

free flight • vol libre

6/85
Nov-Dec



Musings

I hope that you noticed in the last issue the honour accorded Brother Hormisdas by the government. On behalf of all of us, Brother Hormisdas — well done, your honour has been earned.

I regret that I must also draw your attention to the brief, somber note in the 5/85 Crocodile Corner that records the accident at COSA and the death of Roger Crete on his first solo flight. Since I expect that Ian and his committee will communicate with all the clubs through their CFIs on this tragedy, I'll not comment further other than to say I hope that it never recurs. Your condolences have been extended to the bereaved family.

My cat is mad at me because I won't pet him while I write. I'm not in much of a cheerful mood I suppose because, in addition to the COSA fatality, we have had 18 accidents so far this year to my knowledge. We're about to set a record — the worst year I know of had 20. If there is anything good about these accidents it is that they are, so far and individually, relatively inexpensive. However, when we have attacked or abused six to seven percent of our fleet, sooner or later the chance of a more expensive glider becoming involved becomes likely. Mostly the gliders damaged or destroyed are older models flown by relatively low time pilots. My own club has had four, plus a serious incident (a few extra centimetres of altitude allowed a glider to scrape its underside on a power line rather than have it come through the canopy).

Is there a common thread? There appears to be — poor circuit judgement and landing. (*This issue is treated in the series, "Low Loss Instructing".*) Each of us, individually and as clubs, must once again reassess our abilities and, above all, our attitudes and standards. I hate to write that it appears that they are neither high nor good enough.

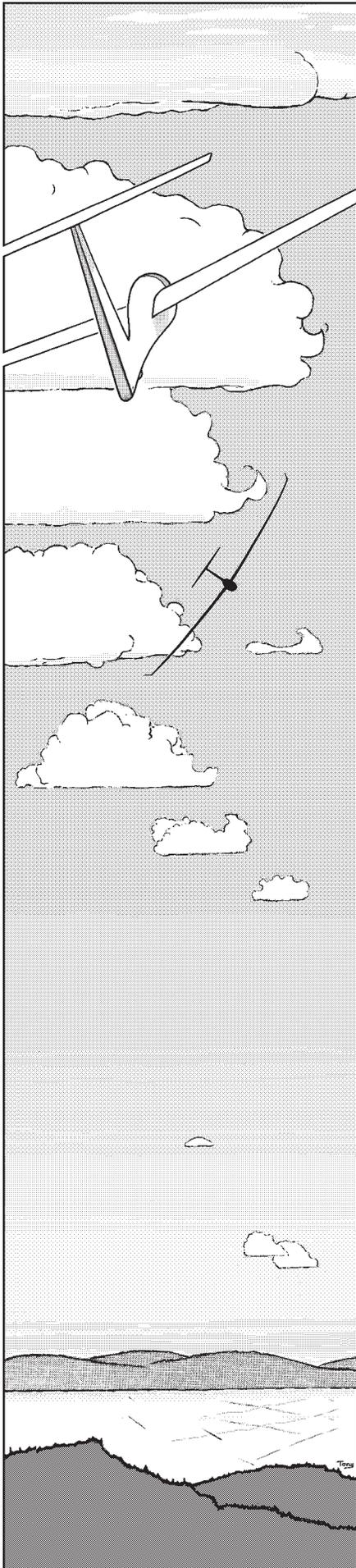
The hard work that Jean and her staff have put into bringing order to our Ottawa office is beginning to show results; the little bit of extra room has resulted in neatness, and our ability to keep track is improving daily. Now if all of you who are club secretaries and treasurers could keep your accounts and lists current and accurate, we would be in great shape.

The Australian Gliding Federation has advised that their government will not issue visas to South Africans for Austraglide '86 or the World championships in '87. It looks as if two Canadian competitors will go to Austraglide and, with luck and lots of donations and grants, four will go to the Worlds. I'm hopeful that by 1989 the South African issue will be history and our pilots will be leading the pack in Austria.

This issue will be reaching you before the Christmas and New Year holiday. On behalf of the Board and the National Office staff I would like to wish each of you and your families a Happy Holiday Season and a happy, prosperous, and safe 1986. And, as your club AGMs come up, please consider who you wish to represent you at the national level in '86 and '87. The three western Zone Director terms expire at our next AGM as does my term as Director-at-Large. If you can attend the AGM in Vancouver on March 6 and 7, do so, especially if you are vacationing in the Alberta/BC snowfields or on your way to the surf in Hawaii or California. In the meantime,

Starve the crocodiles,
Fly safely, well, and often
and above all,
Enjoy the Journey.





free flight • vol libre

Trademark pending Marque de commerce en instance

6/85 Nov-Dec

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

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A Mini-Nimbus piloted by Hans König soars at Invermere, BC
on a day most of us would wish were here more often.
Photo by Kevin Bennett.

THE STRIVING STATE OF MIND

Seth Schlifer
York Soaring

Prior to my taking up this sport, I'd already read many books and magazine accounts of cross-country soaring flight, and the entire concept really thrilled me. The result was that even during my training period I used to range around a little. Of course, I'm not saying that my instructors and I would go cross-country during my training, but I was quite fond of wandering away in the 2-33, in many cases seven or eight miles. We would still be within gliding range of the field and I would fly so that at any moment we would be able to head back and arrive with a thousand feet or so in hand.

My solo flights continued in the same manner, and as my abilities expanded, the 1-26 and 1-23 carried me around triangular and quadrangular courses which I would declare for myself after feeling out the first thermal of each flight. Thus, goals were set whenever possible, however modest.

Just as a sideline I'll mention that on days with no lift, I'd go up anyhow rather than sit on the ground complaining of the weather, still with a goal in mind. Rather than soaring goals however, unusual exercises of one sort or another were performed to the best of my abilities. Tight turns, spins, sideslips, slipping turns, "dutch rolls", stalls out of slips, spot landings both with and without spoilers, avoiding the use of wheelbrake whenever possible and working towards deadly accurate speed control and a straight yawstring. I considered a flight to be wasted if, during that flight, I could not learn something about the air, the glider, or myself. I can honestly say that none of these flights were wasted. I continue to fly with this philosophy. It is the biggest reason why I will never tire of this wonderful sport.

Go up sometime, even if there is a solid grey overcast — and I'm talking to you high-timers now as well — and fly with your eyes and ears opened up as far as you can get them and go up to practise something; anything. The low-timers especially will begin to feel like a dry sponge that has been dropped into the ocean.

I would often find that on days of "no-lift" or even of thick overcast, when everyone was going up just to practise circuits, lift of some sort was there to give me an extended flight. The key was in not accepting the "fact" that there was no lift no matter how cruddy the sky looked. Launch with the assumption that lift is there, and fly at the speeds which are appropriate for covering the most territory that you can in order to find it. Do not fly at minimum sink speed! Quite simply, this is the defeatist's style of flying, not the optimist's. Those who launch "just for the fun of it", having no expectation of finding any lift, are the least likely to find any.

By flying at minimum sink they may extend their flight maybe a minute, and learn nothing. But if you launch assuming that there is some lift somewhere if it can be found, then you are going to do your best and fly with sensitivity to the surrounding air. You will search around at best L/D speed, and if you are unlucky, will land after a flight lasting a couple of minutes less than the other pilot. But when the lift is found on one such flight as a result of your more persistent and efficient searching, you will circle under that grey sky and eventually land the envy of the flightline.

For me, a premier demonstration of this style of flying was performed on the day prior to a Regional competition at Ionia, Michigan, in 1978. Wil Schuemann took off in his ASW-12 into a sky covered with an absolutely uniform thick overcast for an instrument check. Releasing at about 800 feet or so, he did several large circles in the area above the paved runways and eventually cornered some lift and tightened up the turn. There he sat at about 400 feet cranking the ASW-12 round and round, just maintaining his altitude. Shortly, scores of soaring birds which had been sitting out the weather in the trees at the south end of the airfield, flapped over to the center of the runway to join Wil in his thermal. Around he went, neither gaining nor losing for twenty minutes or so until he finally straightened out, did a quickie circuit and landed. Landing the sailplane over a set of wires and coming to a complete stop perhaps less than 400 feet beyond in no wind conditions was just as impressive as the scratching demonstration. It was obvious that the entire flight was performed under a striving state of mind, an exercise in doing one's utmost beginning to end.

There are enough limitations imposed by the laws of physics without the unnecessary limitations which many pilots may impose upon themselves. Remove the burden simply by altering the state of mind with which you fly. In order to achieve, one must strive. Start small and see how it can work for you and how much you will benefit, by flying with the philosophy of the optimist. □



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 Royal Canadian Flying Clubs Association (RCFCA), 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 RCFCA 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 Association's official journal.

Material published in **free flight** is contributed by individuals or clubs for the enjoyment of Canadian soaring enthusiasts. The accuracy of the material is the responsibility of the contributor. No payment is offered for submitted material. All individuals and clubs are invited to contribute articles, reports, club activities, and photos of soaring interest. Prints (B & W) are preferred, colour prints and slides are acceptable. Negatives can be used if accompanied by a print.

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. Directors' names and addresses are given elsewhere in the magazine.

All material is subject to editing to the space requirements and the quality standards of 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 protéger et à promouvoir le vol à voile sous toutes ses formes sur une base nationale et internationale.

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vol libre est le journal officiel de l'ASSOCIATION.

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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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OPINIONS

LIFETIME MEMBERSHIP NO DEAL

I thought at the 1985 SAC AGM that the \$1000 lifetime membership fee was a mistake and will try to show this in the calculations below. I will assume that:

- SAC fees increase only (what a hope!) by the cost of living (say 3% in '85 and 4% thereafter),
- Interest generated by the Pioneer Trust Fund is 10%, half of which increases the fund and half is used for annual revenue.

The gains and losses to SAC for the next 10 years on one life membership are:

yr	Fund value	Fund revenue	SAC fee	loss
85	1000.00	37.50	63.00	25.50
86	1037.50	51.87	65.00	13.13
87	1089.37	54.47	67.60	13.13
88	1143.84	57.19	70.30	13.11
89	1201.03	60.05	73.11	13.06
90	1261.08	63.05	76.03	12.98
91	1330.44	66.53	79.07	12.55
92	1396.96	69.85	82.23	12.38
93	1466.81	73.34	85.52	12.18
94	1540.55	77.03	88.94	11.91

In 10 years, a life membership has cost SAC \$139.93 in lost operating revenues. Happily, I understand that very few members have taken up this membership offer. I suggest that the offer is a dangerous proposal because of its probable adverse effect on future SAC funds, and that it should be withdrawn at the next SAC AGM.

Bob Gairns
Montreal Soaring Council

Given the present price of a life membership and assumed increases, SAC appears to be getting Fund-rich and cash poor on each one, and perhaps it is good that not too many have bought one. Obviously it is in SAC's interest (?) that its life members die ASAP. The life member is betting SAC that he will stay active in the sport for another 12-1/2 seasons to recoup his original \$1000 if he normally keeps his savings in a sock — if he invests it at anything over 6.5%, he will always earn more in interest than the SAC fee of that year.

So what are the advantages to the member if they are not monetary? I see two: covering oneself for possible fee increases in the future which are greater than the simple cost of living rise each year, and dropping one annual spring bill. There is also the philosophical point that SAC's basic services should be provided by self-financing and not be dependent at all on external grants.

Using Bob's assumptions, the cash generated by 1994 would balance annual fees if

the life membership fee were raised to just under \$1250 for 1986. But then a member has 15 seasons to work on, but... Tony.

THANKS TO CVVQ

Gilles Boily, president CVVQ

Now that the Nationals are successfully over I would like to express my appreciation for the outstanding job, you and all the members of your club did in putting on this event. I know that many of my fellow competitors join me in expressing appreciation for the hard work and sacrifices that so many of your members made to ensure a successful contest. I was especially impressed by your beautiful facilities and the many social events carried out. These are the things which make the Canadian Nationals more than just a soaring competition and encourage all of us to share our experiences in a friendly and relaxed manner. Also, this aspect of the contest will certainly motivate all the support people (crews, helpers) to make future Nationals successful. In my opinion, this competition has set a new standard of friendliness and helpfulness on the part of the organizers.

Thank you again for making our visit to "La Belle Province" a happy and memorable experience.

Ulli Werneburg

LEGALITIES

I was interested in your little article about things to carry in gliders, and I chuckled at Gil's cartoon — crazy procedures, aren't they! You anticipated my sending you something on exactly this topic. Things have been moving rapidly on this front in Ontario, and one or two clubs have been refused permission to not carry journey log books in club aircraft. This is contrary to long-established practice, but for now we'll have to carry them on every flight.

In the meantime, I am taking up the fight with Ottawa to try to get a national dispensation for us.

Your article is a good reminder to everyone, especially so as after visits to a couple of clubs recently I discovered they are not carrying the necessary documents, even after CFIs had read my warnings!

The more I read the series on "Low Loss Instructing", the more I find in it. I think it is a bit wordy but contains excellent pointers and a lot of good sense.

Ian Oldaker
Chairman, Flight Training and Safety

A CONTEST SAMPLE



Alex Krieger

A competitor's view of the '85 Nationals

Mike Apps

Edmonton Soaring Club

There were times before the contest when I doubted the wisdom of travelling some 4500 km to Quebec to fly in the '85 Canadian Nationals. After all, everyone knows that the weather down there "in the east" is always relatively poor compared to our great Western soaring conditions, right? Our great conditions not having been particularly great this year (I had accumulated less than 1100 km to the end of June, despite a week long camp at Chipman), I wasn't inspired to hope for anything better down east; if anything at all, they made me think that maybe sailing might be a more sane way to use up all my excess time and money.

Well, I was wrong.

As it turned out, the weather at the contest was better than any that I've seen this year in Alberta, at least on the weekends. I will confess that there have been some pretty exciting-looking midweek days; but have you noticed that now some of us can get occasional Fridays and Mondays off, the good ones always come on Tuesdays Wednesdays, or Thursdays?!

But I digress.

As I said, the weather was excellent. We had seven contest days, and although a few of them were devalued (the critical ones from my perspective), the tasks were all exciting. I won't bore you with a blow-by-blow account of the event, I thought I'd shout the praises of our francophone friends who organized and ran the contest, and THEN bore you with a blow-by-blow of just one flight — a 355 km triangle on Day 3.

Still with me? Well then, before I lose you, let me tell you that although this was the first national contest run east of Montreal, the members of the Quebec Soaring Club (with superb assistance from Cu Nim's George

Dunbar, and Gerry Nye of Montreal) did an outstanding job. Probably the most important factor was that they first got the basic contest details right and then turned their major effort to the needs of non-contestant participants. Every second night some sort of group dinner was offered — BBQ one night, hot dogs on the next, steaks on a third, a huge hind of beef on another, and so on. The venue for these epicurean events was the club hangar which had been transformed into a meeting and eating hall by the simple expedient of covering the drab walls with white construction cloth, the kind they apparently put between concrete and sand for building floors. Add a few tables and chairs and voilà!

The other thing they did was to rent a bag full of videos and, with a borrowed colour TV and VCR, provided movies every night for the kids. This kept the kids — and there were lots of them — busy while the parents were hangar-flying over at the bar. Oh yes, the hangar I referred to above was also used very effectively as a bar and I'm sure a lot of the expenses of running the contest were recovered — or should I say converted — from liquid assets.

Nearly everyone camped on the field and while there was only one shower, the club had recently installed a swimming pool and this got a lot of traffic, particularly on the muggy days at the start of the contest. There were quite a few picnic tables at the site belonging to the members, and I think nearly everyone of the visiting crews were supplied with one. This sort of attention to the needs of the visitors is typical of the generosity of the Quebec club members who seemed to eat their lunches standing up while we were there.

Another hit with competition pilot and family/crew member alike was the incredibly lovely area in which the contest took place and the intricately interesting city of Quebec itself. I don't want to emulate a Michelin guide book so I'll not tell you about the area

or the city — go there yourself, it's worth the trip — but I will tell you that it's the first contest I've been to when unflyable days were as much looked forward to as were the flying ones.

Which finally brings me to the promised story about one particular flying day. It was Day 3 of the contest, July 18, and the weatherman, Jerry Nye, was calling for 3-6 knot thermals beginning around noon and continuing to 5 or 6 in the evening. Cloud bases were expected to go blue in the afternoon. A 355 km folded quadrilateral was set — sort of a double out-and-return except that turnpoint 2 (Lac Maskinongé) was not home base but a little over halfway back from turnpoint 1 (Ste-Thècle). Also turnpoint 3 (St-Boniface de Shawinigan) was somewhat to the south of the others which put it a little closer to the St. Lawrence River.

I should say here that all tasks were on the north side of the river and all were in a narrow strip running parallel to it to the west of Quebec. If you want to know why no tasks were set to the north, look at a map. From 30 miles north of the St. Lawrence, there are no landing fields till you hit Moscow, and I'm not sure how easy the retrieve would be. Across the river to the south looks OK, but there is the little-known (at least to Albertans) phenomenon called "sea breeze front", which makes for wet two-way crossings by air without a fan up front. Quebec City, its airport's control zone, and rough country conspire to make flights to the east unattractive, and so — we flew to the west on all tasks.

By this stage of the contest, the task committee didn't know about the dreaded "St. Lawrence Sea Breeze Front, and turnpoint 3 was nearly everyone's undoing, but I'm getting ahead of myself.

As I recall, I had quite a good start just after a group of other pilots had set out on the first leg which was beautifully dotted with cumulus. The start is an important part of a race — as Hal Werneburg had demonstrated to me at Virden last year — because if you do it right, you can leave after everyone else and then, using them as "remote varios" marking the thermals out in front, catch up to the leaders, often on the first leg. At least that was the theory put into practice by Hal last year. I started well, but my only problem was I couldn't find anyone after that!

After a long first glide in total isolation, I decided to abandon my borrowed strategy and headed north into the hills where good clouds had been developing. This paid off and after making a rather quick climb to cloudbase, I dolphined towards the first turnpoint 130 km to the west, rarely having to stop until I was just over halfway down the first leg.

There the sky just sort of ended. A razor sharp line sliced the cu along a north-south edge with blank blue emptiness between me and the turnpoint... except for a line of clouds pointing towards it some 20 miles to the south where the proper course line was (remember I was well north of course over the hills). I could see in my mind's eye,

but vividly nevertheless, all the fellows I was supposed to catch up to, running along those clouds with hardly a care in the world. And here I was stuck up north.

Nothing for it — I'd have to deviate south again. Why not try edging out into the blue? The weatherman did call for blue thermals to develop though I'm sure he didn't mean in such a dramatic way. Well, I did edge out and suddenly ... there was no lift. But now I was too far to get back to the clouds, so ... push on. I was down to about 1500 feet, not terribly low but with only virgin forest below me, when the first burbles started. No point in stopping, but it gave me a bit of encouragement and I continued my best L/D glide for another couple of miles and went straight into 6 knots. It died at about 3000 feet above ground and that told me why there were no clouds — a sharp, low level inversion, probably due to warm air advection from the west. From here to the turnpoint was a series of low, but fast, climbs and glides. The thermals were fairly close together, fairly strong, but all weakened considerably above a couple of thousand feet.

After rounding the turnpoint I joined up with an ASW-20B (Robert DiPietro) and we had an excellent run back to the second turnpoint along the clouds I'd seen earlier then halfway along the third leg. It was obvious, however, that things were going to get harder as we were now flying southeast into a strengthening headwind and the few clouds ahead were looking very scruffy — not at all the sharp break I had run into further north. What was happening was that strong sea breeze had developed over Lac St. Pierre on the St. Lawrence southwest of Trois Rivières — and it was about to claim some more victims.

Robert and I had been flying pretty well by ourselves up to this point (I guessed I had passed most of the others with my high speed northern diversion), but now the occasional flash in the sky behind told of gliders quickly catching up. Robert decided to stop and climb in what I thought was an inadequate thermal. So once again I found myself alone and doubting my sanity as I flew on towards the last turnpoint. The reasons for my decision to push on were:

- the headwind was pretty strong so stopping for weak thermals could result in a loss of distance because of drift,
- the course line was over a series of industrial areas which should be good thermal producers at low levels,
- things were not going to get better and, in fact, the sea breeze seemed to be getting stronger; and finally,
- there seemed to be adequate landing fields adjacent to the course line.

Four miles short of the turnpoint, and circling at 1000 feet over the town of Shawinigan, a sudden streak of white fifty feet above me was all I saw of Dave Webb as he returned from the turnpoint. I didn't realize who he was at the time — he was in the Standard class and not one of my competitors — but the fact that he was obviously ahead of me, the way he spurned my thermal and yet was no higher than me pushed me out of my secure, yet insignificant little

bubble and on towards the turnpoint. I found that by simply dolphining, with occasional full turns, I could make reasonable progress into the strong wind. As before, the stronger lift was found closer to the ground, and the small thermal size was partially made up by their decreased separation.

I rounded the turnpoint at about 800 feet and then simply drifted back over the town of Shawinigan. Now, going downwind, I didn't mind circling in poorer lift to gain some security height, but there wasn't much of that to be had. I saw Robert and the others who had caught up to him as I drifted by — their labourious climbs had not netted them much by the time they had reflowed their drift distance and they now had a strong headwind to deal with. I think most of them landed near the turnpoint.

As for me, the course ahead didn't look good. It was now blue and getting rather late. Thermals became progressively weaker although they did go higher. About 30 miles out I made my last climb. According to my computer, I had just enough to make it home on a one knot MacCready setting. The tail wind was much lower now that I was farther from the river, and I couldn't count on more than a 10 mph or so component. I hoped to find a thermal or two enroute because a 30 mile glide at nearly best L/D is nerve-wracking. By the time I was five miles out I was down to 700 feet and no lift had been found — just dead still air. The moment of truth had arrived. My eyeball assessment of the field told me I should be able to make a straight-in approach, and my trusty Cambridge computer confirmed this with a few (less than 100) feet to spare. The scary part was the total absence of undershoot fields for the last two miles, although the field itself was over a mile long and the finish line was at the far end. Three miles out was the point of no return: either make it or turn back to the last landable farmer's field. I opted to continue as I was still sure I could make the finish line. At a little under 100 feet, I was now on the edge of the glider field and no longer in any danger. The finish line still seemed a long way away but it is amazing how far a sailplane will float if the dive brakes are kept closed.

Apparently a lot of money was being put down at the finish line right to the last moment as to whether or not I would actually make it. I did, but rolled to a stop less than a hundred feet beyond the finish line. This was the second day in a row that I had made a rolling finish, and I promised Karen (who unfortunately hadn't taken any of the bets) that I would try not to do it again.

I didn't. The next couple of days I think I landed out and that convinced her that a rolling finish is easier as well as more exciting than a retrieve from the field of a Québécois farmer.

All in all, I really enjoyed the contest and perhaps more significantly, my entire crew did: it is the first gliding event to which I've dragged them that they all said they would, and more importantly said they will, go to again. My thanks to them and to the members of the Quebec club. □

THIS WINTER DO SOMETHING AEROBATIC!

Arizona Soaring

ad

A MOUNTAIN SOARING WEEKEND



Joanne Bennett

Tony Burton Cu Nim

The Rocky Mountain Trench, a major topographic feature of the west side of the Continental Divide, is a fairly deep and straight single series of valleys running over 1400 km south from near the Yukon border down into Montana. The valley system is indicated by several major rivers which line up on the map beginning with the Kechika in the north followed by the Parsnip, Fraser, Columbia and Flathead rivers to the south. It's sad for a soaring pilot to contemplate that most of the valleys are in remote wilderness areas and that about 400 km are flooded by two major hydroelectric storage reservoirs, because the mountains flanking the Trench provide an unbroken line of ridge and thermal lift on sunny days and westerly winds.

The territory explored by glider pilots runs from Golden BC down to the Kalispell, Montana area. This area has been flown mostly by members of the Vancouver Soaring Association during their recent spring-time excursions to Invermere for cross country tries, particularly between Golden and Elko to the south on Hwy 3.

The "local" soaring territory is the perfect classroom for ridge and mountain soaring for the beginner and pro alike. The immediate ridges facing the valley rise about 3000 feet above the Invermere airport at their base. Behind them are ranks of spectacular rocky walls topping out at about 8500 feet (5600 agl) which are the high ground between the Columbia river valley and the Kootenay valley to the east. The near ridges are broken by a series of side valleys which allow a safe glide out from the rough country if height cannot be maintained.

The Alberta Soaring Council organized a Labour Day weekend soaring safari to Invermere to give the flatlanders a chance to enjoy the scenery and chase some mountain goats or eagles. Seventeen pilots turned out, mostly from Cu Nim, but Mike Apps was there from Edmonton and Peter and Christine Timm arrived with their ASW-19 after a 12 hour drive from Vancouver. Hal Werneburg and Tom Schollie towed with the ASC Scout.

Saturday morning. Hal was to have ferried the Scout over from Black Diamond, but "iffy" weather in the mountain passes west of Banff caused him to turn back and wait a day. Meanwhile, the gliders that had arrived Friday night and that morning were rigged and tied down before other games were played that day. Hans König and Rob Young took a radio-controlled glider up to the hang glider launch pad on top of Mt. Swansea and had a lot of fun ridge soaring until time came to try landing it.

Sunday dawned fine but cirrus moved in from the west, got thicker throughout the day, and was the controlling influence on weak soaring in very light winds. The wind didn't give any ridge lift but was a factor in where thermals kicked off the mountain slopes. The towplane arrived at 1030 but no one launched until around noon as one had to wait until the sun moved around to the south, enough to begin heating up the south and west facing slopes.

The early launches couldn't sustain very long, but everyone took a shot at it just to get airborne after yesterday's hiatus. A second round began at 1400 with more success, and the flights were longer in weak but usable thermals drifting up the rock outcrops and triggering off ledges on the slopes. Mt. Swansea produced enough lift from its lower flanks for a gaggle of five to slowly climb up to the spectators on the peak who were waiting for stronger winds to sustain hang gliders. Steve Weinhold was there with a portable ground station kibbitzing and directing traffic. Mike Apps, who couldn't stay for Monday, got his money's worth when he caught a wind shadow thermal strong enough to give him the height to break free of the lower slopes and work his way eastwards into the high rocks and look down into the Kootenay valley from 10,000 feet. Mike and the Timms departed that evening while everyone else hoped for more sunshine and wind on Monday.

Monday morning served up clear sky and a tad more wind so prospects looked good. Raggedy cu started forming on the peaks behind the front ridges, so just before noon I took the "sniffer" flight with a 4000 foot tow into the logged-off bowls and rock spurs

and under a small cu. There was just enough lift to stay at release height for awhile from a thermal coming off the rocky top of a wooded peak just a few hundred below. In this location, I was behind the mountain facing the airport and looking at the sides of hills in almost all directions. It was a little disconcerting until I reminded myself that I was thousands of feet above the airport easily reachable just around that corner over there.

Anyway, the convection was not quite strong enough yet and I was obliged to glide out to the ridges along the valley and start scratching like mad to stay up. I was stuck for at least a half hour about half way down the mountainside flying short, 60 knot figure-eights, losing as much on the turns away from the rocks as gained during the swoops a wingspan or so from them. By now, others had launched and were having similar problems and flying along their own private bits of vertical real estate. Eventually, an honest thermal broke loose underneath, and I escaped up to ridge-top height with some sense of breaking out of jail. With the lift now much more consistent, I was able to work into and along the backbone mountains between the two deep valleys. I had heard others describe this scene before, but the sight defeats all description — it had to be absorbed first hand! Certainly, all the previous rock-scraping was repaid in full.

I was soaring along at the top of a rock wall above timberline at 8500 feet, arcing into the circ of a mountain peak, then over the needles of a spur on the ridgeback; looking east one could see the Kootenay river valley and Mt. Assiniboine to the north, to the south the chain of mountain ridges that make the long soaring flights out of Invermere possible. I heard Kevin Bennett and Hans König commenting on a bald eagle in their thermal — likely the same one I had got just a glimpse of in my struggles a half an hour before. The occasional shaded pocket still contained a bit of snow. Several of the peaks had rock cairns piled up on them, built by climbers who had an even tougher time than I getting there.

Every once in a while moments of inspiration strike during some special soaring flight, and I wish that I could have shared that moment with a stranger to the sport or to a less experienced pilot wondering if all the dull circuits are really worth it. This was such a time, joyful to the soul.

Later I moved back to the valley ridges south of Mt. Swansea and flew down to Fairmount Hot Springs and back. During this time, the hang glider pilots were launching and thermalling up. Their wing profiles and very tight turns reminded me of maple seeds. I joined two of them at separate times and was impressed by their ability to core the thermals — I couldn't outclimb them. I joined another running the ridge to the south and slowly passed him as I cranked back to near stall speed. Hanging horizontally under his kite in a mummy bag to reduce drag, he waved back. That's real bugs-in-your-teeth soaring. I landed back after four hours of at first tough but then gorgeous soaring. Even a weekend of marginal gliding weather provided all the fun one could possibly wish for. □

CRISIS ALOFT

THE "GIMLI GLIDER"

Electronic advances notwithstanding, airliners still find themselves out of fuel in midair. The report of the Commission of Inquiry into this now-famous incident gives the details.

extracted from the Wall Street Journal

Robert Pearson, the pilot of an Air Canada Boeing 767 jet, felt all was going well as his plane flew westward 41,000 feet over Red Lake, Ontario. "I'm going to sit here and watch the trout swimming in the lake," he jokingly told his co-pilot.

But suddenly warning lights blinked on in the cockpit, then alarm gongs sounded, and the jet's two engines both flamed out. The plane, carrying 69 passengers and crew, had run out of fuel in midair.

What followed on that flight on July 23, 1983, marked one of the most harrowing half-hours in aviation history.

Even though the world's airlines have entered the age of electronic fuel gauges and have long had redundant fuel warning systems, airplanes are still running out of fuel. In the last few years, in fact, there has been a rash of incidents involving planes that ran out, or nearly ran out, of fuel supplies. Some examples are:

- In 1983, a Republic Airlines DC-9 ran short of fuel en route from Fresno, Calif. to Phoenix, Ariz. After the jet was forced to land at Luke Air Force Base, Ariz., 25 miles from Phoenix's commercial airport, safety investigators found just fifty gallons of usable fuel remained in the tanks, enough for a few minutes of flying.
- A 747 jumbo jet flown by Pan American World Airways barely made it into Newark, N.J. airport a few years ago. As the big plane touched down on the runway, two of its four engines flamed out, and on a taxiway a third died, all for lack of fuel.
- While circling near Portland, Ore., a United Airlines DC-8 ran out of fuel and crashed in 1978.

Although such accidents are relatively rare, eliminating them is difficult. That is because the causes often are complex, sometimes involving mechanical failures, sometimes human faults, and often a combination of both, safety experts say.

The Air Canada case is in many ways typical. There was a long string of both mechanical and human problems that led up to the spine-tingling landing at Gimli. Details of the case emerged in months of hearings before a Commission of Inquiry sitting in Winnipeg.

The jet involved wouldn't seem a likely candidate for the Gimli drama. It was Boeing's newly designed 767, a big, widebody plane with two powerful engines and the most advanced electronic systems — including fuel gauges — in the world.

Months before the Air Canada incident, however, some ominous signs began appearing. After United Airlines had taken delivery and was ferrying one of its new 767s from Boeing's production plant near Seattle, the pilot noticed a problem. The fuel gauge showed an amount of fuel in the tanks different from the amount the plane's flight computer calculated should have been there.

According to Boeing, later tests showed that "an undetected fault could cause erroneous readings (in 767 fuel gauges) of 1000 to 3400 pounds above the actual fuel quantity." Because that posed the threat of running out of fuel in midair, Boeing quickly told airlines around the world to inspect 767 fuel-measuring systems for the fault. Honeywell Inc., which supplied the fuel-measuring system to Boeing, began re-designing it.

Meanwhile, Conrad Yaremko, an Air Canada mechanic in Edmonton, began working on aircraft No. 604 on July 5. Because it was one of Air Canada's brand-new Boeing 767s, he checked for the fuel measuring system fault. Mysteriously, each of the three fuel gauges — one for each of the three fuel tanks — went blank during the test. Later, all seemed to work properly.

The night of July 22-23 saw the same jet back in Edmonton. Mr. Yaremko was performing the same check, and again the gauges went blank. It was a warm night, and Mr. Yaremko knew that heat is the enemy of electronic circuits. So he removed the small box of electronic gear that feeds data to the fuel gauges in the cockpit and put it in a fridge for a while to see if the cooling would solve the problem. The tactic didn't work.

Eventually, the gauges did begin working again, and the plane flew to Montreal — where they went blank again. As Capt. Pearson boarded the jet the afternoon of July 23 to fly it from Montreal to Ottawa and then to Edmonton, he saw all the fuel gauges were blank. Pearson, his co-pilot Maurice Quintal,

and some mechanics consulted. According to testimony, it was then decided to use dipsticks to measure the amount of fuel in the tanks.

The dipsticks were calibrated in centimetres. That measurement should have been converted to litres and then to kilograms, because the 767 is Air Canada's first plane to use the metric system. However, that wasn't done. Instead of multiplying litres by 0.8 to arrive at kilograms, they mistakenly multiplied by 1.77 and arrived at pounds, the measure used in other Air Canada aircraft. Then on the basis of the erroneous calculation, they added fuel. Capt. Pearson checked the quantity figures, not realizing they were faulty. "You have more than enough. You can go all the way to Vancouver," one mechanic replied.

The flight from Montreal to Ottawa was uneventful. Then the jet took off for Edmonton — with only about half the fuel needed to reach that destination.

As the jet passed Red Lake (and Capt. Pearson joked about watching the trout), co-pilot Quintal made a position announcement to the passengers, according to the cockpit voice record. But 10 minutes later, at 8:10 pm., four beep warnings of low pressure sounded.

Capt. Pearson: Holy (expletive)!

Co-pilot Quintal: Something's wrong with the fuel pump ...

Capt. Pearson: Left-forward fuel pump, okay, what have we got here? I hope it's just the (expletive) pump failing, I'll tell you that...

Capt. Pearson: Let's head for Winnipeg NOW ... Hundred and twenty-eight miles (from Winnipeg), okay ...

Capt. Pearson had his co-pilot radio air controllers to tell them the jet had some problems and was diverting to Winnipeg. He also had his co-pilot brief Mr. Desjardins, the chief flight attendant, telling him to prepare passengers for an emergency landing. And the captain began descending from 41,000 feet. Then more beeps, indicating problems at more fuel pumps.

Co-pilot Quintal: (Expletive), they're all going out... BEEP, BEEP, BEEP, BEEP ...
Pearson: All the (warning) lights are on!

A chilling conviction settled over the cockpit. As Capt. Pearson tells it later, "Maurice and I knew that one fuel pump might fail, but to have all the pumps fail all at once, and on a brand-new airplane, that was beyond probability. We realized we had more than a pump problem, we had a fuel problem." A few minutes later that was confirmed: a deep "bong" sounded.

Capt. Pearson: Okay, we've lost the left engine.

Co-pilot Quintal: Okay, what will we do ...?
Pearson: Just run on one (to save fuel).

Co-pilot Quintal radioed Winnipeg control centre, warning that the jet had lost an engine and requesting that fire trucks be called out. Three minutes later the second

continued on next page

engine flamed out. With power gone, eight bright video tubes in the cockpit displaying most of the plane's instruments went blank.

Capt. Pearson: Centre, (Air Canada flight) 143. This is a Mayday, and we require a vector onto the closest available runway. We are (down to) 22,000 feet ... both engines have failed due to, looks like fuel starvation, and we are on emergency instruments ... Now please give us a vector to the nearest runway."

Back in the passenger compartment, stewaresses were rushing to secure the drink trolleys. Then they briefed the 61 passengers (who had been told the plane had a fuel problem, but no more than that) on how to brace themselves. There were businessmen on board, an older couple, some teenagers and some young mothers with infants. After the briefing, all fell silent. "Obviously there was no engine noise, it was very quiet in the airplane except for a few people crying," Mr. Desjardin told the board of inquiry. Anne Swift, another attendant told the board, "People were very afraid, and some were crying silently, but there was no panic.

Among the few emergency instruments functioning was the airspeed indicator. The captain nosed the plane down just enough to maintain 220 knots, the speed that he guessed would provide the longest, safest glide. There is nothing in the flight manual on how to glide a 767.

The flight controls worked only because, when the last engine flamed out, a small ram air turbine descended automatically from the belly of the 767. Spun by the passing air, the turbine provided power for the 767 "power steering" — hydraulics that enable the control surfaces to be operated. All 767s have such turbines; but many jets, such as the 747 and 727, do not.

Capt. Pearson tried to steer for Winnipeg, but his compass heading had disappeared along with his video displays. He still had a small emergency magnetic compass on the dashboard, but it was swinging too much and was mounted too far to his side for him to line up on. "So I steered by the clouds underneath us," the captain said later in an interview. "I would ask Winnipeg Centre for a heading, they would say 'left to 220 degrees,' and I would turn left about that much, judging by the clouds, and then I'd ask Winnipeg how my heading was. Using the clouds, I kept eye-balling it."

The 767 had also lost its vertical speed indicator, which measured the rate the plane was dropping. And it was dropping much faster than Capt. Pearson thought. Co-pilot Quintal tried to calculate the rate of descent. The jet's altitude was 14,500 feet when the Winnipeg controller said his radar showed the plane 45 miles away. The jet had dropped to 9,500 feet by the time the plane was 35 miles away.

"We had dropped 5,000 feet in 10 miles," Co-pilot Quintal says. "With only about 10,000 feet of altitude left, we could glide only another 20 miles. But Winnipeg was 35 miles away — I told Bob (Pearson) that we'd never make it."

Capt. Pearson radioed Winnipeg, and the Winnipeg controller told him that Gimli was just 12 miles way, on his right. Co-pilot Quintal, who had been based at Gimli while serving in the Canadian air force, told the captain the airport had long runways. The base, which had been obscured by a cloud, was suddenly visible. "Bob turned right towards Gimli immediately," said Quintal. Pearson then asked Winnipeg for details on Gimli.

Winnipeg Controller: Use right hand runway, 6,800 feet long.

Pearson: There will be nobody on the runway when we get there, eh! Nothing?

Winnipeg Controller: I don't know — I can't tell you for sure ...

Co-pilot Quintal saw the Gimli strip and pointed it out.

Capt. Pearson: We're going to make Gimli okay.

Winnipeg Controller: Great! We show you about six miles to touchdown.

"Fortunately for all concerned, one of Captain Pearson's skills is gliding ..."
Justice George Lockwood, head of inquiry.

But all wasn't great. The jet was coming in too fast and too high. The captain and his co-pilot discussed circling once before landing but rejected the idea because they would lose sight of the runway while circling and because they might lose too much altitude.

To cut the jet's speed and altitude, Capt. Pearson then tried a rarely used technique, a side-slip, which he had practised as a glider pilot. With the rudder, he turned the nose of the plane right, but with the ailerons he banked the plane to the left. The net effect was to make the plane fly toward the runway in a sideways attitude that would create drag and rapidly slow the plane.

The captain's maneuver, in which the plane seemed to plummet to the left, frightened passengers and flight attendants. "I thought he had lost control," Mr. Desjardins said. But the plane began losing altitude quickly, and speed began dropping from 210 knots to 170 knots, still much faster than normal landing speed of 130 knots.

Winnipeg Controller: Five miles to touchdown.

Capt. Pearson: Roger, we have the field in sight...

Co-pilot Quintal flipped the landing gear lever, but without power, nothing happened. "There wasn't any noise (from the gear going down), and that was a terrible feeling," the co-pilot says. He turned another switch allowing the gear to fall by gravity. The gear on each wing dropped, but the nose landing gear deployed only partway down. (It could not move forward enough against the slipstream to lock.)

The aircraft touched at 170 knots, then ahead on the runway they saw vehicles, people walking and youngsters bicycling. They hadn't landed on the right-hand runway, which was still used for aircraft, because its dark colour had blended in with the earth.

They had landed on the light and more visible left runway, which was being used as an autoracing strip. The last race of the day had finished, and scores of people were strolling and hiking on the far end of the runway, while others were finishing dinner in camping vehicles parked on the runway.

Without power, the captain couldn't use reverse thrust to slow the plane. He hit the brakes, at which point the nose gear touched down and collapsed.

The nose ground into the concrete, sending up a huge shower of sparks. "I thought the underneath of the airplane was being torn apart," Mr. Desjardin said.

As the plane continued sliding, Jo-Ann Barry was washing dinner dishes in the family camper parked out on the runway. Suddenly a boy on a bike yelled that a jet was coming in. "I opened the camper door and there was this huge plane coming at us," she says. "It seemed very quiet, but it was coming 70–80 miles an hour. Everybody was hollering, grabbing their kids and running."

Fortunately, the jet's nose acted as an excellent brake. The big plane, its tail high in the air and its nose on the runway, shuddered to a stop just short of the throng of people and vehicles. No one had been injured.

What had gone wrong with the plane's fuel-measuring system? Because of a loose wire in the Honeywell electronic box, one data processor failed and couldn't provide information to the fuel gauges. The system then should have shifted automatically to a second, redundant data processor in the electronic box. But because of a shortcoming in the Honeywell system's logic, it failed to do so. Hence, all the fuel gauges went totally blank.

There were, of course, other problems, including the fuel conversion to pounds instead of kilograms. Even if the fuel had been calculated correctly, Capt. Pearson shouldn't have taken off. According to the 767's Minimum Equipment List, if at least two fuel gauges (for two of the three fuel tanks) aren't functioning, the pilot isn't allowed to depart. Capt. Pearson testified mechanics convinced him that, even though the fuel gauges were all blank, the dipstick procedure was sufficient to bypass the Minimum Equipment List. Mechanics denied that.

Although Pearson and Quintal were praised for landing the plane safely, Air Canada demoted Pearson to co-pilot for six months, and suspended the co-pilot for two weeks.

Meanwhile, Air Canada has revised its fuelling procedures and has retrained its crews in fuelling methods. And Boeing 767s in airline fleets around the world are getting a redesigned Honeywell fuel measuring system.

As for the plane itself, Air Canada's aircraft No. 604 is still in service. In aviation circles, the big jet has come to be called "the Gimli Glider."

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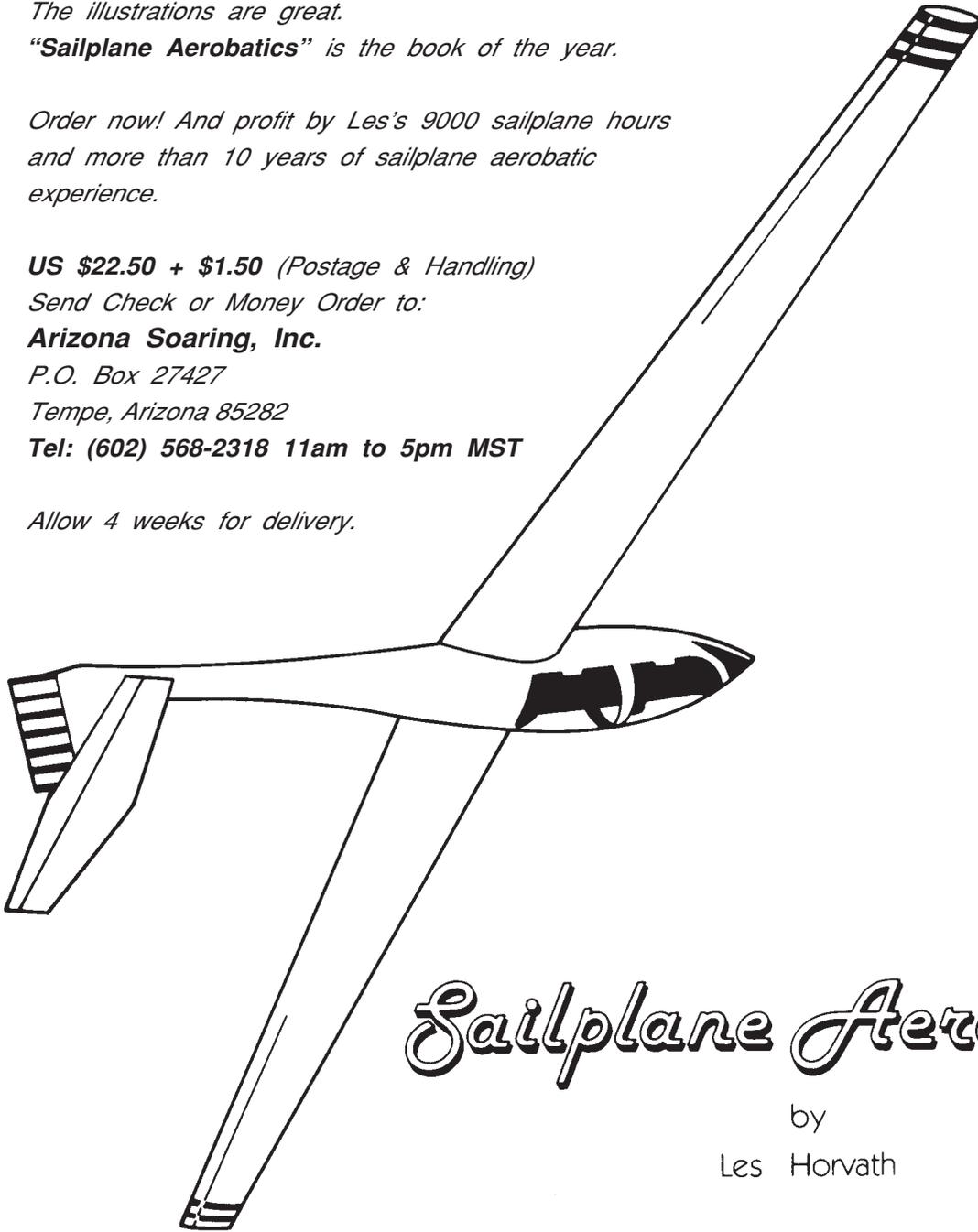
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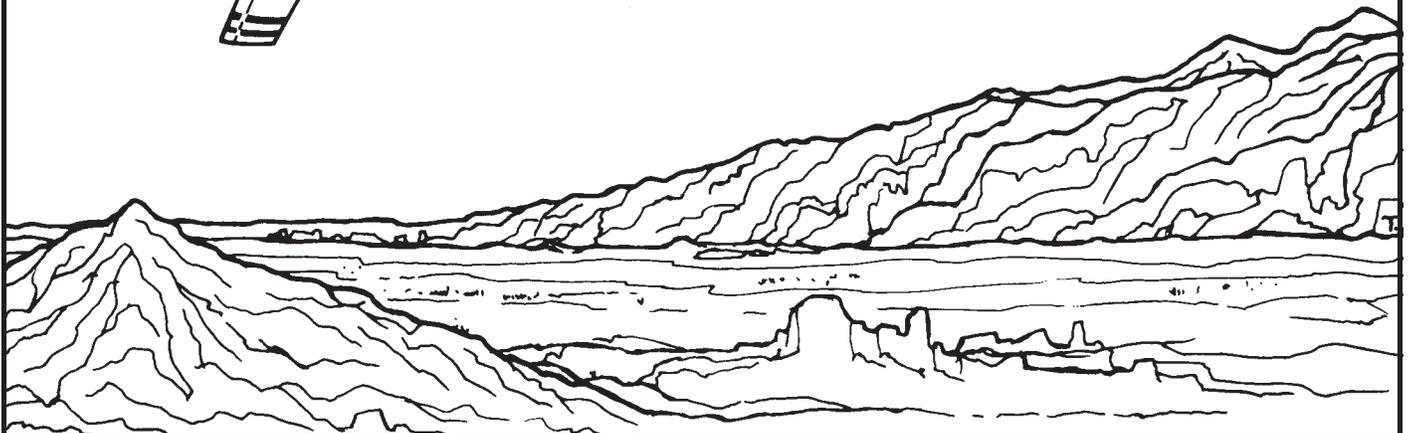
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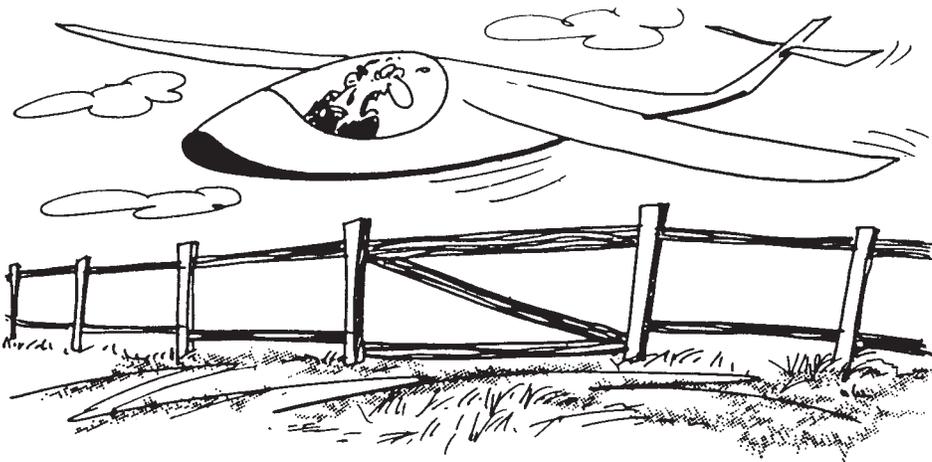
by
Les Horvath



LOW LOSS INSTRUCTING

PART 4 GETTING LOW IN THE CIRCUIT

Tony Hayes
Adapted from
Australian Gliding



This is the second article in this series which examines exercises that pupils will not normally see in the routine process of training and therefore their appreciation of such exercises will depend almost entirely on the manner and depth of exposure utilized by the instructor.

Running out of height in the circuit is not actually listed as an exercise in the flying training syllabus, but is a positive check that circuit planning has been fully absorbed.

It finds a place in this series not only because it is a central trigger to a variety of accidents, but also because it underlines that while much of instruction is to establish safe habit patterns, there must also be controls to ensure that pilot thinking does not become too rigid, leaving people vulnerable to the changing circumstances that motorless flight may produce.

HABITS, FIXATIONS AND SAFETY

There must be few instructors who have not, at some time or other, watched an early solo pilot struggle with a virtually nonexistent thermal, steadily putting himself in a position where there is no hope of flying a normal circuit, but then seeing him attempt to do so.

Alternatively, a pilot may be caught on the 'wrong' side of the strip with ample height to perform a right hand circuit as an emergency measure, but then run out of height in an attempt to regain the usual opera-

tional side, "because we must fly left hand circuits here."

Certainly there may be an amount of face-saving or even laziness involved in situations such as those above, but in the main it probably reduces to simple habit and fixations. Fly a hundred normal circuits and when the next one goes wrong the pilot is in a mental rut — gliders always land back at the launch point, ignore the problem and do what is usually done. It has worked a hundred times before.

In this light, basic training of circuit planning has failed, for while the pilot will produce a good circuit on demand, during a check flight for example, the underlying safety principles of the basic circuit have not been fully absorbed and/or are not being intelligently applied. The pilot is now vulnerable to changing circumstances which can produce situations at the limit of, or beyond, his experience to control.

Disciplining erring pilots and enforcing required procedures only provide superficial protection which the pilot may discard when out of sight — landing off-field for example.

The prime requirement for every pilot must be that they **understand the safety principles on which the standard circuit is based**, and thus apply them automatically.

Effective solutions cannot be achieved post-solo when habits are already established.

They must be achieved pre-solo when habits are being formed, when we have the opportunity to establish clear objectives, not fixations.

As instructors, we must look beyond circuit planning as just a basic exercise and see it in its true form, mainly a mental exercise which later experience and opinion may distort beyond belief. Our task is therefore to provide equal protection to the future pilot as well as the early solo pilot. A "running out of height in the circuit" check becomes part of the control to this function.

SOME TEACHING PROBLEMS

What may undermine instruction in circuit planning is the pilot's practical introduction to it. The instructor will wait for the pupil's applied attention level in controlling the glider to fall to a point where there is sufficient mental energy free to begin controlling the glider's destination as well. This may begin on any flight which is going well. The instructor simply moves in and says, "This time I will show you a little of what we look at to obtain a normal circuit."

Quite innocent, good flight organization in fact, but we are giving a partial demonstration ahead of a full explanation, and the pupil is slipping through the net.

Next flight, different instructor. The pupil enthusiastically states that they started circuit planning last time and the current instructor automatically moves into a practice phase.

A number of flights may now go by during which the pupil may well receive a clear picture of what the desired circuit should look like, but lack the vital pre-exercise explanation of the **reasons** for the form of circuit we employ, or only received them in parts while distracted during flight. From this basic weakness could emerge undesirable actions by the later, more confident, solo pilot that the pupil will become.

A further loss generator in circuit planning is the instructor's approach to teaching judgment exercises. Judgment appears so abstract that it may appear difficult to get your teeth into.

Not so, judgment exercises are taught in exactly the same manner as manipulative exercises. Explain the fundamentals, clearly demonstrate them, prompt the pupil on the various cues upon which judgment is based, reduce prompting as the pupil picks

up the workload, then quietly slip into fault-finding as responsibility transfer is ending. Take another look at the teaching sequence given in Part 1 of this series and have a think about it if you are not convinced.

Unfortunately, unless you have a motorglider available, the majority of judgment exercises are available only at the rate of one per flight one circuit, one approach, etc. They therefore spread over several flights and, in a club environment, several instructors.

As judgment is a little intangible, it also becomes a matter of opinion and expression: one instructor puts it over as pure angle evaluation, another as height/distance to a point from a position. Much the same thing, but expressed quite differently. The pupil may average out the various expressions into a skill which works for him, but which might dilute perceived safety requirements in the process.

CIRCUITS

One popular misconception must be banged on the head right away: circuit planning is only indirectly connected with landing at a pre-selected point, even though most circuit training appears to focus on the landing point.

Let's back off a little to review what we are doing. Usually we wish to land back at the launch point, going in a certain direction.

Landing is dependent on a controlled approach which is a separate judgment exercise dependent on the conditions of wind velocity, gradients, etc. To fly a controlled approach the glider must be at a certain position and at a certain height which suit the requirements imposed by the day/time in question. The height is established by safety and standards and varies from place to place, but around the world 300 feet is accepted as a reasonable safe minimum from which an approach may be commenced.

The usual mental sequence would therefore be much as follows: I intend landing there. In today's conditions a 300 foot final turn is suitable and a half brake approach from that height means the final turn must occur there.

Circuit planning now becomes a judgment/prediction exercise to reach the **final turn position**.

If we teach this from the beginning, then we are instilling exactly the mental habits the solo pilot will later require those of thinking well ahead of the glider and its current situation, actively forecasting what is likely to happen, not just what is happening. The circuit now begins to make real sense rather than being just a set of activities we are obliged to follow.

Current circuit procedures not only provide a simple support to growing judgment by the pupil, but serve a further very important

function which should also be indicated early in circuit training. That is that the standard circuit actively reduces pilot work load the closer the glider comes to the ground.

In normal situations this will mean that the glider will intercept the final turn with the pilot in a relaxed frame of mind with little to do but fly a controlled approach and land, maintaining plenty of spare mental energy to deal with the unexpected.

Running out of height may now be seen in all its potential seriousness. A pilot who comes skidding slowly around a low final turn in an effort to get back to the launch point has not just failed to predict the glider's flight path but has actively compromised the normal circuit rejoining point, failed to use the check point, ignored vital actions as the speed is low (in what condition are the flaps, undercarriage, trim and lookout?) and has failed to use correct interception of the final turn as the ultimate check. So, rather than reduced workload with reducing height, it has probably been increased.

Assuming the glider continues to fly, the pilot is now totally at the mercy of the unexpected — an unnoticed wind change, another glider 'appearing' on approach, the landing area becoming obstructed, and there we are: little speed, less height, few personal reserves and potentially just about to become the first person on the scene of another avoidable accident.

LOW LOSS CIRCUITS

All reasonable instructors should periodically review their techniques, considering their effects, and never more so than in the judgment exercises which have such a personal presentation and thus change with experience.

How do you feel your techniques are likely to effect the next instructor with whom your pupil will fly? Are they compatible? Will they keep the pupil progressing? How do other instructors' techniques affect your own teaching when their pupils appear on your duty day? The answer to this one is Standardization. There is just no substitute for it. It required the active work of an instructors' panel which is prepared to establish a common basis on which to work and from which pupils will benefit.

In this manner, basic circuit techniques will stabilize and weak areas, either in an individual pilot or collectively across the club, will be solved as a routine part of the operation. Minor losses may be trimmed by thinking in terms of exercise objectives and work organization.

The final turn is one prediction point, the check point is another. Why not add a third and use a fixed training rejoin point as well? These are three key points where the pupil may exercise judgment, so putting him well on the way to obtaining triple value from each flight. Use the keys as positive indicators to where the glider will be, whether its position is going to be suitable and, if it is not, then where the final turn we are able to safely achieve will dictate where we must land. Use the keys to the circuit without becoming slav-

ish, thinking that if they always reach those positions they will safely get home, irrespective of height or air mass variations.

In this manner the first habits we establish will be those which will alert the later solo pilot to situations becoming abnormal. They have a pilot thinking ahead to alternatives, thus controlling their workload, or giving the instructor a valid basis for discussion if they do not.

Finally, let the pupil prove this ability within the framework of a "running out of height in the circuit" check. Such checks may be introduced unannounced as there is no component involved that the pupil has not performed before. It is all just going to begin happening a little earlier than usual.

Typically, the pupil will be deliberately distracted, causing the glider to transit the rejoining area low, but not obviously so; say 150-200 feet lower than usual and a little closer in to make the angle look comfortable. This would put the glider through the check point at 300-350 feet and around final at 100-150 feet, high enough to 'get back' but not high enough to do so in an acceptable manner.

The pupil is then observed on how the workload is dealt with and how late he updates the landing area he will be able to achieve.

All pupils should pass this check prior to being allowed to fly alone, for while late in training most pupils will deal with the normal quite adequately, the mark of a solo pilot is ability to deal with the abnormal. This ability must be demonstrated.

CONCLUSION

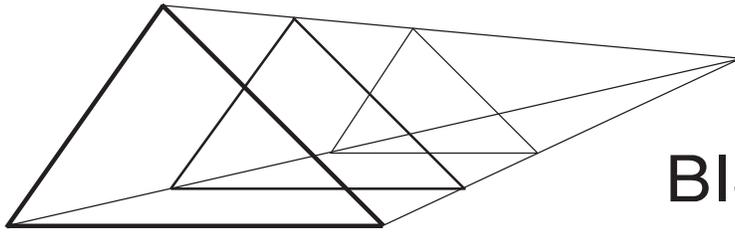
Adoption of positive fault-finding techniques by instructors, whether they be a routine part of teaching technique or used as set checking exercises, will uncover weaknesses and comprehension problems early. They will also form a positive behaviour pattern between instructors and pupils which will become the basis on which post-solo supervision will rest.

It is easy to keep the two-seater safe. You are in it. Keeping the single-seaters safe requires:

- the confidence that pre-solo exercises really have been taught and understood, and
- the means to move solo pilots smoothly back into a receptive frame of mind wherein further instruction, if only a comment or two, will be effective.

Intelligent application of exercises such as running out of height in the circuit support the above requirements. They are not only quality controls in their own right but also form the foundations on which an individual instructor will be able to fairly deal with solo pilots whom other instructors have trained.

Next time, Launch Failures – a consistent and major accident area year after year. In common with Stalling and Spinning in the series, attention will focus on the purpose of training, thus determining instructional pattern and emphasis which will protect the future solo pilot. □



MINDEN BISHOP – GABBS

Upping the ante on the 500 kilometre triangle . . .

Peter Masak
SAGA

My luck started in Las Vegas, Nevada, where having a lucky day can be very profitable. A little bit of airborne gambling on the DC-9 flight to Las Vegas from Houston had rewarded me with a nifty \$100 which paid for the flight. So I arrived in Vegas in a good mood for the nine hour drive to Minden, where the Nimbus III had patiently sat for a month after the US Sports Class Nationals. I was returning to Minden, Nevada after having put in a stint at work, and was again looking forward to several days of great desert flying.

Driving up through the desert north of Las Vegas was an eye-opening experience. As I'm sure all other glider pilots do, I was constantly checking for landable fields on either side of the highway, and scanning the horizon for cumulus. The scary thing was that there just weren't any landable fields except for the odd dry open patch that always seemed to be at the bottom of every valley. Other than that, there were just sagebrush and rocks, hospitable only to rattlesnakes I suppose.

A speeding ticket south of Goldfield jarred thoughts back to reality (the pseudo ghost towns apparently still manage to self-finance their police). Late that afternoon I cruised into Tonopa, Nevada, another formerly bustling desert town that had seen its fortunes rise and fall with the gold and silver rush. At the end of town I felt benevolent and picked up a rather hapless looking hitchhiker who was working his way out west to California to team up with his wife and a new job. Jesse made good company and helped the time pass quickly for the remaining five hour drive to Minden.

We passed rather fabulous scenery on the way northwest: the majestic White Mountains, where numerous world soaring records had been set, and Janie's Ranch, a well-known brothel at the north end of the Whites (also a great land-out spot to keep in mind).

As dusk arrived, I realized that my poor hitchhiker was going to have a tough time finding a ride at night to Sacramento, so I came up with an ingenious plan that would benefit us both. I proposed that in exchange for helping me rig the Nimbus, I would buy dinner and pay for accommodations that night. Jesse looked like he hadn't eaten for some time, and not knowing what a Nimbus III or for that matter a sailplane was, he

gladly accepted the offer. As we drove up highway 395 along the eastern flank of the Sierras, it became more and more evident we were going to have trouble finding a motel room. Every weekend, Californians spill through the mountain passes into Nevada to escape from the rat race and find solace in the lawlessness of the place, the result of this being that every bed in Nevada was taken. We stopped in Bridgeport, California for dinner just short of the Nevada border and caught sight of a poorly lit and apparently half empty motel. From the outside appearance it was obvious why there was a vacancy. We walked over to the office and were met by a short, old, and very bossy woman who immediately concluded we were a couple of drunks. Cash money soothed her.

My hitchhiker friend and I got an early start on sleep that evening, having abandoned all hopes of rigging the airplane that night. Consequently we woke early at 6 am and immediately set off for Minden, seventy miles to the north. Wil Schuemann had graciously berthed my sailplane and trailer at his house, so we rolled up to Wil's place about 7:30 that morning, hitched up and then set off for the airport with the sailplane in tow.

By 0900, the Nimbus III was rigged and ready to take on a load of water, so I thanked my helper and dropped him off at a convenient road intersection in Carson City and then returned to the airport. Rick Matthews from Cu Nim appeared and helped me ballast up the ship. (Other Canadians on hand were Rainer Zimm and Ginny, Frank Markut and family, and Doug Stroud — it was quite a reunion!) By the time I was ready to push out to the line it was shortly after noon, so I changed my task declaration to a 500 km speed triangle from a 750, having realized that time was running short.

Getting decent height off tow really turned into a frustrating exercise, and I spent 45 minutes flailing around try to get high for a good start. Finally in frustration I decided to go through anyway, and set off on course out of the gate at 5000 feet above ground pushing out at only 90 knots. This hardly seemed like the way to break any records, but a good first thermal conveniently offered itself. A 15m ship that had marked the thermal for me gave me a real run for my money, hanging in there tightly all the way out to the next thermal.

As I climbed to cloudbase, I looked down under my left arm at my oxygen system and

discovered to my horror that the bottle was practically empty. How could that be? I had had it filled just before takeoff, so this was unbelievable. What must have happened is that with the rather crude throttling system on the bottle, I probably hadn't seated the valve stem fully after testing it, so most of the oxygen had leaked out. Well, a little remained, so I resolved to fly at lower altitude without oxygen and ration the use of the remaining gas in the bottle.

The first leg to Bishop went like clockwork, and I arrived in only an hour and twenty minutes for a 164 km/h average speed. With my experience at the Sports Class Nationals earlier this year, I had flown this route several times before, and each time it seemed easier. The trick was to run upwind along cloudstreets, which were angling 45 degrees to courseline, and then jump crosswind across the streets whenever a cumulus puff appeared between the major lift lines. So this leg of the flight was like a series of zig-zags 45 degrees to courseline. I knew that I was close to world record pace, so I pressed on with vigour. As was typical, the last fifteen kilometres across the centre of Owens Valley into Bishop were cloudless, and I descended slowly to the turnpoint in the blue while holding 110 knots.

Rounding the turnpoint at Bishop at 13,000 feet, I spotted a wisp forming above the White Mountains to the east, coming up from a gully in which the wind appeared to be channelled. This again was the same part of the mountain range that had been so good to me in the past, and true to form it rewarded me with a strong 7 knot climb. I donned my oxygen mask and rode it to 18,000 feet. There I levelled off about 1000 feet below cloudbase, and set off on course to the northeast, pressing ahead now at 120 knots. The second leg was again classic. About 3-4 tenths cloud cover, good streeting, and going downwind was a combination that was hard to beat. I dolphin soared practically the entire 160 km stretch in about an hour, maintaining my average speed at 163 km/h, just slightly ahead of world record pace.

As the second and final turnpoint became visible, it was obvious that major problems were waiting for me for the rest of the trip. The return leg from Gabbs, NV to Minden was practically entirely blue and mostly into wind. I rounded the turnpoint at Gabbs at 14,000 feet, flew a short 8 km street into wind, and then set off for a long 50 km glide to the next clouds. They didn't work too well, so I kept pressing on, probing every wisp enroute for a decent thermal. It seemed that I may have started half an hour too late. Finally on a low mountain range northeast of Hawthorne I contacted a weak 4 knotter

and rode it up until I was sure that I could glide across Walker Lake to Mount Grant which usually worked well late in the day. I considered making a final glide into the Hilton ranch at the base of Mt. Grant where landing out is always a treat. Barron Hilton maintains a skeleton staff of servants here that are well attuned to the lavish needs of sailplane pilots.

Alas, I found a thermal and visions of dining out at Hilton's were dashed as I settled down to the serious business of getting home and salvaging the record flight. The Nimbus and I cruised across Smith valley in practically still air as I worked into range for a good final glide into Minden. One remaining cumulus cloud slightly off the course line had a distinctive laminar looking leading edge, and I deviated north of course to allow the Nimbus to run through friendlier air. This last bit of thermal/wave lift put me well above optimum glidepath, and I pushed the stick forward to 140 knots for a quick transit home.

Fortunately, Marion Barritt, my official observer, was on the radio and got in position to spot my finish at Minden, 3 hours 33 minutes after start. I thanked Marion for her help and together we pushed the big 24.5 metre Nimbus back to the tie-down area.

Behind every good flight there's some great support and I was very thankful for the help received from Marion Barritt, Wil Schuemann, Rick Matthews, and my anonymous hitchhiker, Jesse.

I didn't take long to do some rough mental calculations and was excited to discover that I had rounded the course at 150 km/h or 93 miles/hour, fast enough to better the US and Canadian records hands down. It seemed that with only a little more luck (as if I hadn't had enough already) the world record of 159.6 km/h was within range ... maybe next year! □

WESTERN INSTRUCTORS COURSE – 1985

Monty Gray SOSA

The Vancouver Soaring Association hosted the Basic Instructors Course for western Canada from August 3 to 10 at Hope, BC, where it was proven again that learning can be fun. The group of eleven participants under course director Al Sunley had an exciting time flying by the mountains while improving our instructing skills.

The excitement for the "Flatlanders" started with the local orientation checkrides. Hope airfield is situated in a spectacular setting in the Fraser River Valley with the Coast Range mountains towering 4000 feet over the valley floor on either side. Here, the rocks, the trees and the river dictate the first rule of survival at Hope: no outlandings under any circumstances. Monty Williams and Harald Tilgner kindly spent all of Sunday giving crash courses (no pun intended) on local procedures and on finding local lift — sometimes it's in The Bowl, sometimes on The Knoll, usually on Hope Mountain and frequently there is wave — is this glider pilot heaven?

Flying on the ridge was a new experience for most of us. It was truly exhilarating to be 4000 feet above the airfield in the valley below and yet only 400 feet agl above the trees. They sure look big up close. New

skills were learned as we practised following the ridge, ever cognizant of other gliders turning (always away from the ridge) and staying well clear of the glider-eating cap clouds which can sneak up on you instantly and without warning. Although this new experience was initially somewhat unnerving, the pure pleasure of 500 foot per minute, glass-smooth lift while flying straight and level — all the way to the top — soon left some of us willing to trade in our own club's house thermal for this new, improved model. Every day of the course the lift started punctually at 11:00 am and was still working at our 8:00 pm quitting time.

The daily routine of the course was straightforward but demanding. Morning ground school sessions commenced at 8:00 am sharp. Until lunch we reviewed such basics as the theory of flight and air regs, but more importantly went on to discuss learning theory, teaching techniques, lesson preparation, advanced flight safety issues and the role of the instructor within a club. By early afternoon airborne training commenced. Each day we paired off to practise instructing while our partners "played student" and Al's tape recorder captured the beauty of our eloquently executed instruction. There is nothing more humbling to an aspiring instructor than to hear all of your "urrs" and "ahs" played back to you at the morning critique session. After a couple of days we all relaxed, settled into the routine and were able to help each other to learn.

Evening activities normally commenced after the gliders were tied down around 8:00. A late night supper at the local truck stop was usually followed by a beer in the clubhouse and some chin-wagging. Ron Murchie's bush-flying stories tied with Brian Hollington's never-ending string of jokes for best entertainment. Unfortunately the three spouses who came along for a "holiday" were disappointed, since there was little time left in the week for sightseeing.

By the end of the week, having survived the long hours, the obligatory exam and being suitably flown-out, it was time to head home. Not only were we wiser, but we had each made a dozen new friends with whom we had savoured the unique pleasures of flying at Hope. On the way back to Vancouver several of the group were able to take in the Abbotsford Air Show, which was like icing on the cake for an aviation fanatic.

Formal "Thank you's" are in order; both to Al, for volunteering his time and effort to lead the course, and to the members of VSA, who proved to be exemplary hosts throughout the week. Finally, as a footnote from the author, I would like to point out a rarely-used opportunity that exists in the SAC Instructor Course system. Travelling from Toronto, not only was I able to upgrade my instructing skills but also to exchange ideas with my counterparts at the other end of the country and to fly in an exciting new area. This opportunity exists west-to-east as well, and I strongly encourage more people to take advantage of it in the future. It is certainly well worth the effort. □



Monty Gray

Participants of the Western Basic Instructors course on the Hope airfield. Standing (l. to r.): Dave Woodcock, Phillip Wroe, Bryan Florence, Ron Murchie, Gerald Rosner, Ray Maxwell, Brian Hollington, Bob Sturgess. Monty Gray. In front: Robin McNamara, Al Sunley (course director), Neville Robinson.

ANATOMY OF A HARD LANDING

Praise be — here is the year's best accident analysis. If only my instructors had told me about this when I was a new pilot, I wouldn't have been reminiscing about the time I bashed in a K7 nose while I edited this story . . .

Russ Dunham

Vancouver Soaring Association

While recently landing our club Pilatus on my third flight in this ship, I induced a number of oscillations, and by the time the aircraft had come to a stop I had not only bounced five times, but on the last three bounces I also dug out three divots from our grass strip.

After some thoughtful reconstruction and simple deduction, it appears that the first two divots, 120 feet apart and both approximately 3" wide by 48" long, were torn out by the main wheel. The final divot, 90 feet further down the strip and approximately 10" wide by 48" long, was carved out by the lower leading metal edge of the fuselage which is attached to the fiberglass nose cone. It seems that I did not allow the nose to dig in until the last major oscillation, at the top of which I distinctly remember sensing ... "I'm stalled and five feet off the ground — get the nose down!"

I also distinctly remember thinking, somewhere I think between the third and fourth bounce, "WHAT THE HELL'S GOING ON HERE? THIS CAN'T BE HAPPENING TO ME!" A couple of seconds later the cockpit was full of suspended bits of dirt and grass. I can't describe how foolish I felt sitting there mercifully unhurt, feeling and tasting the grit in my teeth, slowly realizing that something had gone enormously wrong.

Unfortunately the landing was not witnessed by any ground observer but when all is said and done, I think my depiction of it here is very nearly correct. There are moments that I remember clearly, and when these are pieced together with the ground evidence, the nature of the nose cone damage, the ground location of the severed TE probe (which on this ship extends about 16" in front of the nose cone), a coherent and believable sequence of events emerges.

My hope here is that I can help another pilot avoid a similar situation. If in some small way this article accomplishes this, then I will have made some amends for an event that has not only inconvenienced our club members, but which has also been very expensive and hard on my psyche.

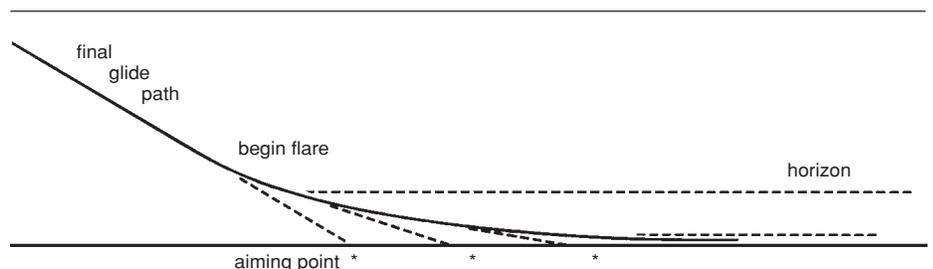
Pilot Background

Age	42
Health	Excellent, except for an occasional back problem
State of mind	No recent upsets, determined to fly safely, well, often, and to have fun
Experience	
2 years	gliders only
Total time	110 hours
P1 time	75 hours (51 in '85)
P1 flights	152 (91 in '85)
Hours last 30 days	18
Hours on type	4:44

I should note that during my early training I had a real tendency to "drive the aircraft on" while landing. My instructors worked patiently and diligently to break me of this habit. I believe my problem was that at the beginning of the flareout I was not immediately transferring my vision to the horizon, or the end of the landing strip. Instead I was keeping my line of sight approximately parallel to the aircraft's longitudinal axis. As a result, I was not looking at the end of the field until the flareout had virtually been completed. The figure below depicts the pattern I was using (the broken lines indicate the pilot's line of sight during a landing).

I believe the visual sequence as depicted here will almost always result in a "driven-on" landing because:

- During the landing, a pilot will invariably fly the aircraft towards the "aiming point" at which he is looking,
- The visual sensation of looking at the ground in front of the glider is mesmerizing, and it therefore delays the completion of the flareout, and
- The pilot will not have levelled his glider with the ground (and therefore he will not be looking at the horizon) until the ship is nearly on the ground.



At the flare, the pilot's line of sight and aiming point should shift to the horizon.

In this sequence there is a danger area that exists between the point at which the flare-out begins and the point at which the pilot has established visual contact with the end of the field. In this area his line of sight is lagging behind the changes in the glider's attitude. If anything unusual happens in this area, the pilot has no established visual reference point which he can use to appraise the attitude of his ship and the degree of control deflections, particularly elevator deflections, that may be required to carry out a safe landing.

It wasn't until I mentally took several of my landings apart that I was able to model what in fact I was doing. From that moment my flareouts began to improve. At the moment I think I'm landing our Blaniks softly, and presumably this is one of the reasons our CFI gave me his nod of approval to transition into the Pilatus.

Pilatus Characteristics

The conventional wisdom in our club is that the Pilatus, with its short fuselage and T-tail, is very elevator twitchy. It certainly is, compared to a Blanik or a 2-33 (the only other gliders I've flown), but of course this twitchiness is manageable. If I have any complaint about the Pilatus, it's the common one that its ailerons are noticeably less responsive than its elevator. But in this respect the Pilatus is like a very beautiful woman who has a slight flaw if we have any sense we learn how to live with it.

Previous Pilatus Flights

I flew the Pilatus for the first time 12 days previously. On that flight I had mild PIOs during the first stages of the tow but quickly got it in hand. When I landed late in the day the air was smooth and I flared out a bit higher than I normally would. The landing was relatively slow, 47 knots, and well done. No problems. Flight time was 30 minutes.

Making the transition to the Pilatus was an experience I will never forget. The flight was unremarkable, but in those brief 30 minutes I literally fell in love with this aircraft. Flying the Pilatus was such an intense personal experience that I knew my flying career had been permanently changed, not because I had flown my first single seater, but because, if anything, I knew then I loved this sport even more than I had imagined.

As I was tying the aircraft down Lloyd came over, trying hard I think not to smile. I said to him, "I knew it was going to be nice, but I didn't know it was going to be that nice!" His reply, and I think I remember it verbatim, was, "that's alright, just wait until you have your first hard landing with induced oscillations!" Little did I suspect.

When I arrived at the field the following Friday, it was suggested that I try for the five hours, and I readily agreed. Unfortunately I didn't make it, but I did get up to 11,000 feet and I flew for a little over three hours. After about 40 minutes at 11,000 feet, without oxygen, I developed a slight but persistent headache. I came down to 8000 feet, and then to 4000 feet, and I found I really had to concentrate to fly well. After three hours I was down to 3000 feet and struggling, and I realized that I was working far too hard and not flying nearly as well as I should have been. Two more hours of this was more than I wanted to face. I decided that I wasn't ready for five hours, so I lowered the gear and entered the circuit.

The wind socks were gusting straight out and bouncing left and right, a sure sign at Hope that the circuit, and particularly the final glide, will at least be interesting. I trimmed the ship for 57 knots and came in. On the flareout I really had to struggle to keep the wings level and I pulled out a little more spoiler to get the ship down (a dubious move at that point).

I should have realized the significance of what I had just done with those spoilers, i.e., if the additional spoiler increment was that effective near the ground, then conversely less spoilers, particularly when the glider is in ground effect, would be similarly effective in reducing its rate of descent. Changes at this stage in a landing are dicey because they cause a new visual perspective to which the pilot must quickly become accustomed.

I wasn't thinking, probably because I was tired and still pretty euphoric about the flight, my highest and longest to date. In any case we pulled the aircraft off the line and I went to find some water.

About an hour later I was debating whether to take another flight. I still had a slight headache, but I felt rested and alert and I thought, "Why not? ... just go up for a short while, nothing strenuous, and then land by the tiedowns." I flew about for an hour at 4500 feet and I decided I'd had enough. I pulled the spoilers, lowered the gear and side-slipped down to circuit height. The wind conditions appeared to be only

slightly less boisterous than earlier in the day. I trimmed the aircraft for 55 knots and came in. The landing occurred about as follows:

- a. Final glide...55 knots...half spoilers.
- b. I began the flare. I remember sensing that it looked good, but I'm sure now that I was late in transitioning my line of sight to the end of the field.
- c. I either pulled up the nose too far as I was looking up to locate the horizon (very likely), and/or I hit a gust, giving additional lift. In any case the glider surged upward and the nose was high.
- d. I moved the stick forward; too far. I sensed the nose was now low and I pulled the stick back, but only managed to level the ship before it bounced on the main wheel.
- e. As the ship bounced I was slammed downward and driven back into the seat. I presume I pulled the stick back even further.
- f. As the craft surged upward and forward, nose high, I closed the spoilers. My fleeting intent was to regain a flying attitude and re-land. In effect all I accomplished was to change the glider's rate of ascent and to add to my confusion in attempting to establish a stable and horizontal visual perspective.
- g. Attempting to level the glider, I pushed the stick too far again. Then, realizing that the nose was down, I pulled back on the stick but only managed to level the ship to the extent that it bounced again on the wheel. I was slammed downward and driven back into the seat, AND SO THE REGIME WAS ESTABLISHED!

I think I lost it between the second and third bounce; by then I had established an oscillating system. At that point it was merely taking me along for the ride. It wasn't until I was about to stall (at that point the ship had bled off most of its momentum) that I felt in any sense able to regain some measure of control. But by then I was pretty shaken up and it was probably too late. In any case I instinctively put the nose down — and that was the end of it.

One might expect that these oscillations would gradually damp out as the glider bled off momentum. But this was not the case. As I became increasingly disoriented, my elevator deflections became more severe and I had the distinct impression that the amplitude of the oscillations was increasing. I would think that if a pilot is in a regime in which the amplitude is relatively high and the wave length is diminishing, which is what will happen as elevator

deflections become more severe, then he will get increasingly disoriented.

An insidious enemy that a pilot faces is excessive approach speed. Given severe elevator deflections, the aircraft's potential for oscillation amplitude is mainly dependent upon the effectiveness of its elevator and the aircraft's momentum. And since momentum is a product of mass and velocity squared, any excessive approach speed can be a real hazard if a PIO situation develops.

What Were the Causes?

In the main I think that this hard landing was caused by my poor judgement. In other words, given the length and nature of my first flight that day, my lack of experience in this glider type, the wind conditions near the ground, my slight headache, and my probable fatigue, I had no business taking that second flight.

Of course we can add to this the fact that I didn't transition my line of sight to the horizon as soon as I began the flareout, the excessive elevator deflections, and the fact that I closed the spoilers in almost the worst of all possible situations.

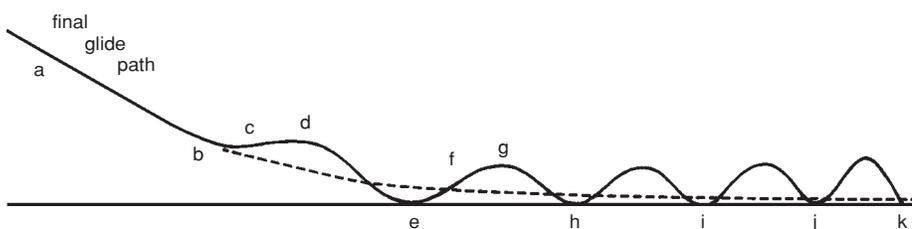
When all is said and done I'm just damned lucky, and grateful, that I didn't hurt myself.

Recommendations

- When transitioning to a new glider, particularly if you are a relatively new pilot, or you have only flown one glider type in the past, your first few flights should be made in calm air.
- It makes sense not to have excessive approach speed, particularly if you are flying a ship that is noticeably pitch sensitive.
- If your ship is properly trimmed for your selected approach speed this will in effect "centre" the stick. If you begin to oscillate you will have a more immediate sense of where neutral is. Of course during the flareout there will be some back pressure on the stick, but in the event that you begin to oscillate, your first recovery priority will be to centre the stick and freeze it.
- The very moment that you commence your flareout, transfer your line of sight to the horizon and keep it there. It is the only stable reference point that you have.
- Unless it's absolutely necessary, your spoiler setting should not be changed once you're below 100 feet. Any spoiler change when you're close to the ground will disrupt the flare and touch down.

If you begin to develop PIOs:

- Immediately centre the stick and then freeze it, regardless of the forces acting on your body. This maneuver will be more difficult in those ships where the stick is located some distance forward from your body.
- Locate your horizon and visually lock onto it. This is an absolute priority. Once you lock onto the horizon you can make gentle elevator deflections to correct the attitude of the aircraft. Your body will do the rest. You will invariably fly to that point at which you are looking.



A landing with severe pilot induced oscillations superimposed on the normal glide path.

PUBLICITY HANDOUTS

A club visitor who can leave with something in their hand may well come back.

Joe Somfay
Publicity Chairman

Excellence is an image all successful commercial ventures try to project. This is done through advertising and all personal contact.

An excellent recreational club can project "togetherness" and confidence when it provides a newcomer with a package of coordinated material that explains about the recreation/sport, the club, the costs, the benefits, and the obligations.

A club can project a strong professional image by providing the visitor with a classy brochure describing soaring as a sport, the club and its amenities, the costs, and answers a few standard questions. The brochure should invite the visitors for an introductory flight, provide a map, perhaps a list of upcoming events, open houses, fly-ins and displays. Copies of recent articles explaining the club's accomplishments may be enclosed to indicated up-to-date noteworthy activity.

Utilize photographs to pictorially explain an intro flight. A series of pictures taken from the inside of a glider could describe what the would-be pilot will experience during the flight. This would help relax a nervous person. Have available a book that will explain some of the soaring basics so a visitor can refer to it while waiting their turn to take off. Bound copies of *free flight* and *SOARING* magazines can similarly help the interested visitor and pilot.

When a visitor drops in to the club, they have already made a big decision to find out about this fascinating sport, now it's up to the members to keep these interests heightened and rewarding. When a visitor returns you will know they are hooked.

If possible, have the visitor fill in a visitor's book, write down their address, their impressions and how they came to seek out your club. This way you will be generating a mailing list for the announcement of the next season or the next event. The postage will be well worth the personal interest and response.

Most glider pilots will meet people in their everyday life who exhibit interest. Invite them out to the field for a flight, supply them with a brochure and give them your card for future follow-up.

Some clubs have produced cards with the names and phone numbers of their willing members with an attractive photo of a glider in flight and a map to help orient the visitor. These cards are inexpensive to produce in large numbers and become mini-posters for publicity.

Produce extra cards without names for those who do not wish to have their own but may be willing to give them away to selected acquaintance.

Packages consisting of brochures, articles, cards and posters can be given away at events, especially at presentations to schools, at libraries, community group meetings and at work. Equip every member of the club with these packages so they can each become a goodwill ambassador.

The club brochure

What can clubs put into a brochure for quick, simple and informative message:

- Club name, logo, location, address and phone number.
- What soaring is. Explain the joys of flight. Use simple photographs. 'Screened' photos reproduce well even on the office copier.
- Why your club — list advantages, attractions, social contact, equipment, etc. Don't be shy, you exist and you are successful — tell others.
- Show photos of facilities, aircraft, scenes of people enjoying the sport. Photos from other publications can be used for this purpose (be careful of publishing rights).

- Provide the name of someone to contact and phone who can follow up the contact, explain the sport and the club's inner workings.

- Project an up-to-date image and make the 'sports car sell the sedan' — show photos of your most up-to-date equipment.

- We fly because it is fun. Let others know. "Welcome to the Wonderful Sport of Soaring" etc.

Paraphernalia for "Take-Out"

Ever think of how the tourist industry thrives on historic towns, recreation parks, and fairs?

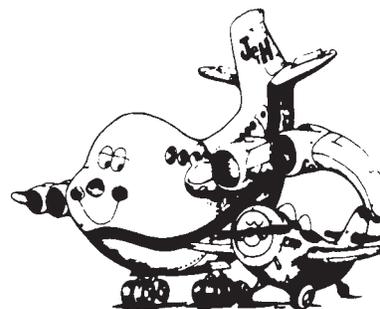
Everyone has the opportunity of commemorating their experience with a memento, an object or souvenir that will bring back pleasant memories. Think of Oktoberfest, the CNE, county fairs, the Stampede, the many festivals, etc.

The tourist paraphernalia business is a multi-million dollar industry that thrives on "take-outs". What could a soaring club provide? Lots. Ideas such as:

T-shirts, crests, gift certificates, cards, note paper, mugs, lighters, posters, calendars, badges, buttons, stickers, bumper stickers, caps, lapel pins, transfers, etc. have been successfully sold as mementos at many different clubs overseas and in North America. Clubs not only have the opportunity to advertise themselves via this method but also have the pleasure of being paid for it.

Don't try to do it all at once as large volumes of each item will cost a lot, but a large number of one item can quickly return the investment and free the money for another item. Think of those available from SAC.

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Be generous. Give something away to a visitor. A walking advertisement (such as a button saying, "I have soared with eagles at xyz club") and the smile on their faces will be well worth the effort. □

PUBLICITY PROGRESS

Congratulations to the Vancouver club for publishing its own Marketing Page in the "Vancouver Soaring Scene". Some of their ideas are:

- Having a director of marketing and a group of assistants.
- A comprehensive organization dedicated to promotion of rides and membership.
- Sequence of comprehensive literature on soaring, club information, cards and recording of names, addresses and phone numbers of visitors for future follow-up.
- "Certificate of Accomplishment" given to first time flyers saying "I flew in a sailplane," etc.
- Taking of souvenir Polaroid photo of intro passenger and,
- Emphasis on greeting, orienting and making comfortable a visitor to the club.
- Social memberships to keep less active pilots in touch.

Congratulations also to the Rideau Valley Soaring Group for instituting the following ideas:

- Glider fly days, advertised by posters and local media, etc. inviting visitors for an open house type of event.
- Displaying glider and literature at air shows where contact is made with already converted flying enthusiasts.

Make marketing an evolutionary process. Why should we market soaring, after all it's a self-evident fact that it's a fabulous sport. Right? Sure it is, but we fly high and go quietly.

Efforts like these help make our sport more and more popular one step at a time. Don't be discouraged if all the contacts you have made at a display don't turn up with money in their hands, ready to sign up for memberships the following Saturday morning. The selling of recreation and a lifestyle commitment is a slow process. Both time and funds will be committed by the converted to be a pilot, mostly TIME. These considerations will effect the person's lifestyle and hence will need to be carefully considered.

Keep a visitor log book and have them fill out name, address, phone number; but most of all ask how they got to know about your club. At the end of the season you will be able to gauge which publicity efforts were most and least fruitful (different regions will experience different successes). Follow up the names in the book, especially the ones who became members and have them give you feedback on your techniques of selling/marketing and what attracted them to your club and the sport. Most important, set a goal for the next seasons and work towards it. □

free flight 6/85

continued from page 15

• You may be in a situation in which you have already bounced once or twice, but you have still managed to maintain the ship's attitude parallel to the ground. In this situation just keep the stick frozen and bounce down the runway. The oscillations will dampen out as the ship loses its momentum, provided you keep the stick neutralized. Gliders are very strong and if you damage the main gear, this is probably preferable to the damage you risk if you develop into a full blown PIO regime in which the attitude of the aircraft is constantly changing. **Remember, hold the glider's attitude level, keep your eyes on the horizon, and sweat it out while letting the airspeed sort itself out by itself.**

Of course the best way to handle PIOs, and I should be echoing everyone's sentiments here, is to avoid them in the first place. □

CFI's comments

• This report is a well thought out analysis. I wish everybody who is involved in an incident could do as thorough an analysis of what they did wrong and what they should have done.

• The pilot involved was over-enthusiastic in that he undertook to fly an aircraft for which he was only just checked out without adequate supervision.

• The pilot ignored warning signs that he was not fit to undertake the second flight – "the slight headache."

• The pilot ignored the fatigue factor, and as a heavy smoker, his tolerance for extended flight at high altitude may be expected to be less than a non-smoker. His period at 11,000 feet may have had as much effect on him as a flight to 16,000 feet by one without the vice.

• The pilot became complacent after making two good landings in the Pilatus after having been warned that pilot induced oscillations were almost certainly going to occur on one of the early flights. Failure to heed advice to have the wrist braced (resting lightly against the thigh is one way) to prevent sudden movement, aggravated the PIO situation – the curved stick helps inertia forces influence the pilot's hand movement during pull-ups and reactions to bounces. □

A ROPE BREAK INCIDENT

Date 12 October 1985, 13:37 hours
Place Cowley airfield, Alberta
Aircraft ASW-15 C-FRXQ
Pilot Gerhard Schaefer, ESC

The aircraft was observed in the circuit with several long loops of a towrope draped around the leading edge of the right wing and trailing below and behind. One length of rope was over the right elevator. The glider landed OK.

Pilot's Report

My takeoff was into wind, which was gusting to about 30 mph. At a thousand feet agl there was strong turbulence which felt like rotor, and at 1500 feet the towplane rose sharply in 1000 fpm lift. Following that, the tow rope became slack. Despite full right yaw, the ensuing tightening of the rope broke it at the towplane end and it came towards me. I released immediately and stayed in a right turn.

Checking the right side, I noticed both ends of the rope draped over the right wing: the towplane end over the spoiler and the glider end over the wing root. Still climbing at 6200 feet (2200 agl) I looked backwards to see if there were any other loose ends and seeing none I thought that they might be wrapped over the tail of the glider. I tried to dislodge the rope by an ever steeper turn, and the loop over the spoiler slid off (towards the root.). With further maneuvering, the control operation felt free. I then pulled the spoilers and entered a normal landing pattern keeping the speed high. I landed after ten minutes of airtime (which seemed like an eternity).

On inspecting the glider we discovered that the Braunschweig tube located behind the turtleneck had been broken off, otherwise no damage. My first thoughts after the rope break were: stay in that lift, check the controls, and if something is not functioning at least I'll have more time to think things over or bring them under control. I had hoped that the rope would eventually slide off, but when it didn't I decided to go down. Since I didn't announce any of this over the radio, I was amazed to see the anxious crowd lining the field.

Tow rope condition The rope had a new and serviceable weak link on the glider end. The break was located right at the ring on the towplane end, and the rope showed old fraying. The condition of the rope where it was looped around the ring was not visible prior to the break as it had been taped over to prevent abrasion. The break was apparently due to a history of gradual filament failure under the cyclic stresses imposed on them at the weak point where the rope is bent sharply around the ring.

One obvious recommendation Don't tape up the splice on the rope ends so that visible inspection is easy. Accept the increased wear, and renew the splices often. □

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HANGAR FLYING

Compiled by Tony Burton

ONTARIO SOARING CHAMPIONSHIP

The 2nd annual Ontario Provincial Soaring Championship was held over five days during the last two weekends of June at SOSA. The contest was organized by Stan Janicek with the assistance of various members of SOSA under the auspices of the Ontario Soaring Society. Art Schubert acted as Competition Director again.

Sixteen pilots were entered in the handicapped Sports class and six in the Novice class. On the first weekend, 22 and 23 June, rain on the Saturday, then high winds on Sunday, blanked any scoring for both classes.

On 29 June, the 153 km triangle for the Sports class was finished only by Stan Janicek in his Nimbus II at 53.3 km/h, while no other pilot reached the second turn-point. The Novice class had a "no contest" day as only one ship scored a distance. Sunday, the "fourth" day, proved to be the best one. Nine competitors in the Sports class completed the 179.5 km task, won by Chris Wilson at 71.9 km/h. The novices were "no contest" again. On Monday, although the pilots were tasked and marshalled, the weather refused to cooperate and the day was scrubbed.

The top three for the Sports class were:

1st	Stan Janicek	Nimbus II	1751pts
2nd	Wilf Krueger	ASW20B	1445
3rd	Chris Wilson	Mosquito	1368

The OSS thanks all who participated and especially thanks those who donated their time to help run the contest. Let's hope for better weather next year.

Art Schubert

GROB TYPE CERTIFICATES

Two more Grob aircraft have now received Canadian certification. The G-109B motor-glider has type certificate A-144-Issue 2, and the G-103A Twin II Aero received type certificate G-150-Issue 3. This completes the Canadian certification of all current Grob products.

An Acro has already been imported by a club near Toronto and a G-109 motor-glider is flying with the BC Air Cadets.

It is believed that the G-109B is the first motor-glider using the forward engine and full-featuring propeller of European make to be type certified in Canada. Deliveries of both aircraft to the Grob dealer are expected during the winter and spring.

A TOW PILOT COMMENTS ON TOWING INSTRUCTIONS

Communication from the front (of the rope) re messages on tow tickets:

We've had yet another season of ad hoc bleatings from our underprivileged brethren (and sistern) at the rear; generally regarding altitudes and upwinds, snap rolls on tow, and other personal fears and fetishes.

Since these people serve only to add drag to an otherwise smooth and elegant flight, most towpilots are inclined (quite rightly) to ignore their scribblings. This being the case, I recommend that the flock use a standard message format. The following is simple enough for the Great Unwashed to learn by heart; it properly recognizes the relationship between the Puller and the Pullee; and it relieves the soaring serfdom of that burden of composition which so clearly strains their overtaxed and limited imaginations. It is:

**Lead us into good Lift
And deliver us from Sink
For Thine is the Ticket,
The Power, and the Towrope,
Forever. Amen.**

from Cu Nim "Barograph Traces"

YOUNGEST DIAMOND PILOT

The youngest pilot in the world to earn the Diamond badge is Franck Verneuil of Bailleau, near Paris. He got his final Diamond with a height gain at Vinon, France in January, 1985, three months before his 18th birthday.

\$1500 TRANSLATION GRANT

SAC has received a contribution, jointly funded by Secretary of State and Fitness and Amateur Sport, of \$1500 related to the work of the National Office to provide French language soaring manuals within SAC.

CANADIAN AIRSPACE REVIEW

Transport Canada is conducting a review of the use of Canadian airspace, and has invited SAC participation as a member of the sport aviation community. SAC has expressed interest in participating in the Task Group relating to sport aviation and in being made aware of potential changes to high level airspace as it could affect high altitude reservations for wave flying, and in work on Class F airspace related to soaring alert areas.

Dave Tustin, chairman of SAC's Airspace committee, will be our contact with TC in this review.

HEAVY RAIN CAN CUT LIFT 30%

Glider pilots caught in a sudden rain squall run the risk of a drastic reduction in wing lift, according to a recent NASA-funded study by the University of Dayton Research Institute.

Reviewing several accidents, the study says that heavy rain "was at least as significant as wind shear in some accidents — and may even have been the total cause."

Intense rain beating continuously against the wing appears to have the same effect on the airfoil as a layer of frost or ice. At higher angles of attack, it's estimated that water can distort the airfoil shape and reduce lift by as much as 30 per cent.

That's enough to affect the performance of any sailplane, from gliders to light aircraft to heavy jets. After reviewing the official reports on several airline accidents, the research institute points out that "the effect of rain was not taken into account."

"We believe that this heavy-rain factor — totally neglected in accident investigation — produced significant aerodynamic penalties and resulted in a serious overestimate of wind shear as a cause of thunderstorm-related accidents. Penalties associated with heavy rain can be of the same order as those associated with wind shear."

What to do if caught in an unexpected shower? Keep bank angles shallower and keep the speed up.

from SOSA News

CROSS-COUNTRY (WITH A LITTLE HELP)

*Could it be but ten minutes ago
On singing uplifted wings,
Triumphantly brushing the streeting cloud
I rode the invisible springs?*

*Now, 20 k out and a thousand feet up
In a bowl of arid blue,
Lord of the Skies,
Give me just one more
and tonight I'll drink to you.*

*When did elation fade?
Becoming bleak despair.
As steady sink replaced wild rush
Through the buoyant air.*

*Dull, lifeless, flat, like long-poured beer!
What causes the air to die?
Lord of the Skies,
Breathe life again
Into this turgid sky.*

*A murmur — a lift — a cautious turn
A rising joyful shout!
Lord of the Skies,
(Just between you and me)
Thank you! Over and out.*

from Sailplane and Gliding

RIETI 1985

An assemblage of results, facts, and observations on the World contest in Rieti, Italy this summer. It will be remembered as one of the most eventful.

15 Metre class 12 contest days, longest task a 575 km polygon, fastest flight by Laurens Goudriaan of South Africa at 125.9 km/h on a 470 km polygon. Top three pilots:

1 Douglas Jacobs	USA	LS6	10902
2 Simo Kuusisto	Fin	LS6	10237
3 L. Goudriaan	RSA	ASW-20	10115

Open class 11 contest days, longest task a 751 km triangle, fastest flight by Bruno Gantenbrink of West Germany at 142.7 km/h on a 474 km triangle. Top three pilots:

1 Ingo Renner	Aus	Nimb3	9927
2 Frederico Blatter	Switz	Nimb3	9504
3 Klaus Holighaus	Germ	Nimb3	9228

Standard class 11 contest days, longest task a 505 km polygon, fastest flight by Andy Davis of England at 117.3 km/h on a 313 km triangle. Top three pilots:

1 L. Brigliadori	It	Discus	9706
2 Peter Lackner	Germ	Discus	9510
3 Eric Mozer	USA	Discus	9397

101 pilots competed from 26 countries.

Weather A tricky combination of mountain thermals, slope soaring, wave, and sea breeze from both coasts. General daily prognosis always affected by "local" effects which could not be forecast. The different orographic influences always demanded new ideas and solutions to keep flying, and trained attention to changing weather was absolutely necessary; so was the exchange of experience with team members regarding critical on-course actions and the alternatives. As usual, super practice day conditions diminished during the contest.

Terrain/Airspace The task area was 50-60 km wide over the mountains down the spine of Italy. Outlanding prospects generally poor to impossible. Fields in mountain areas quite small and surrounded by trees. The cultivation practices resulted in ditch-like depressions in fields. Particularly hazardous to outlandings and slope soaring were many high tension and telephone wires. Outlanding required good planning to avoid these invisible obstacles. There were 20 outlandings with damage including six totals, and there were two mid-air with no injuries. The third day was a disaster, with ten ships broken.

Photography Organizers demanded the highest standards of photography, and pilots had difficulty with the similarity of many communities. Some of the required entries and exits from turnpoints created traffic problems for the pilots.

Task Setting The Italians were not afraid to call for long tasks, and the meteorologist liked to be optimistic. This produced tasks that, like in the Châteauroux contest, tended towards endurance rather than speed. The difference in Rieti was that once

the thermals quit one could still slope soar, and many flights continued until daylight ended. The longest task ever set in a world contest, the 751 km Open class triangle, was completed by nine pilots.

People The Australians and New Zealanders put in weeks of mountain soaring in Italy prior to the contest to gain the critical mountain experience enjoyed by the Southern Europeans. Ray Lynskey of New Zealand was leading the Open class by 230 pts until he crash-landed only 56 km out in an alpine valley on the last day and dropped to 5th. A similar fate befell Leutenegger of Switzerland who crashed his Discus only three kilometres short and, being the only non-finisher, dropped from 2nd to 11th on this last day. An 880 km triangle was flown by Holighaus and Gantenbrink at 118.8 km/h during the practice period. These were the longest flights ever completed in Italy. Special glory must be felt by Leonardo Brigliadori, long-time Italian competition pilot, to win the Standard class on home turf.

NEW X-C DIAPERS

I suspect that pilots, particularly women, may be interested in a new product on the market.

Known as ATTENDS brand "incontinent briefs", they are essentially very sophisticated disposable diapers for adults. They may well prove very useful to pilots who have difficulty making long flights without experiencing the urgent need to void.

Although I have not personally tried this product, those who use them for medical reasons such as incontinence find them comfortable, dry, odour-free, and discrete. Certainly, the alternatives such as restricting fluid intake to "last longer" are much less desirable and safe. ATTENDS are available at pharmacies and medical supply outlets.

Rick Zabrodski, MD CuNim

"CHEM" LE CHEMINANT ILL

Many members of SAC will know Chem as one of the early members of SAC who had been active in many aspects of soaring in Canada until ill health stopped his participation a few years ago. He is presently back in the Kingston General Hospital with further problems, and perhaps his old friends could send him a word of cheer.

NOTICE OF ANNUAL MEETING

The Annual General Meeting of members of the Soaring Association of Canada will be held at 0930 on Saturday, March 8, 1986, at the Broadway Holiday Inn, Vancouver.

Members will be notified of meeting rooms and ancillary events prior to the AGM.

Bob Carlson, President SAC



J.M. Matheson
Executive Director
& Corporate Secretary

COMING EVENTS

Oct 22 and consecutive weeks, **Glider Ground School** taught by Bob Kurzwernhart at Mohawk College, Hamilton, Ontario. Cost \$65. Call (416) 575-2139 or 2036 for info.

Jan 15, and 10 following Wednesdays, **Glider pilot ground school** taught by Paul Moggach at Bathurst Heights Secondary School, Toronto. \$30. Call (416) 789-0551 to register.

Mar 7-8, **1986 SAC Annual General Meeting**, Vancouver, BC.

SAC SOARING BROCHURE

Joe Somfay, SAC Publicity Chairman, is working on a super SAC brochure to be made available to all clubs for publicity purposes.

He needs colourful photographs (colour preferred) of soaring, sailplanes, thermal gaggles, wave, scenery, people having fun, take-offs, tows, winch launches, etc. to help illustrate the planned brochure. Joe would like to produce it this winter. Give him a hand by sending him your good photos. Do it now, not tomorrow.

CROCODILE CORNER

Pilatus B4, C-GXWJ, Cu Nim, 14 Oct. Wing folded while airborne. Glider destroyed. Fatal. \$19,000.

Blanik L13, C-GKMY, Vancouver, 1 Sept. Hard landing by student. Wrinkled fuselage skin. Claim open.

Skylark 3B, CF-ZDJ, Gatineau, 31 August. Struck tree on landing approach. Probable write-off. \$7500.



CLUB NEWS



POLAROID AND PR

Like most soaring clubs we have our share of Day Members who visit Erin Soaring to learn about our sport and experience flying without an engine. We encourage these visitors as they are the best source for new members – once they try it they may get hooked like the rest of us!

Many of the Day Members who have a flight with us will tell their friends and relatives and in the following weeks we will have additional visitors who come to see for themselves what soaring is all about. There is nothing better than “word of mouth” advertising to get the message across.

To reinforce the enthusiasm of our Day Members, Erin Soaring has recently presented a souvenir photo of our visitor seated in the cockpit getting ready for the flight. The Polaroid photo is ready for the visitor upon landing and they almost always turn out OK because the camera is virtually “idiot proof”. Mike Tator, a new student member at Erin, is in the printing business and designed the folder for the pictures. The front of the photo folder is shown. Inside, next to the photo, is an “introductory flight log” giving pertinent details such as date, aircraft, place, altitude, duration, pilot’s signature, and the address and phone number of the club.

Bob Nancarrow
Erin

BULKLEY VALLEY SOARING

The club has commenced some tentative cross-country flying this season. Paul Chalifour made a cautious trip to Houston in mid-August, never going below 11,000 feet. He could not get enough height to assure himself of getting back to Smithers, so he landed at Houston airport and got a tow home.

They have also started exploring the mountains around Smithers and are finding good lift. The area is reported to offer very good mountain soaring with strong wind shadow thermals developing on the leeward slopes.

The club made a soaring promotion trip to Houston and did a considerable amount of flying there on 18 August. Paul reports a good deal of local interest which could result in a club forming.

COWLEY WAVE ON SCHEDULE

Three good days of better wave greeted pilots from the Edmonton, Calgary, and Medicine Hat clubs at the Cowley Wave Camp 11-14 October.

The first wave flight actually began on Thursday the 10th, when Bruno Schrein aerotowed in from Medicine Hat in a Blanik (wind gusts up to 40 mph and a damp field from a snowstorm three days previously prevented other early arrivals from Edmonton from flying). Bruno released over Cowley and found lift close to 3000 fpm in the lower levels which quickly took him to 20,000 feet. As there was not much oxygen on board, Bruno descended at that point back to 6000 feet, and repeated the ascent two more times before landing on the empty airfield. Not a bad experience for a first time wave flight, eh?

The 11th gave the few pilots there some very windy thermals to work. On the 12th, the camp began in earnest, and the day provided moderate wave into the teens with one pilot reaching 20,000 feet. The next day, Sunday, was the “honker”. The morning launches gave 1000 fpm average in the lower levels with 300 higher up. The wave structure continually changed, and the secondary wave appeared then vanished with shifts in wavelength. Stronger winds in the afternoon encouraged extra care, speed and height in the circuit – and for a short time the ground operation was shut down. Pilots already aloft were getting easy rides to the top of the airspace reservation of 28,000 feet; however, heavy overflying traffic severely limited clearances above that. A few got 29,000 feet and Mike Apps got to 32,000. Fritz Bortenlänger of Cu Nim reported 1000 fpm lift at 26,000 ft during his climb, with lenticulars well over 35,000! Some pilots reported strong clear air turbulence within the wave at the 25,000 foot level. Over twenty pilots had flights to the top of the block, with seven earning their Diamond climb: Al Sunley, Mike Apps, Bruce Friesen, Ole Madsen, and Jim Feyerer of ESC, Terry Southwood of SAGA, and Bruno Schrein of Blue Thermal (Rick Zabrodski of Cu Nim lost his due to an interrupted barograph trace). Gerhard Schaefer of ESC and Don Jessee of SAGA got Gold. The day was topped off by what is obviously going to become a wave camp tradition, with the 2nd annual evening Glühwein warm-up in the campground kitchen.

On the 14th, the day dawned with a complete overcast (with evidence of an underlying primary rotor) and a weather forecast of rain coming in, so most people began breaking camp and leaving. However, by 10:00 the overcast thinned and windows opened, and the day turned out good again, although the upper level winds were too far out of the northwest to have a repeat of the previous day. The wave peaked around 27,000 feet.

This last day of the camp was tragically marred by the death of Jack Davies of Cu Nim, who died instantly in the crash of the Pilatus B-4. A report of the crash appears on the facing page.

Tony Burton

TRY THE BUDDY SYSTEM

The buddy system is used by the Victoria Flying Club. When a student pilot is about to get his licence, he or she is paired with an experienced club member. This “buddy” helps the new pilot discover the enjoyment and adventure available to the new pilot now that he or she is licensed. The buddy offers to go with the new pilot on a cross-country trip, to Vancouver or Seattle perhaps.

In this way, the newcomer has the opportunity of trying his “wings” without having to go it alone, the buddy provides advice and a security blanket at a time when it is most needed. The program assists the transition from student to pilot in a way that permits the gaining of pilot experience in a safe and effective manner.

from the RCFC “Bulletin”

This is a great idea which could easily be adapted to soaring — and helps dissolve the new/old member division which tends to develop within clubs.

FORT ST. JOHN CLUB

Restoration work on the club’s TG3A is progressing. The project has turned out to be much larger than originally anticipated, and will take a concerted effort by the club members to finish it for the start of the next season.

Recently the club was offered the use of an airstrip owned by one of the local farmers and wasted no time in getting equipment out to upgrade it. The strip will be ready for use next season, it is hoped.

The club is looking for a good, low-cost trainer (2-22 or equivalent) to purchase for the next year. Any reasonably priced ship will be considered, and anyone who has or knows of one is asked to call Ron Murchie (604) 785-6381 or Phil Wroe (604) 787-7629.

from BC Soaring News

BLUENOSE NEWS

The club entered 1985 with 22 members from the previous year, or about a 30% attrition. It was decided to balance the intake of new students against the workload that the instructors were prepared to accept.

A flying week was arranged to consist of ab-initio and pre-solo instruction in late May, with the prior two weekends used for registration and familiarization. The club was most fortunate to be able to borrow the 2-33 from New Brunswick Soaring Association for the flying week and two subsequent weekends. With this glider added to the 2-33 and K7, it was possible to do consecutive winch launches with a 9-10 minute turnaround and still allow enough time for briefing and debriefing.

Many students stayed at the field overnight, so that an 0800 start was possible each morning to provide calm air for the beginners. The weather was reasonably helpful, and the two half days of rain were used for ground school and the collection of wits. A very busy week was enjoyed with three instructors always in action.

By the end of June all students were solo, and by the end of August all but one were solo in the K7 and K8 and enjoying local soaring.

Our second flying week was aimed at cross-country tasks. Some field identification and observation from the air was arranged, and later in the week a towplane was on hand for aerotow checkouts. Dan Chisholm was checked out in the towplane by Debra Burleson. (I know this is how the world away from Stanley lives, but a confirmed winch pilot is turned a light shade of green going over the fence at 200 feet staring down into alligator's gullets!) Unfortunately, only the weekends were soarable and cross-country flights were few. C-GUIL (an Open Cirrus) was heard from by radio low over a very distant field far upwind whimpering about a possible landout, but it was finally dug out of the hole and returned home with a pilot a little damp about the brow.

Our instructor candidate Jamie Moreira returned from the Eastern school with top marks and has finished his Silver C.

PUBLICITY VOLUNTEERS WANTED

If you have the gift of the gab, or "connections", and energy and drive, Joe Somfay wants you. The Publicity committee needs members to popularize the sport, help clubs, mount major fund-raising campaigns.

Call Joe Somfay at (519) 836-1201 (B)
(519) 846-5085 (H)

"I also wish to solicit more responses from you regarding what SAC can do for you, and in return, what you are willing to do for soaring. **We are what we wish to be**, I cannot get excited about apathy. We have a growing population of would-be pilots to turn onto flying."

Preparations are now complete for Gold badge attempts by the K8 on the Annapolis valley North Mountain ridge. Now that a 300 km flight can be folded, the achievement will be rendered rather less risky by doing a turnpoint picture on the edge of the Digby Gut rather than having to hop across the briny to test our nerves on 350 foot ridges (*see story in 2/85*). Thanks to Tony for keeping us in mind.

In an attempt to increase launch heights, we bought some .093" diameter music wire. It worked well, giving a very smooth feel to the launch and at least 200 feet more height. However, after the first break in the wire we could not achieve a satisfactory splice and so have gone back to our last piece of 17 strand, 1/8" diameter wire. This wire will last to the end of the year, but we need information on a splicing system for music wire which will retain at least 70% of the strength of the wire.

Dick Vine

Here's a chance for someone to give Bluenose a hand. There are various splicing methods out there for single strand wire, some better than others. Give them a call.

ODDS AND ENDS

Winnipeg members are steadily emptying the job jar at Starbuck International, their new airfield. Low spots on the runways are being filled, the hangar now has power, the work bench has been cleaned off, and landscaping and electricity at the campsite is proceeding. New members in the coming years will never know the fun they missed. The new tip wheel on the 2-33 cost \$150! (*Drill a hole in a hockey puck, guys.*) Edmonton's work on their new clubhouse is looking good — lucky they've got an architect for a member, and a towpilot who can swing a hammer. Insulation and drywalling is due to go on this fall. Let's hope all these volunteers still remember how to fly.

PACIFIC SOARING CENTRE

This gliding group operates from Cassidy airport, just south of Nanaimo on Vancouver Island. The old Blanik formerly owned by Montreal Soaring Council is now flying there. The club made a mid-week expedition at the beginning of July to Princeton, aerotowing the Blanik from Nanaimo behind their Citabria. (*I wonder what height they maintained crossing the Straights of Georgia. ed*)

George Matthias (formerly of VSA) is now soaring his Ka6 with the group. He is finding the drive from Victoria to Cassidy a lot less arduous than the trip to Hope.

Steve Paton of PSC has been busy promoting soaring in the local area and reports that a Malispina College soaring club has been formed using the Centre's equipment, and there is a chance that the University of Victoria will form a club in 1986.

Steve also reports that the 8th and 15th of June were fantastic soaring days with some thermals up to 9 m/sec!

IN MEMORIAM

Jack Davies, 51, a member of Cu Nim, was killed instantly in the crash of the club's Pilatus B4 on 14 October west of Cowley, Alberta. Jack was an enthusiastic pilot and instructor whose smile and good nature was characteristic. He will be missed by his family and by all his friends in the soaring community who were buoyed up by his presence.

Eye-witnesses reported that very shortly after the B4 released from tow (at about 2500-3000 feet agl), its left wing folded upwards and the glider plunged vertically into the ground at high speed. Investigation at the crash site revealed that the pilot made no apparent attempt to bail out. Crash evidence revealed that the left main wing pin had worked out of the wing spar, allowing the wing to rotate about the remaining pin. The undamaged left pin was located beside the wreckage, and no safety pin was found. Prior to the flight it had been observed that the barograph was secured by bungee cords anchored to the wing pins. The evidence suggests that the unsafetied pin was progressively extracted from the spar with each load reversal on the wing by the tension of the bungee cord. Also prior to the flight the glider was being readied for disassembly when a report of good wave prompted the pilot to re-rig for a flight. This "broken" rigging sequence may be a factor in the wing pin not being safetied.

Friends of Jack may wish to remember him by a donation to the Jack Davies Memorial Fund, c/o the Cu Nim Gliding Club. This fund will be used to establish some permanent item or project in his name for the betterment of soaring in Alberta

Tony Burton

FATALITY AT COSA

Roger Crete of the COSA club was fatally injured in an accident in his club's 2-33 on 5 August. It has been unofficially stated that the crash was survivable, the pilot sustained a hair-line fracture of the skull.

The flight was progressing normally with a climb after release. The 2-33 then appeared to do a couple of stalls, then entered a steep dive (no spoilers used). At high speed, the right wing began to fail and break off. The glider struck a tree and stopped upside-down in a swamp. Although first aid was given almost immediately, the pilot appears to have suffocated on his own vomitus. The pilot was approximately 46 years old.

Our sympathies go to his relatives and friends.

Ian Oldaker

OCTOBER DIRECTORS MEETING

Al Sunley

Alberta Zone Director

The fall meeting of the SAC Board of Directors was held in London. Items of general interest which were discussed follow.

SAC Annual Report

The report has been published and delivered. The Maritime Director reported concern for the approximately \$5000 expense. The President reminded the meeting that this was the specific wish of the majority at the '85 AGM. Zone Directors are to solicit clubs on other methods of getting the information to the clubs; for example, would most members be satisfied with a three page summary in **free flight** and two or three copies of the full report sent to the clubs.

SAC Income Tax Number

Discussions are continuing with Revenue Canada as to the proper use (a grey area) and what areas of use would be in conflict with the Act.

Meteorological Committee

Sepp Froeschl has resigned as chairman. Nominations for a replacement are required from each Zone. Send names of candidates to Alex Krieger.

6 Year Plan

All 1986 events locations and dates are confirmed. Date of 1987 AGM in Montreal to be confirmed.

Airspace Committee

Airspace is involved in two major studies. The use of Class F airspace are week-long meetings which SAC is being represented by the RCFCA on our behalf. The second study now beginning involves the use of airspace by sport aviation, and we have indicated to Transport Canada that we wish to make specific input. We now have the use of 123.3, 123.4 and 123.5 MHz, shared with other users. When 720 channel radios become a requirement, it was recommended that we attempt to obtain an exclusive frequency for our use.

Flight Training and Safety

Clubs are to be better informed on procedures regarding accidents and incidents. Reports are to go to the National Office first for insurance notification and then to the Flight Training & Safety committee. It was stressed that quick reporting is of the utmost importance to the committee to help prevent future accidents. The committee is also rewriting the procedures for new club application forms to bring them up-to-date. Clubs should appoint a designated person to communicate with the media in the event of an accident.

Publicity

Three hundred calendars (Segelflug Bildkalender) are arriving to 22

supply the orders received. Selling price is \$15.00 including postage.

Sporting

There was discussion on the wishes of active contest pilots to have combined Nationals every year, and there will be a review of the current contest rules, particularly regarding the day devaluation formula. A set of contest requirements and information should be documented and kept in the National Office for reference. There was TC inspection of paperwork and aircraft at the contest.

Membership

There are still problems with some clubs not sending complete information on current and new members (no addresses or postal codes, or identification of married couples, etc.), and no or incomplete breakdown of monies sent in (how much for insurance vs membership). *This also affects tax receipt delivery.*

Financial

Membership income is projected to be down \$2000. Calendar sales down \$2000 from budget.

Insurance

The number of accidents is high but claims have not exceeded premium income (yet).

Technical

A question was raised on the requirement for persons requesting SAC type approval action to place a deposit of \$250 for the work. This deposit covers any committee expenses incurred and is also meant to discourage casual requests for this time-consuming service. There is ongoing work on motorgliders, with further information being sought.

National Office

It was recognized that there is a need to review what functions of SAC are properly handled by the office and what ones are better done by volunteers, and to establish priorities for the entire organization. This review will take place at the January meeting. Bill C-36, section 5.5 (regarding doctors reporting pilot medical problems to Transport Canada) has been opposed by SAC in a letter to the Minister. Pilots should also write (in long hand) to their own MP to voice their objections. □

Grand Canyon
video ad

SAC DIRECTORS & OFFICERS

PRESIDENT & DIRECTOR-AT-LARGE

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MARITIME ZONE

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TREASURER

Jim McCollum
Box 259, R.R. #3
Manotick, ON K0A 2N0
(613) 692-2227

COMMITTEES

AIRSPACE

Dave Tustin
581 Lodge Avenue
Winnipeg, MB R3J 0S7

FLIGHT TRAINING & SAFETY

Ian Oldaker
135 Mountainview Road N
Georgetown, ON L7G 3P8
Mbrs: G. Eckschmiedt
John Firth
Denis Gauvin
Alex Krieger
Chris Purcell
Manfred Radius
Ed Sliwinski
Al Sunley

FREE FLIGHT

Tony Burton
Box 1916
Claresholm, AB T0L 0T0

FINANCIAL

Gordon Bruce
Bob Carlson
Jean Matheson
Jim McCollum

HISTORICAL

Christine Firth
542 Coronation Avenue
Ottawa, ON K1G 0M4

INSURANCE

Al Schreiter
3298 Lone Feather Cres.
Mississauga, ON L4Y 3G5
Mbr: Al Schreiter

MEDICAL

Dr. Wolf Leers
#201, 3271 Bloor St. W.
Etobicoke, ON M8X 1E2

METEOROLOGY

Sepp Froeschl
1845 Brookdale Avenue
Dorval, PQ H9P 1X5

PUBLICITY

Joe Somfay
442 Union Street
Salem, ON N0B 1S0

SPORTING

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551 Bruce Avenue
Winnipeg, MB R3J 0W3
Mbrs: Jim Carpenter
Robert DiPietro
Karl Doetsch
Wilf Krueger
Al Sunley
Hal Werneburg

FAI AWARDS

Boris Karpoff
14 Elmwood Avenue
Senneville, PQ H9X 1T4

FAI RECORDS

Russ Flint
96 Harvard Avenue
Winnipeg, MB R3M 0K4

TECHNICAL

George Adams
12 Hiawatha Parkway
Mississauga, ON L5G 3R8

TROPHIES & CLAIMS

George Dunbar
1419 Chardie Place SW
Calgary, AB T2V 2T7

WORLD CONTEST

Al Schreiter
3298 Lone Feather Cres.
Mississauga, ON L4Y3G5

FAI BADGES

Boris Karpoff
 14 Elmwood Avenue
 Senneville, PQ H9X 1T4 (514) 457-9707

The following badges and badge legs were recorded in the Canadian Soaring register during the period June 1 to September 30, 1985.

DIAMOND BADGE

55 Ulli Werneburg Gatineau World Number pending

GOLD BADGE

219 Brian Hollington Vancouver

SILVER BADGE

712 William Couser Montreal
 713 Neil Graham Montreal
 714 Otto Doering Montreal
 715 James Fryett York
 716 Gary Burniston Cu Nim
 717 Fred Kallin SOSA
 718 Miroslav Stehlik SOSA
 719 David Beamish York
 720 Stephen Foster Toronto
 721 Robert Mercer Gatineau
 722 David Mercer Gatineau
 723 Charles Keith SOSA

DIAMOND DISTANCE

Ulli Werneburg Gatineau 503.5 km ASW-20 Pendleton, ON
 Frank Vaughan Gatineau 503.5 km ASW-20 Pendleton, ON

DIAMOND GOAL

Brian Hollington Vancouver 305.7 km IS29D2 Ephrata, Wash.
 Ken Langland Vancouver 305.4 km IS29D2 Ephrata, Wash.
 F.W. Black Gatineau 310.3 km Austria SH1 Pendleton, ON
 Terry Southwood SAGA 336.5 km ASW-20 Cowley, AB
 Paul Yardy COSA 309.1 km Jantar Std 2 Chemung, ON
 Peter Sully Gatineau 310.3 km Skylark 3B Pendleton, ON

GOLD DISTANCE

Brian Hollington Vancouver see Diamond goal
 F.W. Black Gatineau see Diamond goal
 Terry Southwood SAGA see Diamond goal
 Paul Yardy COSA see Diamond goal
 Peter Sully Gatineau see Diamond goal

SILVER DISTANCE

Otto Doering Montreal 58.7 km 1-26 Hawkesbury, ON
 James Fryett York 60.0 km Monerai Arthur, ON
 Fred Kallin SOSA 63.0 km Cherokee Rockton, ON
 Miroslav Stehlik SOSA 85.0 km L-Spatz Rockton, ON
 David Beamish York 60.0 km 1-23 Arthur, ON
 Stephen Foster Toronto 89.5 km Ka6 Conn, ON
 Robert Mercer Gatineau 62.0 km Skylark 3B Pendleton, ON
 David Mercer Gatineau 60.0 km Skylark 3B Pendleton, ON

SILVER DURATION

Michael Lohmann Montreal 5:15 Blanik Hawkesbury, ON
 George Winkler York 5:08 Arthur, ON
 Neil Graham Montreal 6:18 1-26 Hawkesbury, ON
 William Couser Montreal 5:28 LS-1C Hawkesbury, ON
 Elisabeth McCollum Gatineau 5:44 Skylark 3B Pendleton, ON
 Reg Nicholls York 5:29 Ka6CR Arthur, ON
 Leslie Waller Erin 6:15 Ka6CR Grand Valley, ON
 Gary Burniston Cu Nim 5:07 Mini-Nimbus Black Diamond, AB
 Herbert Schlutter Air Sailing 5:44 Ka6CR Belwood, ON
 Robert Mercer Gatineau 5:40 Skylark 3B Pendleton, ON
 David Mercer Gatineau 5:21 Blanik Pendleton, ON
 Monty Gray SOSA 5:27 2-33 Rockton, ON

SILVER ALTITUDE

Michael Lohmann Montreal 1677 m 1-26 Hawkesbury, ON
 Elisabeth McCollum Gatineau 1189 m Blanik Pendleton, ON
 Ron Feyerabend COSA 1219 m Astir CS Chemung, ON
 Neil Graham Montreal 1372 m 1-26 Hawkesbury, ON
 James Fryett York 1234 m Monerai Arthur, ON
 Fred Kallin SOSA 1157 m Cherokee Rockton, ON
 David Beamish York 1478 m 1-23 Arthur, ON
 Herbert Schlutter Air Sailing 1006 m Ka6CR Belwood, ON
 Stephen Foster Toronto 1326 m Ka6 Conn, ON
 Robert Mercer Gatineau 1341 m Skylark 3B Pendleton, ON
 David Mercer Gatineau 1707 m Blanik Pendleton, ON
 Ronald Lim Cu Nim 1700 m Pilatus B4 Cowley, AB
 Charles Keith SOSA 1219 m Twin Astir Rockton, ON

C BADGES

Michael Lohmann	Montreal	1:09	1-26	Hawkesbury, ON
Doug McIntyre	Regina	0:49	1-26	Strawberry L, SK
Howard Loewen	Winnipeg	1:39	1-26	Starbuck, MB
Charles Burbank	Borden	1:01	Tern	CFB Borden, ON
Paul Moffat	Winnipeg	1:13	2-33	Starbuck, MB
Neville Robinson	Winnipeg	2:59	Bergfalke II	Starbuck, MB
George Winkler	York	5:08	1-26	Arthur, ON
Richard Szostak	Edmonton	1:17	1-23	Chipman, ON
Michael Read	Toronto	1:13	2-33	Conn, ON
Norbert Klassen	Bulkley Valley	3:04	Blanik	Smithers, BC
Tom Little	Toronto	1:51	2-33	Conn, ON
Dick Dejong	Edmonton	1:47	1-23	Chipman, AB
Robert Mercer	Gatineau	5:40	Skylark 3B	Pendleton, ON
David Mercer	Gatineau	5:21	Blanik	Pendleton, ON
Robert Bosquet	Montreal	1:09	2-33	Hawkesbury, ON
Robert Sturgess	Blue Thermal	1:06	Blanik	Medicine Hat, AB

FAI RECORDS

Russ Flint
 96 Harvard Avenue
 Winnipeg, MB R3M 0K4 (204) 453-6642

500 km Triangle Speed (citizen), 149.9 km/h, 25 Aug 85, Peter Masak, Nimbus 3/24.5, N4562N, Minden / Bishop / Gabbs, Nevada.

100 km Speed to goal, 117.9 km/h, 5 Aug 85, Kevin Bennett, DG-200, C-GVBL, Cowley to Black Diamond, Alberta

Campbell

Printer ad,
 Ottawa

Trading Post (page 24), and back pages omitted