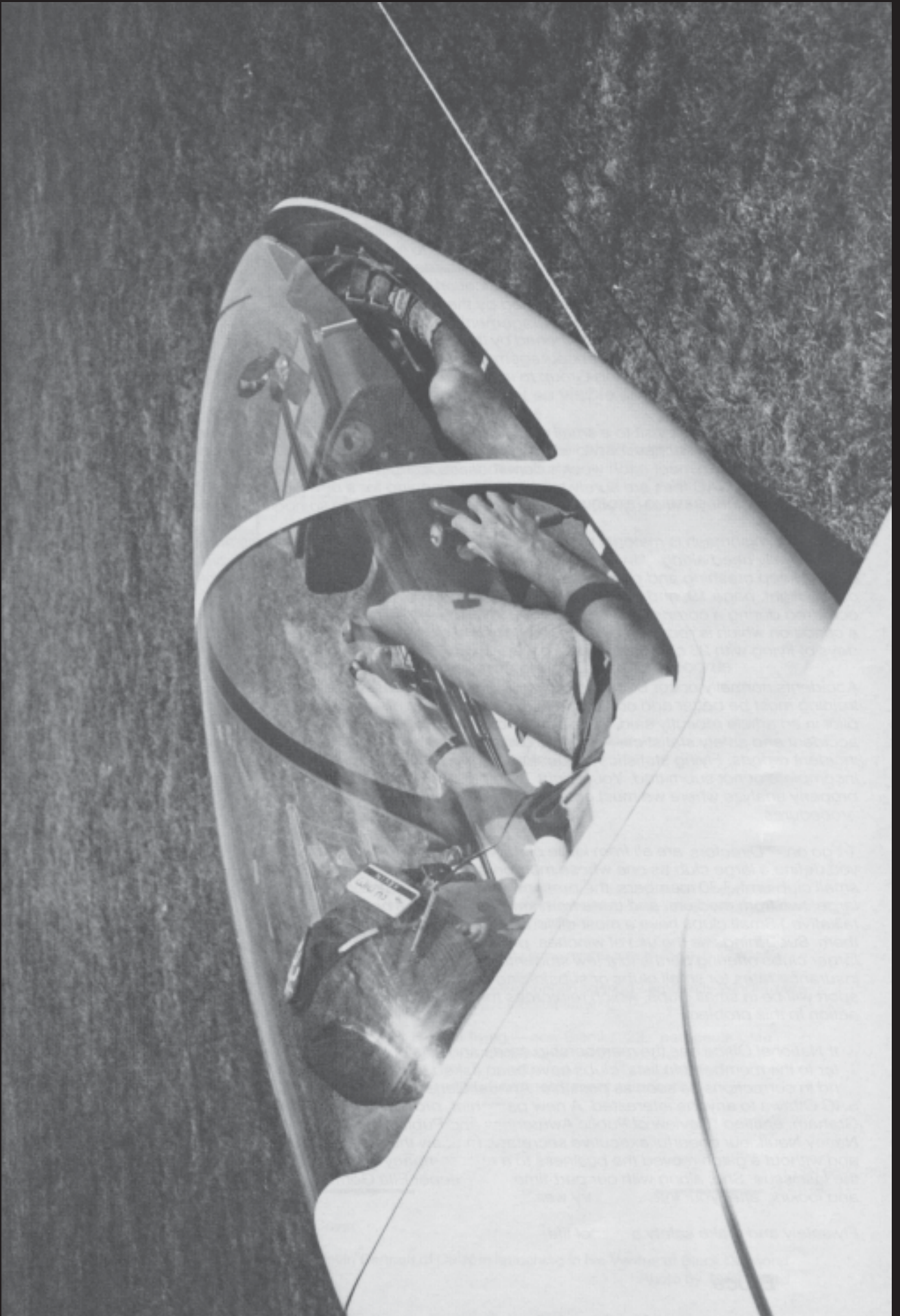


free flight • vol libre

5/87
Oct/Nov



POTPOURRI

The occasional maple turning colour vividly forecasts that but two more months of gliding remain for this season. It's that time of year when many review the summer or contemplate the future and end up with a mixture of conflicting thoughts. Our total membership will be about the same as last year (1 323) — total membership fees have just passed the budget forecast for 1987. Insurance claims estimated at this date are approximately \$200,000 which reflects that our hopes for a lower accident year will not come to fruition. The very successful Nationals held in Chipman, Alberta were reviewed in the last issue of *free flight*. The dedication of the average competition pilot is indeed a salute to those who seek excellence. It is good to see so many new faces moving up the ladder in competitions which have been strengthened by the various regional and local meets as well as the encouragement being given by the Canadian Advanced Soaring Group to improve cross-country training and techniques.



Talking of dedication — a visit to a small club will illustrate that characteristic in numerous ways. Each of these clubs has a linchpin or two who each year tackle the rise and fall of membership, towplane problems, money to meet each week's demands, no instructor for Saturday, the CCI not done on the lone trainer, SAC fees are surely too high, and planning for a new purchase put off as prices rise, etc. — but they still carry on, for the joy of this sport has them so hooked they won't let go.

The above mishmash is material to give background to a few misconceptions and conditions which occasionally need airing. "Insurance claims are so high because of all those private, expensive gliders keep crashing and competitions produce a sea of accidents." Not so. Look at your last issue of *free flight*, page 19, and mark up the list of aircraft in accidents and you will find that none occurred during a competition and that nine of the eleven listed are club ships — and this illustrates a condition which is representative of our accident experience. In this year's Nationals, during six days of flying with 25 contestants, there were a very high 84 outlandings and NO ACCIDENTS.

Accidents normally occur because of poor flying techniques. If we are to improve our flying, our training must be better and our attitudes to piloting more disciplined. A respected American glider pilot in an article recently said, "The USA and Canada are the only gliding countries without proper accident and safety statistics." Try as we will, we cannot seem to get our members to submit incident reports. Flying statistics requested each year for the annual general report are often incomplete or not submitted. Your Flight Training and Safety committee need these if they are to properly analyze where we must change, or stress various portions of our training and flying procedures.

To go on — "Directors are all from large clubs and don't know our small clubs' problems." Not so. If you define a large club as one whose membership is over 90, a medium size club over 30, and a small club under 30 members, the present board (eight directors) has a distribution of three from large, two from medium, and three from small clubs. (I will not comment on who are the most talkative.) Small clubs have a most difficult row to hoe and much thought must be given to assisting them. Such things as the use of winches, provincial associations providing an aircraft (as in Alberta), larger clubs offering berths to a few students to train in their advanced two-seaters, lowering insurance rates for small clubs or subsidizing them, etc. Many believe that any major growth in our sport will be in small clubs, which reinforces the necessity to give much thought, and hopefully, action, to this problem.

Our National Office has the membership cards and lists out to clubs. As requested in a covering letter to the membership lists, clubs have been asked to nitpick and on the duplicate copy supplied, send in corrections as soon as possible. Annual General Meeting, 1987, reports are available in SAC Ottawa to anyone interested. A new pamphlet, produced by the Publicity chairman, Grant Graham, entitled "Review of Public Awareness and Publicity" will be sent out to clubs in November. Nancy Nault, our cheerful executive secretary, foresaw the need to change printers for *free flight* and without a glitch moved the business to a new company who printed and distributed this and the last issue. She, along with our part-time bookkeeper Ella Gormley, are most dedicated types and looking after your interests very well.

Fly safely and make safety a way of life.

Gordon Bruce



free flight • vol libre

Trademark pending Marque de commerce en instance

5/87 Oct/Nov

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

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Cover

Kevin Bennett of Cu Nim launching in his Ventus at Black Diamond.
Photo by Tony Burton

VISIBLE JOY — NOT SO VISIBLE SUPPORT

I am a 250-hour glider pilot, having taken some 750 aerotows; I am a level two instructor; my longest flight has been 27 miles — I know, I know, BIG deal!

My training to licence was at Rideau Gliding Club, with a total of, perhaps, six instructors; my level one course was at SOSA with Ian Oldaker; my level two was at Pendleton, again with Ian. This year I went on the beginner Cross-Country course as advertised in “Coming Events” column of **free flight**, with Glenn Lockhard. Nothing even remotely unusual in all this, right? During the week at Kars, we toured the area by car (to note likely landing strips), we practised short-field landings and steep approaches, and took “soar-ability” checkrides.

Then, on 1 July came the moment of truth, I was to fly a 1-26 from Kars to Pendleton. To place the flight in perspective, on the same day the mighty John Firth flew to North Bay and back (almost) from Kars. Another pilot, Paul, took off first in his 1-26, promising to hang around over Kemptville until my tow joined him. In any event, I never did see him, although he told me afterwards that he was behind me all the way — at least, until he saw me trying to bull my way across an area of sink — whereupon he sashayed back to a suitable cloud, waited, and when conditions improved, flew on to Pendleton. Mind you, I’m still not convinced my barograph wasn’t heavier than his.

Meanwhile, back at my pasture, my landing would have brought joy to the heart of any writer of “how-to” textbooks. I had arrived at a harvested hay field, suitably natural fertilized for next year’s crop. Everything had click, click, clicked into place — the usual visitor’s questions, “Did you crash? Run out of wind? Where’s the propeller/engine?” I asked who owned the field and was driven to the farmer’s house, who promptly asked, “Parlez-vous français?” I thought, “Oh, @\$%*”, there goes Confederation!”, but with my two words of French and his four words of English, he allowed that I could use his telephone — time/charges noted, and promptly paid.

I called Kars, Glenn hauled up the trailer, we picked up the 1-26, and everything was just peaches (except our shoes — welllll, you can’t see that stuff from the air, can you?).

Our final exercises included landing without spoilers, *that* was hairy — but no more cross-country, cloud cover forbade. Big Deal?? It happens, weekly, to dozens of other pilots across Canada.

Well sir, we all know *that*; but I would like to point out that without the Glenns, and the Pauls, the Ians, the Hanks, the Garys, the Paters, the Franks, and even the pleasant farmers, we would all be walking around admiring those pretty fluffy clouds, unaware of the joy, the mystery, the exhilaration, the frustration, and sometimes even the fright that the skies hold for us.

And, I suspect, we’d be the less for it.

Ray Lawton
Rideau Valley Soaring



The SOARING ASSOCIATION OF CANADA

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

free flight is the 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.

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Deadline for contributions
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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.

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

vol libre est le journal officiel de l'ASSOCIATION.

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

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

L'exactitude des articles publiés est la responsabilité des auteurs et ne saurait en aucun cas engager celle de la revue **vol libre**, ni celle de l'ACVV ni refléter leurs idées. Toute correspondance faisant l'objet d'un sujet personnel devra être adressé au directeur régional dont le nom apparaît dans cette revue.

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

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

Pour changements d'adresse et abonnements aux non membres de l'ACVV (\$18.00 par an/\$24.00 à l'extérieur) veuillez contacter le bureau national.

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OPINIONS

UNNECESSARY TECHNOLOGY, AND THE NEW BADGES

I note with considerable dismay the proposal (*at the last CIVV meeting reported on in the last issue*) to link data-back cameras to "more elaborate" barographs for badge flights. It seems to me that the present regulations come very close to eliminating cheating, except with the collusion of the OO. You cannot eliminate false claims where the OO is involved as all the requirements may be met, but the flight could be made by a more experienced pilot.

The cost of these suggestions could easily exceed \$2,000 for each glider to stamp out a problem which involves very few claims, and which, I suggest, does very little damage to the sport. After all, if someone cheats to obtain his Gold C, the only badge he is devaluing is his own.

In competition, of course, the matter is much more serious, but please do not burden the rest of us with competition problems. We can create enough of our own.

(*Some CIVV delegates have suggested that*) the Diamond badge has been "devalued" by a "quantum leap" in glider design and adding an extra turnpoint to the 500 km flight (which, somehow, makes it easier than the dirty downwind dash which is all that the rules require). There is no challenge to the sport any more. Why, a pilot wearing a Diamond badge might even be mistaken for an ordinary mortal!

My dictionary does not list "quantum leap", but defines a quantum jump as an abrupt transition from one discrete energy state to another, so I guess it means a hell of a lot. The average club pilot is lucky if he can lay his hands on a ship with an L/D of 38:1 (Libelle) and is more likely to wind up with the club's Grob or Pilatus (around 35:1). The Austria SHK was better than this in 1965. Yes, the Nimbus 3 is very impressive, but how many pilots are using them for badge flights? How many of these pilots fly in record-setting areas?

The whole idea of the badge program is to encourage club pilots to take up cross-country flying. The gap between Silver and Gold is already one which discourages many inexperienced pilots. Move the goal posts further still and you will not raise white hot enthusiasm for badge flying. You will get a lot of used barographs on to the market.

Something beyond Diamond? There are national records, international records, and similar levels of competition. Then there are Lenny pins and the 1000 km certificate. Once you have done all these, why not repeat your 500 in the club's 1-26? If

all this is too mundane, I know a group who have a Grunau Baby with at least one 300 to its credit....

The above (except for the Lenny pins) do have one serious drawback. None of them provide you a nice flashy lapel pin, so I suggest the introduction of the Triple Gold C (stands for Certificate of Conspicuous Consumption). This badge would have the distinct advantage (from an official observer's point of view) that it would not require any flying. It would be sold according to the following formula (add the following costs, and send in your cheque or money order today): one Nimbus 3 plus Mercedes tow car plus custom European trailer plus flight director plus FL60 pressure oxygen system.

The enormous amount of loot from such a badge could be used to help Air Cadet glider pilots so that we can increase the proportion of pilots who are in the sport just for the fun of it.

The idea of linking badge flights to records is cute. If we could persuade the police to do the same for the speed limit, we could all drive through school zones at 80 mph.

If you start flying a 1-26, don't forget to lend your quantum leap super-ship to a struggling and deserving pilot — I add the name of a suitable candidate for your consideration:

Brian Hollington
Vancouver Soaring

ABOUT THE LAST ISSUE

Dear Tony,

I thought that 4/87 was one of the best-balanced issues of **free flight** that I can remember. Well done! I enjoyed Eric Greenwell's article, especially since Ruth and I joined the safari at Invermere. The flying was great.

The insert on the Diamond achievements was in an excellent format. Are you going to extend it to the other records and the (gliding) sites? It could be quite good. See *this issue for Canada's record flight history* — I have no plans to include sites. Tony

Regarding the questions raised by R. Slaughter on the strength of polypropylene, may I remind you and our readers that this subject was covered in the article, "Lines About Lines", which was published twice in **free flight** (the latest being 3/82, with comment in 5/82), and pretty well answers his concerns.

continued page 19

A MEMORABLE BUMMER OF A SUMMER CAMP

A tale of the highest, weakest, latest, shortest, and strongest

Tony Burton

Cu Nim

I suppose it could have been reasonably predicted that the 1987 Cowley Summer Camp would have weird weather — after all, we had been having it since the spring.

The weather was dominated for a week by a constant 30+ C air mass blowing straight from the south coupled with an unusual 60% relative humidity (20% is more normal). During this period of the camp, it was awfully hard to stay above release height before three in the afternoon, and afternoon cumulus were the rule, although only one crossed the airfield. That was on Saturday, the 25th of July. It brewed up even more as it crossed the Porcupine Hills on the east side of the Cowley valley and dumped golfball sized hail on Claresholm with considerable property and crop damage. Early reports of a wrecked Lark and 1-23 which were tied down at the Claresholm airport were exaggerated, but the venerable 1-23 belonging to the Edmonton club had more dimples added to its wing skins and the canopy was cracked.

The reminders during the morning pilot's briefing were, "Drink, drink, drink". The Alberta Soaring Council bus provided welcome shade on the flightline and glasses of water were carried out to the towpilots every few flights. The swimming hole on the Oldman River was gloriously refreshing every time!

By Friday the 31st, colder air in from the Pacific collided with hot and moist, generating the powerful tornado which struck Edmonton, 500 km to the north. That evening saw Wave Camp conditions at the field, with west winds of 30 mph gusting to 40 at times, and no one got much sleep in tents that night. Saturday gave very rough tows and strong wave to over 20,000 feet. Those participants who had hung around through the heat waiting for a cross-country day gave up and folded camp — especially since the forecast was for equally strong winds Sunday.

The dozen die-hards remaining the next day saw lower winds and decent local soaring with thermals forming even under considerable overcast in the very unstable air mass — but it was sort of sad to see the Summer Camp peter out barely before the August long weekend got started.

Not a single cross-country flight was attempted out of the valley during the camp ... yet the site has its quirks and charms for soaring nevertheless, so although my report so far sounds pretty downbeat, for me it turned out that on three of my flights



I experienced five memorable "firsts" of my longish soaring career:

- 1 my highest thermal flight
- 2 my weakest thermal flight
- 3 my latest landing
- 4 my "shortest" flight, and
- 5 my strongest wave flight

That's why this report has the title it has, and here's what happened:

Flight 1433, Monday, 27 July

The morning temperature sounding taken at the field gave a 4000 foot deep inversion to 8000 asl which could only be broken by an afternoon high of about 35C ... most people headed for Waterton National Park or the swimming hole.

Even at 3 pm there wasn't a ripple at 2000 feet over the Porkies, but there was evidence of some thermal activity on the bare ridge rocks of the Livingstone Range fronting the west side of the valley. At 3:45 I took a 4000 foot tow straight west out of our "bucket" of dead air and released over the foothills southeast of Centre Peak into immediate two knot lift. A short climb gave me enough height to go to the ridge where stronger lift was found, and by now a good line of cumulus was forming at about 9500 feet.

Now at the south end of the Livingstones, I could see smoke in the Crowsnest Pass blowing from the west, while ground winds were southeasterly over the flatlands.



Tony Burton

Flying over the Livingstone Range in the Cowley wave at about 20,000 feet. The view is to the northwest.

In a short time, it was evident that some sort of a convergence zone was developing over the Rocky Mountains, and by 5 pm there was an area of very high cloud-base there, while other scruffy cumulus were thousands of feet lower over the Livingstones and other mountains fronting the plains. A monster of a cloudstreet formed, stretching southwest over the continental divide south of the Pass where I was now waiting for friends to arrive.

Hans König, Kevin Bennett, and Rod Crutcher had all launched after me and climbed over the Livingstones, then headed down the big cloudstreet, passing me high overhead after I lost height while exploring a bit too far east. I caught up to them later, and the cloudbase was about 16,000 feet! The group eventually headed southwest down to the north end of the Flathead River valley in British Columbia (which extends down to Kalispell, Montana). The mountain scenery was fantastic with the layered rocks, hanging valleys, and tiny alpine lakes above treeline. The cloudscape was equally striking, showing all the evidence of the tortured airflow and different bases with connecting cloud shreds.

It was Rod's first real flight away from homebase, being a relatively new pilot in his new Astir partnership. He took his heart in his hand to follow along with the experts — and by now couldn't take photos fast enough. Although we were about 60 km from Cowley over this beautiful and formidable terrain at 7 pm, he was assured by Kevin that from our altitude there was no way he could land short even if he red-lined it all the way back!

Now for the weakest thermal part... I was back in the Cowley valley by 7:30 and thinking about landing for supper when I noticed that I wasn't losing height any more at about 3000 feet agl. Evening valley lift was working almost everywhere I flew, the cooling and subsiding air from the high ground all around flowing downhill and displacing the warm mid-valley air upwards.

It was most relaxing. I wriggled myself into my parachute and straps, took a couple of deep breaths, placed the aircraft in a ten degree bank with thumb and forefinger — and proceeded to waft about for another 90 minutes. No, it was by no means boring, it took a lot of concentration to core a 30 ft/min thermal. I had my five hours at 8:45 and then worked at staying up until after 9 pm. There was no problem at all, there was still some zero sink over the knobs of the Porkies at 2000 agl and I might have hung on for another half hour, but the sun had set behind Centre Peak and I was stiff. What a flight it had been!

Flight 1436, Friday, 31 July

The morning pilot's briefing announced the coming, at last, of the weather change, and a band of low cumulus over the divide pointed out the approaching cold front. By noon, the frontal cloud began spilling over into the valley, and the cumulus began lining up and taking on lennie-smooth tops. The conditions seemed to indicate a kind of pre-frontal wave.

Dave Fowlow launched in his Open Cirrus at 12:30 and soon reported one to two knot wave lift in the middle of the valley at 13,000 feet. I got my tow at 1 pm, and by now there was a distinct wall of cloud covering the Livingstones and the other cu was losing its wave-like nature. I was taking a two-ticket tow right towards Centre Peak, but at the normal release height of 8000 feet (4000 agl) we weren't climbing at all so I hung on as the towplane headed straight for the wall of cloud. There was no wave in the lee of it, so at 8500 feet released for want of any better idea. It was 600 ft/min down there, and on turning east, I was still plummeting earthwards. Heading south-east back to the field at 80 knots the sink never let up, and I passed another tow at 2000 feet in the middle of the valley with a message to avoid the Centre Peak area.

Well, you know it's common to joke about a short flight by saying you beat the towplane to the ground. It really happened this time! I wasn't sure I was going to make it back until a mile from home, and I had to call a right hand circuit and push my towplane off its long final. Doing that from 4500 feet will be memorable, believe me.

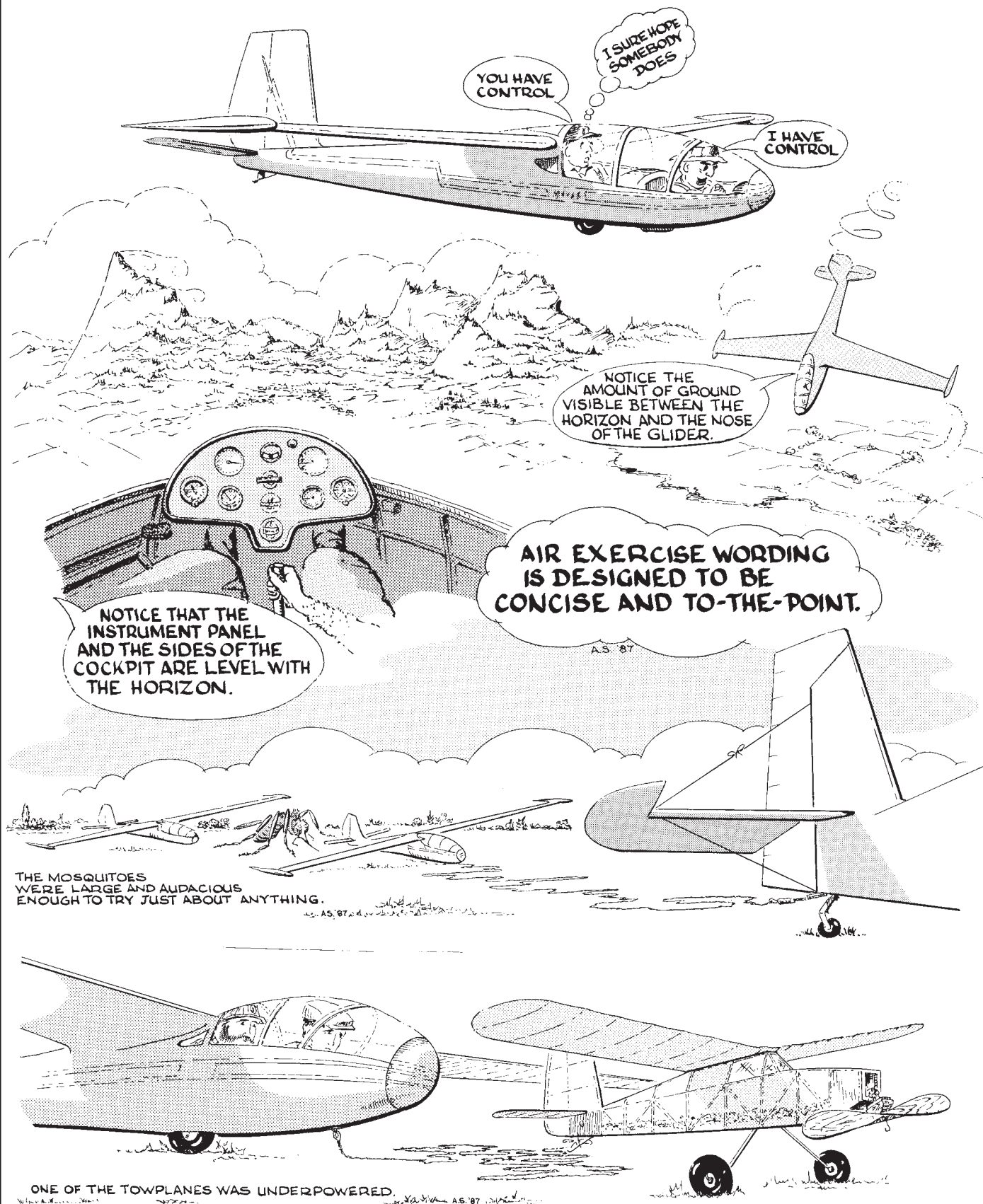
Flight 1437, Saturday, 1 August

The next day was blowing hard from the southwest as the Pacific airmass was well established over the mountains, and the ragged rotor-like cumulus showed the wave was working. The tow was one of the most turbulent I have done at Cowley; the whole low-level airmass was churned up, not just in the rotor areas. Releasing at 8000 with a good surge of up, I penetrated a bit further west and then hit the wave. Instantly, the varios were pegged and the rotor clouds started to sink away at a remarkable rate. I checked my watch, and the first thousand feet took 25 seconds and thereafter the climb was consistent at 20 seconds per thousand or 3000 ft/min, the strongest I have ever experienced. The strong climb dropped off fairly abruptly at about 16,000. Subsequent lift was patchy and bumpy and I reached 21,500 feet before descending. The drift was considerably different at altitude, and it was this wind shear which evidently channelled the lower wave and trapped most of its energy within a layer about 8000 feet in depth.

It was a small camp compared to past years: we had 72 pilots registered, along with over fifty other friends and relatives. A West German pilot borrowed a Ventus and couldn't believe the countryside; and a Lufthansa captain and stewardess on a Calgary layover tracked us down. Jos Jonkers got a combined case of hypothermia and sunburn inner-tubing down the Oldman River. Even poor soaring weather doesn't stop the enjoyment of being at Cowley. □

THE 1987 S.A.C. EASTERN INSTRUCTORS' COURSE.

IRREVERENT OBSERVATIONS



Albert Seaman
York Soaring

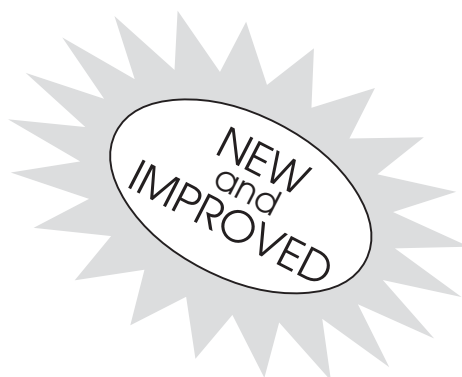
The once-familiar claim of so many household products could well be applied to the participants in the 1987 SAC Eastern Instructors Course. Some were quite new to instructing and by the end of the week-long program, all were undoubtedly improved.

On Saturday, June 20, a collection of glider pilots began to assemble at SOSA Gliding Club near Rockton for six days of intensive instruction by Ian Oldaker, the SAC course director. The SOSA premises, which had been made available for the week, were ideal for the purpose. A well-appointed clubhouse, complete with showers and a small kitchen, provided a comfortable focus for the indoor part of the proceedings, while the surrounding camping area became a temporary home for several of the out-of-town people, some of whom had come from as far afield as Halifax.

Those of us who have been spoiled flying from long runways located in wide open spaces needed to adjust to the shorter strips at Rockton, almost all of which terminate in close proximity to well-established trees. Also, the airfield is under a busy approach to Toronto International, in addition to which a goodly amount of local traffic demands that a sharp lookout be kept all times when flying in the area. Tom Okany and I were somewhat surprised on one occasion to find a small twin and his single-engined "wingman" flying an opposite course a few hundred feet below us, and we weren't all that high! But the real hazard were the mosquitoes which were large and audacious enough to try just about anything.

As in the past, the course had two prime objectives: first, to provide proper instructional training for the participants and second, to propagate a single, national standard of instructing. Although the latter may already be a theoretical ideal, there are in fact minor variations between clubs and indeed between individual instructors.

The discussion of minor variations of standards between clubs was frequently the cause of digression from the schedule. The differences were generally attributed to specific measures than would normally be considered necessary. The most common difference is possibly the circuit and approach speed formula which some clubs vary from the SAC standard of $(V_{stall} \times 1.3) + \text{Wind Speed}$. For all practical purposes, the results are sufficiently



close, considering that an absolute minimum of 50 mph seems to be universally recognized.

The program format used in recent years was repeated this time: half-a-day of classroom work followed by half-a-day of flying. For the flying half, the group was divided up into "instructor/student" pairs, the roles being alternated. Two SOSA Blaniks were used for hardware as that particular design is considered to incorporate the majority of desirable features for instructional purposes. This initially caused some concern for those who had little or no experience with this machine, but in practice, the conversions were made without too much trouble. Even the rear seat became acceptable once the occupant was

reconciled to the magnificent view of the inside of the wing root.

The procedure had the "instructor" in the rear seat go through a carefully re-hearsed instructional "patter" which the "student" was expected to carry out, the verbal results being recorded for analysis back on terra firma. In view of the fact that about half of the people have been instructing for some time, being a "student" provided them with unparalleled opportunities for invention. Indeed they were able to create from their own experiences situations that are very likely to actually occur.

The program got off to a good start on Sunday, but Monday was rained out gloriously. An inch or more of the stuff fell and was trapped on the surface of the airfield by the rocky subsoil. It was still there on Tuesday, requiring a decision between flying or paddling. In fact, we did both under a broiling sun which caused the stagnant pools to spring alive with insects and bacteria. Good for the wildlife, but bad for the footwear.

Some of the pools were hard to avoid on roll-out, however carefully the landing spot may have been chosen. Consequently, the planes became as soiled as their occupants. But the birds loved it. The killdeer



The course participants. Front row (kneeling) L to R: Les Waller (SOSA), Hubert Maier (Bluenose), Neill Graham (MSC), Ian Oldaker (COSA) course director. Rear row, L to R: Ron Feyerabend (COSA), Paul Moggach (York), Norman Perfect (Base Borden), Tom Okany (MSC), Chris Wilson (SOSA), John Wilson (Erin), Csaba Gaal (York), Ruth Thumm (Beaver Valley), Denis Moreau (RVSS), John Kollar (York), Albert Seaman (York).

scurried purposefully in their own inimitable fashion from puddle to puddle collecting delicacies along the way. And a song sparrow joined us at the flight line. Perched atop a tall thistle beside the van, he reminded us that we were in *his* airspace and to treat it carefully. We did.

The effects of overexposure to heat and fatigue were made abundantly clear as we squeezed two days flying into one. Pilots of considerable experience and ability were reduced to sloppy landings and the discovery that the Blanik wheel is down and locked when the handle is in the aft, not forward position. The next day we were introduced to Gatorade® by one of the gang. This is a mineral content thirst quencher that kept us in reasonable shape on the flight line for the rest of the week.

As the week progressed, the cockpit recordings became more concise and to the point. The words flowed more smoothly, particularly for the practised instructors. No longer were individual pilots or small groups pouring over notes and textbooks trying to memorize verbatim the patter for the next lesson. We had matured sufficiently to be allowed to use our own words to instruct our "students".

Needless to say, there were many lighter moments during the in-air recording sessions. The atmosphere was sufficiently uninhibited to allow everyone to enjoy the blunders committed. Many were the verbal convolutions in which the "instructors" found themselves — but none to equal the classic of recent years wherein the "student" was told, in effect, "... to place his hands and feet on the stick". There were also comments, as one might expect, that could not be repeated without fear of compromising the propriety of these pages.

The 1987 Instructors Course was unique in that two of the participants were there to obtain "instructors' instructor" rating. They were John Kollar and Paul Moggach, both from York Soaring Association. John is also CFI at York. Chris Wilson, CFI of the host club, SOSA, was taking the course as well.

We cannot thank adequately the directors and members of SOSA for their generosity in providing premises, people, and planes for our use. The club's reputation for having a clean, well-maintained and well organized fleet is properly deserved. The club members were most helpful to the visitors, but particular thanks must be extended to Tom Coulson and George Betton who devoted their entire week to making the course a success. George flew most of the tows for us in impeccable style, even though one of the towplanes displayed distinct symptoms of being underpowered. When the day of reckoning finally came, Dixon More was so cheerful about presenting our bills for flying time that it was almost a pleasure to pay him.

Thank you Ian Oldaker and thank you SOSA. We may be slightly poorer in the pocket, but we are eminently richer in the mind. □

PRESSING ON

ON FLYING THOSE FIRST CROSS-COUNTRIES

John Williamson
from SAILPLANE & GLIDING

Setting Off For the inexperienced, the decision to turn one's back on the airfield is quite momentous. Whilst developing your thermalling skill, you ventured further and further from the site, always maintaining enough height for a quick glide home if necessary. At first, you will have been surprised at how little was needed, even when you had been drifted a bit far downwind. As you grew more confident in your judgement you found that two, three, or even five miles was not too far. You may have used a calculator to do the sums for you — I hesitate to say "should" in case I'm accused of commercial bias! — and this practice will certainly stand you in good stead later, as we shall see. But the first time you fly deliberately out of gliding range of base is memorable indeed.

It would be foolish to take this first step without being reasonably sure that you will find another thermal. The less experienced can only gain this assurance by indulging in a little local soaring first. It is a good rule to have found at least three separate thermals before deciding to set off and to have climbed to the local cloudbase, which should be at least 4000 feet agl. Three thermals, within four miles of base, should mean an acceptable distribution or pattern of thermals, provided the terrain on course is similar to that at base, and that the visible cloud signs are not unfavourable. The more experienced will be able to make this judgement more quickly by studying the sky — the cloud shapes and patterns — or by reference to previous flights in similar conditions.

Stepping Stones Your decision to set off will be made easier if the proposed flight — say a Silver distance attempt — is tackled in easy stages. To set off into fifty miles of unknowns can be quite daunting. But an initial goal of, say, ten miles to an area of known good fields, or to a friendly airfield, will be much easier to contemplate. You would need advice about the field situation and need to know what joining procedures might be relevant at the airfield. But with this knowledge, it is simple matter to estimate the height needed to get to the area with a safe margin. Having arrived you can slip back into soaring mode until you find the next thermal. "Local" soaring is much less stressful than a desperate search for lift in a totally strange area and you should stay within range of the first goal area until it is safe to press on to the next. This second decision to press on is much less trau-

matic than the first and in no time at all, you are happily "local" soaring again and beginning to think that your ultimate goal is not so far away after all! But even taken in easy stages you still have to find the thermals, avoid undue sink, know where you are, and be ready to land out if it goes wrong.

Finding The Thermals — Sky Reading

You must learn to look both up and down in your search for thermals. The sky and the clouds are your best guide above about 2500 feet. Intelligent sky reading is very important. You must learn to recognize the cloud which is growing and will still be active when you reach it. You can't usually see a cloud actually getting larger — the changes are too slow for that. But you can get a good impression by observing the clouds ahead each time they come into view as you circle. Each turn should take between 15 and 18 seconds — remember the angle of bank? — and in that time, an active cloud will have changed shape noticeably.

Next you must estimate how far away it is, how long it will take you to reach it, and what height you will lose getting to it. Find the shadow of your chosen cloud to make the best estimate of distance. It is very difficult to judge the distance to a cloud directly, but its shadow four miles away viewed from 4000 feet will appear to be about halfway to the horizon. How long to get there? Say five minutes for four miles at the sort of speed at which you expect to fly your K6. As for the height loss, this is where your calculator might come in handy. But you can guess about five miles per thousand feet in wood, six miles in glass, seven miles in super-glass. In still air, of course. You *would* need the calculator to make a proper allowance for significant wind.

Finally you should realize that a small cumulus marking the top of a vigorous thermal has a total life span of about thirty minutes, of which probably a third is in the decaying stage. Arrival under a decaying cloud has its own peculiar problems, as we shall see in a moment. Now you can see that the decision to go to a specific cloud is subject to quite critical timing and you would be wise to be flexible in your judgement, to choose a route which gives you more than one option.

— And Trigger Spots Below 2500 feet, you should turn your attention to the ground for clues to the whereabouts of your next thermal. In all but the most uniform of circumstances, the ground heats unevenly, depending on the direction of any slopes, the angle of the sun, surface moisture, vegetation, soil type, and the degree of drainage. The thermal derives from the heated layer of air close above the sur-

face which will tend to be released first from the vicinity of the warmest area — the trigger spot. It then draws in all the warmed air from hundreds of yards around. As you look down, try to imagine where you would feel warmest if you were down there. A sunny corner, sheltered from a cool breeze by a hillock or large wood, perhaps. Or a warm, dry, ploughed field, a built-up area, a village. Look, too, for tell-tale signs of any smoke. Not that a bonfire would add significantly to the energy in your thermal — a good one involves a mass of tens of thousands of tons of air! But the smoke can often give away the presence of a thermal close by. It may look “dead”, holding low to the ground, trailing away directly downwind. Or it may be billowing around, or bending suddenly crosswind, both signs that a thermal is not far away. By keeping your eyes open for these signs, you stand a much better chance of finding it.

In any significant wind, the base of the thermal could well migrate downwind, swinging this way and that to take in further hot spots, resulting in a sustained thermal. To have the best chance of contacting the thermal from a given trigger spot, therefore, you should approach from directly downwind, being ready to turn left or right as required.

Avoiding the Sink It takes little imagination to realize that your progress would be much more rapid if you always flew in lift. This article isn't about racing techniques, so I won't go into the finer detail of street flying and dolphin soaring. Clearly, if you are able to take advantage of adjacent thermals and clouds, you should do so. Even if you can't fly always in lift you might be able to not fly in sink with a little foresight and route planning. All thermals have their corresponding downcurrents. These are usually relatively gentle around the thermal itself, since the displacement air which is forced to descend by virtue of the thermal's upward thrust is spread over a much greater area than the fast rising core. Thus a 6 kt thermal may induce a 1 kt downcurrent all around itself. We know that it's going to be there when we press on and we deal with it by speeding up for a few moments until we are through the worst of it.

You will realize that the way to minimize the sink surrounding each thermal is to fly directly towards it, straight across the “contours”. You can't usually see the next thermal but you should have a clue in the cloud patterns above. If you think a certain cloud is still growing then fly directly beneath it, not just to one side where the sink is bound to be. If you encounter sink without any visible clue to where the thermal is, but the wing is tilting, then use the wing-tilt to guide you towards the lifting wing, away from the sink. And finally, beware the cascade falling from the decaying cumulus.

You will recall that as the thermal reached its condensation level, the cumulus cloud

formed. Formation of the water droplets released extra heat back into the air. This was the heat originally taken when the water evaporated to form water vapour in the first place and its release into the thermal gave a boost to the lift at and above cloudbase. When the cumulus has stopped growing, the droplets once more start to evaporate, using up heat in the process. When you use up heat, something has to cool down. In this case it is the air itself, and cool air will descend! As it descends, it warms at the dry adiabatic rate, which you will recall is 3°C/1000 feet. But there are good thermals around, which implies that the airmass is unstable. The ambient air in an unstable airmass is cooler as you go up by slightly more than 3°C/1000 feet. And, of course, it is warmer by the same amount as you go down.

So the downcurrent caused by the evaporating cloud will find itself surrounded by an airmass which is becoming progressively warmer than itself. It will continue downwards — in extreme conditions it may even accelerate — like an un-thermal, possibly forming much the same doughnut shape as did the thermal that spawned it half an hour earlier. It is the downcurrent that you should watch out for and avoid like the plague! Your clue is the evaporating cloud of ten minutes previously. Be sure to have spotted it and remember where it was. It won't be there when you fly that way, but its cascade will!

Navigation Along with all the problems of finding lift, avoiding sink, keeping a good lookout, and generally flying your sailplane, you also have to know where you are going! The airspace in this country is too congested for you to feel free to wander where you will. You have to navigate.

Navigation in gliders is a matter of map reading, which is simple enough so long as you know where you are. The occasions when you might have to do dead reckoning, vectoring, estimate time of arrival, and all the things that go with power flying, are so rare as to not be worth worrying you with here. Let's stick to map reading.

The first essential is that you should be able to see where you are going. For your early cross-countries, the visibility should be at least ten miles, which means that there should be a reasonable horizon and you can see clearly most of the way to it. The worse the visibility, the harder the task. Next you should, in your flight planning, have noted the significant visual features that occur on your route, such as lakes, rivers, highways, and large towns, and the positional relationship between them. You may need advice with this from someone who is experienced because features which look prominent on your map may not be so when viewed from the air. Ordinary roads all look the same, as do small towns and villages. Railways, clear enough on your map, can be very hard to see unless you are directly above them. Surprisingly, disused railways, printed as a series of insignificant dashes on the air map, are easier to spot than those that are still active because they nearly always have overgrown bushes along the length

of them which stand out as bold lines across the otherwise chaotic muddle of hedges, streams, and roads. Knowing what to expect, and when, gives you a better chance of spotting it when you get there.

Be sure to fly in the right general direction for your course. Accurate compass flying is rarely necessary in gliders, but as you come near the top of each thermal, check and check again the direction in which you should depart. Choose a likely cloud within 30° of that direction and, as you fly, look ahead of your expected landmarks. You need to appreciate how far away things are and what they might look like. The view changes, of course, with height. A feature may look far away from 2000 feet, but almost under the nose from 5000 feet ten minutes later.

While you know where you are, make a point of checking with your map very frequently. This may not be universal advice, but with many thousands of miles of cross-country behind me, I still find myself referring to the map every few minutes. Practical glider navigation is a matter of moving from one landmark to another, trying to pick up the next before the last is lost to view. Even over familiar country, I want to cross-check the relationship of this town and that landmark, to confirm my impression of orientation with the direction of the sun, to be sure of the optimum direction in which to press on next. Even so, there comes a time when one is temporarily uncertain of one's position — which means *lost!* What happens next is up to you.

First, stay calm and try to apply simple logic. Search the area around you for a feature, or combination of features, which would be shown on the map you are using. Then think back to where you were last absolutely sure of your position. Estimate about 25 to 30 miles flown (if a relative novice) for each hour since then, and then scan the map in the appropriate place for the landmark features you have seen outside. Do not try to do it the other way round, by “knowing” where you are, and insisting to yourself that the ground is at fault because it doesn't have the features you “know” are there somewhere!

One pilot, from a continent where the landmarks are further apart and perhaps less confusing, set off eastwards to fly to Cambridge. Not wishing to admit to any uncertainty, even to himself, he reported his position confidently every so often. Eventually, having passed “Aylesbury”, “Luton”, “Baldock”, and “Royston”, he admitted to some confusion, being unable to identify a large town with a river wiggling through it. His crew, armed with the “facts” of his previous progress, projected his flight forwards and decided it must be Cambridge. He followed their advice to “go a bit further in the same direction” and land at the airfield he would “soon come to”. Half an hour later he landed at Biggin Hill, having failed to recognize London's Tower Bridge on the way!

So, by taking it in easy steps, keeping one eye on the clouds and the other on the hot spots below, and not getting lost in the process, you will have got to your goal. □

"DIE WINDE" REVISITED

Marty Slater

Edmonton Soaring Club



Marty Slater

The Jan/Feb '85 issue of **free flight** carried a very comprehensive article on the winch used by the Windsor Gliding Club. The article concluded with the hope that "the detailed discussion of our winch and how it is operated will be of value to another club contemplating using this method of launching". From a recent visit I paid to the Grande Prairie Soaring Society in northern Alberta, it is obvious it was of great value.

With the economy of Alberta taking a nose-dive in the past few years, the smaller soaring clubs have really taken it solidly on the chin. Less discretionary spending coupled with a smaller population base to draw from really have made it difficult for these clubs to survive. When I lived in Grande Prairie from 1980 to 1984 the membership level was about twenty members. Today, that number is about five. The club was forced to sell its Scout, which it owned by a group of private individuals. This allowed the club to be debt free, but with the Blanik as its only asset.

Efforts to keep things going were made by a few stalwarts using car tows. However, the lack of a good location made this unsuitable. Slightly over a year ago, Lee Johnson and Les Oilund decided they would try to build the winch from the article in **free flight**.

They bought an old car for \$500 and stripped it down to the engine and transmission, which they mounted on a couple of steel beams. After this initial flurry of activity the project languished until Lee got a call from a fellow named Brian Konshak who had a Cessna 150 and was interested in soaring. Brian, it turns out, is one of those people who have a natural talent for things mechanical and has a shop filled with every type of special tool imaginable. He also has a great deal of energy and scrounges like crazy. It wasn't long before the project was in his shop going great guns. He and Les worked throughout the fall and early winter, and in January it was ready.

The winch follows much the same design as in the article except for a bit of an improvement in the stylish looks (always important in order to get that extra height on the tow!). When examined closely, the quality of the workmanship is consistent with the good looks of the winch.

Having never flown off a winch, I decided to drive up from Edmonton to see my old friends and perhaps get checked out. They were all very happy to see me (I forgot that I still owed some of them money). The thing I remember most about my first flight with Les Oilund was the almost breath taking initial acceleration. I had mentally prepared myself for the steep climb part so it was not as much of a shock as that initial surge. After three dual flights, Les and Walter Mueller decided I was not too much of a danger to my own wellbeing and let me go solo.

Most of the day had seen a 45-90 degree crosswind gusting to about 15 knots. The club operates on the grass portion adjacent to the north side of an east/west paved strip (still with me?). They are currently laying out about 4000 feet of wire with the potential for another 1000 feet. On this day, we were consistently getting about 1500 feet dual and 1600 feet solo.

The strip is just outside the town of Beaverlodge which is about 40 km west of Grande Prairie. The provincial government had just paved their gravel strip and made improvements to the tune of \$2.8 million. The town was concerned about the lack of use of their new facility and actually invited Grande Prairie Soaring Society to come and make use of it. The club is now working to foster this unique relationship into something that will benefit both parties in the long run.

I don't think it is unfair to say this winch, combined with the excellent attitude of the town of Beaverlodge, prevented the demise of the club. I know Les told me there were times when he and Walter weren't sure if the light at the end of the tunnel wasn't a train. Their only expenses now are the insurance on the Blanik and what little operating costs the winch requires. I think once all the bills are in, the winch will have cost them about three thousand dollars for materials. My guess is that this is a fairly low price because of their scrounging abilities and the facility that Brian has. I imagine that without access to a machine shop the cost would go up by another thousand dollars or so for shop time. Of course, the labour of the builders doesn't count. Aren't we doing this for fun?

Membership is only \$100 annually with a one-time initiation fee of \$100. A winch launch and five minutes costs you three bucks. Glider time over five minutes goes to 35 cents a minute. Pretty affordable!

If you are a small, struggling club, I would strongly urge you to consider this option. GPSS can be contacted at Box 446, Grande Prairie, Alberta T8V 3A7. I'm certain they won't mind passing any tips along to you. □

LOG BOOK ENTRIES

A PARTNER'S MEMORIES OF JEFF TINKLER

On June 29, 1987, Jeff died as a result of a midair collision near the Winnipeg Gliding Club field at Starbuck.

Norm Taylor
Winnipeg Gliding Club

Flight Number 82, 12 June 1971
Glider — Fauvel, PYY
Height — 3000 feet
Time — 19 minutes

The Fauvel was the glider that started our partnership and it is just impossible to believe that it was as long as sixteen years ago. Jeff had been in a BG-12 syndicate previously, but it had been written off the previous summer. The Fauvel came up for sale and Jeff asked me if I wanted to be in a syndicate owning it. I jumped at the chance. It was a homebuilt flying wing. We bought it in the fall of 1970, and since some work had to be done on it, we moved it into the Hobby Shop at the Canadian Forces Base in Winnipeg. My education in matters relating to glider construction and maintenance began with Jeff as my mentor. I have never seen anyone as meticulous, patient, and knowledgeable as Jeff was when working with gliders. An inch-by-inch inspection from wing tip to wing tip and nose to tail was carried out, probing and feeling and peering in with mirrors where the eyeball couldn't reach. Items needing attention were immediately jotted down as they were discovered. The whole winter was spent working on it and it was ready to fly in June.

Paul Tingskou, our most experienced pilot at that time, test flew it and gave us some advice on how to fly it. It was a bit twitchy in pitch, so it was not wise to force it off the ground too soon, or pilot-induced oscillations would occur. It had dive brakes instead of spoilers, and a high-lift wing, so it was absolutely essential that touchdown did not occur until it was fully stalled or it would bounce like crazy. In general, however, it was a placid, easy-to-fly aircraft. Retrieves were a snap since it was simply loaded on a trailer in one piece with wings running fore and aft. It always created quite a stir wherever we took it.

Under constant prodding from Jeff, I flew my Silver C distance the following year to Gladstone, Manitoba. I took the greatest care in my field selection prior to landing and picked a large meadow adjacent to an RCMP detachment building. I thought I would use the telephone there to call back to Jeff to come and retrieve me. At a height where I was committed to land, I

realized the meadow was covered with grass about six feet high. I held off as long as I could, but finally a wing dropped, hit the grass, and the glider ground looped. Since there was no fuselage to break off, it just settled more or less gently into the grass. On top of this, there was no one at the RCMP building, so I had to walk about a mile to a phone. My field selection had not been the best. In due course, Jeff arrived with his wife, Helen. They gave me hearty congratulations and laughed at the sight of the Fauvel buried in the grass ... not a word or reproach.

Jeff himself became rather famous for off-field landings and I dare say must have held the record in our club for a number of them. He was a firm believer in cementing relations with the farmers on whose field he had landed and would explain all about soaring to the crowd that would gather around his glider. As we later drove off on his retrieve, frequently with the sun setting on the horizon, he would invite everyone present to visit our field.

Jeff was flying the Fauvel one afternoon, and since it was getting late, I decided it was time to go home from our field at Pigeon Lake. Down the highway about a mile and just off the road, I saw the Fauvel with Jeff standing motionless in front of it. As I got closer I saw an enormous snarling dog a couple of feet from him. At the slightest move by Jeff, the dog would snap and lunge — it must have been the original American Pit Bull, but twice as big. Jeff suggested that I stay in the car, which I did. We waited and waited, and eventually the dog slowly wandered off. I was in a sweat, but Jeff was barely perturbed as he climbed into my car. When we got back with the trailer the dog had gone, thank God.

During this time, I had an office next door to our Chief Tow Pilot. Neither of us were chained to our desk, and the flying field was only about a half hour's drive away. Occasionally, during some of those mid-week days when the sky was brilliant blue dotted with white cumulus, the urge would become too great and we would slip away. He would tow me up, make sure I was able to thermal, then land and return to work. I would soar the afternoon away, landing after the evening gliding instruction had started — the students wondering where I had come from. How Jeff must have envied me while working away in the higher halls of learning at the University of Manitoba.

Jeff told me that while our Fauvel was fun to fly, its "penetration" was poor. I didn't really understand what this meant, but I found out one time when our club was on an outing to McCreary. I was in the Fauvel making a beeline for the field and wondering whether I would make it or not when a Bergfalke passed me going in the same direction as I was. From my vantage point, not only was it going faster than I was, but it was climbing too. I then realized what penetration was, and that indeed, we did not have it.

Flight Number 675, 30 October 1976
Glider — Tern, BWT
Height — 4000 feet
Time — 24 minutes

Looking back on it, I think, at least for me, the Fauvel years were the most enjoyable of my flying experience, humble as that little aircraft was. Anyway, onward and upward. Jeff had heard of a Tern, almost completed, for sale in Thunder Bay. Should we buy it if it was suitable? By all means, let's get some of this "penetration" stuff. So off we went in November of 1973 to Thunder Bay. The outcome of this trip was obvious, as Jeff suggested later. There was almost no likelihood that we would drive all that distance and come home empty-handed. The glider had been built, would you believe, in the family's living and dining room. It appeared that it was pretty well completed except that a canopy had to be made. We inspected it as best we could and, of course, brought it back to Winnipeg with us.

My training under Jeff's tutelage now continued in earnest. Into the Hobby Shop went the Tern, and the inspection began. Item after item was noted until the list was pages in length. We bought it in November of 1973 and its first flight was three years later with, I suspect, a thousand man-hours spent on it in between. It probably would have been easier to build one from scratch. Jeff told me that there were two schools of thought regarding homebuilts. One was to get a second job and use the money from it to buy an aircraft, the other was to build it yourself, but only if you had patience and loved the work. The Tern spent time in the Hobby Shop, in my back yard, in my garage, in my basement, and in Jeff's basement before it was finished.

Three major problems had to be corrected as well as hundreds of minor ones, and the canopy had to be made. First, we were not sure if the skin on the wings and the fuselage was properly glued on. Paul Tingskou explained the "two-bit" method of checking this. A quarter tapped along a rib or frame member would emit a solid

sound if the joint was alright and a hollow sound if it was improperly glued. The wings rang hollow all over the place, especially on the top. We removed the skin, inspected the spars and ribs, which were in general okay, did the necessary regluing of the bottom skin, then recovered the top with new plywood.

Next, the contour of the leading edge of the wing was not correct. In particular, there was a solid wooden member along the leading edge that was far too pointed. Jeff was concerned that this could give the aircraft bad stall characteristics. We took a hand saw, bit the bullet, and sawed this strip off, from one wing tip to the other. We then replaced it and re-formed it, using micro-balloons as necessary to form the proper contour.

Finally, there were four pins that held each wing on. These fitted too loosely so we replaced them with larger pins. It was then necessary to place the wings properly in position on the fuselage and ream the holes so that the new pins would fit snugly. This turned out to be the most difficult job that we did. The wing fittings were splayed out slightly and this caused the problem. Jeff finally designed a jig that would permit us to ream in a straight line through the first wing fitting that was at a slight angle, two fuselage fittings that were straight and then another wing fitting that was at an angle. Hour after hour we hand turned the reamer until finally the job was done.

Now it was time to make the canopy. Simply put, this is accomplished by heating a sheet of perspex in an oven until it is pliable and then laying it over a form and pulling the sides down until it take the correct shape. The big problem is that the perspex loses its pliability in a matter of seconds when it is removed from the heat, so the job must be done quickly and perfectly on the first try. We built the form and made the furnace. The form was made of plywood, about four feet square and a foot thick, lined with aluminum foil and heated with two Coleman camp stoves. A fan was placed in the centre to distribute the heat more evenly. Wooden clamps were fastened to each end of the perspex to carry it to the form and then to pull it down over the form. We got a couple of helping hands, rehearsed the procedure a couple of times, then went at it. When we thought that the perspex was pliable enough, working at double speed, we pulled it out of the furnace, flipped it over the form, and pulled down mightily on the clamps. The perspex ripped along one of the clamps and hardened when the canopy was only half formed.

So there we were. I guess the perspex near the stoves had got too hot. Anyhow, it would no longer fit into the furnace to reheat it. We built a new furnace around the entire form, laid canvas with weights on each edge over the perspex and fired up again. We did eventually get the perspex to the proper shape, but now the canvas weave had pressed into it while it was soft, making it difficult to see through. We sanded this pattern off, leaving the canopy almost totally opaque, and then pol-

ished it back to a transparent state with "Micro-mesh".

The time came to paint it. We selected the most brilliant yellow we could find to make it plainly visible in the air. After several coats of paint, wet sanding and polishing with white rubbing compound we got a beautiful glossy finish. There were three Terns in our club around this time and ours was by far the prettiest.

Finally the time arrived to fly it. I headed off on the first flight on a 4000 foot tow. At two or three hundred feet there were four loud cracks. My heart flew up into my throat as I wondered what had broken. The glider continued to fly though, so I continued on tow. I flew that whole flight as if I was walking on eggs. On landing, we ascertained that it was the wing fittings snapping into position that caused the noise. It tended to do this each time that we re-rigged it.

Jeff's first flight was more memorable. I ran his wing and watched him take-off and climb on tow. Everything seemed fine. I didn't see him release, but I did see him seconds later. He was headed north, and he kept on heading north. On and on he flew, straight as a die, slowly getting smaller and lower until eventually he disappeared.

Off we went to get him. His explanation — the Tern had done one turn of a spin as he turned away on release. After he had straightened up, he had no intention of turning again. We had both studied an article in SOARING called the "Screw of a Tern", describing a rather nasty tendency of the glider to spin out of a turn so Jeff had decided to fly straight to touchdown. It did spin on me once while thermalling, taking me completely by surprise because I was sure I had plenty of speed. One theory put forward to explain this tendency was that it was our super glossy finish that was the problem. I admit I don't understand this, and even Jeff couldn't explain it.

Flight Number 975, 13 May 1980
Glider — Astir RLB
Height — 4000 feet
Time — 30 minutes

A quantum leap forward and what a change! We were able to buy this aircraft and simply fly it as-is with no months or years of maintenance or repair work. It was truly a joy to fly with absolutely no quirks or bad habits, a real geriatric's aircraft. On the first flight, I was thermalling at 9:30 at night and I notice in my log book that on my second flight I reached 11,400 feet.

We did, over time, do some minor modification — adding an undercarriage warning buzzer to prevent wheel-up landings and an audio vario system. The barograph did not seem to be mounted securely enough, and since it was located just behind the pilot's head where it could strike him if it broke loose in a crash landing, we decided to strengthen its moorings. This is the only job that I am aware of that we ever blew, even with Jeff's meticulous supervision. As a result of our work, the under-

carriage fender could catch when the wheel was in the up position so that it could not be lowered. This occurred with Jeff when he was coming in to land. He notified ground that he couldn't get the gear down, selected a smooth grassy stretch of runway to land on, and made a smooth beautiful touchdown. There wasn't as much as a scratch on the Astir. In his usual flight safety conscious way, he notified SAC of how the problem occurred so that it wouldn't happen to others.

I had started sculpting around this time and decided to carve a wall plaque of the Astir soaring with cumulus in the background and Jeff in the cockpit, and present it to Jeff and Helen as a token of our years of partnership. The trick was to give the impression of Jeff sitting behind the canopy. The scale was too small to make recognizable facial features so I placed a hat on the head of the pilot similar to what Jeff always wore gliding and hoped that this would be sufficient to identify him. Jeff and Helen, Helen in particular, seemed to appreciate the plaque so I am glad that I made it and gave it to them.

There was the odd airworthiness directive that had to be complied with, but nothing serious until 1985. Jeff had departed for England on a sabbatical when the AD arrived. In essence, it grounded the Astir until the spoiler bellcranks were replaced. All the parts and directions to do this finally arrived. All that was required was to undo a couple of bolts, slip the old bellcranks off, slip the new ones on, and re-do the bolts. The only trouble was that two holes had to be cut in each wing skin to reach the bellcranks, and the AD specified that the work must be done by an aircraft repair facility licensed to do fibreglass work. No such establishment existed in Winnipeg and it began to look like I would have to trailer the wings to Ontario or Alberta to get the job done. I contacted a fibreglass man who worked for Boeing who was agreeable to do the work and I discussed the situation with MoT. They agreed that he could do the glass work, but that an AME would have to complete and sign off the job.

On very close scrutiny, the directions given seemed to be in error, so the fibreglass man would not touch the wings until he was absolutely certain of what he was to do. It was critical that he not cut near the wing spars. We were stymied, even after phone calls to the Astir distributor in the States. Then Jeff arrived home. He studied the plans, which were correct, and explained what was to be done. We got the ship airworthy again in November ready for the 1986 season and there were no more problems with it. Incidentally, the old bellcranks were in perfect shape.

Those are my memories of Jeff, or at least, some of them. I know that he was a very important man in the academic and aeronautical worlds; but somehow I think soaring was just as important to him as his professional career. He was certainly involved in SAC and, the Lord knows, our own club. He loved soaring as few people do. Now it's over. □

SAFETY

SAFETY IS NO MISTAKE

Have you ever noticed that there are some people in this world who are accident prone? These people are the ones who, through no apparent fault of their own, have a greater than average share of bad luck. During adolescence, they are called the klutzes; during adulthood, these are the people who have a greater share of auto and personal mishaps. Hopefully, these people have the wisdom to avoid activities, such as flying or boating, that have a limited amount of forgiveness. However, there is now a growing concern that the soaring community is adopting people from this group.

If there is a common thread that binds these people, measures could be taken to correct their situation. Rather than search for a common thread to all accidents, the response is to treat each individual accident as a single entity. There are articles that take a look at a particular accident and explain the single cause.

One example of this is stating that a pilot spun in during a turn from base to final because the pilot didn't maintain airspeed. Another article may take a type of accident, such as all accidents that can occur during the circuit, and detail the precise steps that the pilot should follow for a perfect landing circuit. *The flaw in this approach is that the presumed common thread is a lack of knowledge.* Each pilot who reads the article can presume that the accident can't happen to him since he knows all of the steps for a perfect circuit (or whatever the topic of that particular article). Some time later, there's a report that a competition pilot with hundreds of hours has spun in. If the common thread to all accidents is a lack of knowledge, then why are pilots who should know better having accidents?

It is the author's presumption that the thread is related to two factors:

- the number of mistakes that have to be made prior to the point of an accident,
- the number of mistakes an accident prone person habitually makes.

If a pilot had an accident after making only one or two mistakes, there wouldn't be enough brave (or foolish) people to create a piloting community. However, this is the situation that an accident prone person continually faces through carelessness. All accidents require some multiple number of mistakes to occur and, realizing this safety margin, he habitually uses all but one or two mistakes. This gives him an habitual mistake margin of only one to two mistakes. It makes no difference which accident is studied to illustrate this belief, so a common and fatal accident is studied — the spin during the circuit:

- 1 The pilot makes the first mistake by not paying attention to altitude (or tries to scratch to keep from landing out during a contest) and enters the pattern too low.
- 2 Having entered the pattern too low, the pilot (consciously or unconsciously) reduces speed to "stretch out the glide".
- 3 Believing that the inside wing tip is too close to the ground for a steep bank, he mistakenly adds a little extra rudder to "help the turn around". The glider is now in a skidding turn with the inside wing tip flying slower than the outside tip, and at an already dangerously slow speed.
- 4 The "extra" rudder causes the nose to yaw about the vertical axis which, because of the attitude of the glider, makes the nose appear to yaw down. The pilot tries to compensate by easing the stick back even farther.
- 5 The inside wing now starts to stall and fall. The pilot makes the fifth and last mistake by trying to raise the falling wing with the stick. This increases the angle of attack on the inside wing, aggravates the stall and a spin results.

As can be seen, this accident took five separate and distinct mistakes. A good pilot should not make five mistakes in a row. What happens to the low time pilot who consistently fails to maintain airspeed during the pattern? This pilot gets away with it for several flights and, not seeing the importance, fails to correct the weakness. This pilot is now only two or three mistakes (depending on which mistakes he makes) away from an accident. His safety margin (or mistake margin) has been reduced to two to three mistakes. The pilot who consistently flies the pattern with uncoordinated turns is only one to two mistakes away from an accident (an extremely accident prone position). What happens to the competition pilot with hundreds of hours who consistently scratches at lower and lower altitudes to keep from landing out? He now shares a common thread with the low time pilot; the high time pilot has reduced his mistake margin.

If you have never had an accident, how do you know if you belong to this accident prone group? One method is to look at the pilots around you. If the general rule at your soaring site is to enter the final leg from every which direction, there is a strong possibility that you also pay little attention to pattern detail. If other pilots appear to be accident prone, then safety doesn't receive enough attention at your site. How about the other pilots who have been taught by your instructor? There was a pilot who spun in last year. The instructor

had made several entries in the student's log book stating that the student had difficulty maintaining airspeed in the pattern. This instructor should have never released this student for solo. Maybe you have (or had) the same instructor.

Another method is to have someone else take a good look at your own flying skills and habits. Although input from your own flying buddies is valuable, there may be an unwillingness to be frank and honest. All too often buddies would rather keep from offending each other than provide life saving criticism. For this evaluation, it is best to choose an unbiased instructor other than the instructor who taught you how to fly. Of the instructors in this country, one has to be the best and another has to be the worst. Maybe the one who taught you how to fly is the one who is the worst.

The last, most biased and least reliable is to do a self-evaluation. Due to the unreliable nature of the evaluation, it should not be done in lieu of the previous evaluations. Its only saving grace is that it can and should be done before, during, and after every flight. How about your flying skills? Were your turns coordinated? Do you have good speed control? If you consistently tell yourself how lucky you are or if you are repeatedly telling yourself that you have got to work on a particular problem, maybe you need some dual time with the instructor. During your training, did the instructor ask you for a personal evaluation of each flight? If so, do you still do it? It's a good habit to keep.

The questions to ask during a self-evaluation can go on and on (it might be a good topic for a future article), but one important question to ask is: "am I fooling myself?" When a mistake is made and nothing bad happens, don't delude yourself into the false belief that the mistake was unimportant. Each mistake moves the pilot closer and closer to an accident until there are no mistakes left.

Marty Pautz
from SOARING

PLEASE BE CAREFUL

Some years ago, I took a coaching course at night school. My classmates represented a wide variety of sports. One night our homework assignment was to list the three most commonly occurring injuries in our sport. For anyone who hangs around the gliderport a lot, the first two were easy — bruised egos and hurt feelings. While trying to think of a third example, I realized that for all the gliders we damage or destroy in crashes we injure, remarkably, few pilots. That leads to the sobering thought that in a crash that does result in injury to the pilot, more often than not, those injuries are fatal. Two Canadian glider pilots have been killed in crashes so far this season. Please be careful.

Dixon More
SOSA

CLUB NEWS

MOUNTAIN SOARING CAMP AIDS WINDERMERE VALLEY CLUB

A successful and enjoyable Labour Day soaring weekend was held at Fairmont Hot Springs airport, BC by members of the Cu Nim and Windermere Valley clubs. Organized as an Alberta Soaring Council Mountain Soaring Camp, the event was held at the Fairmont airport, 30 kilometres south of Invermere where it has been held in the past few years.

As gliders flew over the hot springs pool and ski areas of the resort, they attracted many curious people to the airport to watch the action and get rides. Eleven private ships and 26 pilots attended.

The weekend activities were a boon to the new Windermere Valley group, which owns a Blanik but has no means of launching it yet. It was ferried down to Fairmont from Invermere by the ASC towplane, and the airport manager and owners of the resort were given PR rides. One of the owners was so impressed with the gliders that he is ready to put a hook on his Citabria to



Tony Burton

Above the Columbia River valley at 9000 feet, looking northeast towards Banff. Invermere airport is centre foreground.



Tony Burton

Over the Purcell Mountains 20 km west of Fairmont Hot Springs.

allow the Windermere club to fly there and for casual glider pilots to drop in get a tow.

The weather was reasonable and sunny, but light winds and somewhat stable air didn't allow consistent soaring until midafternoon each day. Sunday was best, with several pilots flying the mountains to the west of the valley as well as the usual east slopes.

The Fairmont airport has the advantage over Invermere of having higher and more spectacular rock faces close in to the airport on the east side (about 4500 feet above the strip), but they are too rough for easy ridge soaring in light conditions. Also, the valley narrows there which allows easy access to the high ground on the west side of the valley for more soaring opportunities. The runway and ramp area

is much larger (although this may have a long-term negative effect if increased power traffic conflicts with soaring).

The Invermere airport offers more convenience with the town nearby, and offers more consistent soaring lower down on the east slopes. This airport may also be able to supply more services in the future due to a recent change in the agreements between the airport manager and the land owners. On balance, it appears that both airports will have a place in mountain soaring in Western Canada in the near future.

Tony Burton
Cu Nim

CLUB STATISTICS

It is a cliché that you can prove anything with statistics. In my view that can only happen through misrepresentation, or misuse of the numbers or characteristics that are used to describe the event or history of interest. It is ironic, therefore, that it is very difficult to prove most beliefs or theories without statistics or, if you prefer, some kind of quantitative measure.

The actions of our government, either reported in the newspapers or demanded by politicians or pressure groups, consistently use numerical measures, no matter how weak or obscure, to prove or

support their demand for action, money, control, or restriction. Look what is happening now with respect to midairs or suspected midairs. All sorts of numbers are floating around to support the conclusion that there is a major problem. The collision at Cerritos, California has had a powerful sensitizing effect.

I could repeat this example in many other ways. My concern is, if action or regulation is proposed by government that in our view is unnecessary or restrictive, how do we fight it? By sheer force of inductive logic or my good looks? Not too likely, especially if you rely on my good looks. What we must have is the best set of numbers and characteristics that describe our activities. The only way these numbers and characteristics can be obtained is through the dedicated collection of the requested and necessary data at each club.

Dennis Miller is losing sleep because he does not have enough SAC work to use up his spare time. Since everyone else who works for SAC has more than enough to do; why do you, the clubs, make life easy for him? Stop hoarding your data! Share it. Work Dennis' fingers to the bone. His computer has lots of bytes. Use them. PLEASE. NOW.

Bob Carlson
Director-at-Large

RECORDS NOTE

Peter Masak's claim for his Canadian triangle distance of 1007.0 km and 1000 km triangle speed of 106.5 km flown from Ridge Soaring, PA, has been approved by the Soaring Society of America.

REGINA NEWS

The Regina club has had a large boost in its fleet of private sailplanes which may help regenerate a lot of cross-country soaring in Saskatchewan.

A syndicate of Darren Grant, Harry Hoiand, and Harold Eley have obtained an Open Cirrus from Cu Nim. Also, Andrew Jackson and Graeme Craig have moved from Edmonton bringing with them their gliders, a Standard Jantar and an H301 Libelle.

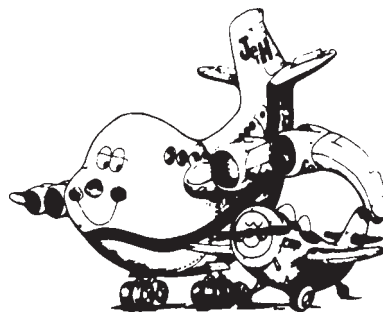
Pat Wickenhauser has been very busy as almost a "one-man" Soaring Association of Saskatchewan, going after the government and lottery money available to sports in that province. The biggest job (and problem) of SAS is to set realistic annual program goals for Saskatchewan pilots and then get the pilots and clubs to use the approved funding. In 1987, eleven programs with funding of over \$11,000 was approved, and a further \$11,000 obtained for the Regina and Saskatoon clubs under the Membership Assistance Program.

Pat has been active as an officer of SAS since 1979 and will step down for 1988. He says his job is administration, and he has had enough of it as a hobby.

Just go and fly in '88 and have fun, Pat. NOTE TO ALL SAC CLUBS — each of you has one or more gung-ho members who willingly do the "dirty" jobs, but enthusiasm only lasts so long. Don't burn out your best members! Give them a rest and everyone share some of the non-flying jobs. Tony.

Extracted from "Cloudstreet"

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TROPHIES & CLAIMS

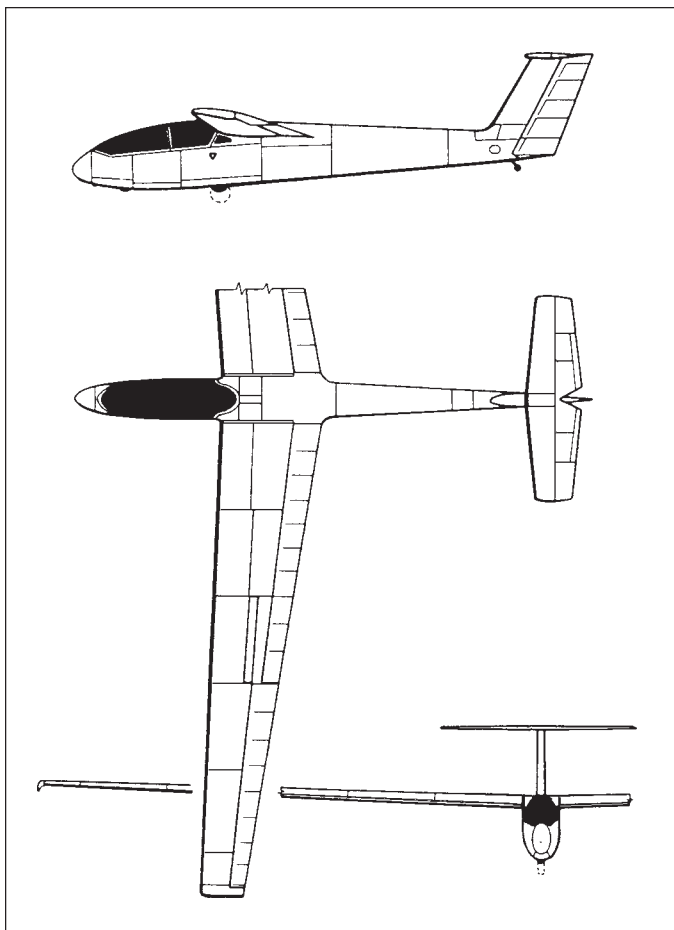
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Mbrs: Hal Werneburg
Bruce Finlay

HANGAR FLYING

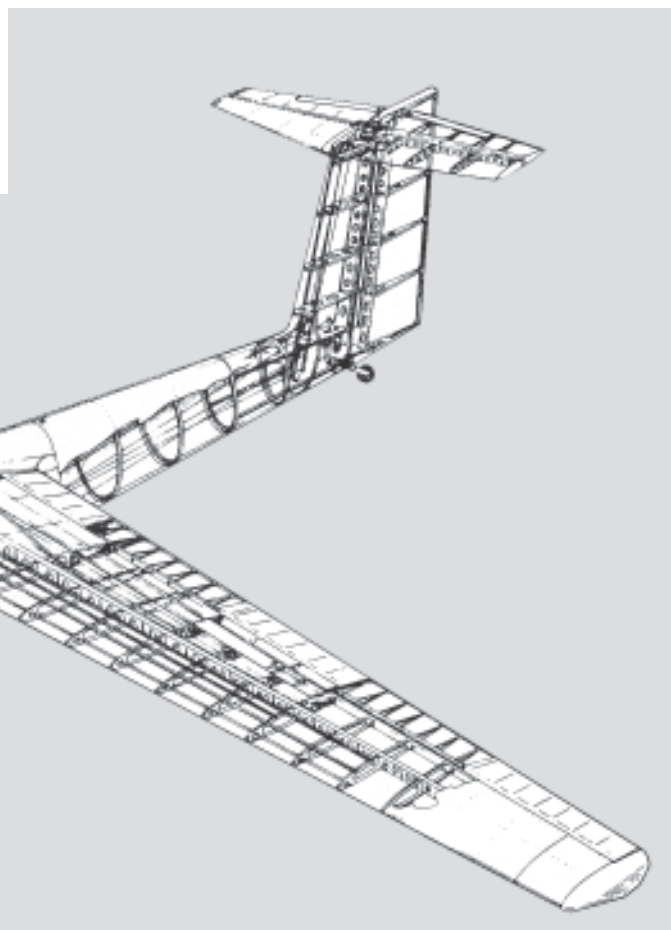


NEW BLANIK IN WORKS

Czechoslovakia is close to producing an updated Blanik, the L-23. The manufacturer, LET, sees a continuing strong market for their medium performance, all-metal, acrobatic trainer (particularly in light of the high cost of the non-spinnable fibreglass ships). Their goal is to produce a new version of the L-13 with most of the "bugs" removed while keeping the cost as competitive as possible.

Some of the changes coming in the L-23 are:

- T-tail (to prevent the tail damage incurred by the old conventional tail in outlandings, etc.),
- Drooped wingtips (to protect the ends of the ailerons from chafing — gone are the unique "tip-tanks"),
- Lower cockpit sidewalls (the canopy rail has been dropped 10 cm at the front and 5 cm at the rear to improve downward visibility and cockpit access),
- No windscreen (both the flat angle of the plex and the windscreen hoop reduced forward visibility),
- Two-piece canopy (the front opens right and the rear up and backwards on pivot rods),
- Larger side view panels for rear pilot,
- Smaller front instrument panel (to give more knee room for large pilots),
- Fibreglass seat pans (for more comfort and room),
- Redesigned tail wheel,
- Shorter fuselage.



The constraint of keeping the price reasonable necessitated minimizing the amount of new jigs and retooling required. This forced the considerable compromise of retaining the L-13 wing (even though substantial aerodynamic improvement was possible) and of maintaining the wing position (even though a mid-wing would have increased rear seat visibility and simplified the canopy redesign).

Technical data:

Span	16.3 m
Length	8.5 m
Wing area	19.15 m ² (206 ft ²)
Weight, empty	310 kg (680 lb)
Weight, gross	510 kg (1,120 lb)
L/D max at 43 kts solo	28:1
49 kts dual	
Min. sink 38 kts solo	73 m/s (144 fpm)
43 kts dual	
V _{stall} solo	51 km/h (27.5 kts)
dual	56 km/h (30.3 kts)
V _{ne}	255 km/h (138 kts)

The prototype L-23 is now in the advanced stages of construction. Given the aging Blanik fleet in Canada, this is good news, and its development bears watching.

adapted from "Letectvi & Kosmonautika"

A NEW SOARING SPORT

Although both hang gliding and microlights are relatively new activities in FAI, an even newer one has arrived which affects them both: "parascending" and "parapente"

Parachutes have come a long way since they were developed to save the life of an airman with a disabled aeroplane.

The sport of parachuting now involves both skydiving (making formations in the sky before opening the parachute) and canopy relative work (making stacks and formations by teams of parachutists after opening the parachute in the air). In parapente and its earlier sister sport, parascending, the parachute is deployed on the ground before takeoff. In parascending the pilot, because that is what he has now become, is towed up in the air and in parapente, he runs off the top of the hill.

Once airborne or released from tow, the "square" type parachute is flown like a simple glider, and if the pilot is in the right place at the right time, he can soar. In fact, the out-and-return distance record for a paraglider, as it is now called, is 36 km, the duration over three hours and gain of height more than 1000 m — all with a parachute!



Soaring with parachutes has a great future because it provides just about the simplest and cheapest flying it is possible to have. In Switzerland, the parapente association has over 5000 members — not unexpected when the pilot only has to carry a 4 kg bag on the ski lift, and when he reaches the top, just walk into the air.

But if this newest branch of soaring — because apart from just the enjoyment of being in the air — that is what it is all about, is to have its own records and pilot proficiency standards and badges, and have its own world championships, it needs to be fully integrated in FAI. Fortunately, this is not difficult, as the FAI Hang Gliding Committee, CIVL, has welcomed the newcomer, classifying it as a hang glider Class III, perhaps defined as a "hang glider having no rigid structural framework". There is already an expert sub-committee within CIVL to look after its encouragement and development.

But as with hang gliding, some paragliders did not take long to grow little engines — the paraplanes. Some of these have a trike-like "fuselage" of wheels and engine in or on which the pilot can sit, while in others, the pilot takes off on his feet wearing a very small engine with a caged propeller as a backpack.

At present, this development is numerically small, but when their devotees want to become involved with records of championships they will have a home with CIMA, as they fit within the FAI microlight definition.

When FAI was founded in 1905, the airsports which would develop in the future were beyond comprehension, but even 25 years ago, hang gliding and microlights were still in the unknown future. Now they are established FAI activities. But what about the next 25 years?

Ann Welch
from FAI Bulletin No. 124

FIRE DESTROYS 15 SAILPLANES

A fire which destroyed a wood hangar at the site of the US 15 m championships at Barstow, California this summer also completely consumed fifteen gliders which were tied down inside. The fire, which broke out at night from a suspected electrical fault, spread very rapidly and limited the number of ships which could be pulled free.

The glider in the photo was the only one that was even recognizable as an aircraft following the fire, as it was pulled a short distance away from the hangar before being abandoned.

DG-300 CLUB SHIP COMING

Glaser-Dirks has announced that it is producing a club version of the DG-300 as a successor to the DG-100. The DG-300 Club will not have the blown turbulator system or the fin ballast tank. It will be available with or without water ballast and fixed gear. Docile characteristics will allow quick transition by the low-time pilot. Delivery begins January, 1988.

MAMINI IS BACK

Friends of Dick Mamini will be happy to hear that he is back in the sport after a seven-year intermission. After some dual flights at Cu Nim and the Cowley Summer Camp he is solo again (albeit in a 1-26 the first time). Recent flights had been with sailboards, not sailplanes.

Dick lost his medical following an accident at the 1980 Nationals, and only after a protracted struggle with the Aviation medicine people at MoT, had his flying status re-established this July. Even his old ASW-12 is almost airworthy again. Dick was an active competition and record pilot in the '70s and was a member of the 1976 Canadian team in Yugoslavia.

FAI BADGES

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

The following Badges and Badge legs were recorded in the Canadian Soaring register during the period 16 July 1987 to 31 August 1987.

DIAMOND BADGE

71 Bernard Palfreeman Montreal SC (World number pending)

GOLD BADGE

234 David Fowlow Cu Nim GC
235 Gerhard Schaefer Edmonton SC

SILVER BADGE

746 Brian Jessop Bluenose SC

DIAMOND DISTANCE

Bernard Palfreeman Montreal SC 506 km Pik 20 Julian, PA

DIAMOND GOAL

David Fowlow	Cu Nim GC	311 km	Open Cirrus	Black Diamond, AB
Bernard Palfreeman	Montreal SC	506 km	Pik-20	Julian, PA
Gerhard Schaefer	Edmonton SC	321 km	ASW-15	Chipman, AB

DIAMOND ALTITUDE

Ken Langland Vancouver 5180 m Lark IS29D2 Hope, BC

GOLD DISTANCE

David Fowlow	Cu Nim GC	311 km	Open Cirrus	Black Diamond, AB
Gerhard Schaefer	Edmonton SC	321 km	ASW-15	Chipman, AB

GOLD ALTITUDE

David Fowlow Cu Nim GC 3500 m Blanik Cowley, AB

SILVER DISTANCE

Brian Jessop Bluenose SC 62 km Ka8B Stanley, NS

SILVER ALTITUDE

Christine Futter	Gatineau GC	2250 m	Skylark 4	Pendleton, ON
Mark Brown	Winnipeg GC	1520 m	Bergfalke	Starbuck, MB
Susan Gould		1830 m	1-26E	Reno, NV
Mike Read	Toronto SC	1320 m	Bergfalke III	Conn, ON

C BADGES

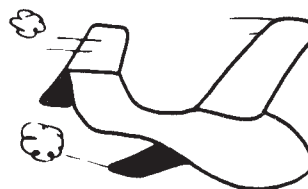
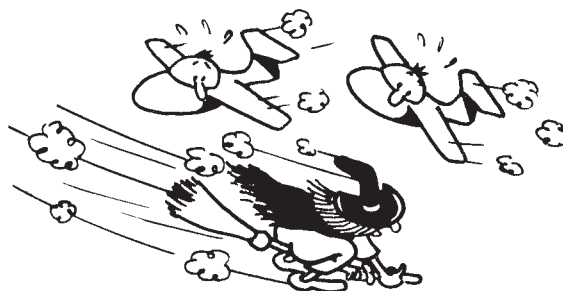
2087 John Kinnear Rideau GC 1:05 1-26 Gananoque, ON

END OF SEASON PAPERWORK — DO IT NOW

It's time now to report to George Dunbar on all your season's flights which are eligible for SAC trophies and certificates, or to send in your badge leg applications to Larry Springford before the six-month deadline passes.

See your CFI or club Senior Official Observer for the trophy forms. Remember, any memorable flight (even if it does not satisfy FAI requirements) can be a candidate for a SAC "Significant Flight" certificate.

Some Official Observers still do not have the current copy of the FAI Sporting Code or the SAC procedures booklet (red cover). You *must* have these in your possession to act as an OO — and the Badge and Record chairmen assume that you reread them occasionally and understand the details. Larry Springford is preparing an article to review recent interpretations of the current Sporting Code. The SAC FAI Badge and Records Procedures booklet will be updated to reflect the changes when the next edition is published (there is no date set yet).



no touch

ACCIDENTS

Three expensive canopies were not secured prior to take-off and have to be replaced. Be careful out there, folks.

BLANIK, C-GVXS, 23 July, Hawkesbury. Canopy opened on tow. Replacement about \$2,500.

K-13, C-FYEQ, 25 July, Air Sailing. Struck tree branch on approach. Wingtip and leading edge damage. Claim is about \$3,800.

1-23, C-FXKL, 25 July, Claresholm. Skin surface pitting and cracked canopy during a severe hailstorm.

TWIN ASTIR, C-GVXQ, 6 August, Hawkesbury. Canopy opened on tow. Replacement required.

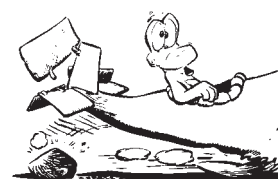
L-19, C-GAXQ, 23 August, St. Raymond. Towplane tipped up on nose while taxiing downwind in gusty winds. Prop damaged, claim approx. \$1,500.

STD ASTIR, C-GUOX, 24 August, Hawkesbury. Heavy landing during outlanding. Fuselage and canopy damage.

K-13, C-GWTT, 30 August, Air Sailing. Heavy landing resulted in back injuries to pilot. No damage to glider.

1-26, C-FWOI, 30 August, Champlain. Substantial damage during an outlanding. Probable write-off. \$8,000.

TWIN ASTIR, C-GVSA, 6 September, Vancouver. Canopy opened on tow, part of which caused minor vertical stabilizer damage. Replacement and repairs about \$2,000.



I found your reference at the end of the article by Ryan et al to be disturbing. The only organization that speaks internationally for aero sports in Canada is the Aero Club of Canada. SAC is the Aero Club designate for the sport of soaring. I think it is improper to encourage Canadians to use an American committee to express Canadian views. I suspect Jim Oke may be as distressed as me, especially since there were references to this issue in his CIVV report. *Your point is well taken; our Sporting committee should receive any of our opinions on changes to the Badge flight hierarchy, and I encourage pilots to reread this article and comment.*

At Gordon Bruce's request, I am writing a short plea for the need for clubs to provide statistics to SAC (see p 14). Participation has fallen off in recent years, and I hope that what I say will promote a revival.

In the way of general news, the weather in the east this summer has been weak. In general, activity seems to be down — not as bad as last year at most locations, but down. Lastly, there will be no news until the next issue on the Aero Club of Canada as little has happened. The letters patent for the ACC are still not clear of the lawyers. I now hope that the ACC will be in operation by October.

Bob Carlson
SOSA

SAC RESPONSE TO CASB ADVISORY ON BLANIK ACCIDENT

Mr. R. W. Slaughter
Canadian Aviation Safety Board

Subject: Your letter to SAC regarding Blanik accident, June '85.

SAC has received a full report of this accident, including some comment on the background of the pilot, which may not have been in the report you received. The club where this occurred is one of our most responsible and safety-conscious clubs. Their attitude and attention to safe operations and good airmanship are excellent, and the reports of their Safety Officer are prompt and thorough.

Your point about the aging of ropes exposed to weather, and particularly sunlight, is a good one, but I believe that most clubs are well aware of this effect. However, in the case of tow ropes or "weak links", mechanical abrasion normally renders them unserviceable long before the photo-chemical aging is significant. In this case, the tested strength of the link was well within the safe limits for a Blanik. An important part of student training is the awareness of possible launch failure (rope break or loss of power, etc.) and student pilots must demonstrate ability to do a safe maneuver and landing following an emergency simulated at a critical point during the tow, before being allowed to go solo, let alone obtain a licence.

In this case, the pilot held a PPL and had converted to gliders rather recently. He did an inadequate cockpit check, failing to lock the dive brakes, which subsequently opened during take-off. He failed to maintain proper station behind the towplane during climb out. The rope probably broke due to excessive loads imposed by poor piloting, plus the open airbrakes. The pilot failed to notice the open brakes, or to maintain safe airspeed during the turn, and entered a spin during which the aircraft hit the ground.

Some pilots who hold the PPL have too little respect for gliders with their different and more demanding low speed flight characteristics. This could have been a contributing factor.

Our committee endeavours to understand and analyze the causes behind all serious accidents, and to alert clubs to particular problems.

Yours sincerely,
John Firth
SAC Flight Training & Safety Committee

A SHORT REPRIEVE

The tax reforms recently announced by Michael Wilson will not take effect until 1988. This gives you folks who haven't yet taken out a lifetime membership in the SAC a short reprieve. If you get your \$1000 cheque in to the National Office before December 31, 1987, Nancy will send you a receipt that will reduce your taxable income by the full \$1000. Depending on your tax bracket this can reduce your tax bill by as much as \$600. Don't wait. Do it now. The object of the new tax proposals is to close just this sort of loophole.

Dixon More
Ontario Zone Director

COMING EVENTS

8-10 January, SAC winter **Director's Meeting**. Ottawa. Contact national Office for details.

20-24 January, **Flight Training & Safety Committee** meeting, Toronto. Contact National Office or Ian Oldaker for details.

10-12 March, 1988 **SAC Annual General Meeting**. Ottawa. More details later.

1988 **Combined Nationals**, Hawkesbury, Ontario. More details later. Contact George Couser, Box 1082, St. Laurent, PQ H4L 4W6

Correction to Diamond Records

An error has been noted in the data for Diamond Badge #32 belonging to John Bisscheroux. His flight was an out and return (or) no? straight distance (s). Please correct your copy of the Records data inserted in the last issue.

PRODUCT REVIEWS

Permanently Filled Tires

One of the most aggravating activities of a glider pilot is keeping tires at the proper pressure. The small volume of the tube, especially in the tail wheel, ensures that the loss of a small amount of air leads to a large drop in pressure, if not a flat tire. This isn't good for the tire, or the tube. Replacements are hard to obtain (try wheel-chair stores) and expensive.

While trying to get a valve leak repaired on a Finnish inner tube, I was asked by one of the operators of a Green & Ross Tire Store if I had tried a permanent polyurethane fill. I had not. Discussion led to a decision to try. It cost roughly \$30 and so far, has worked just fine.

What is done is this. Polyurethane resin is injected into the inner tube inside the tire when it is on the rim. The liquid is pressurized at the proper inflation pressure until the resin cures to a solid. The tire looks, feels, and acts as if it were filled with air. The guarantee is that the fill will last as long as the tire. The speed/life limitation is 48 knots for two continuous hours. If your take-off takes that long, I think other factors deserve your attention.

I've had this tire on my tail dolly for three months now without problems. If you try this as a tail wheel, remember that the resin inside weighs about 500 g. This will affect your cg, so obtain the approval of your AME before you install one on your aircraft. So far it looks like a super solution to a vexing problem.

McVeigh Battery Charger

I have found the charging of the batteries for my aircraft to be another vexing problem. My needs were: no overcharging, some capability to trickle charge, and achievement of the proper voltage. A recent article on batteries in SOARING was a good primer on what to expect and do.

My experience with the cube type of charger was not good. It never seemed to achieve the right voltage for my 14 volt system and I was concerned that if left on too long it would overcharge and ruin \$150 worth of gel batteries.

The solution seemed to be a rate and level sensitive charger. Until Jay advertised his product in **free flight**, the only "fix" was an expensive charger from the USA. I talked to Jay at the Nationals, then gave him my cheque. Since I wanted a system that would charge from 12 volts AC as well as from the car system, I received two "black boxes". After reading the instructions I made the necessary connections. No surprises, everything worked and continues to work as advertised. A green LED signals when the job is essentially done, at the desired voltage. What more can I ask for? I'm satisfied and would encourage those who need a good battery charger to talk to Jay about their needs.

Bob Carlson, SOSA