-GVRS "26", in excellent condition, 812 hours. Fully instrumented with Illec computer, Ball vario, Dittel 720 channel radio, O2, Masak winglets and Cobra trailer. Call or e-mail Lee (403) 242-3056, <coates@cadvision.com> or Rod (403) 240-4374, <crutcher@med.ucalgary.ca>

New SAC Lapel pins They are quite attractive, in pewter, in the form of the usual SAC logo. The wreath and gulls are raised (three dimensional) and the pin is similar but smaller than the pewter logos on the plaques given out at the AGM. The selling price is \$6. We will continue to sell the old (enamelled) SAC lapel pins – we sell a couple of them a year, so whoever is looking after the SAC office in the future will not have re-order for another 125 years or so. Jim McCollum

Solaire Canada

Ed Hollestelle (519) 461-1464 ph/fx
solairecanada@compuserve.com

LX-20B The new "no frills" IGC-approved GPS flight recorder \$1495

LX-100 Electronic audio vario with averager and 2 response settings \$495

ATR57 A new 2-1/4" panel-mounted 760 channel radio ready to install. \$1395

ATR720A 760 chan VHF with mounting tray and wiring harness. \$1695

ATR720C Same as above with LCD display and 10 channel memory. \$1895

SHM1010 Boom mike and wiring (as installed by most glider manufacturers. \$175

Colibri FAI approved logger (the size of a small package of cigarettes) with navigation and data screen. \$1395

LX-5000 The ultimate GPS/final glide computer system with large graphic display, FAI flight recorder, and moving map with air-space and task displays. \$5995

DX 50 The newest GPS flight data computer/recorder, only 2 LCDs. \$3495

misc

EW electronic barograph, Windows flight software, cables, and dot matrix printer. \$550

OK mechanical barograph, ink or smoke, \$100
Call Mike, <thompson_foundry@bc.sympatico.ca> (604) 534-8863

Baro, Winter, smoke, \$200. David (613) 678-6565.

Baro, EW-B electronic barograph & data logger, connects to your portable GPS. Steve Burany (SOSA). \$550 (905) 889-5779 or <steve.burany@utoronto.ca>

SZD-55, half share (two 1/4 shares considered), 250h, immac cond, ndh. Extensive instrumentation, clamshell trailer, chute, tail dolly and rigging device. Competitive, with great characteristics (L/D 43:1). Glider flies at SOSA. \$32,000 or \$35,000 depending on if the flight recorder, flight computer and GPS are required by the purchaser or not. Contact Nigel Holmes <nigel.holmes@sympatico.ca> (905) 387-1355
For photos and technical detail see the SZD web site, <<http://csrp.tamu.edu/Soaring/SZD.55-1.html>>

Read the fine print in the Trading Post box above. Often an ad on this page is out of date.

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magazines

SOARING—the monthly journal of the Soaring Society of America. Subscriptions US\$43. Credit cards accepted. Box E, Hobbs, NM 88241-7504. (505) 392-1177, fax 392-8154. <74521.116@compuserve.com>

NEW ZEALAND GLIDING KIWI—the monthly journal of the New Zealand Gliding Association. US\$32/year (seamail). Private Bag, Tauranga, NZ. <john@roake.gen.nz>

SAILPLANE & GLIDING—the only authoritative British magazine devoted entirely to gliding. Bimonthly. BGA, Kimberley House, Vaughan Way, Leicester, LE1 4SG, England. £17.50 per annum. fax 0116 251-5939 <bga@gliding.co.uk>

AUSTRALIAN GLIDING/SKYSAILOR—bimonthly journal of the Gliding and the Hang Gliding Federations of Australia. \$A40.50 surface mail, air \$A55. Payable by Bankcard, Visa, Mastercard. Box 1650, GPO, Adelaide, South Australia 5001. fax (03) 9379-5519. <AdminOfficer@gfa.org.au>

MOTORGLIDING INTERNATIONAL—bimonthly jointly published by the Soaring Society of America and the British Gliding Association. \$US34 per annum, (505) 392-8154. <info@ssa.org>

suppliers

Canadian Soaring Supplies Borgelt instruments and soaring software. Svein Hubinette, 343-150 Rue Berlioz, Ile des Sœurs, QC H3E 1K3, (514) 765-9951 <svein@videotron.net>

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Flying High Parachute sales, repairs, repacking, custom containers. Al MacDonald (403) 687-2225.

LD-200, variometer, hi-performance pressure transducer based vario with audio. No bottle required. Peter Masak (610) 738-9792, masak@ix.netcom.com

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Solaire Canada SZD-55-1, Krosno, PW-5, trailers, GPS, instruments and other sailplane stuff. Ed Hollestelle, ph/fax (519) 461-1464, <solairecanada@compuserve.com>

XU Aviation Glider repairs in all materials. Chris Eaves (519) 452-7999, fax (519) 452-0075, <xu-aviation@sympatico.ca>

return address:
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Min sink	138 ft/min	Type approved in Canada

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For prices on all the fine products above as well as the Filser LX4000 and the LX5000 GPS Flight computers/recorders, the LX20 FAI flight recorder, radios, Winter instruments, LD100 varios etc, call Ed Hollestelle for more information. We offer a Canadian-built clamshell trailer by "Crown Trailers" at competitive prices.