

free flight • vol libre

1/89
Feb-Mar



POTPOURRI

Visiting small clubs is good food for the soul. The Regina club is a good example. Their airfield is a strip of western Canada at its level best, surrounded by horizon to horizon prairies where the sky comes down to earth in the far distance seemingly at exactly the same altitude as the takeoff point — quite awesome and ethereal. Sitting quietly at 2000 feet you can see forever and you feel the immensity of the skies and the smallness of man. My young instructor also drew quiet as we immersed in the beauty of the day. No lift so we soon entered the circuit — no reference points so our points were the instruments and our sight attitude with the ground — it worked and the 2-33 touched as quietly as the surrounding air. The relatively new hangar housed all their club gliders including a Twin Astir, the floor was a perfectly poured reinforced concrete surface and the various dollies, all very original, were designed and constructed by their resident welder. The battery charger was hooked up to an external solar cell bank mounted on the roof. That evening I had the very enjoyable experience of meeting many of the club members — very positive and realistic people. Amongst these was one of SAC's pioneers in the discovery of the Cowley wave, Bob Cheston, who is often mentioned in Ursula's excellent book, *Stalking the Mountain Wave*. He wears a Gold badge with various Diamonds and is now retired from the skies — he was 43 when he first learned to fly.



Thinking of Cowley brings to mind the enthusiasm of Westerners for this remarkable area. Some say their enthusiasm colours their attitude to some other parts of soaring and even stops them from travelling to other soaring activities. Regardless of your views, this area produces some remarkable conditions. This is well illustrated by the flights accomplished at their last camp in July, which would make any pilot envious. In eleven days at the 1988 Cowley Summer Camp, 75 pilots attended, with 42 gliders and three towplanes, accomplishing 1391 aircraft movements.

Our administrative procedures appear to be on an improving trend. This can be improved however, and your club can play a role. As you know spring is a very busy time in your Association's office as membership and insurance returns come in and are processed. Each submission must be reconciled and acted on. Clubs can assist this process by being accurate and thorough. A big help is letting the office know your new slate of club officers as soon as they are elected or appointed which will help to ensure that mail doesn't go to the wrong addresses. Let's do better this year, saving the office and yourself time and helping minimize frustration all around.

By the time this issue of free flight is out, the SAC Convention and AGM will be approaching. This will be a new type of gathering with the emphasis on the convention aspect, particularly the workshops. These will be plentiful and well done and of interest to all glider pilots and will take up the whole of Saturday. To make this a complete success requires the attendance of as many of our members as possible. Make this a planned outing. "It promises to be a stimulating weekend amongst Canada's finest. It would be nice to see you there."

This time of year the SAC budget preparation begins. The last few years have brought uncertainty into the granting of funds from Fitness and Amateur Sport, where funding has been reduced. Last year their basic criterion was that such funds would not be considered for any sport with less than 3000 members. We asked that this criterion be waived for gliding in view of its unique characteristics. Our case was based on the very exacting requirements and training needed to participate in the sport. Costs, safety considerations, and the availability of qualified instructors also place very real constraints on the pace on which our sport can expand. You need more than a new pair of Adidas to participate. We also emphasized Canada's heritage as one of the world's leaders in the use of aviation and the position of the glider pilot as a source of power pilots, a field now suffering for lack of candidates. In any case our submission was bought, as it should have been, and this year the same arguments will be used to justify a grant of funds. This will not be made any easier by the fact that our numbers have not increased over the last years and may show slight decline. We have reason to believe that if we show an increase, our submission may be approved. In the past, a SAC club automatically made a new club member a member of SAC, a policy accepted as normal until the past year or two. Investigation into membership activity reveals that quite a few people gliding in our clubs are not made SAC members until they have soloed and other reasons such as students on short introductory courses not being made members until he or she decides to continue on. Thus by the exercise of short-sighted pecuniary nonsense we cut off our respective noses to spite our faces. In that case if funds are not forthcoming, then all of us will be faced with paying much higher SAC membership fees.

Hope to see you in March in Toronto.

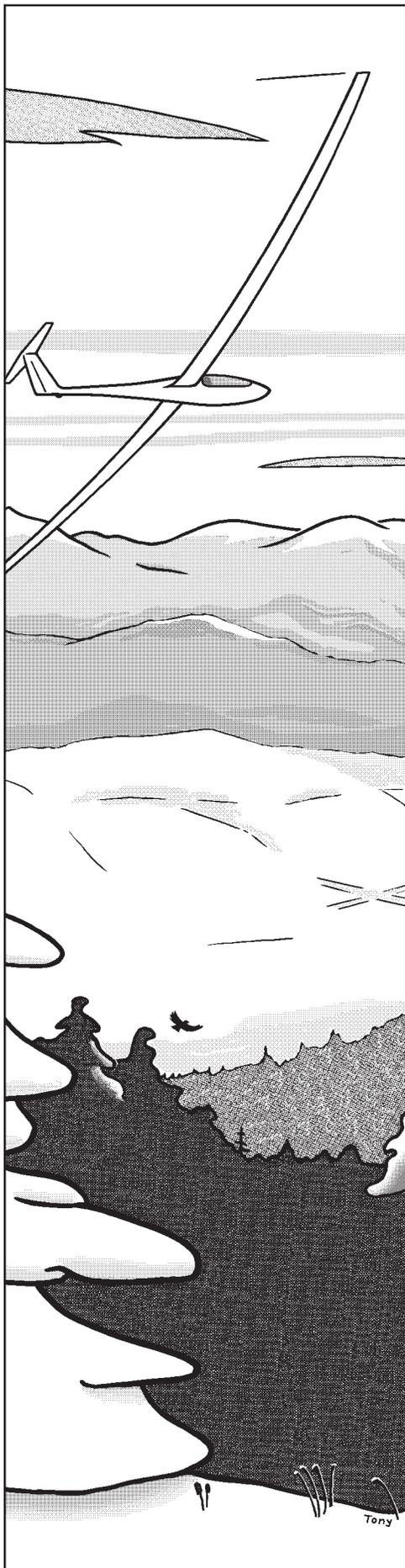
Gordon Bruce

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Le journal de l'Association Canadienne de Vol à Voile



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Cover The Salto struts its stuff against a dim sun at the Red Deer Airshow last summer. Manfred Radius is the pilot. Photo: Hugh McColeman

SPORT AVIATION WEATHER FORECASTING

A letter to the Project Manager of the Canadian Aviation Weather Plan

Dear Sir,

I write in response to your request for comment on the Air Navigation Services Survey on Aviation Weather. I will respond on two levels (as an active glider pilot and as the president of the Aero Club of Canada)...

My principle source of weather information is the "AM Weather" program broadcast on WNEB Buffalo. I record it each day on my VCR and can review activity at my leisure. It provides an excellent synoptic picture for tasks up to 500 km in Southern Ontario. Generally for current local (meso scale) weather the soaring forecast and winds aloft by the AES is used through the facilities of my gliding club — up to 132 pilots are served this way...

The basic weather needs, as we understand the comments of our members, is ease of access and understanding of the weather analysis specific to aerosport. Public and marine weather forecasts, as well as maps in newspapers help. But the specific needs for terminal and enroute conditions as well as winds aloft and area/terminal forecasts are information needs that can only be supplied by the relevant and responsible Transport Canada and AES groups. I would expect as the knowledge and ability of our pilots grow, especially those trained on the new syllabus, the demand for accuracy and truth in forecasts will increase.

For much of all of sport aviation the major weather interest is at the micro, and to a reasonable degree, the meso level. Except to develop a feel for the national synoptic picture only cross-country power, glider, and to a growing extent hang glider pilots, need good macro level synopses and forecasts. I recognize that our needs are more catholic than those of our military and commercial cousins who treasure the macro and terminal levels.

To be concise, Sporting Aviation, in great measure, needs good accurate meso and micro level forecasts. For example, the limited days of flying at the 1987 Soaring Nationals in Chipman, Alberta were due in great measure to the frustration of tasks resulting from unrecognized (by the data system) jet stream induced movement of cirro stratus and cirrus clouds that inhibited the expected forecast insolation. Even though there was an excellent, concerned and dedicated forecaster on site, his AES data and experience gave him no foundation on which to anticipate or assess these effects, until the obvious occurred.

The increasing sophistication of models, hang gliders, parachutes and sailplanes is allowing pilots to undertake tasks related to distance, duration and often height, that were not considered possible a few years ago. However, to achieve task goals we are becoming increasingly dependent upon accurate, detailed forecasts and synopses to allow often highly competent amateur meteorologists to interpret and assess the weather and, thus, the likelihood of task achievement. As another example: good, easily available (TV?, weather channel?) tephigrams for the high activity soaring, modelling and hang gliding regions would help weather assessments markedly. Airmass composition at the meso/micro level would help a lot. Too often glider pilots encounter airmass differentials that has no AES recognition. A daily Canadian version of "AM Weather" with a well-publicized Sport Aviation element during the spring, summer, and fall would be superb.

In our view, good basic weather services at the macro synoptic level are available now. Greater convenience of access via cable TV, PC or even FAX would be great and will help. Cost and ease of access will be very important. There needs to be more publicity, and appropriate self-training systems. Good synopses and forecasts at the meso and micro level are needed and would be a major boon to the Sporting Aviator — especially during annual contests or gatherings at the provincial, national or world level and in weather sensitive regions such as the mountain wave areas of Quebec, Alberta, and British Columbia ...

Yours truly,

R.I. Carlson, President ACC



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 which represents 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 a Canadian team for the biennial World soaring championships.

free flight is the official journal of SAC.

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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 SAC Zone Director whose name and address is given in the magazine.

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L'ASSOCIATION CANADIENNE DE VOL À VOILE

est une organisation à but non lucratif formée de personnes enthousiastes cherchant à développer et à promouvoir le vol à voile sous toutes ses formes sur une base nationale et internationale.

L'association est membre de l'Aéro Club du Canada (ACC) représentant le Canada au sein de la Fédération Aéronautique Internationale (FAI), administration formée des aéro clubs nationaux responsables des sports aériens à l'échelle mondiale. Selon les normes de la FAI, l'ACC a délégué à l'Association Canadienne de Vol à Voile la supervision des activités de vol à voile telles que tentatives de records, sanctions des compétitions, délivrance des brevets de la FAI etc. ainsi que la sélection d'une équipe nationale pour les championnats mondiaux biennaux de vol à voile.

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Les articles publiés dans **vol libre** sont des contributions dues à la gracieuseté d'individus ou de groupes enthousiastes du vol à voile.

Chacun est invité à participer à la réalisation de la revue, soit par reportages, échanges d'opinions, activités dans le club, etc. Un "courrier des lecteurs" sera publié selon l'espace disponible. Les épreuves de photos en noir et blanc sont préférables à celles en couleur ou diapositives. Les négatifs sont utilisables si accompagnés d'épreuves.

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Les textes et les photos seront soumis à la rédaction et, dépendant de leur intérêt, seront insérés dans la revue.

Les articles de **vol libre** peuvent être reproduits librement, mais la mention du nom de la revue et de l'auteur serait grandement appréciée.

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LIBERTE EPHEMERE: JE T'AIME



Gilles Boulanger

Club de Vol à Voile Appalachian

Des nuages de toutes dimensions promettent des conditions idéales pour le vol à voile. Les vérifications d'usage pour le décollage: instruments, freins à air, ailerons, élévateurs, gouvernail, ceinture de sécurité, tout est en ordre.

L'avion remorqueur est en place sur la piste, nerveux, prêt à décoller. La corde qui nous relie est tendue. L'ailier attend mon signal. J'hésite. Prisonnier de l'avion, mes réflexes sont mal coordonnés et le décollage manque de finesse, mais l'accélération me donne de plus en plus de contrôle.

Le planeur effleure la piste, quitte le sol et c'est autour de l'avion de s'élever. Ensemble nous prenons de l'altitude. Lié à l'avion, je me sens comme un gamin indiscipliné que l'on prend par la main. Plus haut, plus haut, il m'emène jusqu'aux nuages. Seul le glissement de l'air sur les ailes et le fuselage laisse pressentir la puissance de l'air, cette force invisible. J'entends, par intermittence seulement, le ronflement du moteur de l'avion. Occupé à le suivre, je n'ai pas un moment de répit pour regarder autour de moi. La manœuvre difficile, mes rêveries me tracassent, mes soucis m'irritent, m'empêchent de me concentrer. J'effleure la manette de largage. Je la serre entre mes doigts. Un dernier salut à l'avion remorqueur et je tire. Un claquement sec fait vibrer la cabine et la corde, qui bat au vent comme un fouet, disparaît sans faire de bruit.

A trois mille pieds, ma main a choisi la liberté. Je suis gêné de son instantanéité: la vitesse et les bruits ont changé. L'air qui court sur les ailes n'a plus le même chant. Le fuselage de bois et les ailes craquent, font des bruits qui me rassurent. Ma respiration domine tout et je reprends le contrôle de mes sens. A chaque décollage, à chaque largage, mon cœur s'emballé pour reprendre ensuite son rythme normal.

D'un nuage à l'autre, je cherche les courants d'air plus chauds, et prends le temps d'admirer la nature qui, habillée de ses couleurs printanières, m'offre un spectacle qui n'en finit plus. Les ruisseaux et les rivières, heureux d'être libérés de leurs glaces, courent dans les champs, serpentent autour des collines et des montagnes puis se perdent dans la nature. Je m'amuse à faire la chasse aux nuages qui se bousculent les uns sur les autres, gardant jalousement leurs courants d'air chaud qui me tiennent en altitude.

La turbulence descendante me signale que je suis à l'orée d'un thermique. Tournoyant, penché à 45 degrés, je déploie tous mes talents pour garder le planeur appuyé sur cette colonne d'air chaud et monter encore plus. Sous les ailes, le paysage change de couleur. La lumière intense du soleil fait des lacs et des rivières, des tapis de diamants piqués de bleu et de blanc. La verdure joue toute la gamme des verts colibri et je vole d'un nuage à l'autre, cherchant toujours les thermiques et l'altitude.

Soudain, un nuage m'aspire à lui. Il y a quelques instants, je le voyais inoffensif; mais le gris-noir de sa forme se fait menaçant. Moi qui voulais tellement m'en approcher, je dois déployer les freins à air pour m'en éloigner; le pénétrer serait dangereux. Tout autour, des buses, sans jamais battre des ailes, manient avec élégance les colonnes d'air chaud et n'en finissent plus de s'élever. Et je voudrais les imiter! Les nuages dérivent et emportent avec eux les thermiques, comme des enfants qui retournent à la maison avec leurs jouets.

Seul avec la gravité, j'y résiste mais elle ordonne mon retour et je n'ai plus le choix. Pour compenser mon désappointement, j'admire les paysages. Les ombres prononcées qui s'étendent partout donnent de la majesté, de la force, à la nature. Tout s'harmonise avec l'horizon et le ciel. J'emploie tous mes talents à faire reculer le temps, à combattre la gravité qui me ramène au sol. Avec regret, je prépare le planeur à l'atterrissage. Aligné à la piste, je retarde ma descente aussi longtemps que possible, mais bientôt, le planeur est indifférent aux caresses de l'air sur les ailes. Les contrôles sont lâches, je touche le sol et roule sur la piste, laissant le Ka6 aller au bout de son souffle. Immobile, une fine brise le garde en balan. Je reste là à attendre la fin.

Le vent tombe et l'aile gauche touche le sol. Le planeur perd son élégance et moi, je goûte le plaisir sensuel qui m'envahit. La visière ouverte, j'aspire à pleines narines l'air du printemps et j'écoute les oiseaux se disputer le silence. Je n'entends plus battre mon cœur. Après avoir tant résisté, je suis heureux d'être de retour sur la terre, même si elle me reprend ma liberté.

TERMINAL GLIDE!

The winner of this year's Novice Trophy at the Nationals gives us some impressions of his contest.

Dave Mercer

Gatineau Gliding Club
from CASG Newsletter

I'D LIKE TO TELL YOU three how-I-did-it stories which pretty well sum up my first National competition experience. All three flights will be ones that will remain fairly clear to me for a while to come. One of them because of the sheer luck and beauty, and the others because they were firsts for me.

The second contest day of the 1988 Nationals was forecast to be a fairly good day as the task setters set something in the range of gold distance/diamond goal sort of thing. I believe that thunderstorms were forecast for later on in the day, if at all, and only isolated spots here and there if they did show up.

As it turned out, towering cumulus and thunder-showers were over the hills to the north of Hawkesbury and west over our direct line route to Arnprior by launch time. I was thinking to myself that it was going to be a day where whoever manages to survive the longest would win the day, so I started almost as soon as possible.

I don't think I was more than 15 km out by the time I was down to around 1500 feet under some pretty weak stuff, so I pulled the cork and switched into survival mode. Only 6 km northwest of me was a long line of showers that travelled as far as I could see through the thickening murk along the line of the river and north over the hills. To the south, there was scattered cumulus but it was still pretty low. I was in the transition area between the two, hoping to pick up some lift in the face of the showers.

It was about this time I began to hear people going down on the other side of the river. That dispelled any thoughts of going around the right of the showers to connect with anything on the other side of the river. So I plodded along until I finally got a good climb around Pendleton. Lift began to get fairly good along the shower line, and I saw nobody ahead of me, until ... I must have been zooming along at around 3500 feet when I was passed like I was going backwards by a gang of five or six. I think that troupe included Ulli, Walter, John, Wilf, Harry, and Nick showing them how it was supposed to be done in his PIK. I pushed the RS-15 until I figured the paint

would peel off but I couldn't for the life of me keep up. All this in the face of showers and the occasional bolt of lightning. I had caught my last glimpse of the convoy when I was about 10 km south and a bit east of Gatineau airport. The other guys looked like they had been swallowed up by a big storm that had slipped over Ottawa. (It turned out they went south of Ottawa to get around the storm to Arnprior.)

I thought I was alone now but a 737 popped out of the storm due north of me about 2000 feet above and 3 km away. Funny how they always look bigger and faster than they really are when you're in a helpless little glider. Anyway, after seeing those guys vanish into the soup, I was chuckling to myself, saying that I wasn't going to play kamikaze like them. I began to look for an escape route. West looked closed off, south was still all right but sort of in the wrong direction, and east? Well, why go back to Hawkesbury if I've already gone this far! It sort of looked like I'd have to go south to stay alive.

I began to climb to buy time and go to 4500 feet, if I remember right. Either way it was higher than the cloudbase of the storms to the north by 500 feet or so. During the climb, a little gap about 1 km wide opened up between the stuff off the storm over Ottawa and the one that the 737 had come out of and gone around. Beyond was blue, blue, blue. No better time was the present. I aimed for the light through the storms. 15 to 20 km north of Gatineau airport were the cumulus. I decided that with the wind I'd get after the rain I would not make it comfortable to them. I called up the proper authorities and let them know what I was up to and began with what I soon realized was going to be a final glide. The air was dead smooth, even around the storms. When I was down to 2000 feet, I resigned to the fact that nothing was going to happen so I just kept going north-northwest towards the first cu. I started to mentally map the fields so I could go back to one and land on it when the time came.

When I was at circuit height, I had my field chosen. I was on the edge of the cloud line but still nothing was happening. I radioed Gatineau airport that I was going to land in a field and they said okay, have a nice time, kind of thing. I guess they've seen lots of gliders go down in the area before. They must have been mumbling between themselves about what an indecisive, dopey pilot I was because

I called them back ten seconds later and told them I was climbing in position: during a turn to get me into the circuit, I stumbled onto the real thing, not one of those sucker thermals you always get on downwind. My pout turned into a grin instantly.

That was the first of many eight knotters to 5000+ feet I slammed into on my way north of Meech Lake. I regretted having unplugged the water back near Hawkesbury. The difference between a light and heavy RS-15 is like night and day. I think I was approaching 6000 feet and had a good 30 km into Arnprior from where I was but it was all blue until after that. I assumed the soaring band was above 3000 feet so I went rather slowly off to Arnprior.

I was wanting to snag something while I was snapping the TP photo. The clouds were a bit farther from the TP than I thought. I took my picture from 5 km past the TP. At least I didn't have to worry about being out of sector. I climbed in weaker stuff than before and ran off towards Kemptville. It got tougher and tougher as I got closer to Ottawa so I deviated a bit west. But when I got even with Ottawa, it started to look grim. All the thermals were weak and unreliable.

About five minutes before, I saw somebody way below me. He was the first guy I'd seen in a couple of hours and he looked like he was Open class so I assumed I was ahead of everyone in my class. I could see a town ahead alongside the Rideau River. I aimed for that. Never having approached Kemptville from the northwest, I just thought the town looked different from my viewpoint and because of the thin haze that still hung around Ottawa. When I got closer, the stupidity of my error became apparent. To my right was the obvious bend in the Rideau, and, of course the real Kemptville. I then heard Ulli say that he was just leaving the Kemptville TP into dead air. I was 15 km behind the gang that left me eating their dust hours before. I thought though, since I only heard Ulli, that either they left him behind or he left them behind. I didn't know where the rest of them were.

By the time I was at the TP for the photo, I was at 1400 feet and doomed to land out. That was when Bob Gairns materialized at the same height I was, setting up his photo. We both snapped our pictures at the same time and began our terminal glides. He went off line to Kars airport. I was going to do the same but chose to take my pick of the thousands of acres of sod farms in the area along the course line. I couldn't have chosen a better field on that last silent glide in the silky air of the aging afternoon. It was longer than any runway I've taken off from other than maybe Dorval International, and smoother.

The time spent waiting for good old Dad went by quickly, shooting the breeze with two brothers, one of which owned the house that I went to — the elder brother lived up near Arnprior. The elder brother had flown aircraft that hardly exist anymore except in history books! The younger brother had flown as well and they both still had their heads in the clouds with

the love of flying airplanes. They share in a cedar mill and the stocks of this special fine grained wood. They grow a type that has very few knots. Both want to build a homebuilt glider such as the Woodstock and I believe they could do it after seeing what they could do with the wood in their mill.

Talking flying with the three of them was a fitting end to a great day. My Dad found me first shot, as he usually does, and during our drive back he had the rundown of just about everyone's landout spot. My Dad wasn't the only person on my side during the contest. My girlfriend, Isabelle, did the early morning and later afternoon shift on some of the days and, when neither of them were around to chop it so I could pilot, my buddy, Rob, who had never done anything like that before, pinch hit. I also had help while I was still at work just before the contest began. Martin Lacasse and Vicky Stamison ended up getting tarred from the gook I stuck in the wings to try to stop the leaks with water onboard. For their patience I'm forever grateful. In fact, the helping hands that appeared all over the place were too numerous to count. The camaraderie at the Nationals was incredible.

My second memorable flight was the very next day. It was a total switch from the previous one. It was weak. Really weak. Gaining 75 fpm was a boomer, if you know what I mean. I went the same strategy as the day before. Forget about speed — survive! There were a few scraggly cus around, but nothing to make anybody drool by any stretch of the imagination. We flew in a few different gaggles on our way to Russell. Some gaggles stayed closer to Pendleton, while I and a swarm of 15 metre and Standard ships went a bit south of track along a line of very weak looking (and acting) cumulus.

Up to that point, few people would ever believe that an RS-15 would be the ship to have at a National contest but that day it was. The RS and I outclimbed, bit by bit, the competition. In fact, it was the ability to gain an extra 150 feet over everyone else by the time we got near Pendleton, the second TP, that was the difference. I'd say half the people I was with were committed to land while I had the extra sliver of altitude that allowed me to explore a bit north of the field and latch onto a thermal ten times stronger than the average of the day.

I climbed to 4000 feet, I think. Colin must have seen me going up like crazy because he was under me in a flash and out-thermalled me until, for some reason, he decided he didn't like the thermal. He moved over to the next one down the course line towards Alexandria. I stayed in my thermal because it was clear that mine was better than his. I topped the thermal out and dolphined over Colin, off on course. That would be the last lift I would be able to climb in. I slowed to best L/D when I got into the blue again. There was only the occasional sucker thermal that I could get only 50 feet out of before it decided it had given me enough. I didn't mind the 50 foot gifts though. Each one was good to cash in for half a kilometre!

Meanwhile, Colin was on my heels and I was not going to give him the opportunity to catch me. I was hoping that in the weak conditions he would get impatient and push it to catch up with me and then promptly fall out into a field long before I. It didn't work. He kept his distance on this long, slow glide. Ahead was a fairly large expanse of forest whose edge runs east-west with the occasional notch in it. We were heading southeast. At this point, I started to get kind of dumb in my desire to beat Colin. I aimed for a notch slightly east of track so I could burn up all my altitude flying more or less towards the next turn instead of stopping at the edge of the forest with five or more kilometres still stored up. I watched the fields get bigger and bigger. All the crops in the area looked either plowed up or short so I kept on going. Big mistake. I saw a field ahead that looked plowed and I was getting low, maybe 800



feet or so. Still more really nice fields passed beneath me. Colin was still hot on my heels. He must have figured I knew exactly where I was going because this area is my own backyard. By the time I got to this field, I was pretty low. I had enough altitude to turn around and land in the field slightly to my left but I chose to turn right into this field I had picked from way off in the distance because it was closer to the turnpoint. The checks were done and the turn was made. I'm committed to this field when the earth moved! A breeze turned my plowed field into barley. It is truly a strange feeling to hear the tail ticking through the crop, then the fuselage and wings and watch this stuff rise higher and higher above you as you sink into it. It felt as though I wasn't going to stop descending further into this mess.

Well, I did stop descending. I did grind to a halt. I did manage to only delaminate the wingtip skid of plywood and I did manage to tell Colin to try using another field. Colin ended up landing in the same field as I with no damage to his bird. This third day of the 1988 Nationals will always be a first for me. Colin and I tied for the win. But I did not manage to win the day doing something intelligent. No, it was definitely not the first stupid thing I've done in an airplane, and not the last for sure.

Although this was my first National competition as a sailplane pilot (I towed at St-

Raymond), I had taken part in three Provincial contests beforehand, and yes, done some stupid things then as well. Not once had I been able to complete a daily task. We were about to fly the last day of the contest and I still hadn't gone all the way around. I desperately wanted to hear those magical words "Good finish, Hotel Zulu!"

The task was about 230 km and it looked like the day to do it. I knew I wasn't going to break any speed records because I'm just not a Speedy Gonzales. I got an early start as usual and actually had a great time what seemed like pulling away from a couple of people porpoising along. They caught and passed me soon enough though when I went towards the lake at Alexandria instead of carrying on straight to Iroquois.

I ran into real problems there and couldn't climb at all. I ground around at 1700 feet for an eternity, determined not to get shot down on such a great day. I eventually tip-toed southwestward and started to go well along what I figured was a weak seabreeze front just north of the St-Lawrence River shoreline. I actually made good time in and out of Iroquois along that line of lift up as far as Cornwall. When I got to Cornwall, I slipped off the end of the street, snapped my photo and turned my way home. I was at 4500 feet and I needed at least 6000 feet from where I was. Up to Alexandria, it looked scrappy, and it was. In between Alexandria and Vankleek Hill, there was a big cloud street. The size of it made it look closer than that though so off I went all cheerful that I'd be under the street with 2500 feet to spare.

I got down to 2000 feet at Alexandria and had at least another 10 km to go to get to the street. I was begging God for just one more little crummy thermal to get me to the clouds. Finally, He must have heard enough of my whimpering and threw chunks of lift at me to keep me sweating until I was well and truly in the lift of the street.

Now every experienced contest pilot has a story of at least a few green competition pilots doing their first few finishes. I didn't want to be added onto the long list of greenhorns doing their impression of warp speed. I wanted to do it the way it's supposed to be done. My calculator said I had it in the bag, and my eyeballs said I had it, but man, did I want to be sure. The nose kept on being forced lower and lower just to make the pass over the field at a not too embarrassing altitude. The airspeed needle was approaching red line and it got windier and windier inside the cockpit. When I zipped over the finish line at 130 knots at 50 feet, it was so noisy inside the cockpit I never heard Peter Savage say the magic words!

Lots of other things happened on the ground as well. We had super food and social get togethers. My dogs disappeared one day. I found them hours later doing their swamp monster imitations! I fell out of my trailer. I went sailing out the door head first, feet last! Isabelle said she was glad I landed on my head because otherwise I might have hurt myself. Again, this all would never have happened for me if I didn't have such great backing. I thank them all.

SNOWBIRD SOARING

Getting away from it all in Arizona

Kemp Ward
CVV Appalachian

IT'S -22°C AND DARK OUTSIDE. Wind sweeps loose snow over the frozen lake visible through the double windows. Inside the cottage the electric heaters and wood stove keep the cold at bay. There are four men sitting at a table with a SOARING magazine. These fellows are about to become members of a small number of Canadian glider pilots who have done something about the long winters. They were planning an escape to the desert sun and Estrella. Here is their story as told by one of the pilots himself:

Gilles, Jean-Guy, Michel, and I left the long nights, the ice booming on the lake, and the polar cold behind when we began the long drive to Dorval airport. A few hours later we walked out of the Phoenix airline terminal into hot sunshine, palm trees, and a vast blue sky. A bus jostled us through the city streets to the car rental agency and an air-conditioned Buick. While waiting for the papers to be properly filled in we watched the other visitors, including several excited Japanese families, and began peeling off jackets and sweaters in order to stay cool. By supper time we had settled gratefully into a motel with pool and sauna, and by 6 pm were driving the 40 miles to Estrella to see the countryside and locate the field.

Heading south, our Buick left the city behind, then entered the desert. Hot air flowing over the mesquite bushes bustled through the open windows of the car. On the roadside, beer cans glinted in the sun, but beyond the tan desert stretched for miles, broken in unexpected places by small mountains. When a saguaro cactus appeared towering over the hundreds of others, we simply drove off the highway along a sandy trail until close enough to take some pictures for the folks back home to see. After this arid scenery it was surprising to pass miles of green fields. These were owned by Indian tribes and watered by elaborate systems of pipes sloping down from highland reservoirs.

Shortly after driving through a western town we reached Estrella, and when the airport sign on the back of the hangar came into view, our cold Quebec bones really began to thaw. We had reached Mecca. It took us no time to take in the trailers and gliders radiating heat on one side of the hangar, the picnic tables shaded under a corrugated steel roof and a swimming pool on the other, to realize that we had escaped Canadian winter. We walked past a Palo Verde and a Rainbow cactus to the air-conditioned office to make arrangements for next day's flying. Betty Horvath scheduled us for the intros, then we went outside to enjoy

watching the gliders being put away as the sun began to drop towards the mountains. We were actually in Arizona, not merely reading about it in a gliding magazine.

The next day we were ready, US licences in pockets, sun screen on faces, dark glasses on noses. A young man from Colorado introduced us to the Grob Twins, and since it was mid-week, we were soon being towed by a Piper AG over to Estrella Mountain. The gliders flew easily and quietly, outperforming anything we had at home. As we drifted across the sky at 60 knots, our progress was continually interrupted by strong thermals making it difficult to end the practice flights on time. Having to take five checkout flights made us grumble at first, but we learned so much about the machine's potential and desert flying that these flights were actually more fun than some of the easy soaring we did later on our own.

Improbable heat, incredible blue sky, and the unforgettable desert were with us daily. It was the dryness, though, that we were forced to recognize as dangerous. We protected our skin against the sun while reveling in the unexpectedly comfortable 30°C. Then we noticed our instructor carrying a jar of drinking water wherever he went. We began to find ourselves dehydrating, so began to swallow soft drinks and juice. However, by the week's end we were loading up on fluids whenever possible. Gatorade was found unsavory, and I have since discovered tomato juice to be my most beneficial drink for replacing lost minerals.

By day three we flew without instructors, and began to explore the southern Arizona skies. Without radios it was impossible to keep in touch with each other as our flights would carry us effortlessly 10 to 20 miles away on local flights. Cross-country forays were out until we could prove that we could stay up for five hours, and then extra insurance was required. Since the desert was a forbidding place to land in due to millions of mesquite bushes, fierce cactus, rattlesnakes, and even unfriendly gophers, we found ourselves straining at the leash but following the rules. When we wanted company we could slide over the Estrella mountains which provide ridge and wave flying when the wind is right. There were usually some catching a thermal off a slope, and sometimes, way below us, a daredevil in a 1-26 pirouetting amongst the shimmering gulches and Indian trails. He always found a thermal to lift him over the gravelly slopes and back home. Our greatest thrills on these high flights came when we would stretch out our "local" flights as far as we dared. Then we would turn around and bomb home, not even stopping in the 8-10 knot thermals, which in Quebec are treasures.

The next day we left Phoenix and drove four hours to see the Grand Canyon. This time we turned on the heater as the weather had cooled and we were climbing over a 4000 foot plateau, then through a high pine forest. We stopped to see a panoramic film on the canyon which features a scary helicopter flight through the gorge, and a spectacular re-enactment of the first white exploration of the river itself by adventurers (madmen) in tiny dories. The actual wooden boats used in the filming were sitting outside near the ticket office. No one would have caught any one of us in those primitive buckets. Climbing aboard a six-place helicopter and wallowing over the breathtaking rim of the gorge and down into the vast mysterious canyon itself was exciting enough for us.

The mornings of the last two days of our holiday were spent visiting aircraft museums and a botanical garden where some of us picked up books or plants for presents to take home. In the afternoons we soared or took aerobatic lessons from Nancy Blank. Les Horvath and Gilles in a motorized Grob made a thrilling, low-level survey of the cactus on Estrella Mountain. "Inoubliable!" Gilles remarked. By evening we were ready for a cool one by the pool, then a meal in a restaurant we hadn't already tried.

At Estrella we found immigrants from California to Maine. Some came to rent gliders, while the younger were there as instructors, and worked at jobs that allowed them time to fly. Nancy Blank, for example, delivered hundreds of newspapers every morning so that her days were free. We met one older man who spent weeks in Estrella soaring until the weather became too hot for him in April, then he returned to Illinois.

On our last morning in Arizona we visited a nearby airshow featuring sports planes of the thirties. The restorations were superb, one Waco having twenty-four coats of paint. The cabins of the luxury planes smelled of expensive leather and wax. Bright wings and chromed radial cowlings lined both sides of one runway. Most owners would talk easily to us, and one Californian with a tan and gold Cub said that he had had his airplane for twenty years. Pictures we took show the wide blue sky, the sharply clear air, and dozens of these beautiful antiques which we rarely see here in Quebec. The dry climate of Arizona is perfect for preserving old birds.

Now that the trip is over and the bills paid we are eager to try another adventure, perhaps ridge running in Pennsylvania next spring. The Arizona trip cost each of us about \$1500, but it was worth the expense. The friendly and capable team at Estrella, the glorious climate, and the exotic and mysterious countryside all have the power to draw us back for another holiday.

EARNING MY "B" BADGE

David McAsey

Cu Nim Gliding Club

This tale of a novice's derring-do is definitely not fit fare for licensed pilots. But for the hundreds of us who have centred less thermals than the number of our birthdays, it just might be a tale of minor adventures, and a reminder that better and better flights lie before us.

It was shortly before noon on 30 June at the Cu Nim field near Calgary. The lennies were there in quantity southwest of the field. They were probably, as usual, marking a secondary wave thousands of feet above the legal 12,500 foot limit, leaving aside the 2-33's lack of oxygen equipment. The 20+ knot wind would almost certainly squash my hopes for a flight today, since I had only nine solos in my log-book. To my astonishment Dave Fowlow, chief flying instructor, said, "Go ahead, as long as the wind doesn't shift from straight down the runway." Experience had taught me that strong Chinook winds near the ground tend to grind up thermals like mincemeat, and that I'd likely have a bumpy 2000 foot tow and a short ride back down.

I strapped in, completed my CISTRs-C check, and after my usual brief chat with my Maker, watched the quivering windsock like a hawk. "Watch out for a quick pop-up, and for heaven's sake when you go into the circuit, don't go downwind of the field boundary on base", I mumbled to myself. (I wonder whether other solo pilots talk out loud to themselves in the secrecy of the cockpit.)

Up we went, and moderate to nasty turbulence tested my resolve to smooth out over-reactions on tow. The pilot of the tug, like most at our club, politely ignored my mild aerobatics, and within a minute or so I was flying the way I wanted to. Throughout the tow, the cockpit was unusually noisy; not from the endless soft creaks and groans and whistles that accompany every 2-33 flight, but rather from the echoes of the distilled wisdom of many glider instructors. The general effect was comforting. Live instructors can divide the student's addled brain between their commands and questions, and the task immediately at hand of keeping the glider in the air and relatively safe; but ghostly voices, while still useful, enabled me to concentrate on what I had to do.

True to form, I flew through a thermal just before release and glided into sink. Miraculously, after a quick 180 I found the lift again, and my vario registered close to plus-four. That thermal was good for about 2500 feet. Emboldened by my blind good luck, I penetrated up-

wind to the west, deliberately flying through some weak thermals. A stronger one tried hard to kick me out, but then yielded about 4.5 fps. Belatedly, I had remembered the quiet voice of instructor Ted Mani, who has a habit of staying up above the Cu Nim field when other pilots are getting shot down: "If it tries to throw you out, forget about minimum sink and even best glide angle", Ted had advised. "Increase your speed until the "kicks" can't keep upsetting your circle."

Ted's advice, heresy to some instructors, worked like a charm. At more than 9000 feet, or 3000 feet above release height, I was drunk with success! The thermal was ragged and weirdly shaped, but it kept yielding lift. For three turns I deliberately tried an exaggerated slip, and for three more a pronounced skid. My data-gathering method would make any scientist shudder, but I estimated that the rate of climb on both slips and skids was roughly 3 fps, down from about 4.5 fps in my normal thermalling turn.

At this point, I made my first solo attempt at dolphining. . . let's just say that I didn't lose much altitude. Then, at about 3500 feet agl, I went back to hunting thermals. Although they were "sticky", and seemed to drift considerably less than my estimate of the prevailing wind, I eventually allowed myself to drift three and a half miles downwind of the field. (In Alberta, section lines on the ground are easy to count, even for the novice pilot.)

"No sweat", I said to myself as a film of sweat formed on my brow despite the cool cockpit. "After all, I've gained some height in thermalling, and I'm almost 4000 feet above circuit height. Despite the strong headwind, I should be in good shape." After a few moments' meditation on the penetration ability of a 2-33, and a wild guess that my headwind was 35 knots, I said to myself: "I've still got the option of a straight-in landing, and if that doesn't work out, virtually every field east of the gliderport is landable." I pushed down the nose of the glider to an indicated speed of almost 80 miles per hour to penetrate some downright nasty sink that wound my vario to near the bottom of the scale. My glide ratio over the ground was probably less than 2:1, I thought, and I began to mentally prepare myself for my first outlanding.

Soon, however, the vario needle began to read an unlikely minus two, slowly creeping into the zero range despite my glider's nose-down, back-to-the-earth attitude. Meditating on this puzzle, I was completely unprepared for three rapid, sharp cracks. They didn't feel like sink, lift or turbulence, but rather like blows from a giant hammer. Although I felt foolish I couldn't help myself, and I checked out both

wingtips to be sure they were still in place. Lacking a parachute, I would have had precious few options if one wingtip had been missing.

The altimeter read 9600 feet, and both wings were in their customary location despite the horrible hammer blows. Then, after a few seconds of lift smoother than whipped cream, the truth dawned on me. I had blundered into secondary wave at the eastern boundary of the field. After a few minutes of savoring this undeserved triumph, I popped my spoilers at 10,600 feet and found that a sideslip was needed to get me down.

Why downward now? Firstly, I had spent well over an hour in the air, and someone on the ground might be waiting to fly RFQ. Secondly, I wasn't altogether certain that the powers-that-be at our club approved of a green solo pilot flying wave in a 2-33. Much more to the point, I had experienced more in this single solo flight than in the nine flights that preceded it. I'm far from young, and I was determined to end this memorable flight with a perfect landing, unhindered by even minor fatigue or hypoxia. A chicken-hearted decision perhaps, but I don't regret it.

I had already seen the club Blanik shot down twice and maybe a third time, a victim of cycling at lower altitudes. I like to think of myself as charitable to all, but some deplorably nasty corner of my character still cherishes the memory of those unfortunate and vastly more skilled pilots biting the dust!

Full spoilers all the way, sideslipping much of it, I found my way to the IP and performed one of my better landings. Flight time was one hour and twenty minutes, although it seemed more like five hours. To my surprise, the CFI had noticed my flight, or more likely the relatively long absence of the glider, and greeted me shortly after the landing with my "B" pin.

Lessons learned? I discovered that even the least-qualified solo pilot in the club — and I was surely in the running for the honor — could also experience a flight where everything went right. More important, a flight like this one will give almost any novice the inspiration needed to sharpen his flying skills, and to learn to fly well on days when Mother Nature is in a less generous mood.

Last thoughts? The flight was really anything but a solo. The advice of a dozen club instructors kept reverberating inside my skull from the initial ground roll through the landing. Those instructors had given me the skills and confidence to make good basic flying decisions, making possible a safe flight and an experience that I won't soon forget.

THE WORLD CLASS GLIDER

Piero Morelli

IT IS SIGNIFICANT that the realization of a small, light glider of low cost, and easy and safe to fly, has been suggested in recent years by different persons in different parts of the world. Although differing in particular points, Gary Sunderland (Australia) in 1981, Leonardo Brigliadori (Italy) in 1986, Paul Schweizer (USA) in 1987, Miguel Conde (Argentina) in 1987, have expressed basically the same ideas. In preceding years similar ideas and proposals have been studied.

In the actual circumstances and [the current] phase of gliding development, CIVV (International Gliding Committee of FAI) could not ignore these insistent and widespread suggestions.

The subject was discussed in two meetings of the CIVV "Sub-committee for Championships Objectives" (Frankfurt, West Germany, September and December 1987). A proposal to create a new single-seat glider class, the "World Class", was the outcome of these meetings. The single-seat glider is to be selected after a comparison on the ground and in flight of the competing prototypes. In principle, the proposal was unanimously adopted by CIVV in its last plenary meeting (Vienna, March 1988). The first step of the suggested procedure was decided, i.e. the definition of the "Technical Specifications" to be submitted to CIVV at the next meeting (London, 21/22 October 1988).

If approved, the following steps would be:

- announcement of a competition of designers and manufacturers for the realization of glider prototypes complying with the technical specifications;
- at least two years after the announcement: evaluation through ground and flight tests of the competing prototypes and selection of the winner;
- drawings and technical documentation of the winning design made available to all manufacturers willing to build the glider;
- announcement of Continental and/or World championships for the new single-seat "World Class".

The background of the initiative is summarized in the following paragraphs, containing several quotations from CIVV official documents.

The actual situation

Gliding is a beautiful sport and in good health. We should be aware, however, that all sports have some unsatisfactory aspects and the

process of improving the technical, operational and environmental factors is a normal and permanent one.

What is wrong in gliding today? A number of points can be mentioned:

- the training of pilots is sometimes unsatisfactory;
- safety could be improved in many respects;
- air traffic restrictions are too severe in some places.
- sometimes competitions are objectionable because of gaggles or other problems.

The current competition classes are not fully satisfactory. Let us introduce minor changes, if agreed upon at a sufficient extent.

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The tasking philosophy should be modified for better evaluation of the pilot's skill. Let us introduce new concepts and types of tasks, but cautiously and gradually.

The global situation and structure should be preserved and protected with care. The beautiful gliders are the result of an advanced technology, always striving for further progress. The whole activity is a remarkable and well-balanced blend of sport, science and technology, rarely to be found elsewhere. Let us keep in mind, therefore, that no action should damage or spoil the basic characteristics of actual gliding which should be carefully preserved.

Expansion

If we look at the world situation of gliding, however, we must admit that something is not satisfactory. An organized gliding movement is active today in 33 of the world's 175 countries. In about 20 more countries a few gliders and glider pilots exist, sometimes a single club, or even a few private owners. These are not large figures: 70% of the countries ignore gliding completely...

Although gliding is probably not a suitable sport for masses of people, it must be admitted that the rapid and wide development of hang gliding, and ultra-light aviation in general, demonstrates that lots of people everywhere long for flying.

There is a wide gap between hang gliding and gliding, in terms of both performance and costs.

The basic tool of gliding, the glider, the competition glider at least, is produced in one country. The modern competition glider is a complicated piece of engineering, requiring a sophisticated technology and advanced materials.

Although in other countries attempts have been or are being made to catch up with German technology, it is a fact that the pilot who wants the best in performance must buy his glider in West Germany. At the 20th World Gliding Championships, 106 of the 108 competing gliders were of German manufacture and/or design. This situation is not going to change for a long time to come, because West Germany also has the largest internal market for gliders. With 40,000 active glider pilots and over 7000 gliders and motorgliders, Germany alone represents about one third of world gliding which amounts to approximately 120,000 pilots and 24,000 gliders and motorgliders.

Is this a negative factor in itself? Certainly not. If West Germany were not there with its large market, most probably we would not have the splendid machines of superb performance which we appreciate so much. We certainly do not want to lose this mark of progress. For many countries, however, these gliders are expensive or even prohibitively costly. This is negative, as it cuts out a large part of the world from gliding.

The history of gliding shows that competitions have always determined the development trends of gliding, having an influence on almost every aspect of gliding, and club gliding in particular.

If we consider as one of our aims to have more countries and more people, in particular young people, active in gliding, we must somehow modify the present situation.

Club flying

The percentage of competition pilots is estimated to be not more than 10% of the number of active glider pilots. Therefore, 90% have no interest in competition flying; they fly locally or cross-country for badges or for personal, non-competitive enjoyment.

However, past experience shows that most manufactured gliders have been designed to the specifications of the classes flown in world gliding championships. The effect of the

heavy domination of competition gliders in the market is that gliding clubs and other owners of gliders have normally bought second-hand competition gliders. Although this has had the very beneficial effect of having gliders of excellent performance in clubs, it must be conceded that these gliders are not too well suited for this kind of use.

Cost

The production (competition) gliders are expensive not only because of their design requirements and sophisticated technology but also for the reason that the cost for developing a new prototype has to be charged to a limited number of gliders produced (usually a few hundreds in a few years). In fact, after a few years' time this glider is superseded by a new one of better performance. This competition for performance among designers (also leads to an increase of wing span in the Open class and to heavier and more sophisticated gliders in all three classes. In all cases the cost goes up.

The cost of gliding, however, is not only a factor of the price of gliders. In the past years we have also seen a rise in the cost of glider operation. The cost of equipment on board (instruments, radio, computers, etc) trailers, launching equipment (towplanes, winches), infrastructure (large hangars) have risen considerably.

Competition flying

A lack of participation in world gliding championships from various countries with healthy gliding movements has been experienced during the last ten years. The reason may partly be the escalation of entry fees and expenses, partly the inability to participate with competitive gliders – taking part with equipment other than the latest development in the class gives one no chance to win.

Although one-design competitions have been held for a long time in Eastern European countries and in the USA (the "1-26 class"), at the level of Continental or World championships they have been proposed many times but never realized. Each of the actual FAI classes includes a variety of glider types complying with the given class specification. The consequent difference of aerodynamic performance and wing loading are such that the man/machine combination is selected rather than the champion pilot. Past experience shows that, from time to time, whenever a new glider type is introduced (sometimes a prototype), the situation with the class is heavily unbalanced. The actual class structure, therefore, does not allow a pure measure of the pilot's skill.

The CIVV initiative

Based upon the preceding considerations, the belief, or the hope at least, has been expressed by CIVV that a different glider from those currently produced, with a lower weight and possibly a smaller span, could be available at a substantial lower price, would suit the general use more satisfactorily, and would provide one of the basic conditions for the expansion of gliding worldwide.

This glider would be the single-seat glider of the "World Class", for which World and Continental championships would be held. Its design would remain unchanged for a long period of time (20 or 30 years), this being another essential factor for the reduction of costs.

Several purposes have been listed:

- the glider should be suitable for club use or for private owners, and for training;
- its performance should be good enough to allow the achievement of badges;
- it should be good for competition flying, but not necessarily pure racing;
- its construction should be simple enough to allow manufacture by not necessarily highly-specialized manufacturers, and also by individuals starting from kits.

The technical specifications

A set of requirements as the boundary conditions, within which the designers make their choices, is obviously needed. This has been the task of a group of experts in the last few months, resulting in a draft of technical specifications [which is now being circulated]:

- above all, the low cost requirement is stressed, meaning that the new glider must be relatively inexpensive to buy and to maintain;
- the wing span is not specifically limited. It is believed that the whole set of requirements will lead to a choice in the range of 12 to 15 metres;
- the stall speed must not be higher than 65 km/h with airbrakes either retracted or extended;
- the landing gear must be fixed. No flaps, water ballast and winglets are allowed;
- rigging and de-rigging by two persons must be possible;
- the performance must be "reasonable" (best L/D not less than 30, minimum sink not more than 0.75 m/s) but need not be much better than these limits.

It has been stated: "Let us fix the performance at the top level of 30 years ago and use the technical progress of these last 30 years for lowering the cost." This approach illuminates the real meaning of the "World Class". Therefore, a much better performance than the limits specified above will not be considered as essential as a lower cost, safer flight characteristics, easier ground handling, etc.

I am not detailing here the set of 28 requirements and 14 recommendations which form the set of technical specifications. They all aim at low cost, sufficient performance for badge and competition flying (not necessarily pure racing), safety in flight and in landing (including crash landing), easy handling in the air and on the ground, ease of construction, durability, ease of inspection and repair, etc.

It has been suggested that, if this glider results small and light enough, it can be rigged and de-rigged by even one person (using simple rigging aids), put on a small, light, legal trailer and stored in a home garage ...

Small span and "reasonable" performance are conflicting requirements, more so when a stall speed limit is specified (which leads to the choice of adequate C_{Lmax} -wing loading combinations) ...

Comparison with gliders of different weights and spans seems to indicate that an empty weight of less than 135 kg is certainly attainable with a 12 metre and aspect ratio of 20, or less than 180 kg, with a 14 metre span of the same aspect ratio.

This glider should probably be rather conventional, so that its behaviour in flight does not differ considerably from that of the training two-seaters in current use today. It is likely therefore, that its configuration will be the traditional one rather than a "canard" or tailless, with conventional tail rather than V-tail, and spoilers (eg. Schempp-Hirth type) to other types of airbrakes. As far as configuration and aerodynamic design are concerned, the best established technology should probably be applied to this class: experiments, even brilliant and promising new solutions are for the existing FAI classes which offer wide possibilities in this respect.

Acknowledgements

Preparing the "World Class" proposal and the technical specifications for the new glider has been long and delicate work, not yet concluded. May I mention the constant support of the CIVV President Bill Ivans, and the preliminary work done by the CIVV Sub-committee for Championship Objectives under the skillful chairmanship of Tor Johannessen. In particular, I wish to acknowledge the precious contribution given by many technical experts (from a dozen countries) who have answered my request for cooperation.

Torino, 24 September 1988.

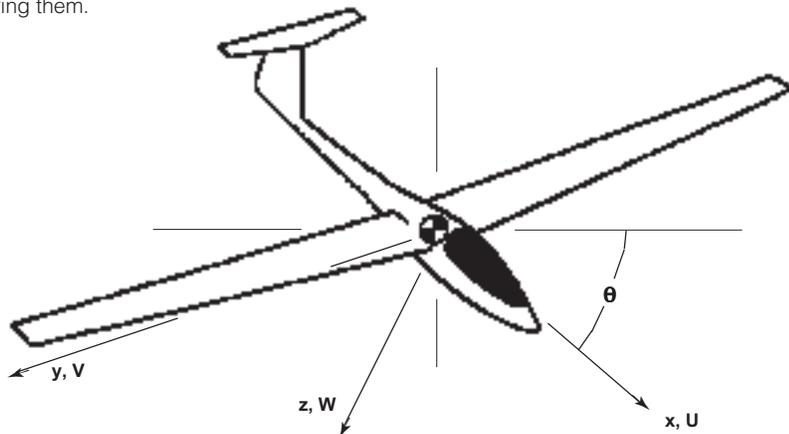
SPIN TRAINING IN GLIDERS

Mike Valentine

Australian representative
OSTIV Training and Safety Panel

Introduction

The flying training policy of the Gliding Federation of Australia (GFA) calls for training in stalling, incipient and full spinning. In addition to this training requirement, the concept of "safe speed near the ground" is actively pursued, this safe speed (defined as one and a half times the stall speed, V_s) to be applied whenever the glider is fully committed to the landing circuit. Despite the conscientiousness of the training and the rigidity of the "safe speed near the ground" rule, gliding in Australia is by no means immune from accidents caused by inadvertent spins. Many of the pilots who fall victim to this kind of accident are very experienced and well conversant with the requirements and the consequences of ignoring them.



Whilst it might be thought that $1.5 V_s$ is adequate protection against the possibility of an accidental spin, the record suggests otherwise, and the same may be said of the spin training itself. If the training is realistic and properly carried out, then the spectre of the accidental spin should vanish, but again the record suggests otherwise. Obviously the $1.5 V_s$ is not being rigidly adhered to, especially under stress, and this appears to be a fact of life which the training system finds difficult to come to grips with. Given that pilots do occasionally fly at less than adequate speed near the ground, either because they do not notice the decrement under stress or because they have an honest belief that they can cope at lower speeds, the training system is duty-bound to provide them with exposure and training of sufficient quality to afford protection against an accident from this cause.

The intention of this paper is therefore to examine the philosophical approach to spin training and to put it into its correct perspective. More importantly, it is intended to demolish some myths which have persisted for some time in Australia (and perhaps other places) and to examine the implications of proper spin training on the flying training syllabus and on the design of two-seat training gliders.

The traditional approach to spin training

In Australia, and possibly in other countries, spin training in gliders was inherited from military flying training practices. Trainees in the military were taught that a spin was essentially a maneuver entirely commanded by the pilot, the only variation to this being the training of fighter pilots, where it was taught that uncommanded spins could occur, but only from extremes of nose

attitude and usually at or near limit load factors. At no time was it considered (because it did not need to be) that an aircraft would get into a spin from a near-normal nose attitude and with no significant amount of G present. Yet this is precisely how almost all glider spins occur. The traditional methods of spin teaching used in Australia and elsewhere for some years have therefore left a generation of glider pilots quite unprepared for the possibility of spinning out of a turn which to all intents the purposes appeared normal to them right up to the point of spin departure.

For all the purposes of this paper, the "traditional" spin entry method is defined as a nose-high attitude with full rudder applied when the speed has fallen to a point just above the stall. It does not achieve anything like 100% success in getting a glider to spin and is in any

case a totally unrealistic way of presenting a spin entry to a trainee. No pilot, whatever the degree of overload or distraction, would be expected to combine a high nose attitude with full rudder deflection. In accident situations nobody in fact ever does. Spin accidents invariably occur from a nose attitude practically indistinguishable from normal. The kind of spin training which has become traditional is not only ineffective, but actually detrimental to the future protection of trainee pilots.

The myth of spin avoidance

Many people argue that the effort put into training a glider pilot in spinning and recovery is not worthwhile and it would be more productive to train a pilot never to get into a situation where a spin is likely. Although this might sound logical enough, it does not stand up to scrutiny. Australia's somewhat inflexible "safe speed near the ground" rule does not provide immunity against the accidental spin, which tends to prove the point. We have to accept the reality that, no matter how much it is drilled into a pilot never to get low and slow, one day he is likely to do it.

All over the world it is a fact that pilots take gliders into situations where they eventually spin. There is usually no warning, and if the pilot has not been there before under controlled conditions he will almost certainly not be able to cope.

Given that glider pilots spend 70% of their flying in circling flight within 20% of the stall speed, it is impossible to omit spin training from the syllabus of glider pilot training.

The link between stalling and spinning

Very few accidents occur from straight stalls: plenty of accidents occur from spins. Yet some gliding organizations are reluctant to teach spinning, or assert that it is not necessary. These same organizations quite happily retain stall training in their syllabus. It makes no sense. The process of stalling a glider involves continuous backward movement of the stick until the stall occurs. The nose is noticeable higher than normal and many symptoms are presented to the pilot as the glider progresses towards the stall. Because of the warning offered by the discernible symptoms, most pilots recognize that they are progressing towards a stall and take some action to prevent a stall occurring.

In turning flight, though, many of the symptoms are masked, especially if yaw is present as is often the case at low altitude where pilots may be reluctant to bank the glider. In this situation it is possible for the stick to come continuously back at a constant nose attitude and without the glider offering any other warning that anything is amiss. This continuous backward movement is the most important link between stalling and spinning, but note that there is a major difference between the nose attitudes in each case. The nose-high cue so

heavily emphasized in stall training is entirely absent in the kind of spin departure which catches pilots out.

One of the symptoms usually (but not always) present in a straight stall is wing drop. The importance of this wing drop is often underestimated. It is as much a primary stall symptom as the dropping of the nose, but it is not generally utilized to trigger recovery action on the part of the pilot. Many instructors persist with the stall in this situation, even though the wing has dropped and is still doing so. What they should be doing of course is initiating recovery action as soon as the wing-drop occurs. This will reinforce in the trainee's mind the importance of wing-drop as a primary symptom. This in turn will provide the necessary protection for when the pilot gets into trouble at low speed in the future.

The effect of forward stick on wing-drop is the second most important link between stalling and spinning. Wing-drop is the symptom of most relevance to promoting auto-rotation and it is the one most persistently ignored by instructors.

The myth of crossed controls

It is often quoted that one of the main reasons for a glider getting into a spin is because the ailerons are used in the opposite direction to the rudder. It is postulated that the change in camber caused by the downgoing aileron on the inside wing of a turn increases the angle of attack to the point where auto-rotation begins.

In reality, it is most unlikely that crossed controls will in themselves promote a spin. Any pilot who has been flying for a few years will recall that the older generation gliders needed ailerons crossed with rudder to "hold off bank"

when thermalling (a 2-33 is a good example). This is effectively the crossed-control argument which is put forward as being so dangerous, but very few pilots spin out of thermals, at least for that reason. The truth is that it is always the elevator that does the damage — the controls can be crossed with impunity if the angle of attack is nowhere near the stall. If, however, the stick is brought back during thermalling, the chances are that a spin will result *regardless* of whether the controls are crossed or not. When did you last hear of someone spinning out of a sideslip?

Excessive concentration on the crossed control argument may again detract from the real object of the exercise, which is to prevent the wing reaching the stall angle by correct use of the elevator.

Implications for training methods

The most important implication of spinning on the training syllabus is that the *concept* must be clearly understood. Cutting across all the witchcraft and mythology which has built up around spinning over the years, the basic concept of spinning and spin prevention is quite simple. The spin is primarily an *angle of attack* phenomenon. Period.

If this is clearly understood and absorbed into the training system, it satisfactorily protects pilots against the possibility of an accidental spin. Note that it goes much further than simply preaching the creed of spin avoidance, whilst still satisfying those organizations which are reluctant to go as far as full spinning.

From the practical viewpoint, the following points are considered essential:

- No nose-high spin entries. Instructors should perfect demonstrations of near normal

nose attitude at spin departure, achieved by trading-off elevator and rudder to maintain a constant attitude, as pilots do in real life when the pressure is on.

- Continually stress that a *key point* in the progression towards a spin is that the stick is coming continually back at a constant nose attitude.
- The yaw string, if fitted, isn't a reliable indicator of the likelihood of a spin. Most spin departures occur with the string almost central.

NIMBUS ADS

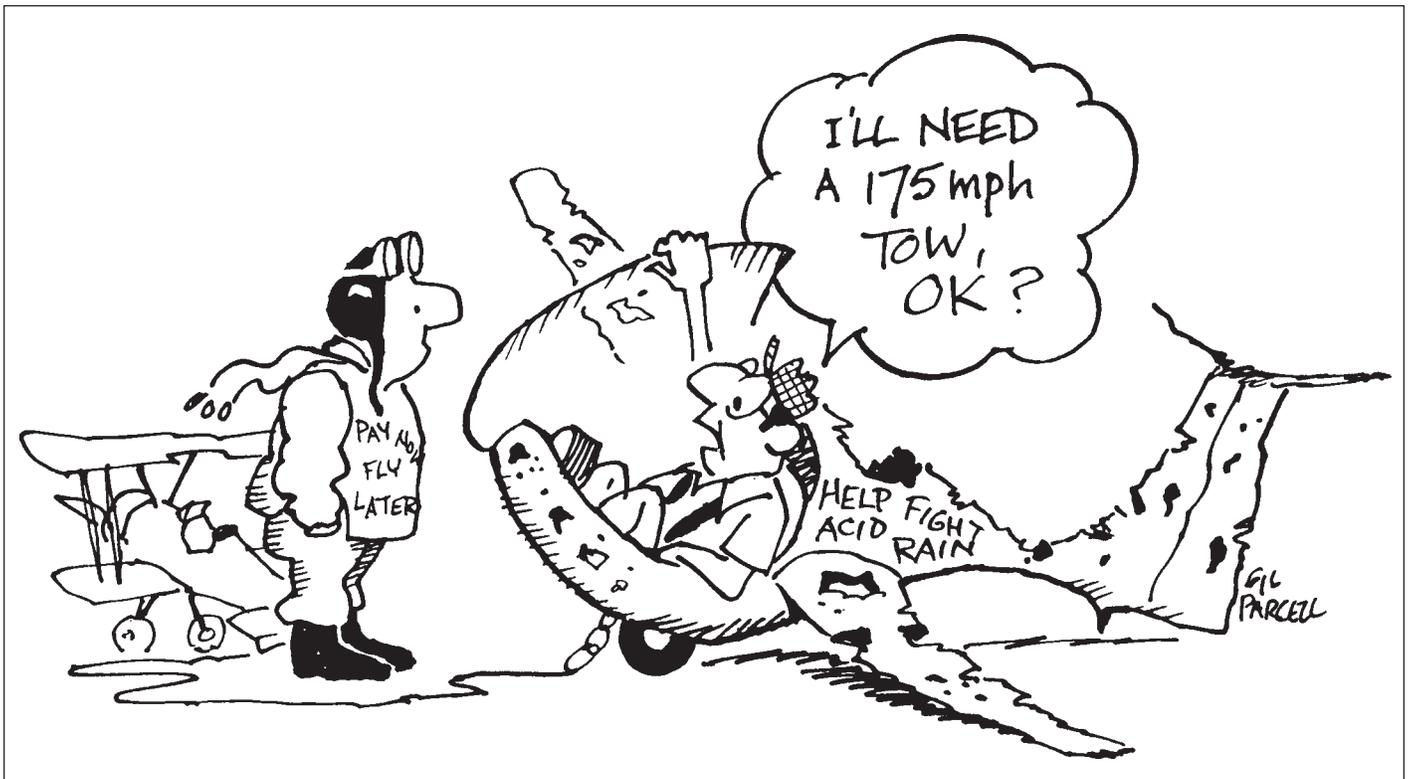
The following airworthiness directives were issued between 1 September and 31 October 1988 which affect the Nimbus and Mini-Nimbus glider elevator drive brackets: GY 87-126/3 286-24, 328-8.

CATALYST DANGERS

Fibreglass repairs on aircraft and on cars are causing far too many people to lose the sight of one or both eyes. An eye specialist reported recently that a single drop of the catalyst (used for hardening polyester resin) starts its dirty work on contact and will progressively destroy the eye tissue and result in blindness. This will occur even though the eye is washed following contact, and there is no known way of stopping the damage or repairing the eye.

The preventative measure of course is to wear full eye shields and take care when mixing and using fibreglass repair materials.

Ontario AME Association newsletter



SAILPLANES AND HANG GLIDING

A personal comparison

Chris Davison

from "Wings"

TODAY IS FRIDAY, and I am at work. Looking out of the window all I can see is white puffy clouds racing past, highlighted on a misty blue sky. Two things strike me: firstly that I should by all rights be standing on a hill just outside Rochdale learning how to hang glide, and secondly that it has been nearly 18 months since I gave up my sailplane career to buy, furnish and maintain a house. It's funny, if you had told me two years ago that I would give up gliding, let alone take up hang gliding, I would have told you in no uncertain terms that you were cracked. Every weekend I would get up early, make some sandwiches and a flask, occasionally smoke my barograph and drive eagerly to the local site to put my name on the list and wait to fly. Every summer day I would gaze out of the office's tinted windows and mentally plot my path between the off-the-clock thermals that seemed to be surrounding me. So what happened, why did I give it all up and why did I 'descend' to hang gliding? Read on.

Gliding and hang gliding are very closely related. The aim is the same, to explore the skies with the freedom of the birds, using only the power that nature provides. The mechanics however, are very different, both in the physical machinery used, and in the methodologies used in training pilots and running clubs.

The type of people that each of these sports attract is also, broadly speaking, different. If both sports are to flourish then there needs to be an understanding between the two. The idea that gliding is for the rich, middle class executive and isn't 'real flying' is as wrong as the notion that hang gliding is a sport for long-haired madmen who throw themselves off cliffs and more often than not end up with broken arms. You would be surprised at the ignorance of both sides on the subject of the other! When I announced that I was going to have a bash at hang gliding I was informed of the danger from a gliding friend of mine, "You must be mad, you land a bloomin' hang glider by stalling it into the ground!" he said. He was right of course, but it wasn't for a couple of days that I realized that this is of course true for gliding and any other form of aviation you care to mention!

I gave up gliding for two reasons. Firstly I bought a house, and secondly I wanted to fly. In all fairness the former reason is why I gave up gliding, I couldn't afford it anymore. That is not to say that at the beginners level it is more expensive than hang gliding. Gliding is not expensive. Yearly membership to a club might cost anywhere between £50 (\$100) and \$400. Instruction is free, all you pay

for is your launch charge (say \$3 for a winch launch) and a charge for glider hire, say \$12/h. Now say you went up for the weekend, and got four flights each day (typically a training flight from a winch will last 6 minutes) that works out at \$45.60 for the weekend, how much does it cost per day to learn to hang glide? Comparing the cost of getting your licence with that of going solo in a glider still shows a favourable bias towards conventional gliding. So how does cost fit into my argument? This is where my second point comes into play. Gliding only remains 'cheaper' than hang gliding whilst you use a club glider. Using a club glider means that you are sharing it with say 10 other potential pilots and when the weather gets good? Exactly!

The answer is to buy yourself a glider of your own. A new one will set you back about £20,000 (\$42,000) the trailer, some instruments and a parachute will all add an extra \$10,000 if you go for the basics. You then need somewhere to keep it, and an extra \$4,200 for the insurance (when I last looked 10 to 12.5% was the typical yearly insurance figure!). Not surprisingly, most people don't take this option. What normally happens is for three to four people to get together and buy a

The trick is to separate the concepts and techniques from the physical implementation of them and accept that there are going to be some differences.

secondhand glider. \$8,500 will buy you a 25 year old wooden example, or \$15,000 will buy a tatty glass machine. Insurance is still the same, so you are talking say \$3,200 minimum each (and I mean minimum) plus say \$650 per year to cover insurance and repairs (which you do yourself wherever possible). On the face of it this is not a bad option at all – if it was not for my father being in such a syndicate, I would have never had the opportunity to do as much gliding as I did. But what have you actually bought for your money? Flying in such a syndicate can be a lot of fun, and in a way provides an element of team spirit which I have not yet seen in hang gliding (perhaps because I am still very new to that sport), but the one thing it does not buy you however, is flying! There are still four of you to one glider, you are still reliant on a mechanical method of launching which provides a bottleneck in the summer months, and should you want to take 'your glider' to the Welsh Hills for a week, what do the other members do? OK, so it is a matter of give and take, but what I want to do is fly and fly a lot!

There is quite a culture shock coming into hang gliding from gliding. The glider I used to fly had a glide angle of about 25 to 1, stalled at about 30 knots and had a top speed of about 70 knots if you didn't mind the paint flaking off! A modern glider has a glide angle of up to 50 to 1 and can fly at 150 knots with relatively little performance degradation, an extreme I admit, but you get the picture. Hang gliders are viewed as toy machines at best, and I suppose in relation they are, yet normal hang glider pilots are flying 50 miles with them on the weekend. It would be interesting to compare figures for cross-country miles per year per person in both sports.

When I first looked at hang gliding I had the image that your average cross-country pilot would be armed at best with a roadmap and in-car compass and the idea that controlled airspace was something that lived near Heathrow. I was wrong. In fact the rules of the air, airspace control and a basic understanding of how to fly away from your home site is something that I have had drummed home at every stage of my short hang gliding experience, but which was sadly missing until much later in my gliding career.

The transition from having a level of skill in one sport to having no ability in a seemingly very similar sport is frustrating. I already have a few years of soaring experience under my belt. I have flown a few hundred miles cross-country and yet am struggling to keep my hang glider in a straight line on a training slope! I am right at the bottom of the learning curve of my newly-chosen sport, and finding it difficult to accept the fact – I can already run (well jog anyway) but I am finding it very difficult to walk! The danger in coming from gliding into hang gliding is that the new hang glider pilot will assume that because all these skills are almost intuitive whilst sitting in the cockpit of their glider, they will also be there when the first attempts at soaring are made in a hang glider. The trick is to separate the concepts and techniques from the physical implementation of them and accept that there are going to be some differences.

Training is perhaps the area that varies the most. In gliding you have the luxury of dual control from your very first flight until the time you are let solo, from your first ridge flight, into thermals, to a full blown cross-country, all with the luxury of an experienced pilot to teach you, monitor your progress, and shelter you from the dangers. If you are an early solo pilot and the weather is too rough, then you simply take an instructor up with you in a two seater. In the better clubs training is formalized well past the solo stage, and training is often available away from your own site. Hang gliding is, to my mind at least, completely different. Up until licence the standard of training is on a par, but what happens next? There is a big gap between P1 and club soaring, much as there is in gliding, but in gliding

continued on page 17

Club News

KAWARTHA NEWS

After being more or less written off by some clubs and other fellow soaring members three years ago, our club is still here and we are doing quite well financially and otherwise.

This summer we constructed a new 3000x400 feet NW-SE runway, which will be ready for operation early next year. This is in addition to our present 2000x300 feet runway, but will eliminate the crosswind conditions and also the crossing of the 21'-6" high hydro wires located 100 feet past the end of the existing runway. We soon will have over 45 acres of manicured grass area for our takeoff and landing operation. Altogether we own 80 acres of property, located a quarter mile north of the village of Omemee, population 220 on Highway 7, halfway between Peterborough and Lindsay. There is a small creek running through the property and a patch of cedar trees is serving as a picturesque background for our trailer and camping facilities. Our clubhouse has a kitchen area, a washroom and a shower area. Two years ago we built a flight office addition to it. There are seven individual hangar buildings, three of them club owned, and there is room for more.

We have a 180 hp Scout towplane, a Blanik and, for fun flying as in the good old days, a Grunau Baby. In addition we have five privately owned gliders and the number of flying members, out of a total club membership of twenty-five is eighteen, half of them being towpilots.

Because all members worked hard in the construction of our new runway, the number of

flights last summer was only slightly over three hundred. In addition, however, we gave a helping hand to our neighbouring glider club, just 9 km east of ours by lending them one of our towpilots during their flying week and also providing some towing when their own towplane was out of commission.

Next summer we will have a full time towpilot living at our club from May until October. This will make mid-week flying possible for everyone. With no major project scheduled (so far) we have designate next year as the year of serious flying, including among other items a minimum of two 500 km flights.

Some of our members are involved in the ownership of the property and have been issued shares. Some are only flying members or both, but all members enjoy the same privileges in the use of the property and club facilities. Our annual membership fee is \$250 for members with shares and \$300 for non-shareholders (generally only flying members). We are welcoming new members, but are not making special efforts in getting any. A 2000 foot tow is \$12 and the glider rental for the Blanik is \$8 per half hour and \$4 for the Grunau Baby. The intro flights to 2500 feet are \$30 per flight and we had sixty-five of these last year. Visiting fellow glider pilots are charged club rates.

Our solution to Walter Weir's problem with a noisy towplane (**free flight** Oct/Nov 88) is that the two glider clubs should join operations. We have no problems with our neighbours in this respect, we have the facilities and together we would create a terrific new soaring centre. We also have enough non-flying members to look after our 'Homes and Gardens' and our social activities enjoyed by all.

This year we participated in the annual Santa Claus Parade organized by the Omemee and District Community Association. Our float entry was our open Blanik trailer, displaying the Grunau Baby decorated appropriately by Fern Koenig and Leslie Wilkinson for the occasion. In addition we mounted our newly painted club signs on each side of the trailer for advertising. Our participation in the Santa Claus Parade was as much of a surprise to the organizers of the parade as to everyone watching. One of our members in the crowd overheard two small boys saying, "Look, that's a glider." "Nah," said the other one, "that's a submarine!"

Next year we most certainly will do it again, and are highly recommending it to other clubs.

Hermann Ksander

WINNIPEG GLIDING CLUB 1988 IN REVIEW

It is a snowy, blustery day late in November as I write this report and the operations at our field in Starbuck, Manitoba have been shut-down for almost a month. It is time I think to reflect on another soaring season and let you know how it went. To start with there are, as always, the required statistics. We had a total of 1127 flights, made with six fewer flying members over 1987, although our total membership remained the same.

Our flying actually started on 23/24 April with an instructors checkout weekend. Student flying commenced the following Monday. As is the case every year, student training occurs during weekday evenings and Saturday and Sunday mornings. However, due to a lack of students, we operated only on Mondays, Tuesdays, Thursdays and Saturdays and Sundays. We licensed one student and sent four others solo. Congratulations to all.

In July, WGC was host to the Western instructors course. It was an intense week of lectures and flying. There were twelve pilots participating, including two from our own club. They are a welcome addition to our strong core of instructors.

Our club is doing as much as it can in order to promote gliding in Manitoba. To date this year we have held two high-visibility mall displays – one in late February and another in late March. These displays attract a great deal of attention and usually result in several people coming out for "Fam" rides. It is an inexpensive way to publicize one's club. Our publicity director Mark Brown contacted the local daily paper to do a story on our club. They obliged and ran a half page story on us in June. Again some cheap PR.

As was done last year, an Open House was scheduled for late July. During two days of steady flying over 45 people were given rides. Some people had a 3-4 hour wait due to the response. A local TV station was on hand to interview some of the pilots and rec-



Leslie Wilkinson and Fern Koenig's handiwork gives a little pizzazz to a glider trailer ready for the Santa Claus parade in Omemee.

photo: Herman Ksander

ord Russ Flint's remarkable aerobatic routine. Russ was also busy doing demonstrations for the Western Canadian Aviation Museum's Open House held at the small airport outside the city limits. Jim Oke was present with his ASW-20 at the opening ceremonies of the Manitoba Summer Games. He put on a superb routine and after the flight his sailplane went on display. A real crowd pleaser. A final promotion was organized with CBC and their local TV show, *Breakaway*, which is a half hour human interest type show. They had a 10 minute clip on our club showing our Lark flying and again interviews with our pilots.

All of this PR was had a little or no cost to our club and seems to be an effective way of promoting soaring. What is your club doing? Perhaps make a few phone calls to the local TV station. They are usually interested in this type of story.

A final club activity was the Annual Fall Awards dinner and dance. This was well attended by 60 or so members and families. A good time was had by all and left many waiting for next year's soaring season.

Mike Maskell

RIDEAU GLIDING CLUB

The 1988 season for the Rideau Gliding Club was looked forward to with eager anticipation by all of the members. After a number of years of slow decline, 1987 had seen a 40% increase in the number of flights and a 70% increase in flight time. The end of the season had seen the club with a good balance in the bank account, with sufficient funds to pay for some precautionary engine maintenance on our towplane. More of the same was eagerly anticipated for this year. In fact, 1988 did get off to an excellent start, the extremely mild winter enabled us to commence flying in late March, two weeks earlier than normal. By early June our flight totals had exceeded last year's total for the same time frame. Our small cadre of weekday pilots had already got together three times for Thursday afternoon flying.

Then, on 18 June, disaster struck. Henry (Hank) Janzen was killed when our towplane suffered a flight control failure at 500 feet. Hank was carrying out the daily check flight of the towplane prior to commencing flying for that day. So there was no glider pilot or other aircraft in danger. Although the CASB report on the accident is not yet complete, from the information that we have been able to get, it appears that the up-elevator cable failed after contact with the battery cable. While attempting an emergency landing, and at approximately 50 feet of the ground, Hank stalled and crashed.

For you towpilots out there, I recommend that you read Canadian Aviation (June 1988) for an article titled, "Flight Control Failure". This magazine article will give you some appreciation of the situation that Hank found himself in.

Hank was the major driving force behind our club, the last original member from when the club was formed in 1946; club secretary and the guy who did everything that nobody else

wanted to do. His loss leaves a gap that it will take many people to fill. As a club, many thoughts went through our minds. Would the club fold up? Could we join another club in the area? How could we afford a new towplane? How can we replace Hank?

A couple of club meetings took place, with the purpose of determining our options, and which of them were realistic. From these meetings, we determined that the club had to divide our options into short term and long term choices.

For the short term, the club decided to:

- transfer our 2-33 to Kars (Rideau Valley Soaring School) in order that some level of flying activity could take place,
- canvass other soaring and flying clubs, and private aircraft owners to see if we could lease a towplane for the remainder of the season.

For the long term, the club decided to:

- seek an extension of the loan from our bank to finance the purchase of a replacement towplane,
- apply to Wintario for a grant to assist in the purchase of a new towplane,
- appoint a sub-committee to select and purchase a new towplane,
- elect/appoint club members to take over those jobs that Hank had always done.

The club owes a special thanks to the Rideau Valley Soaring School. The day after the accident they were on the phone offering assistance. They airtowed our 2-33 to Kars and we were able to maintain a minimum level of flying activity from their field. Using Kars was a learning experience for our members, a grass field and outside storage! Without their assistance the club would have been in a much worse position than we were.

Unfortunately, we were unable to lease a towplane locally and had no offers to lease from other clubs. Therefore, to save what was left of the season and to keep the club operating, we had to quickly pursue the purchasing option. After examining and rejecting a number of Citabrias, our preferred aircraft, a Cessna 150/150 was located in British Columbia.

One of our members, a Canadian Forces pilot, was in BC on temporary duty. He examined the aircraft, found it suitable for our needs, purchased it and flew it back to Ontario in late August.

With the active cooperation of Transport Canada and a number of cross-country telephone calls, we were able to get a verbal authorization to locally convert the aircraft for towing and hoped to be in operation by the Labour Day weekend.

Alas, that was not the end of our troubles. The first tow out of Gananoque was quickly terminated, when our new towplane blew a tire taxiing out to be hooked up, ending flying for that day, and most of the long weekend was rained out.

However, with these trials now behind us, the club is back in the flying business and once again looking forward to the 1989 season.

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I WOULD LIKE YOU TO MEET JOE PHILION

Dixon More

Ontario Zone Director

I FIRST MET JOE PHILION a couple of weeks before Christmas. He is fifteen years old. He is 1.725 metres tall and he weighs almost 49 kilograms. That is five feet eight inches and less than a hundred and ten pounds. So he is way too thin for his height. But Joe is working on that. For the past few months, Joe has had to concentrate on other things. More important things: like staying alive. You see, Joe is the boy that got so badly burned in a house fire in Orillia, Ontario last March. Since then, Joe hasn't been out of the hospital. Except for his daily hydrotherapy sessions. Joe hasn't been out of bed. But things are turning around for Joe and I'd like to tell you about it.

First I'd like to thank Gary Bozek of the Regina club for bringing Joe's story to the attention of the SAC Board at our meeting in Regina in October. Gary told us that he had seen Joe interviewed on TV and during that interview Joe had expressed his concern that his injuries might prevent him from realizing his lifetime dream of becoming a pilot. Was there something the SAC could do?

When I got back to Ontario, I asked around and learned that Joe had just recently been transferred from a hospital in Boston to The

Hospital for Sick Children in Toronto. I also learned that his mother, Mrs. Linda Hawkins, was staying at a hotel near the hospital. Mrs. Hawkins suggested that I visit Joe and that's how I came to meet him.

Just as Gary Bozek told us, here is a boy who has wanted to fly as far back as he can remember. Joe told me how he used to climb way up in a tree and then look down and try to imagine what the world looked like to a bird when the bird was flying around. (All right, all right, I know just what all you old cynics are thinking. Honest injun. I didn't make that up. The kid actually said it.)

As Joe will be reading this article too, I think I should explain to him that this magazine is read by over a thousand Canadian glider pilots and every single one of them is a sceptic. They don't believe in Santa Claus, they don't believe in the tooth fairy and they probably never heard of Bloody Mary.

But, sceptical as they are, Joe, every single one of them is quite sure that they can take a glider that weighs over half a ton, has no engine or any visible source of power, and fly that thing for hundreds of miles on flights that last several hours. This miracle they are prepared to believe. But the best part, Joe, is that each and every one of these pilots would just love to take you flying with them and

show you the secret of how it's done. Some of them have other secrets they would like to share with you. There is a pilot in Halifax who would like to fly with you out over the tidal flat just as the bore comes racing up the channel. There is a pilot in Quebec City who would like to fly with you back over the Laurentides on a special day when you can catch wave if you know just exactly where to look for it. There is a pilot in Montreal who would like to take you flying across the Ottawa River and show you the rugged beauty of the Laurentians. There is a pilot in Windsor who would like to show you that you don't need a towplane to get a glider into the air. There is a pilot in Calgary who would just love to zip you into a warm flying suit, fit you with an oxygen mask, then take you on a flight into the Cowley Wave. Where you can fly, Joe, higher than any bird can go. Wonderful adventures, Joe, and hundreds of pilots who would consider it a privilege to be able to take you flying with them so that you can share in the adventure.

Enough day dreaming, back to Gary Bozek's question. What can the SAC do for Joe? By the time you get to read this, the Board will have had its January meeting. This item is on the agenda for that meeting so there will be something to announce at the AGM in March. I am hoping that Joe will be well enough to come to the AGM where you can meet him and decide for yourself if we can make a glider pilot out of him. •

SAILPLANES AND HANG GLIDING – continued from page 14

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you have every opportunity to learn to soar within the guidance of the club.

The progress from the early solo stages to becoming a competent soaring pilot is also different. In gliding you would not be allowed to fly solo unless you could fly neat turns at different angles of bank, and the concept of top landing (on sites that have ridges) is redundant as all landings are done in this manner. A perhaps extreme example of just how different the two sports can be comes in an article I read recently on top landings. It said that it was best to leave the ridge (to prepare to land) with at least 100 feet to spare to give you enough height and time to position yourself. At my old gliding club you left at 700 feet or risked the wrath of the CFI and the strong possibility of a very heavy landing. It's difficult to say which method of learning produces 'better' pilots. The two-seater method of glider training gives you a safe but sheltered environment in which to learn, whereas hang gliding exposes you to all the dangers right from the word go, with a heavy reliance on the attitude of the trainee pilot. Whichever method is better, both sides must be doing something right judging by the high standing of British flyers in both sports.

However, some things are common across both sports, principally the weather. I am supposed to be on a P1 course this week, Monday was fine, Tuesday, Wednesday, Thursday and now Friday have all been blown out, and the forecast for the weekend is pretty grim. It took me nine months to reach solo in a glider

– nearly a year of frustration, rained off days and overcrowded flying lists, but I can still remember it as a long slow chapter. The thought of going through the same again is pretty demoralizing!

There is a point to all of this you will be glad to know! Firstly, for two supposedly similar sports, there are a lot of fundamental differences. I am sure that I will be able to put my gliding skills to better use once I have mastered the basics of hang gliding, but mastering the basics is more difficult than I first thought. Just because ten years ago people taught themselves (to hang glide) does not mean that it is inherently easier to learn! It is perhaps this common misconception among glider pilots that leads to the 'poor relation' tag that hang gliding often has. Secondly there is a lot we can learn from each other. Gliding as a sport has been around for a lot longer than hang gliding, and so the knowledge base is certainly larger and probably more extensive. If our two sports are going to live happily in each other's pocket then it would be useful to know how the other half lives. One way could be for a few experienced hang gliding bods to visit some gliding clubs (and vice versa) and give a talk and perhaps demonstrations. I am sure that gliding clubs would be interested so long as you promised not to poach any potential pilots away! The last thing we want is a 'them and us' attitude developing, as 99% of both sports consist of down-to-earth pilots who just want to enjoy soaring through the skies... "And why not, that is, in a way, what it's there for!" •

FAI Badges

Larry Springford
45 Goderich Street
Kincardine, ON N2Z 2L2 (519) 396-8059

The following Badges and Badge legs were recorded in the Canadian Soaring Register during the period 1 November 1988 to 31 December 1988.

DIAMOND BADGE

73 Eric Durance Windsor World Number 4493

GOLD BADGE

244 Don Hill ASTRA

SILVER BADGE

764 Keith McKenzie COSA
765 Jacques Boily Quebec
766 Eddy Hollestelle jr SOSA
767 Alex Scheiffele Air Sailing
768 Stanislav Janicek SOSA
769 Robert Fear Air Sailing
770 Rod Crutcher Cu Nim

DIAMOND DISTANCE

Eric Durance Windsor 506.4 km Std. Libelle Julian, PA
Don Hill ASTRA 506.0 km DG-400 Invermere, BC

DIAMOND GOAL

Stanislav Janicek SOSA 305.0 km Hornet Rockton, ON

GOLD DISTANCE

Dave Belchamber Gatineau 305.5 km Kestrel 19 Pendleton, ON
Stanislav Janicek SOSA 305.0 km Hornet Rockton, ON

GOLD ALTITUDE

Don Hill ASTRA 3575 m DG-400 Hope, BC

SILVER DISTANCE

Keith McKenzie COSA 63.8 km Cirrus 75 Chemong, ON
Jacques Boily Quebec 71.5 km Pilatus B4 St. Raymond, PQ
Eddy Hollestelle jr SOSA 64.0 km 1-26 Rockton, ON
Alex Scheiffele Air Sailing 57.0 km Ka6CR Belwood, ON
Stanislav Janicek SOSA 305.0 km Hornet Rockton, ON
Rick Dawe Edmonton 58.0 km 1-23 Chipman, AB
Robert Fear Air Sailing 58.0 km Ka6 Belwood, ON
Rod Crutcher Cu Nim 94.0 km Astir Black Diamond, AB

SILVER ALTITUDE

Joe Somfay York 1920 m Libelle H301 Arthur, ON
Keith McKenzie COSA 1350 m Cirrus 75 Chemo ng, ON
Guy Du Sault Quebec 1940 m Grob G102 St. Raymond, PQ
Eddy Hollestelle jr SOSA 1700 m 1-26 Rockton, ON
Tillman Steckner London 1600 m 2-33 Embro, ON
Alex Scheiffele Air Sailing 1220 m Ka6CR Belwood, ON
Stanislav Janicek SOSA 2000 m Hornet Rockton, ON
Robert Fear Air Sailing 1220 m Std. Jantar Belwood, ON

SILVER DURATION

Joe Somfay York 5:05 Libelle H301 Arthur, ON
Joseph Paumard Windsor 5:22 K8 Dresden, ON
Douglas Devine Bluenose 5:15 K8 Stanley, NS
Guy Du Sault Quebec 5:46 Grob G102 St. Raymond, PQ
Alex Scheiffele Air Sailing 5:21 Ka6CR Belwood, ON
Stanislav Janicek SOSA 5:42 Hornet Rockton, ON
Rod Crocker SOSA 5:30 Grob G102 Rockton, ON
Davina Parkinson SOSA 5:26 1-26 Rockton, ON

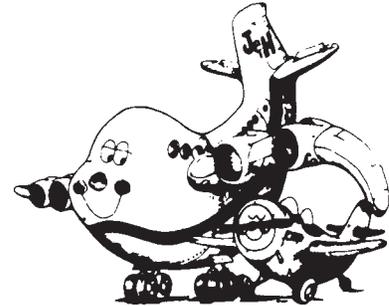
C BADGE

2147 George Horwood Base Borden 1:09 2-33 CFB Borden, ON
2148 Douglas Devine Bluenose 5:15 K8 Stanley, NS
2149 Kerry Scrase York 1:07 1-26 Arthur, ON
2150 Alex Scheiffele Air Sailing 5:21 Ka6CR Belwood, ON
2151 Stanislav Janicek SOSA 5:42 Hornet Rockton, ON
2152 Davina Parkinson SOSA 5:26 1-26 Rockton, ON
2153 Art Grant Winnipeg 3:16 Lark IS28B2 Starbuck, MB
2154 Eric Edwards York 1:10 1-26 Arthur, ON

FLIGHT DECLARATION PHOTOS

I have commented previously on the need to show the actual time at which photos of declaration boards are taken. The Edmonton Soaring Club has overcome this problem in a very practical manner. They have attached a large clock to their declaration board. This is an excellent solution which I recommend to other clubs.

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A REMINDER ON RENEWAL OF OO STATUS

All clubs have been advised that after 1 April 1989, the only Canadian OOs who will be considered as authorized are those whose names have been re-submitted since 1 November 1988 by the club Senior OO (of course new OOs who have been approved since then are valid). If you plan some badge attempts this year, you will need a valid OO. Ensure your club has some!

Larry Springford, SAC FAI Badge Chairman

FREE FLIGHT GOES DESKTOP

This is the first issue of **free flight** to be produced by desktop publishing methods. Now that I have got myself a Macintosh SE and PageMaker software, the magazine can be prepared almost 100% to "camera-ready" stage at home as the stories roll in. Gone is the tyranny of the local typesetter! The biggest advantage to SAC members is that, printer willing, you will see the issue arrive at least a week earlier, and there is an overall cost saving — but it also means that my 5th of the month deadline will have to be honoured more often. I hope you like the results.

Tony

NO ACCIDENTS

Too bad it's mostly because there has hardly been any flying, but it's a notice we should all work towards seeing in the middle of the summer in 1989.

