

free flight • vol libre



1/95
Feb/Mar

Soaring Association of Canada 1945 – 1995



a VSA Blanik soars past a cloud-framed Hope Mountain.

Dave Woodcock

SAC TURNS FIFTY! For most individuals it is a time to reflect on what we will spend doing during the last third of our lives. Organizations are somewhat different in that their initiators wanted them to grow long after them. A fiftieth anniversary gives us an opportunity to reflect on what was accomplished and tip our hat at those who did the pioneering work. Then after, we need to set our course for the next quarter of a century.

SAC's fiftieth comes at a time when the framework in which we operated to this day is going to change beyond our wildest expectations. Some of this will be good, some will be a challenge. Let's review some key factors:

- We baby boomers are pushing the demographic bulge near the 50 age zone. This is the period of life where we should have more leisure time, and hopefully disposable income for ... SOARING. That's good.
- The economy is not what we have been used to in Canada since 1945. Cost of flying is increasing for everyone, more so for power pilots. That's an opportunity.
- Transport Canada will possibly be a very different organization focused on commercial operators. For the recreational aviation community, this is both a challenge and an opportunity to strive for a less regulated and bureaucratic environment.

Growth and deregulation should therefore be the course we set for ourselves for the next quarter of a century. And let's all plan to be around in 2020 for the 75th.

L'ACVV a 50 ans. L'organisation a atteint son age de maturité et un rythme de croisière qui mérite d'être, ma foi, accéléré. C'est aussi un secteur, à l'instar du monde de l'aviation, où nous avons tardé à prendre notre place. Je crois cependant que nous pouvons mieux faire connaître et aimer ce sport par nos concitoyens avec le résultat que nous compterons plus d'adeptes, ce qui signifiera des plus solides et mieux équipés et pouvant disposer de meilleurs services.

Faisons en sorte que les 25 ans qui viennent soient ceux de la solidarité afin de continuer à bâtir des organisations de plus en plus viables et agréables.

Pierre Pepin president

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1/95 Feb/Mar

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

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Cover

In 1992, the Cowley Summer Camp was marked by very unstable weather conditions which caused cumulus clouds to grow rapidly over the mountains and drop a lot of hail over the prairies as they drifted east. They were spectacular to watch, as were the evening lightshows. Thankfully all of them missed the airfield.

photo: Tony Burton

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Sky Fever

by J.M. Field



The SOARING ASSOCIATION of CANADA

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

free flight is the official journal of SAC.

Material published in *free flight* is contributed by individuals or clubs for the enjoyment of Canadian soaring enthusiasts. The accuracy of the material is the responsibility of the contributor. No payment is offered for submitted material. All individuals and clubs are invited to contribute articles, reports, club activities, and photos of soaring interest. A 3.5" disk copy of text in any common word processing format is welcome (Macintosh preferred, DOS ok in ASCII text). All material is subject to editing to the space requirements and the quality standards of the magazine.

Prints in B&W or colour are required. No slides or negatives please.

free flight also serves as a forum for opinion on soaring matters and will publish letters to the editor as space permits. Publication of ideas and opinion in *free flight* does not imply endorsement by SAC. Correspondents who wish formal action on their concerns should contact their SAC Zone Director whose name and address is given in the magazine.

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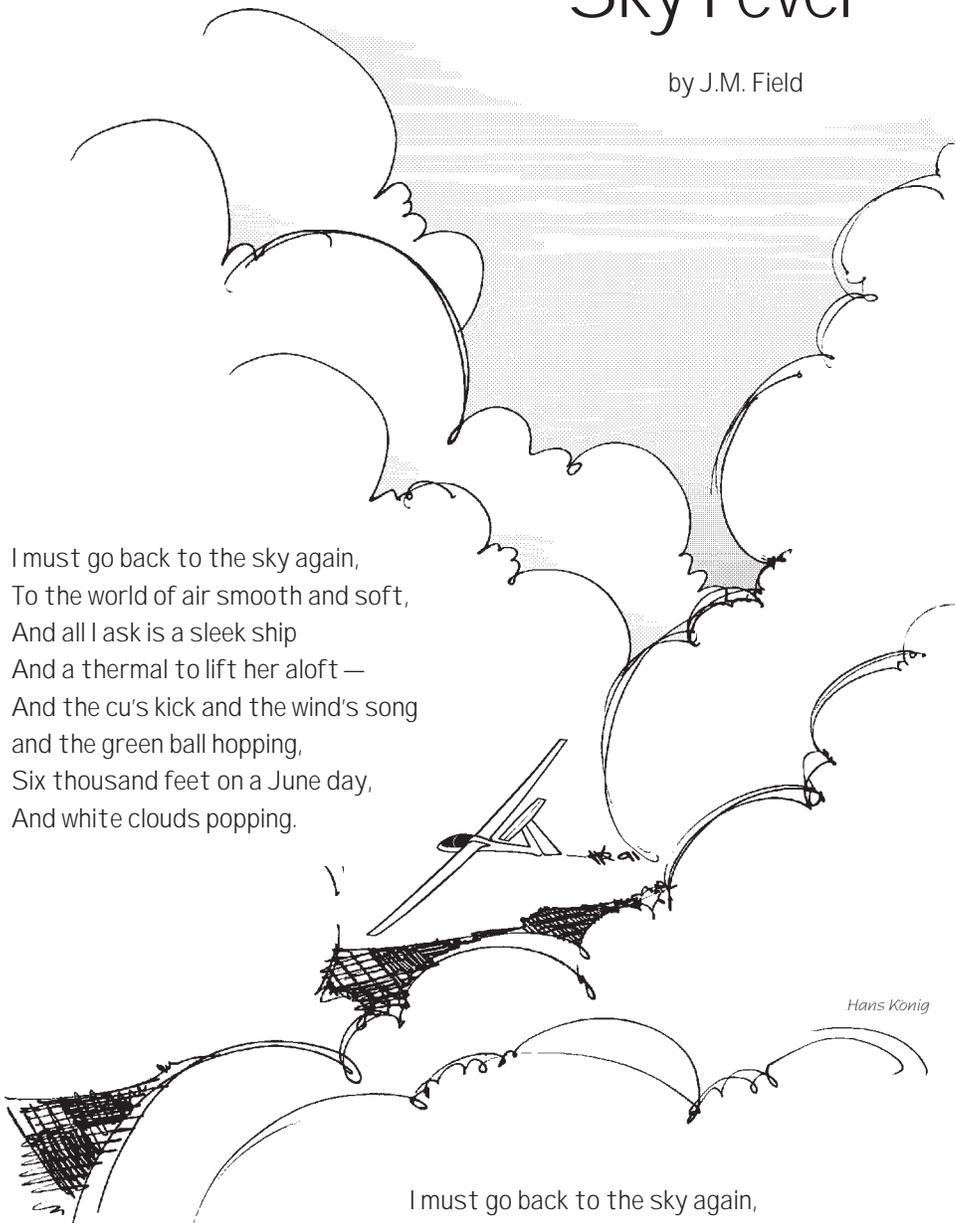
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Deadline for contributions:

5 January, March
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I must go back to the sky again,
To the world of air smooth and soft,
And all I ask is a sleek ship
And a thermal to lift her aloft —
And the cu's kick and the wind's song
and the green ball hopping,
Six thousand feet on a June day,
And white clouds popping.

I must go back to the sky again,
For the call of the mountain wave
Is a wild call and a clear call
That lures the bold and the brave.
And all I ask is a west wind
And the cap cloud standing,
Twelve thousand feet o'er the mountain peak,
And a ship that heeds my commanding.

I must go back to the sky again,
To a soaring nomad's life,
To the hawk's way and the eagle's way
Far from the daily strife.
And all I ask is a street of cu
'Til the long trek is over,
And a gentle glide at the set of sun
To a soft field of clover.

based on John Masefield's, "Sea Fever"

L'ASSOCIATION CANADIENNE DE VOL A VOILE

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

vol libre est le journal officiel de l'ACVV.

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Les épreuves de photo en noir et blanc ou couleur sont requises; pas de diapositives ni de négatifs s'il vous plaît.

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The Ballad of Boudreault's Boat

Here we are treated to some olde verse, and ramblings on its origin in the beginnings of the Gatineau Gliding Club with "Shorty" Boudreault. It is an appropriate introduction to this special issue of *free flight* on the 50th anniversary of SAC.

by Barrie Jeffery

Once upon a time 'bout a hundred years ago,
There paddled up a river an explorer named Boudreault
Who parked on Lake Deschenes and scanned the northern shore,
"By Gar," said he, "dose hills mus' be a t'ousan' feet or more."

There came a sudden sullen splash, a sudden startled yelp,
"Where are you, mate?" cried Boudreault, and Henshaw hollered, "Help!"
Young Herb had fallen overboard while resting on an oar;
For, dreaming of those distant hills, his thoughts began to soar ...

Now later on that evening, as they camped beneath the trees,
Boudreault said to Henshaw, "If a fair to middling breeze
Were blowing from the south of west along that range of hills,
I'll wager you a pint of ale against a pot of pills
That I could soar an old barn door along that ridge and back
And set it down at Lariault's as neat as crackerjack."

Herbie tried to laugh it off — ridiculous idea!
But in his sleep he muttered like an aeroengineer:
"... if the hyperbolic tangent to a cyclic polar plane
Were integrated up and down, the helicoid would gain
An isentropic lapse rate humidified to suit,
With exothermal polyphase and entropy to boot ..."

The years roll by, dear reader; behold against the sky
Practical results of Herbie's dreams of how and where to fly:
Mighty bombers rend the air, and can rend a city too;
And afterburning Banshees beat their sound into the blue;
'Liners crowd the airways: round the world in half a day
From billion dollar runways controlled by GCA ...

But whatever's THAT? Above the hill... By Lariault's I swear
Was that a spot before my eyes ... or was a glider there!
Come see the happy pilot, so green and yet so proud,
Bobbing like a shuttcock above the madding crowd ...
Boudreault's great-great-grandson discovered how to soar
For all of fifteen minutes on a modified barn door.

What does all this mean? Go to page 21

"LITTLE HOPS AND FREQUENT CRASHES"

photo not available for pdf file

our Soaring
Association
from conception
to adolescence

Christine Firth
SAC Historian

BEFORE THE SECOND WORLD WAR, Canadian glider pilots belonged to two distinct groups. On the one wing were air-minded daredevils¹ inspired by the exploits of Charles Lindberg and other early aviators who just wanted to get airborne. If cash was scarce and a real aeroplane or even a factory kit was out of the question, any teenager with a small supply of wood, bed sheets, home-made glue, a helpful local blacksmith and a lot of elbow grease could build a primary glider from rudimentary plans; a few were even inspired to design their own². As early as 1935 several westerners of European origin were sophisticated enough to buy blueprints for secondary gliders directly from Hutter and Schempp³. But most got their primary glider plans from *Popular Mechanics* and *Popular Aviation*. Relatively unschooled, these enthusiasts had a flare for carpentry and the courage to keep flying after every crash.

On the other wing were the engineering students who saw sailplanes as practical instruments for meteorological study and flying models for aeronautical research. They studied the ISTUS⁴ papers, imported the latest factory kits from abroad and when they graduated they went to work in the aviation industry. To fly was to be at the leading edge of life and some of the aircraft factories⁵ even envisioned a domestic glider market and began to manufacture European and American primaries. More important, they allowed their employees shop room to build and design⁶ their own gliders, and company aeroclubs were formed which were well-equipped and often had their own tarmac strip and hangar.

Somehow, via Schempp, Schweizer and Slingsby, or the gliding section of *Canadian Aviation* and after 1936 through *SOARING*, a technical network evolved. Glider builders from both amateur groups spent a great deal of time writing to one another about wing sections, leading edges, trailers, tow hooks, casein and dope. They followed the problems and successes of each other's projects and often passed on innovative design modifications. And since North Americans were a long way from European clubs and factories, north-south lines of communication were common.

The time always came when the owners and builders had to learn to fly and this required quite another set of skills and group dynamics. Even the most solitary base-

ment craftsman had to involve others in order to get the product off the ground; usually, there was already a hard core of sanders, gluers, stitchers and gophers who were more than willing to help launch the new creation. From these diverse beginnings, thirty or more clubs sprang up from Nova Scotia to Victoria. Each was an isolated group of enthusiasts with their own rules and their own standards.

But enthusiasm often meant a return to the workshop, and inevitably the emphasis moved to training. In those days, flight times were calculated by the second and a typical fledgling might take 36 solo flights to be above ground "1 hour, 7 minutes, 48 seconds". Thus, an instructor with 20 hours air time (ie. time spent more than six inches above the ground) was very experienced. Ab initios were run through dozens of 'daisy cuts' and 'cow hops' to familiarize them with the controls. Braver students were talked through cloud-scraping from a winch, car, or tractor launch, shouted over 'hedge-hops' and yelled to a landing. Broken skids were common.

Naturally, the builders and carpenters tried to improve the time between prangs by writing to the US National Glider Association in Detroit, Michigan for advice. Some even made the pilgrimage to Harris Hill in New York for the annual International Glider Competitions where they could see real glider pilots in the latest gliders. The university clubs were particularly well represented at these meets. For the most part though each group learned from their own experiences. As Carl Gruninger of Three Rivers wrote in 1937, it was "indeed a pity that the progress of this great sport in Canada should have been retarded by a complete absence of collective effort."

But the war changed the way gliding was conducted. The pioneers of the thirties —

dauntless, cooperative Jack-of-all-trades, were perfect fodder for the war machine. And in 1945, even though the *Handbook on Glider School Operation* was still warning: "We must remember that gliding starts and finishes in the workshop", those who came back from the rules and regimentation of the armed forces, the ultimate 'collective effort', could never return to that carefree do-it-yourself, make-do-and-mend world of their youth. Correspondence between individuals ends in 1939, and not many of the early glider flyers can be traced after the war⁷.

The New Order The war produced an entirely new breed — a group of men (the exceptional woman proves the rule) who had become used to hierarchies, job descriptions, and to giving and taking orders. Even before the war ended a group of officers, scientists and engineers decided that Canadian gliding must be scientifically organized along military lines with a national training school, national rules, national standards and a national magazine, all run by a national soaring association. The primal urge 'to fly' had been superseded by the powerful urge 'to regulate'.

First proposed by Don MacClement⁸, the objectives of this new association announced at the inaugural meeting on April 21, 1944, were to "promote the art of motorless flight and to represent gliding and soaring in Canada", eight committees were also suggested: Regulations, Technical, Membership, Finance & Insurance, Constitution & Affiliation, Equipment, Publicity & Correlation, and Competition. In order to promote the proper respect for this new sporting group, Jimmy Simpson, our first president, wished

"... to eradicate the opinion that a gliding club consists of a group of boys who pull a primary glider around a vacant lot, and show that the real end is the high performance sailplane in use at a proper site by people who can keep it in the air most of the day. This is, of course made possible and cheap by the development of large clubs with full training facilities."

... in other words — to be seen as serious, mature, and organized as the Europeans.

Although the new organization was welcomed by a Department of Transport spokesman who correctly anticipated the extra workload which would accrue from increased private flying after the war, the incorporation of SAC was not without its naysayers. In May 1945, the Assistant Under Secretary of State quoted a spokesman for the Deputy Minister of National Defence for Air, expressing the 'power' view that

"... no useful purpose can be served by the incorporation of such an association. It is not considered that glider training is of any assistance to flying training — in fact a lot of the techniques used in glider flying can be dangerous to flying

motor aircraft. Furthermore, it is felt that the associations now in existence in Canada are fully empowered and capable of carrying out the objectives for which the Soaring Association of Canada seeks incorporation."

The founders thought it would take two weeks, but it took eight months of perseverance against a stubborn bureaucracy. They were finally asked to pay \$100.00 and did⁹, and by October 1945, SAC was granted a National Charter. In their new headquarters inside the Royal Canadian Flying Clubs Association (RCFCA), within the offices of the Canadian representative of the Fédération Aéronautique Internationale, the founders (all from the Gatineau Gliding Club) became the first slate of officers¹⁰.

Chem produced the first SAC newsletter before the charter was received, some thirteen months after the inaugural meeting. In a list of actions taken by the board, the first was affiliation with the Soaring Society of America. The second was a 'comprehensive brief on gliding for air cadets' by Don MacClement. This resulted in his being appointed "advisor for the Air Cadet League on gliding matters ... charged with starting a central gliding school for instructors". SAC members interested in utilizing the school's facilities were invited to write for particulars. The third action was "cooperation with GGC in prototyping a winch to SAC specifications. The Ford Motor Company donated a V8 engine to this project and the British Aviation Insurance Corporation" (BAIC of trophy fame) donated money to GGC in the hope that the winch would be available for use at the Air Cadet League gliding school. The fourth action was to join the new national Air League and have SAC recognized as one of the five major organizations involved in aviation in Canada. In addition, the board recommended that 15 gliding certificates be issued by the RCFCA, gave assurances that the National Research Council would help with technical matters connected with motorless flight, and was considering affiliation with the RCFCA.

As if this wasn't enough for one year, the Technical, Regulations, and Membership committees produced six pamphlets: *Parts A, B and C of Sailplanes and glider airworthiness requirements, Specification for an airplane and glider launching winch, Approved gliders and sailplanes, Minimum requirements of various types of glider sites, Requirements for gliding instructors, and Membership booklet.*

Indoctrination A place where proper goals and standards could be instilled (the first school for the instruction of instructors) opened at Carp, Ontario in July, 1945 (it closed only two months later when Don MacClement was posted¹¹). Even so, "20 persons were, by the efforts of this school, categorized as instructors" and "so indoctrinated" forged ahead in their own localities until there were 47 of them three years later. It was something of a miracle that the school got off the ground at all, since the

Asides & Details

The title is an excerpt from a rationale for a proper Gliding School, 1944. The photograph is of a Kirby Kite built in 1947 by the Gull Gliding Club of Dartmouth, NS.

1 *Not just boys. Medicine Hat boasted an all female club in those days.*

2 *John Brandlmayr (b.1921 Linz, Austria – d. 1974 Vancouver), and Nick Stefanick (1921 Colonsay, Saskatchewan) designed, built, and test-hopped the S-B sailplane in 1938. It was damaged in a stalled landing at Saskatoon Airport on its first flight. War prevented it being repaired and Nick Stefanick never got to fly it. The modified Göttingen airfoil was tested in their own homebuilt wind tunnel (12"x12"x36").*

3 *Schempp offered a drawing set for the "Göppingen 1" or "Wolf" for \$45 in 1935.*

4 *ISTUS (International Study Organization for Soaring) the forerunner of OSTIV, formed in 1930.*

5 *Brisbane Aviation, Canadair, Coates Aircraft, de Havilland, T. Eaton, Fairchild, Leavens Brothers, Northwest Industries, G.H. Randall, A.V. Roe.*

6 *The "Sparrow" training glider was designed, built and flown by the Polish-trained Tarczynski, Baranowski, and Stepniewski of the de Havilland Gliding Club under the direction of Waclaw Cerwinski.*

7 *A few, like Dick Noonan, Johnny Agnew, Harold Eley and Don MacClement never stopped. Indeed, Harold is still unscrambling trophy claims, and Don at 90 is still flying gliders! Others, like Dan Key in Edmonton, started gliding again in the 80s, after they had retired.*

8 *Initially against the wishes of Simpson who wanted to head the "Soaring Association of Simpson" without involving DoT etc. after organizing his first flying club in Kingston in 1920. MacClement had had firsthand knowledge of the running of large successful gliding clubs at Dunstable, Berlin, Darmstadt, and the Wasserkuppe; he was the first president and founder of the Cambridge University Club in 1934.*

9 *Normally the fee for a charter would have been waived for a non-profit organization.*

10 *Simpson, president; MacClement, vice-president (these same two held the same offices in the newly formed Ottawa Gliding Club [later GGC] in 1942); and A.N (Chem) LeCheminant, secretary-treasurer.*

11 *'posted' is a euphemism for fired. Don argued for soaring, the CO insisted he only teach gliding. His 'insubordination' branded Don an outcast with the SAC executive for many years.*

Asides and details (cont.)

12 Don MacClement wrote about this incredible saga (since he was the prime mover) in his "Flying Memories". Anyone interested in publishing this remarkable autobiography please call Christine.

13 At the time SOARING magazine was published jointly by SAC and SSA; the cost to Canadian readers was \$2.50 per year. For the next twenty years the membership would complain about the contents of the 'Canadian Scene' published in SOARING and usually written by the editor of "free flight".

14 The Navy repaired two damaged German war-booty planes at sea, aboard the aircraft carriers Magnificent and Warrior. They had no instructors, but carried out airflow tests on deck.

15 Pilots were still instructed on the ground and learned to fly in single seaters. de Havilland's offer to build Czerwinski's "Sparrow" primary, for \$1000 each, was considered a "great step forward" as there were only 34 gliders in the whole country in 1946 and none of high performance.

16 Requirements at the time —
A 12 glides and a flight of 30 seconds;
B 'A' certificate and a flight of 1 minute duration, plus 90 degree turns to left and to right;
C 'B' plus a flight of 5 minutes above release.

No certificate was awarded without a 'normal' landing. Art Larsen and Evelyn Fletcher of Lethbridge should have had their badges in 1938, but their claims were not processed (for #1a and #1b), until 1960! In June 1939, Evelyn's barograph recorded a flight with maximum altitude of 3858 feet above ground, duration 51 minutes, and minimum temperature of 34°F. It was years before the boys caught up.

17 The editor of "free flight" at that time was also known for sporting "what is surely the most spectacular moustache outside of RAF's Coastal Command."

18 By 1965, Fitness & Amateur Sport had finally agreed that soaring was indeed a sport but until funds were granted in 1968, refused to believe that fitness had anything to do with it. Funding was cancelled in 1979.

19 Unfortunately, few of the people who bought the kits had enough experience in reading schematics or basic soldering to make the radio work.

20 ... in the hope that air cadets would later swell the ranks of SAC.

three Kirby Cadets, brand new from the Slingsby factory, were still disguised as Hurricane parts inside pale blue RAF packing cases aboard an RCN destroyer on the Atlantic only days before the course was due to start — but that's another story¹².

The executive expected an enthusiastic response to their hard work, but noted sadly: "Of over 240 on the original mailing list, everyone of whom received the January-February issue of SOARING and the SAC booklet, only 50 have so far taken up membership."

This merely provoked the first of many complaints about the irregularity of SOARING¹³. Fresh out of uniform, they would join up again in their own good time. Newsletter #2, in November, included the names and addresses of 85 members and a form to be mailed back with nominations for a new slate of officers for 1946. In the next issue Chem, as politically correct as ever, understated the discouraging results:

"Of the five forms which were returned only one was correctly completed and this was mailed after the deadline. The other four forms each contained the name of only one nominator. It has therefore been decided that these names will be proposed and voted on at the general meeting, the mail vote not being undertaken."

In March 1946, a bulletin announced that in cooperation with the Meteorological Service of Canada, the Meteorology committee had arranged to supply soaring weather forecasts to (affiliated) clubs and squadrons. They were also attempting to establish

"... an advisory weather service to aid clubs in deciding on the suitability of suggested soaring sites. If your club is contemplating using a certain site, we will supply or request information on the average values of certain whether elements in the vicinity."

Among all these initiatives, one of SAC's directors, Commodore Harry deWolf, somehow found time to organize the Navy Gliding Club¹⁴. It was due to his enthusiasm that the Navy took up gliding before the RCAF. Later that year negotiations with the Department of Transport regarding instructors, glider pilot licences and glider registration began. SAC proposed that it would issue a basic instructor's licence and that DoT would issue Letters of Authority for advanced and dual instruction¹⁵. SAC also negotiated with the RCFCA to take over the issuance of FAI certificates and was successful in getting donations from several firms (notably those with gliding clubs) in the aircraft industry.

The Wages of Sin and other Shortcomings

SAC first published an accident report in the summer of 1946. A cautionary tale in which two nameless pilots repaired a glider of unknown characteristics and were sorely tempted to fly it when they found them-

selves on an airfield without an instructor being present.

"One of them directed the tow-car and the other sat in the glider, both filled with confidence because of the vast experience which led them to their "B". You may say that maybe if they had launched to perhaps a height of 10 feet to try out this new type, it might have been safe. It might — but how can you tell? Our friend was, however, not satisfied with 10 feet, climbed steeply to several hundred feet, and when almost over the tow-car, cast off. The tow-car did not slow up when the climb became steep because neither the driver nor his advisor knew how the pilot would react to a slackening rope ... Our member ... struck the ground with his left wing ... broke the spars and the fuselage longerons ... was quite unhurt, but he had thrown away all his labour for less than a minute's exhibition of bad judgement ... an overconfidence which amounted to stupidity."

The membership again ignored the mail-in vote for a new board of directors, and there was worse. The last newsletter for 1946, listed 123 A, B, and C badges, claimed since 1944¹⁶. In our founding fathers' judgement:

"The results show that people are not taking the interest in these certificates that they should. They are an important step in your gliding career and while achieving an 'A' may not appear to be an epoch-making event in your life, it is the first rung of the ladder.

In spite of this patronizing attitude the membership got on with their flying and *The Canadian Scene* and *free flight* began to be filled with accounts of newly broken records, long flights, contests and other business:

- In 1949 the first national competition took place in Kingston; nylon tow ropes were investigated and DoT approved;
- In 1950 DoT issued a single licence for which SAC provided and administered the details and added the endorsements.
- In 1951 SAC took up the matter of CADIZ with DoT regarding its proposed 4000 foot ceiling, urging its members to make local airspace needs known to DoT; they also proposed to Customs that a separate classification for gliders be established in order to avoid paying 20% duty.
- In 1952 automatic back-pull release hooks were recommended to DoT as mandatory on gliders.
- By 1955 dual instruction had almost entirely replaced the solo method.
- In 1956 homebuilts were allowed to fly as ultralights without a C of A, the National Meet was to last ten rather than fourteen days to allow the weekends for travelling; racing was introduced, SAC was consid-

ered "bankrupt" and *free flight* over-extended itself financially and went out of circulation until the following year¹⁷.

- In 1957, the US authorities notified SAC that Canadian national contest landings in the USA would be rated as emergencies. OSTIV announced a design competition for a Standard class sailplane to be ready for the world contest in Leszno, Poland. There was approval in principle to change the SAC structure from one of 'membership of individuals' to one of 'membership of clubs' and geographically isolated people. Member clubs of SAC offering a DoT approved training course were promised \$50 for every student carrying a licence and the student a similar amount. The Statistics committee took on the job of recording FAI submissions, and the Equipment committee (formerly responsible for things like instruments, gliders, and winches) became the Inventory committee charged with maintaining a supply of log books and blazer badges to be sold at non-profit prices.

- Between 1958 and 1959, *free flight* appeared only six times.

- In 1960, "*Standards of Experience and Qualifications for Glider Examiners*" were proposed by DoT before they would issue C of A renewals; and SAC proposed to publish amendments to the FAI rules so that Official Observers could be more efficient.

- In 1962 the Instructors committee was established; and applications for government funding commenced¹⁸.

- In 1966 the newly formed Radio committee designed a SAC radio and sold it in kit form¹⁹, a contact was named to liaise with the Air Cadet League²⁰, and SAC employed its first secretary.

- By 1980 the enormous administrative workload shouldered by the executive was too onerous and a full-time Executive Director was employed.

And so it went on. For fifty years the membership have always been more frivolous than the hard working and often exasperated executive; gliding, after all, is fun. But ours is not to reason what keeps them all in harness — just to thank them one and all. •

Christine began soaring in 1963 when she discovered a ratio of 15 bachelor pilots for every flying female at the average gliding club. After one of them landed her she never flew again, but spent the next 20 years before the trailer with her ear to the mike and her eyes on the skies. Realizing that it had been more fun in the beginning she decided to go back even further and in 1980 became SAC historian. She is still sorting through boxes of papers at the National Archives and would desperately like to find someone to pass this delightful task on to.

Canadian Glider Pilot Licence #1

went to a prairie lady

Christine Firth from *free flight* 2/82

Our historian has been digging into the past of Canadian gliding. On the way, Chris met the person who received the Glider Pilot Licence #1, and who had indeed made the first Canadian records for height, duration, and distance. This person was a charming lady, Evelyn Fletcher, who waited — almost a generation between earning and getting it. Here is Chris' recollection:

In a recent telephone conversation, Evelyn told me (just in case any of you present cross-country pilots scoff at her achievements) that every flight she undertook was a record attempt. Since in those days Canada had no national standards, this meant that she strove to best the height, duration, and distance flights of all the other Lethbridge Gliding Club members; she did not take off, get blown downwind, and land straight ahead, out of sheer foolheadedness. Other pilots tried to do the same thing, but they just weren't in the same class, even though 99% of them were men! Bruce Gowan of Calgary wrote in his article, *The Lethbridge Gliding Club*:

"In the fall of 1936, Evelyn Fletcher became a member, from 22 September 1936 to 20 July 1939. Evelyn took on the task of keeping the club logbooks. During that period, she meticulously recorded every flight made by the club. There were two logbooks: one for the Primary and Gull Wing and one for the Hutter H-17. These logs provided an excellent record of the club's activity during this period.

Evelyn was not Alberta's first woman glider pilot by any means. An all-women's glider club "The Skylarks" had been formed five years earlier in Medicine Hat by Norm Bruce. It was on 14 May 1938 that Evelyn made her first cross-country flight. She was able to stay aloft for 45 minutes, which enabled her to fly a distance of 8 miles. This flight set a new unofficial Canadian record. Evelyn was able to make two more cross-country flights on 25 May and 2 June.

After the meteorograph (barograph) traces had been calibrated by the Meteorological Department in Toronto, Evelyn applied to the RCFCA for FAI certificates. For various reasons, this application was not processed until 1960!

In July, Evelyn signed up to take her private pilot licence with the Calgary Aero Club. Her last entry in the logbook was 30 July 1939. Evelyn expected to return to Lethbridge and gliding as soon as she completed her private pilot licence — but never did."

An article about her in Canadian Golden West magazine, Summer 1971, reads in part as follows:

"Tucked into the back pocket of her oversized pair of men's white overalls was the instruction book with the important parts carefully underlined in red so she could read them as she tossed about the sky. When the wind would vanish, she would come down, often as not in a field, and often she would have to walk home, covered in dust and mud or with a scratch on her nose. Once the wind gave out over the jail and she managed to land on a nice patch of grass — but unfortunately it was inside the prison walls and the officials wouldn't let her out until her father came and identified her ...

... She became concerned with just how far she was actually flying. It seemed to her that her trips home were getting longer, so she started corresponding with Ottawa. She got the same reply from them that we often do know, a please-send-money note. So she did send money for a meteorograph and a barograph(?), which would officially record her flights, and also for a licence. They sent the instruments but wrote to say they had discovered glider pilots didn't need a licence, and kept the money.

20 years later Ottawa finally decided to license glider pilots in Canada, they opened their file and there was Ev's money for a licence. So they issued her licence #1 and sent an official out to present it to her at a banquet in her honour, for by then, Ev had already made aviation history. She had an officially recorded trip on 23 May 1939 of sailing 10 miles, rising to a height of 4000 feet and staying up for 51 minutes. That was a new Canadian gliding record and it stood at the top for ten years."

Evelyn went on to solo power (in 7 hours) and to get her commercial rating; she also married her instructor, the late Bill Smith (former Commanding Officer of an RCAF Flying Training School and holder of the Air Force Cross).

Recollections

A brief history of George Dunbar's still very active place in Canadian soaring from even before we had a SAC.

George Dunbar, Cu Nim Gliding Club

THESE ARE MY RECOLLECTIONS about some of my connections with gliding over the past 55 years. Most of this comes from an interview I had with Lloyd Bungey on August 4, 1985. I modified the original format of questions and answers to a personal narrative.

My first contact with gliding was at McGill University, with what I believe was called the McGill University Gliding Club. My membership probably started in 1940, and I was a member for several years. Jim Simpson was the leader and president of the club. We were building a Slingsby Cadet at the time, and I spent much more time working on it than flying.

A Dagling primary was the main glider, and we used to take it to one of the ski hills at St-Saveur, north of Montreal, and launch it off the lower part of the hill with a bungee cord. I left the ground once or twice there — possibly as high as 5–10 feet — and that was about all.

Jim Simpson also had a Slingsby Kite, which he had brought from England. I was present several times when he flew it, either at St-Hilaire, one of the small mountains south of Montreal, or at an airport on Montreal Island, probably around Malton. Over the 1941 Labour Day weekend a number of the McGill club members attended an SSA meet being held at Elmira, New York, and I believe Jim took the Kite there. I remember seeing Dick Johnson, at what was probably his first competition. He was an up-and-coming teenager at that time.

The club had another higher performance glider, called a Falcon. It was a gift from one of the tobacco companies*. It was only for pilots far above my level of flying. I think I only saw it fly once or twice — once at St-Saveur, when one of the pilots flew it into the top of a tree (without injuries).

I don't think we had finished the Cadet when I left McGill to go to Dartmouth, Nova Scotia. Because of the war, there was no civilian flying of any kind there for several years.

At the end of the war we formed a club in Dartmouth, which we called the Gull Glid-

ing Club. Before this club really got started, I attended an Air Cadet gliding school (though I wasn't involved with the Cadets) at Carp, Ontario, in 1945 for a week. They had several Slingsby Kirby Cadets, and also a TG-3A, though I don't think I ever saw the latter fly. Thus my first real flying (short circuits, from 44 winch launches) was at Carp.

The only people I remember from the Carp school were Don MacClement (one of the SAC founders) whom I believe was one of the instructors, Fred Benjamin whom I saw in Nova Scotia in 1985, and George Illaszewics, the main instructor.

They had a large winch for launching, which was brought from England. This was the first flying training for most of us, and the course started with being towed over the ground at a slow speed until we could keep it straight and level with the ailerons and rudder. The towing speed was gradually increased until we made low hops, and were able to practise elevator control. Under the control of the winch operator, speed was increased until we were able to make a few gentle "S" turns, and finally circuits.

In 1946 I also took some instruction in Piper Cubs (my logbook shows that I soloed after three and a half hours instruction). This was at Trenton, near my home at Stellarton in Pictou County, Nova Scotia.

I'm sure that the Gull club in Dartmouth was the first gliding activity in the Maritimes. We had probably a dozen or so members, in either Dartmouth or Halifax. Our first activity was to build a glider. We got plans for a Slingsby Cadet, put on a big publicity campaign to raise some money, and started construction. We got the (free) use of an old school building for a workshop. The Cadet** was eventually completed and I remember towing it on its trailer in one of the Naval Day parades held every summer in Dartmouth.

Flying was normally done at Stanley airport (now the home of the Bluenose Gliding Club), with launching by auto pulley tow. We used the same training system as at Carp, with first ground tows, then low hops, and finally short circuits. My logbook shows my first flight there as being 5 seconds, and

of the next 80 flights there were only four or five that were as long as a minute!

After a couple of years of flying at Stanley (1947–48), a group from our club drove up to a get-together at Kingston, Ontario in 1949. They had at least one LK-10A, a Grunau Baby, and a Pratt-Read, and possibly some others. This was my first introduction to aerotowing, and also to being able to soar — that is, above the release point.

With this exposure, we started looking for something a little more advanced. Through a chap in the Air Force we heard about a Pratt-Read for sale in the Gananoque area, and also a Tiger Moth for a towplane. The first flights with this were in spring 1950.

In this year we aerotowed the Pratt-Read to Moncton, New Brunswick, for a flying show there. I remember that particularly because when we arrived over the Moncton Airport, the towpilot signalled me off, waving his wings. I released and came in and landed. He also — I found out later — made a dead stick landing, because one of the valves in the engine had broken just as we arrived over the airport. Anyway, very fortunately, the Moncton Flying Club were able to repair it. I think they put in a new cylinder, and we were able to make a few demonstration flights in the airshow. And then we towed it back to Stanley. That same year we had a group visit from the Moncton Flying Club, and we were able to give some intro rides to some of their members, including several of the people from Moncton DoT. ➔ p22

* The story of this prize glider is printed in *free flight* 1/87. The MacDonald Tobacco Company had had a long-standing offer of a De Havilland Moth to any group who could collect an outrageously high number of cigarette package cards, so high that there had never been a taker. Nevertheless, in the 30s the McGill club took on the collection project which involved a lot of informal university support. By the mid-30s it was clear that the number was unreachable, but in negotiations, the company agreed to award a glider for a smaller number of cards. The more modest target was reached, and the Falcon was handed over in 1937 during a half-time ceremony of a rugby game at Molson Stadium!

** This was CF-ZAL, which is shown in the title photo for the story on page 6 of this issue. editor

Shorty and the Silver C

"Chem" LeCheminant describes the early days of "Shorty" Boudreault's gliding career, and how he earned Canada's first Silver C badge in spite of his rebellious stomach. Shorty is still fairly active at Gatineau, although he no longer flies solo. This story comes from SAC's 1948-49 Yearbook.

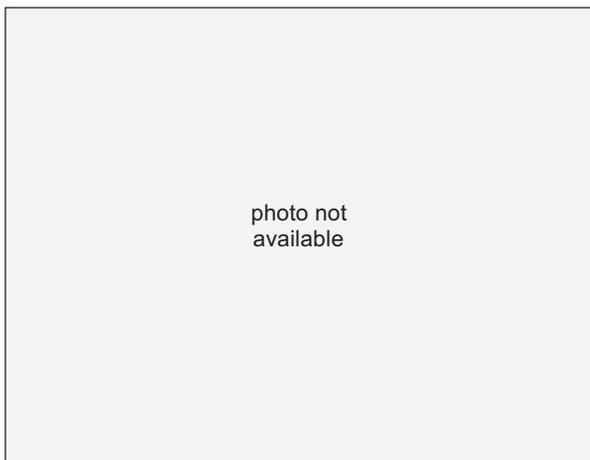


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Shorty, on the left, and Chem celebrating in 1982.

Shorty at GGC in 1948.

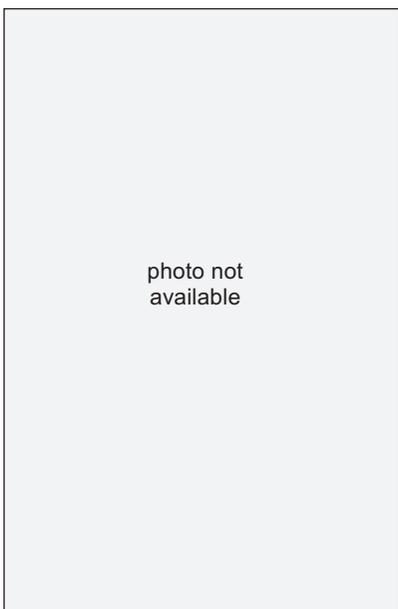


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GLIDING will eventually, like other sports, bring into the limelight the names of men and women whose great achievements set them apart from others.

The proud name of Ovila (Shorty) Boudreault is perhaps the first of these, and he will no doubt go down in gliding history as the first Canadian to win his Silver C in Canada. As if that weren't enough, he also holds the No. 1 Canadian FAI Certificate, and thus finds himself in a unique position in gliding circles the world over.

Shorty, well named even by his immediate family, is a towering five-foot-one pillar strength at the Gatineau Gliding Club of Ottawa, his home town. A French Canadian with a twinkle in his eye and a ready smile on his lips, he is made of stern stuff and his laurels have not come the easy way. One of the founding members of the Gatineau club, Shorty had his first chilly introduction to the sport in a bitter snowstorm in late 1942, in an open Dagling. A year later he made his A and B certificates and, on 4 July 1944, amazed his instructor by soaring the nacelled version of the same craft on the club's Gatineau Hill site for fully 15 minutes, to qualify for his C.

Amongst the preliminary steps to this goal must be included an involuntary spin from under 300 feet, which was corrected with an enormous sigh of relief from the onlooking club members, and another time when the release was not pulled and a vicious swipe of the axe was necessary to free him from the towrope. Besides he often talked of quite unintelligible things called "t'ermals".

Another year saw Shorty at Elmira, NY, taking dual training and acting as crewman to a two-seater pilot in the contest. Here Shorty found his Nemeses; the continuous circling in his beloved "t'ermals" made him airsick in no uncertain manner. About 30 minutes was the most he could take without disastrous results. This indeed was frustration in its most violent form.

Shorty returned to Ottawa a wiser but nonetheless undaunted devotee. Slowly his periods in the air increased, and by 1947 his longest flight

was over two hours, and as long as he had the controls, breakfast stayed where it belonged.

This year, with the Olympia to hand, that Silver C seemed to be within easy reach. But long before soaring weather set in, that beautiful machine had become severely damaged and repairs a long way out of sight. Not to be outdone, Shorty prepared to do it the hard way; Silver Cs have been earned many times before in a Grunau Baby.

On 2 May, with a climb to 7600 feet above Carp he achieved his Silver height leg with lots to spare. On 2 July after one previous attempt at leaving the home field, Shorty set the GB down at Pendleton, 41 miles away, after a flight of two hours, 20 minutes, and gained his distance leg. Only the duration remained.

The first attempt ended after two hours 50 minutes. Air sickness gripped him viciously again and he just had to give it up.

On 1 August, the wind being favourable, Shorty once more started to plough the air, but this time in the familiar country along the Gatineau slopes where three years before he had gained his C in the Dagling. The dark green of the trees was restful in the bright sunshine, and the thermal lift he was riding well above the crest of the hills so different from the treetop scraping necessary with the Dagling.

For three hours all was well and then his stomach rebelled. But this time he would not give up. Nauseated by a second gripping attack, and a third ... would the hands on the watch never go round? Ashen but determined, his hat as his bailing bucket, he steadily forced the Grunau's nose into the breeze.

Finally, after what must have seemed agonizing years, his watch registered the required five hours. But, not to be cheated after such hours of suffering, he held to his course in order to defeat any margin of error by staying aloft another half hour.

Thus was won Canada's first Silver C, a flight of 5 hours and 28 minutes, clinching the required third and final leg.

the Gold

Earning Canada's 1st Gold Badge and Diamond Goal

Barrie Jeffery, GGC
Aug-Sept 1955 *free flight*

IT WAS Gatineau Gliding Club's good fortune in the 1940s to have the vision of high performance Canadian soaring, and particularly of soaring down the Ottawa valley, personified in "Chem" LeCheminant. In 1947 Chem and the club embarked on the purchase of the Olympia, the first high performance glider in the country. The Olympia, grand old man of soaring, now is holder of Canada's No. 1 Gold C.

It will be unnecessary to remind *free flight* readers that the Gatineau club holds Canada's first C and Silver C, by Shorty Boudreault. Superfluous to point out that the club holds half of the eighteen Silver C's so far awarded, including the first five Silver C's to be won in this country. Unmanly to add a list of duration, altitude, and other records now held by GGC. Some of these items we have reluctantly recorded to illustrate the tremendous club spirit that finally made the Gold C flight a reality and the above byline a necessity.

In 1948, Al Pow climbed 9400 feet in his LK. This great climb sparked what might be termed the "Seven Year Itch". Shorty Boudreault set a distance record of 46 miles from Carp to Pendleton in a Grunau Baby, Canada's first cross-country flight. Two weeks later, Ralph Anders of Toronto flew 69 miles from Oshawa to Trenton. Two weeks after that Shorty flew 5:28 to complete Canada's No. 1 Silver C. The last 2:28 hours were an agonizing struggle against a queasy stomach. But for this internal traitor, Shorty would have written this story years ago.

In 1949, Al Pow and Barrie Jeffery set distance records of 78 and 89 miles respectively. In 1950, Frank Brame flew 118 miles from Oshawa to Kingston. In 1951, the mark moved to 137 miles when Pow flew from Kitchener to Selfridge AFB, Michigan. July 1951 marked the first Gold C leg, a 10,500 climb by Barrie. Now, as John Agnew was the first to admit, a good climb over the field may be just a flash in the pan with the real gold hidden deeper. As it happened, this was to be borne out by the years.

Albie's record stood through 1952. In 1953 though, he broke Gold C distance with a tremendous flight of 256 miles from Swift Current, Saskatchewan to Ray, North Dakota. With this flight, GGC could have conceded Gold C No. 1. While set back by Albie's lead, the club record rose to 135 miles in 1953 thanks to Pete Shaw who flew from Carp to St. Jean, Quebec. Jack Ames and Frank Brame were getting good and itchy in 1953 and 1954. Jack won the National Meet in 1954 with a best flight of 158 miles; meanwhile Brame collected goal-and-return records. The season slipped by with no climb by Albie. Barrie's flight at the Arnprior Meet fell short of the goal due to one of those fatal slips, though 133 miles was his best distance ever.

Did Albie know we were trying to break his grip on distance flights? Or was he like a father striding home, not knowing he is being raced 'til his little boy bursts through the door ahead of him shrieking "I won!" With the 1954 season safely ended, the feeling grew in the Gatineau club that we really should get busy and cop this thing. Elvie Smith's first act as new president was to write the club's 1955 objectives on the board. Item 1: *GET GOLD C NUMBER ONE.*

Elvie had a powerful crack at the distance leg the second day of the season in an unusual northeast wind, but the final glide ended near Belleville, 50 miles short. We weren't worried, having decided that Albie was in no hurry to make his climb, but things began to pile up in June:

- 1 A trip to Brantford and a phone conversation with Brame gave subtle hints of a great competitive pressure building among Brame, Ames, Duench, et al.
- 2 Phil Thompson, saying we had to get a Gold C this summer, volunteered several days leave and large amount of muscle power. This encouragement was quite stimulating and was a necessary condition for success.

So, the daily watch began. Cold fronts appeared and fizzled out. The weather man

came to expect a call or a visit. Arrangements were made for impromptu leave from work. The Olympia was brought in from Pendleton on Sunday evenings.

First Attempt (22 June) Takeoff at Carp. Towed by Canuck. Very unstable. Cloud-base 3700 feet. No compass. Turn indicator batteries flat. Total energy variometer reading wrong. Rain, pouring from a cunim, dogged us all the way. A great clutching downdraft dragged us to 2000 feet. A warm draft lifted us high over the Commons. Forty miles out found us struggling in weak lift at 2000 feet. A hundred yards away, a buzzard circled with rigid wings. We cheerily drove over to join him. As we arrived, the cad started flapping and disappeared, leaving us to circle in weak sink. The last dismal glide ended at Papineauville (50 miles). The rain crashed down. Retrieved by Phil Thompson.

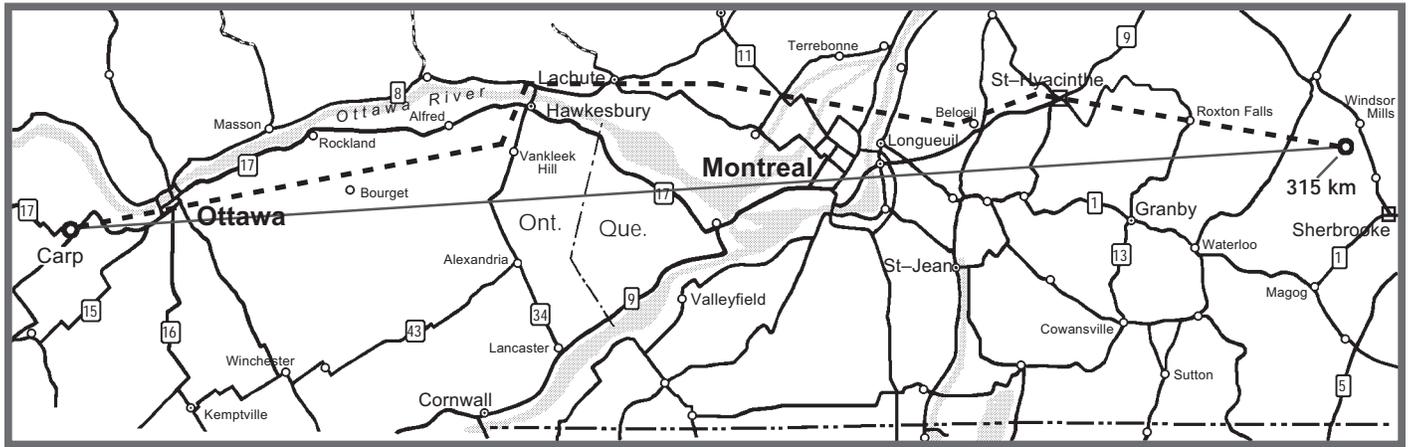
Second Attempt (27 June) Takeoff, Carp at noon with half a tenth of delicate cu forming in streets to New York State. Oneonta declared as a goal. Released at 1500 feet, never reached that height again. Landed 45 minutes later. On this flight, the total energy head was cut off and the variometer immediately regained its old, familiar, pleasing personality. Stan Rys had installed a compass. A string and cone slip indicator was tried but removed after the flight. Retrieved by Muriel, John and Roy Jeffery.

Thirty days of intensely warm weather ensued. Then came the week of 25 July. The "right time" seemed at hand:

- 1 Glider and club tow available. The club moved to Carp for the week because of the Pendleton fire hazard.
- 2 Retrieving crew — Shorty Boudreault and Mel Miller were on holiday and willing to retrieve at any time.
- 3 Weather — The weather was very hot and fires were burning up the bush lots near Carp, producing lift which everyone used all day Sunday. Muriel and Barrie Jeffery hit almost the strongest lift ever (20 ft/sec) and made 6800 feet in short order.

Outside of the fire, we weren't sure what the lift was like, but as the air system was the same on Monday, the weather office was consulted Monday night. The report was sufficiently interesting to start plans for a flight Tuesday. Forecast: plenty of instability because of a high temperature of 88 degree F. Cumulus to be very scattered because of very dry air, not forming before noon with base at 5-6000 feet. Winds westerly at 15-20 knots. Powerful inversion at 7-8000 feet. Possibility of overcasting from southwest in afternoon due to advancing warm front. The report at 8:30 Tuesday morning confirmed this and added details.

Third Attempt A surprising number of arrangements had to be made Monday evening and Tuesday morning, including



declaration of goal (Windsor Mills, Quebec). The dogleg course had been laid out on the map 6 weeks before. 11:44 am saw Shorty revving up the Moth for a downwind takeoff with "That old Thing", (the Olympia, as termed by one 1-23 owner), patched and ready, loaded with Jeffery, sandwiches, oxygen, new batteries, maps, book to read (after landing), ticking barograph, pencil for notes, and an expectation, based on experience, of a short flight. The sky was clear. After releasing at 2800 feet (all heights MSL), we climbed to 5400 in about twelve minutes. With lift to this height, it seemed worthwhile to head off in spite of the lack of clouds; the deciding factor was the imminence of the three national meets and the fact that Brame and Pow were to be in the west for two weeks.

The lift strengthened considerably at 4000 feet on the first climb, so it was decided to try to stay above this limit if possible. We dipped down to 3500 only once in the next hour and a half, but on the last half of the flight we were full of joy if we rose above 3000 feet. At Bourget, near Pendleton about an hour and a half out, the high point of the flight was reached — 6500 feet. There we were at the top of the haze and sure enough, there were the cumuli floating on the sea of haze — but they were indeed very scattered and we didn't see them again. The tephigram later confirmed the inversion at 6560 feet, with moisture such that cloud should form at 6500 if the ground temperature reached 88. The cloud height was limited to a couple of hundred feet by the inversion. It must have happened that the air at 6500 feet warmed enough to prevent any clouds forming during the rest of the afternoon; ground temperature at Ottawa reached 92 degrees.

Because of the low rate of climb, cruising speed had been 50–55 mph. This was increased to 60 after Bourget but only for a short time. We were following a chart worked out for the Olympia by Kalle Tenumas in an article in SOARING some years ago, on finding the most efficient cross-country speed, when encouraged, we would add on a few knots.

The next lift used after Bourget was over a fire near Alfred about 20 miles farther on.

Almost ten minutes was wasted by flying to the downwind edge of the smoke and having to return three or four miles upwind for good lift. We left the smoke at 5600 feet at 1:40 pm and for the next hour no notes were taken, but memory and the barograph recorded events quite clearly. Lacking cloud and smoke indicators, we flew downwind of Vankleek Hill and found a large area of weak lift at 3200 feet. After a slow climb to 3500, we did considerable exploring in the lift, which must have been 1500 feet wide, 'til we finally explored ourselves down to 2500 feet and right out of the lift. A little high cloud was by now shading the town and as the lift could not be found, we headed off towards Hawkesbury so that the landing would be near the road. It will be appreciated that this was the worst part of the flight. It was only two o'clock and it seemed failure was once more on us. More time and expense for nothing — another imposition on a retrieving crew. Why hadn't we waited for one of those ideal days? Such a low point has a remarkable effect on one's enjoyment of the remainder of the flight. Every little goal subsequently accomplished is free profit — your worries are over like a man living on borrowed time.

We were about to turn in for a landing by the road when we hit moderate lift — probably from the very wheat field we were heading for — and we circled up in a very warm cockpit. The image of the field, the road, and the rapids in the Ottawa River that we circled over was imprisoned on our mind in considerable detail from about 500 feet distance. It was a pleasant scene, which grew pleasanter as it grew remoter — particularly as we were rising fast enough to keep the field in reach. It was half an hour of circling before we reached Lachute at 3900 feet. After some more weak lift for fifteen minutes, we hit a jim-dandy and shot up to 6000 feet. We pressed on and reached Montreal, with a short intervening climb, at about 3500 feet.

We passed two or three miles north of Mt. Royal and picked up steady lift at 1800 feet a couple of blocks from a naval dock. We spotted the old Fairchild strip on the south shore only while circling by it. From 4000 feet we set off from Longueuil at 3:55. In half an hour, during which we inspected those

pleasant little hills near St-Bruno and Beloeil we were approaching St-Hyacinthe at 1000 feet, again expecting to land. Again the grain fields lifted us gratifyingly to 3800 feet over the town. By this time it seemed inevitable that lift would appear in time (if only just), and in spite of ourselves. We had raised the club mark and made 150 miles — maybe if we could reach that next fire, we could drop in on the Granby Meet! Let's face it — nothing could have been better than to soar majestically by at about 1000 feet, be clearly seen by the Montreal *Gliding* Council, and soar on. We reached the fire, but got nothing out of it — or rather, no climb.

The next twenty minutes or so were spent pleasantly drifting in circles in a very weak but persistent thermal. This went on for about ten miles, at 2000 feet more or less the whole time. It ended though, and soon our third landing circuit, 170 miles out, was entered. This was to be in a wheat field just east of the pretty village of Roxton Falls, set on a stream in the rising and roughening land of the Eastern Townships. I was on the downwind leg about 400 feet over the trees, when, on a hunch, I edged over my chosen landing path. God's greatest gift to thankful glider pilots was just waiting for me — the strongest and steadiest lift of the day (about 7 ft/sec) resulted in a fast climb to 3200 feet. The climb slowed to the normal rate of about 2 ft/sec, and at 5400 feet the goal was in sight and in reach, 5:35 pm.

Much of the remaining 22 minutes was spent in deciding whether to end the flight at Windsor Mills airport as planned, or to try for the Maine border and a free distance record. The chances of making it looked so dim that the question was really academic. The barogram is anything but a MacCready type sawtooth; there is though, the greatest satisfaction in planning a flight, naming the goal and reaching the goal with no great surplus of height and no real question of going on. Shorty and Mel arrived at the "Château Windsor" at midnight, and it was a pretty pleased crew that passed through Granby, sodden with rain, the next day. The seven year race ended for me just in time. Seven days later, Bob Smith made a Gold C climb at Brantford and two days after that Brame, bless his heart, flew 230 miles south from Regina.

Cross-country techniques

“Many beginning cross-country pilots have no appreciation of the level of concentration necessary to fly efficiently.”

The author shares his knowledge of the basics of XC soaring which is what the sport is all about.

Bruce Taylor
from *Australian Gliding*

THERE HAVE BEEN ENDLESS PAGES OF LITERATURE written on the theory and practise of improving achieved cross-country speeds, and I am not about to reproduce any of it here. One point that I feel is often not emphasized heavily enough though, is that soaring efficiently is as much an art form as it is a science.

Countless times I have heard pilots asking one or another of the top performers to divulge their innermost secrets, only to be greeted with a knowing smile and a shrug of the shoulders! There are no secrets in this game.

You may receive pointers or helpful information along the way, you may have the chance of flying the best glider available, and you may be gifted with more than your fair share of natural ability, but all this is worthless if you have no understanding of, or feel, for the sky you fly in.

This, I am sad to say, only comes with experience. Not simply hours in the air, but hours spent experimenting and extending yourself. Contest flying is invaluable, as it forces you to perform and provides a clear measure of your ability (how well it does that!). Above all, it's damned good fun.

Part 1

Preparation

Many beginning cross-country pilots have no appreciation of the level of concentration necessary to fly efficiently. I guess this is a good place to begin training. You must do your utmost to provide yourself with an environment in which you can concentrate on the job at hand.

Be comfortable — make sure your parachute/cushions/seat are the right shape, and in the right place. If you get a numb bum after a couple of hours, it is usually from too much pressure near your tailbone, and more support in the lower back will often help this. Take time to adjust anything in the cockpit which is adjustable so that it fits you, and falls within easy reach.

You should also be comfortable with the glider you are flying. This means as much time as possible spent in one particular aircraft and being used to it. Ingo Renner has said you should have 100 hours in a glider before you take it to a competition — probably unrealistic for most pilots but the message is clear. If flying club gliders, try to spend as much time in one of them as you can. Pick the one you like flying, and forget about any perceived performance advantage, for this is far outweighed by pilot decisions.

Similarly, the more current you are the better you will perform. Keep the cockpit tidy — you don't need junk floating about while you're flying. If you're looking for something in flight it's distracting to have to sort through used candy wrappers!

Speaking of candies, you must feed and water yourself properly. Your brain is (should be!) working hard and needs nourishment — dried fruit, sandwiches (whatever you prefer), but take something and plenty of water to keep yourself hydrated. A couple of litres minimum — a dehydrated body doesn't operate too well and is a downright dangerous thing to have in charge of an airplane. (You may also need to consider disposal of this liquid when you've finished with it — a bursting bladder really *is* a distraction!)

Basically — BE ORGANIZED! Pilots who don't have their act together on the ground, have no chance of doing it up top, and are bound to be more of a danger to everyone concerned than someone who is organized.

Make no mistake, if you want to fly efficiently, you need to have absolutely no distractions. There is one thing to think about, and that is the air you are flying in.

So far as glider preparation goes, the minimum requirement is that the wings don't

Bruce Taylor

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come off! Once again, knowing one glider particularly well can help pick up small problems on daily inspections before they become big problems.

It's nice to have your glider clean; it's even nicer to have it highly polished and every minute detail attended to, even though the performance gain is mostly psychological. I, for one, can't bear to look out and see my wing covered in dust or fingerprints or whatever. One other thing that can lead to immeasurable distraction is a piece of loose tape — it will buzz and hum and whistle 'til you have gone almost insane. Tape and gunk remover are cheap items — replace tape often onto clean surfaces.

Well there you go — you are now installed in your clean and tidy flying machine with everything in its place and your mind at ease and in perfect shape to tackle the task ahead. You've probably improved your average speed by 10 km/h and you haven't even left the ground! That was easy, wasn't it? Now all we need is to get airborne so we can start work.

Part 2 Efficient flying

The aim is to fly more efficiently, and that means converting the energy available in the air into speed across country with the least amount of waste.

Now many pilots have no aspirations toward future world championships. Many have no intention of entering competition, and some never even want to lose sight of the home airfield. To each their own, but I will say this — aviating is terribly unforgiving of mistakes or inadequacies in pilot judgement, more probably than any other sport, so extending your cross-country soaring skills can only improve your understanding of the air and your aircraft's capabilities. You will be a safer pilot as a result.

So, we begin by setting out to achieve something which is towards the limits of our ability. For early pilots this will certainly mean asking advice of a more experienced person, as it involves many variables in weather, glider type and pilot ability. As you progress you will soon get a feel for your performance — try to reach out a little further all the time. Keep a record of your tasks and average speeds and aim to better them, either in outright distance or speed.

Early on it is probably better to keep distances moderate and try to achieve higher speeds, as the level of concentration needed for longer flights takes some time to come to grips with.

You will most likely gain more out of doing 200 kilometres at 80 km/h than 400 at 60 km/h, as after 6-1/2 hours your brain may well have slipped into neutral.



The Zen of soaring
"Knowing your glider is invaluable...
You must learn to follow your glider's
indication of where the lift is."

Get yourself your own maps, put a sheet of clear contact on them and having decided on a task, draw it on your map. You can quite easily work out magnetic headings if you feel inclined — I rarely find a need to use them. In Australia we generally have such good visibility that navigation is pretty easy. I would suggest some means of checking your progress against time. If you aim to complete a task using most of the available soaring day, mark hourly checkpoints on the map. It is then easy to see if you are making better time than you planned, or are falling so far behind that to continue will mean a certain outlanding.

The best part of the day is usually around 4 o'clock, so if this time arrives and you show no sign of maintaining or catching up to your schedule it may be best to change your task. Don't wimp out! Remember, the aim is to complete a challenging task. On the other hand, conditions may have you romping home early, so perhaps it's a good idea to have another 100 kilometre triangle marked on your map to complete to make full use of the day.

Okay, we're organized and on tow. Start getting a feel for the day right now. If your tow pilot is any good you'll fly through two or three thermals on the way up. Remember where they are (with reference to ground features) — and feel how strong they are. If the air is silky smooth all the way up you may as well leave the wheel down! And for heavens sake don't get off too early as you'll most likely fall down again or wear yourself out staying up. Go to 2000 feet. You may be in lift on release, or you might have to go back to one of those thermals you felt on the way up. Try to be positive in your search for lift — don't wander about hoping you'll run into something, decide on your next likely lift source and go there.

At this height clouds may be helpful (if there are any) but ground features are a lot closer. Try to link a likely hot spot (high ground, slopes facing the sun, ploughed fields, etc) with a cumulus which will be some dis-

tance downwind, and go and look between the two. You will be downwind of the ground feature, and upwind of the cloud. If you're in heavy sink, there will likely be good lift nearby — at this point we begin to delve into the "feel" of the glider and the air, which requires lengthy discussion, so I'll digress a little.

Assuming you have somehow bumped into a suitable area of lift, try and centre yourself in the best bit and start taking note of things around you — what is your relation to the likely source of your thermal and (especially while you are low) to the cloud above you. Note any change as you gain altitude and how much the wind is drifting you. If your thermal suddenly moves or disappears when it appears obvious that they are going much higher, it has most likely been affected by a wind shear. Persevere, your thermal is there somewhere. Widen your circle if necessary and when you find it note which direction you moved, how far and at what height this all happened.

Continue your climb all the way to cloud-base still noting which part of the cloud the best lift is under. This exercise is quite important because generally speaking all these things you have noted will remain the same for the whole flight. You will be arriving at thermals at various heights during the flight so having a good idea of where they are will save much time. You may be able to avoid difficult shears in thermals by staying above or below them. Many times you have to live with constant re-centring, but knowing where to move is extremely helpful.

At this point you may head off on task if you have set a long one, and proceed to learn more about the day as you go. Or, if aiming at a shorter task you can explore more thermals before you begin, as is often the case when flying in a competition. After a few climbs you will know what strength lift to expect, and in what height band the lift is best. Remember we want efficiency — the most time in the strongest lift and least time in the heaviest sink.

For most beginners this translates into being far more selective in which climbs you stop and take, leaving the climb as soon as the lift begins tapering off, and conserving that hard-won altitude in the following glide. Sounds easy? See you next time.

Part 3 The art of efficient XC

So now comes the ART of efficient cross-country travel. For the time being, we will throw all the technicalities of speed-to-fly theory out the window. They are yet another distraction that early cross-country pilots don't really need. So long as you have a reasonable understanding of the concept that the stronger the lift available the higher your cruising speed between thermals should be, then that will suffice for now.

For the majority of glass gliders in clubs and flown by most pilots, without water, on early trips, a general guide would be: in weak conditions (2 knots or less) cruise at about 70 knots, a good day (6 knots) 80 knots, and if you can't get the needles off the stops, you can bump along at 100 or so (but please tell me about it first!).

A couple of points to note here: I am talking *average* rates of climb, which are often only about 2/3 of what your vario will indicate in the good bits. An averager is a very handy instrument.

Most glass gliders don't begin to sink much more than their minimum sink speed until they are doing 70 knots or more so keep it moving along — don't waffle about! Never fly at less than the best glide speed (50 knots plus) unless you are going to stop and climb — you are wasting time. Even when climbing, a little excess speed does no harm to your sinking speed and vastly improves control response and maneuverability.

The last point is that cruising a little too slow or too fast between thermals has only a small effect on the cross-country speed you achieve. Flying appreciably too fast does increase your workload however — you must find and use more thermals to cover the same distance.

Now, I fear, we have arrived at the most important part of the art of cross-country flying: how to choose the path of the highest energy through the sky. You must constantly ask — am I climbing as fast as I possibly can, am I cruising in the best air and avoiding sink as much as I can?

Knowing your glider is invaluable, as it is with this machine you can feel the air. You learn what it sounds and feels like to be in lift. Your glider bounces and bumps and is alive, like the air around it. In sink it feels heavy and dead and the air is often smoother. You will get these indications long before your varios tell you anything. You must learn to follow your glider's indication of where the lift is — one wing trying to rise, often only for the briefest moment, can tell you that the good air is on that side.

Some gliders seem better at this than others but familiarity is the key.

As you approach an area of lift, you will usually pass through a heavier patch of sink. Keep your cruise speed up until through this, then as you feel the turbulence on the edge of the thermal slow down and "feel" the air. How you slow down will depend on how many other gliders are around, and what the thermals are like. Traffic means care when pulling up. Big thermals allow pretty gentle pull-ups. Small sharp ones may need more rapid deceleration, or you

"use every aid you possibly can. Get your mind and eyes outside the glider ..."

will be out the other side. There is little gain in testing the structural integrity of your bird's wings at every thermal, ie. pole benders waste energy.

As you feel the air, try to find the good bit right away, even if this means going a little too far through the thermal and having to come back. At least you now know where the best part is. If you stop and turn at the first indication of lift, you will most likely do a couple of turns in the weaker stuff before you get centred in the right spot — more wasted time.

Maybe the thermal didn't come up to expectations, in which case you push over and fly straight on. Unless you have very strong indications that you missed the core of the thermal, like strong gusts or a rapidly growing cloud overhead, do not loiter. You will have made a net gain by slowing down in the lift, so get motoring again! You must use strong discipline on yourself.

If you do stop to climb, you should never be content with the rate of climb you are getting. Work at it — use plenty of bank (early pilots invariably don't get steep enough) and if you are getting a surge on one side of your turn, move over that way. If you are getting a lot of gusts you may find you gain a bit by pulling up in them. Do not let the thermal push you out — drive your glider into the good bit and keep it there. All gliders climb much the same. If someone near you is going up faster, you're in the wrong place, or you're not working hard enough.

I hope the message is clear — climbs are for working at and if you're relaxed and viewing the scenery, chances are you're going up slowly.

While you're climbing you need to be planning your next glide, and probably the one after that. Look for likely clouds that are growing, or if no clouds, ground features that might be working. Don't arrive at the top of a climb wondering where to go next.

As you have done a few climbs, you often notice that the lift and sink are not evenly distributed around a thermal. If heavy sink is found on one side of a thermal (often the downwind side, but not always) avoid it at all costs. This can mean flying sideways to your intended track as you leave a climb, but it's worth it. Lift can also be found in a tongue out some distance from the thermal — follow it if it lies anywhere near your intended track.

It saves time and height to accelerate to your cruising speed while still in lift, so as you near the top of a climb plan your exit: you can usually tighten your last turn and get the nose down, to speed up in the very strongest part of the lift, so flying through the heaviest sink at high speed and consequently spending less time in it.

Use every possible indication, while you are gliding, to find the good air. Reading the sky really is an art that only comes with plenty of exposure. Watch the way clouds develop and dissipate. Try to establish what they look like when they are active. A cloud that is still being fed by a thermal looks solid and fat, with a well-defined base and a clear outline above. As the thermal stops, the cloud loses its base and becomes ragged-looking. There are an infinite variety of shapes, sizes and life spans, but wouldn't things be boring if they were all the same?

Watch and absorb; feel what your glider is telling you, look for other gliders, birds, dust devils, anything that may help. Be aware of your surroundings. The distance between good and bad air may only be one wingspan, so work at finding that good air continually. Avoid that dreaded sink.

Yep, this gliding is hard work — don't know why anybody bothers with it actually ...

Part 4 Using the weather

Meteorology is one facet of our sport about which we can never stop learning. A pilot with twice as many hours as another will, by definition, have twice the exposure to various different conditions. Whether they use that experience is another question! We must always be both observant and inquisitive — a new and different effect of the weather is often quite simply explained, and should be filed away for future reference.

For normal thermal flying we need a certain degree of instability present in the layer of air in which we fly. Usually this means the first 10,000 feet or so above the ground. Very basically the instability varies with the movement of cold fronts across the continent, reaching a peak as the front passes through, then becoming more stable until the approach of the next one.

For gliding we are most interested in the days just before and just after the front. The more significant the cold change is, the better the weather is likely to be. Typical pre-frontal weather will have high ground



temperatures, cumulus and high cloudbases. Watch for the approach of high cirrus cloud associated with the front, as this may cut off the ground heating and stop convection — nasty business! Post-frontal weather usually means lower temperatures on the ground, lower cloudbase but plenty of cumulus, and days that start early. There is often good “streeting” to be found on these days too and we all enjoy that.

So as you plan your flight, try to envisage which part of the weather cycle you are in, and thus what you may expect as the day goes on. You may or may not have the benefit of an air sounding done at your club, as this will give an accurate indication of the level of stability in your area.

There are of course an infinite variety of conditions, and herein lies the challenge of the sport. A good day will have thermals of long duration and if you search under a cloud you will invariably find lift. On days when there are only small wisps of cloud, that disappear quickly, you may arrive after the bubble feeding the cloud has risen above your level, and you will be greeted with only turbulence, or worse still, sink! These conditions can be very frustrating and are often better treated like a blue day, noting likely hot spots on the ground, and only using the wisps as a guide to which spots on the ground seem to be working. Blue weather is a time to really work on letting your glider tell you where the good air is.

Once again use every possible aid you can — birds, other gliders, dust or grass carried into the air — anything at all. Really get your mind and eyes outside the glider and be aware! A good pair of sunglasses will help you see the “haze domes” where thermals are pushing into the inversion. These can be followed just like cumulus.

Usually thermals will tend to line up with the wind to some degree. Using this “streeting” in your efforts to pick the best

path through the sky is all important, and may enable you to fly straight for long periods maintaining height. If there are plenty of clouds, it is usually much easier to plan your track a long way ahead in conditions with a lot of streeting.

Rarely will your intended goal lie directly along the streets, and in this case the best path is to fly along the street, then directly across wind to the next one to stay on track. Then turn along the next street and so on. The reason is that streets of good lift are separated by streets of heavy sink. An unplanned crossing of the sink in a diagonal path can cost lots of height. Get your speed up in the lift, and fly directly across to your chosen cloud in the next street. Don't slow down until you find the lift again.

If you get low and lose contact with the clouds, remember that the lift/sink is lining up with the wind. If in heavy sink don't continue up or down wind — turn across wind until you feel lift or promising turbulence with a lower rate of sink, then turn up or down wind and continue your search.

Streeting also happens in blue, cloudless conditions, and in this case you are constantly in the same situation as losing contact with the clouds. If you are in good air try to keep yourself aligned, travelling up or downwind, and if everything is unwinding rapidly turn across wind. This can be very difficult, but I never said it was easy ...

Another phenomenon that can provide interesting conditions is wave. We often associate wave with mountains and high flights, but various types of atmospheric wave above our layer of convection can have a marked effect on thermal conditions below, even over flat country. If you find yourself flying on a day when there are indications of wave above — beware! Ragged cu, lenticulars (often disappearing and reappearing within short time intervals) or cumulus lining up across wind can all point to wave activity.

It is true these conditions can help boost thermal lift below and provide huge areas of good air, but likewise the descending part of a wave can also suppress thermals over a similarly huge area. When you find yourself caught in this spot it can be extremely difficult to unravel what is going on. Try to compare the look of the sky in your “bad” area with a previous “good” area and do your best to relocate yourself — preferably not into a suitable field! On these days the thermals can be tight, rough and hard to work. Take heart in the knowledge that nobody else airborne on that day will be enjoying themselves either.

As I said earlier, the weather can toss an infinite variety of conditions at you. Jump into your flying machine and experience as many and as much as you can. Open your eyes and your mind, and let it all soak in.

Part 5 Competition flying

Competition flying is one area of our sport that only attracts a relatively small percentage of the total flying membership. Many club pilots have no aspirations toward competing in any event, but as an aid to improving one's cross-country efficiency, there is surely no better training to be found. Flying competitively in the company of better pilots gives you a clear measure of your own performance, provides an insight into just what is possible, and gives us a wonderful chance to watch how the good guys do it.

Competitions are great fun. I think every pilot who wants to do any cross-country flying should enter at least one. Pilots are generally very supportive of first timers, and are only too willing to give much helpful advice. Having said all that, I need to pass on some hints and warnings to help with your first contest, because as with your first try at a lot of things, lack of preparation and high expectations can see your ego blown right out the door. You may return demoralized to the point where you make no gains whatever.

I am assuming a first time entrant will have done maybe a couple of 300 kilometre flights, perhaps a 500, and flown in company with other gliders enough not to be scared stiff by a gaggle of six or eight.

The first and most important thing to do is to prepare yourself psychologically for the upcoming event. If you think you are in with a chance of showing up a few hotshots you are in for one hell of a surprise. That guy you've floated around your home field with, and who has generally left you unimpressed with his ability to do anything useful, will most likely leave you so far behind you'll wonder whether you've had your airbrakes out all day!

Treat the contest as a learning experience, expect to get outflown and be prepared to outland a few times, and the shock will be softened considerably. But watch other

pilots, listen to them at the end of the day and be ready to change a few of your habits, and you will gain more in one week's flying than you ever have before.

A lot of the same principles apply to competition flying as ordinary cross-country flying. Be organized! Make a good list of all the things you'll need and remember that if you are away from your home club, there are a lot of extra tools and gear you need than is usually provided. It's the same story — you need your mind on the job, not on something missing or borrowed, that doesn't work properly.

You need to be reasonably fit. A full week of flying is tiring if the weather doesn't give you a rest day, so if you normally lead a pretty sedentary life, get yourself into shape. And look after yourself during the week — we all like to enjoy ourselves and some seem to handle late nights and booze better than others, but beware! Give your brain a sporting chance of keeping up the pace.

Another problem that can sneak up on you over an extended period of flying is dehydration. Drink heaps of water.

When you go to the task briefing listen carefully and don't be afraid to ask if you don't understand something. Make sure you clearly mark turnpoints and the required photo target and trust nothing to memory — write it all down. If you have to ask for details after you have launched then people will laugh at you. If you're worried about finding a turnpoint, ask a local pilot for obvious features and the size of nearby towns.

You soon get a feel for how good the met man is (take pity on him) and get to know if he generally underestimates or overestimates the day. Do a quick sum now and work out a possible duration for your set task, and thus a reasonable starting time. This will be revised in the air, but get some sort of idea before you launch.

So, what can you expect up in the air. Perhaps move yourself down the launch grid a little if your class is going first, so there will be a few thermal markers around when you go up. You may well be a little nervous about what's ahead, so do your best to relax and let another glider find a thermal. Remember, there are no points won or lost before you start, so don't engage anyone in a thermaling duel and wear yourself out. Feel what the day is like and take note of what's going on in the air — where is the lift under the cloud, are there any wind shear levels in the thermals, and all those other things you've learned to check on before.

Keep a good lookout for gliders, as there will be more of them about than you're used to. Pre-start gaggles can get fairly hectic, so stay awake. Days with well defined lift and clouds aren't too bad as everyone will be in the same core, but tricky blue days will have everyone wandering around

in vague fashion at the top of the thermals, concentrating on getting just a little higher than everyone else, and maybe not looking out as well as they should.

Revise your best start time if need be — maybe the day is better or worse than forecast. Then comes the difficult question, exactly when do you start? Most beginners will want to start too early, and so become good thermal markers for the later starters.

Generally speaking, if the day is easy (plenty of cumulus, thermals easy to work, etc), start close to your calculated start time, and

predictable. Most pilots are quite considerate — you will soon learn from flying and bar talk those who are not and need to be kept at a distance in the air.

Part 6

Changing gears

With the pressure of competition it is often very difficult to recognize a deterioration in the weather and the need to slow down. As you charge along you sometimes miss subtle indications of a change for the worse, and if you fail to change gear soon enough, the ground may come up to meet you.

You must always be planning a long way ahead. Visual indications may be a thinning out of the cumulus, or in blue conditions the "haze domes" may disappear. Your last couple of climbs might have been weaker and not as high — beware! Take a weaker climb and get high and back off your warp nine cruising speed. This will allow you to achieve a couple of things. First, if this bad patch is only temporary (maybe caused by some cool, damp ground or a more stable airmass) it will give you the glide range to survive and reach good air again. If the deterioration is more permanent (perhaps the sun is setting) the thermals will stop at ground level first. High is a good place to be.

This changing of gears during competition flying is perhaps the most difficult learning process. Getting it wrong is devastating. You cannot afford to outland unless everyone else does! Caution ...



the more difficult the day feels (no cumulus, strong inversion giving a narrow working height band), the more important it is to start with a group of others, ideally just behind them. Being alone on a difficult day is infinitely slower than being in a gaggle and will often mean the difference between outlanding and staying up.

Once you do feel it's getting close to start time, get high near the start point and wait for a good chance to go. There's nothing more frustrating than being caught low when everyone else leaves — hey, wait for me ...

In reality what often happens to the beginners is they start earlier than most, the fast buggers whistle past them halfway 'round, then they are on their own again. If this happens, do your best to stick with the fast crowd when they catch you, and watch what they do. There is a rapid lesson to be learned in how not to waste time. The rest of the flight is pretty normal. Use everything available to you, especially other gliders, because they will sure be using you.

Take care entering, using and leaving thermals, and if in lots of company, keep all changes in direction gentle and reasonably

There are a few things at the end of the flight which also need mention. The final glide is of *great* importance in the overall flight. Your first few contest flights may very well be the first time you do a final glide in anger — that is, arriving at the finish line without wasted energy in the form of excess height, or a zillion knots on the ASI, and with enough energy and ideas to complete a safe circuit and landing. This can be tricky!

Some points to note: try to get onto your final glide as early as possible — this sounds stupid, but the point being made is that it is much better to climb onto the glide path as soon as you are within range from your maximum working altitude, rather than climbing to the required height at half the distance. Since thermals generally work better higher up, a long glide gives you more chance to judge whether you are gaining or losing on your glide, and what you might decide to do if you're losing on it. The psychological aspect of being on final glide is also not to be ignored — it feels good!

A couple of things happen as you get closer to home. You descend to a lower altitude than you have been used to working (unless you've been grovelling all day) which

means the thermals are less organized, and your means of determining where they are in relation to clouds, etc. becomes more difficult.

Don't stop thinking once you're on final glide or you will quickly fall below it — you no longer feel good. Feel your way along and if you're getting a bad run don't just plough on in the sink. Change your track. Often a number of gliders come together on the final glide. Other aircraft give a good indication of where the good air is.

Usually your final glide calculations include a safety height for your arrival at the field. 500 feet is not a bad margin to work with, though beginners may feel comfortable with a little more.

Trust your final glide computer — the angle you are looking at will most likely be flatter than you are used to, but if the sums are right you'll get there. You'll find after a few that the last twenty kilometres or so is eyeballed and the computer is forgotten. You quickly acquire a feel for what looks right and what doesn't.

This last section of the glide also provides another safety problem. If your glide is marginal, your speed will be slower and the angle quite flat to the airfield. There comes a point around five to eight kilometres out where you drop below the height necessary for safe field selection/circuit planning if you need to land out. If you are doubtful about getting back park your ego/pride, and choose a field and land. You can fly again tomorrow. This is a difficult choice so close to home. Once you pass this point you are committed to the airfield, so you had better be able to reach it! A straight-in approach to the airfield may end up being your only option if you lack the energy for a circuit, in which case some care needs to be exercised in judgement of angles, pre-landing checks (oops, forgot the wheel) and look out for finishers who *have* done a circuit. It can get very busy very quickly on the finish line. At the end of a long flight you won't feel as sharp as you were at the beginning.

Assuming a normal finish, ie. plenty of energy for a safe circuit, you will have approached the finish line at a fair speed, maybe over 100 knots, and pushed down to a height at which you feel safe. Now is *not* the time to plan your circuit! If you are to survive you will have done that long before arrival.

Check the wind direction, etc. by radio 15–20 kilometres out, then keep your eyes open for traffic. Generally everyone will do the same circuit after finishing — watch carefully! Pull up very gently after you finish and turn smoothly into your circuit. There is no need to turn all your energy into altitude in a vertical pull up, then fly the whole circuit at 50 knots. It is very satisfactory and far safer to gradually bleed off speed as you fly downwind and base and arrive on final at your approach speed.

an Aviary of Gliding Types

by Eric Newsome, and illustrated by Gil Parcell

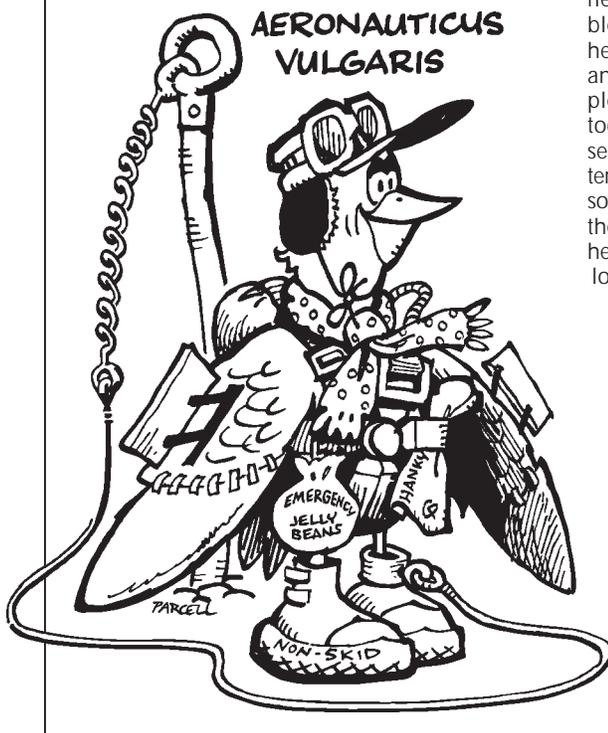
All glider pilots belong to the species '*Aeronauticus*'. Having said that, it then becomes necessary to mention that this species has a plethora of fascinating subspecies. Indeed, one of the joys of club life is to observe, identify and categorize them — a refined form of bird watching in which the observed can reciprocate! This and following pages describe them.

Aeronauticus vulgaris is the common or garden variety of pilot found in all clubs in abundance. He is the common house sparrow of the gliding world. All that can be said of *vulgaris* with certainty is that he will win no trophies, set no records and leave no mark in the books yet to be written on the history of soaring flight. *Vulgaris* is a conservative pilot. No glider he will

ever fly will be subjected to the stresses and strains it was designed to bear. He will never fly at more than half the maximum permitted speed, in fact, from leisurely thermaling to being in a tearing hurry his airspeed will seldom vary by more than 20 knots. Usually he is content to find a thermal and placidly circle wherever it offers any vestige of support. He is, and will probably remain, an airport haunter seldom leaving the field by more than half his possible gliding range for any given height. Join *vulgaris* in a thermal and he will make another couple of turns until he judges you too close for comfort and then sedately head out. He is not interested in the challenge of out-soaring anyone, is not tempted by the lure of distant landing fields, he prefers not to chance the cold, lonely heights of the wave.

None of this means that *vulgaris* is to be despised. For him the pull of gliding is in doing the seemingly impossible feat of staying in the air without an engine, and in the sheer enjoyment, mystery and peace of soaring flight. Who is to say that his satisfaction is exceeded by any of the flock?

Here's to *A. vulgaris*, the backbone of gliding and the happiest of men.



Remember after a long run at very high speed, the approach speed will feel and sound really slow — monitor the ASI and ensure you are flying slow enough as you approach.

As I said before it can be busy at the finish line — remember to dump water about 10 kilometres out, remember to do your pre-landing checks and keep your eyes open. Consider pilots just behind you when you land — leave them room to pull up or land beside you and if you can't, jump out quickly and pull your glider off the strip. Then you can relax and thank someone that you're not in a field somewhere! Some of this sounds like a huge amount of hard work

and extreme danger. I only wish to convey the need for preparation and a little thought in your actions.

Contest flying is truly exhilarating and loads of fun, and it is a sure way to improve your flying skills and your understanding of the possibilities that exist in soaring. I hope at least some of you will give it a try.

Part 7

Survival

Whatever our aspirations in gliding, most of us seem to have one interest in common — survival! Outlanding is a subject ➡ p30

LIFT micro-

extracting energy from atmospheric energy "leftovers" ↑

photo not available

Janice Maupin

The Carbon Dragon

Gary Osoba

from *Sailplane Builder*

IT'S A TOUGH JOB, but someone has to do it. Flying almost every other afternoon, it looks like I'll wind up logging about 20 hours in the prototype *Carbon Dragon* ultralight glider this week.

The work conditions have been deplorable — almost more than one can bear! Pristine autumn air — crisp, cool, clear. Dodging two to three foot corn leaves sucked into the atmosphere by big, smooth thermals. Dust devils and migrating gulls below mark thermals many miles into the distance with nearly unlimited visibility over the flatlands. A mile or more down the earth is carpeted with a deciduous delight. Light winds aloft make it possible to move around quickly at will in any direction. Although not engaging cross-country tasks aggressively, 400–500 miles will be covered before the week's end. The lift band at 4000–6000 feet agl has been consistent and efficient.

Typically, in blue conditions, I've been able to travel in any direction, rarely circling, by utilizing something I call *microflight techniques*. This goes beyond simple dolphin strategy and fully captures the vertical energy in our atmosphere which is free for the taking. Macrolift (thermals, orographic, wave, streeting, etc) is the easy stuff. Micro-lift is comprised of disorganized burbles, disintegrated thermal fragments, and thin, string-like animals that meander through the sky and often flow into thermals like a winding stream would a lake. Microlift is fleeting, elusive, and rapidly changing. Fully exploiting it is one of the most challenging and rewarding tasks a soaring pilot will ever address. How may it best be utilized?

Two elements form the underpinning of microflight technique — variation in velocity and variation in heading. Addressing the basics of dolphining through variation of speed, there is a distinction between conventional speed-to-fly theory (essentially speeding through interthermal space as if it were always a homogenous unit of sink) and flying a narrower, somewhat slower speed range (which through variation of velocity takes advantage of the minor vertical discontinuities which exist). The latter technique is obviously better suited to neg-

otiate microlift. The truth of the matter is that although sailplanes do possess glide ratios and speed capabilities much superior to hang gliders (or ultralight sailplanes), they simply can't fly slowly enough to fully utilize microlift. It may all come together for them in strong streeting conditions, but even then pure dolphining occurs far less frequently than you might think.

Actually, hang gliders are much better suited to take advantage of microlift through dolphining because of their slow speed capabilities. This does not necessarily mean that their glide ratios have reached a point which provide for frequent level flight while doing so. It simply means that they are capable of extracting the lift while a sailplane may be roaring through what feels like very light turbulence and miss the benefit of the lift it contains.

On the other hand, when utilizing microlift I have found that the 100 ft/min sink and 27:1 glide of the *Carbon Dragon* is sufficient to frequently provide for extended level flight because of the hang glider-like flight speeds. However, variation in heading plays a critical role in producing these results. In fact, more often than not it plays a more significant role than varying flight speed.

Microlift strings (another term I have coined, if you'll bear with me) are often only a wingspan or so wide. They may stretch for miles but can meander widely and suddenly. The challenge is to stay centred squarely above them through sensitive, instantaneous shifts in heading. The pilot must divorce himself from any visual references on the ground and generally in the clouds above (I nearly always do best on blue days). He must acutely sense the lift differential across his wingspan and constantly turn, first this way, then that, to stay centred. He'll often feel a pretty good surge, reminiscent of a thermal, under one wing and turn into it instantly by reflex, but if he continues the turn as in a thermal, it'll be gone! And, as he moves back around to re-enter the string he won't find it.

There's often little vertical depth to a string and he may now be below it. When feeling

such a surge, it's best to make a rapid, firm turn into it followed by an instantaneous correction back the other way with maybe half the firmness. Then be alert to sense the lift differential across your span and make another instantaneous correction ... then another ... constantly reacting ... always sensing. As the old adage says, "Lift is where you find it." Follow it wherever it may go. When you think you can't work it any further, try harder.

The results are often limited by your level of finesse, not ambient conditions. We're talking about a delicate high-wire routine which, if performed properly, will leave you applauding your flight! As you might expect, intuition (or probably more precisely heuristic reasoning) plays a significant role in locating and continuing with microlift phenomena.

Some degree of microlift exists in every soaring environment. Some days, it's minimal; other days it's extensive. Its strength and consequent usage in relation to macrolift is something a pilot will have to judge for himself given the flight parameters and goals at any given time. Fully utilizing it does not of necessity impinge on cross-country tasks and at times can enhance them. Simple trigonometry will show that even when working macrolift systems, relatively large divergences from heading toward a distant goal can be justified in the pursuit of lift. Only when the angle of divergence grows to something in the order of 25 to 30 degrees does the divergence start to significantly add to total distance flown. The rapid, fleeting variations in heading which take place during microflight techniques have a minimal effect on distance flown when microlift is good and your overall course is not dramatically divergent.

I often make same flight / same condition comparisons of macrolift and microlift techniques. It's surprising how often you can do as well or better with microlift in the *Carbon Dragon*, especially when penetrating against the headwind. One day I was making such a comparison, flying the same seven mile beat back and forth between a couple of towns and I followed one micro-

string for more than 20 uninterrupted minutes with a net gain of 200 feet in altitude. Although my heading momentarily varied as much as 70–80 degrees off course at times, I never turned a circle. On another day earlier this summer, we had 20–25 mph winds aloft which had to be penetrated in order to stay in the vicinity of the airport (I wanted to land where I took off). In spite of relatively weak conditions, microlift saved the day. Using conventional speed-to-fly, I could just stay where I wanted to, arriving back at the airport after each cycle with at best a modest altitude gain. After three cycles, I switched to microflight technique. Now, making slow headway against the wind, I returned above the airport at 3000 feet with a net 200 feet loss from the time I left a thermal. I was then able to gradually progress upwind and pass up all the sailplanes (including a 19 metre Open class ship many miles ahead) while gaining altitude before the conditions shut down. Most of the sailplanes were not able to stay up that day.

Conventional soaring wisdom would not dictate that things like this can be done. However, with the right equipment, the right conditions and the right techniques, it is being done. Try microflight techniques if you can. You'll be pleasantly surprised. •

Boudreault's Boat the inner meaning

IT'S A BIT ALARMING to think of the editor actually publishing this dog-eared verse in *free flight*, since one's written words live on when all else has disappeared. To answer any questions you may have about the "ballad", the junior Boudreault was, in fact, A. Ovila, or "Shorty" as he is always called in soaring circles. Lariault was, I guess, a pioneer of the Gatineau Hills north of Ottawa; a narrow road bearing his name wound up to the crest of the ridge near where the Gatineau Gliding Club had its origins. Herb Henshaw was an Ottawa glider pilot who did a good deal of soaring including cross-country in the late forties and early fifties and was a mainstay of Gatineau. After taking a few decades off from gliding, this cool customer recently reappeared at the Rideau Valley Soaring School, and even more recently in the last year or two bought an HP-14 and rejoined the GGC.

The soaring event it immortalizes was a real one — a ridge soaring flight Shorty made in an open Dagling primary glider over the southern edge of the Gatineau Hills near

Ottawa in about 1944. For many years Shorty had the most sensitive seat of the pants in GGC, but close to that was a sensitive stomach. For years this held back his attempt at the Silver C duration, but in spite of this he became the first pilot to win the Silver C in Canada. Shorty earned his C in the Dagling with a 9 minute flight on the ridge on 4 July 1944, and a 15 minute flight was flown later in the same summer.

Shorty joined GGC before it started, like a sperm joining an egg. And Shorty's genes had a great deal to do with the development of the club into a turbulent youth and a responsible adult. In particular, if there was work to be done, Shorty was always there. Secondly, his flying ability was a challenging example — rather a frustrating target of achievement for us followers and thirdly Shorty's unflinching good spirits set a cheery tone that was a key to the morale of the club through some setbacks as well as in the good times. For these reasons, I am slightly repentant of the satirical tone of the dogged doggerel but Shorty himself seems to enjoy it.

A group of young National Research Council staff members started construction of a primary glider in a basement in about 1942. They included Dick Hiscocks and Jim Simpson of the Structures Lab, the late aerodynamicist W.F. (Bill) Campbell, and others. Shorty joined the NRC Engine Lab that year, and hearing about the project, started to lend a hand. The glider was first flown in 1943 in a field west of Ottawa, now covered with apartments and the like. When the owner and cattle found they didn't like all the activity, the gliding was moved to a field at the foot of the Gatineau Hills owned by a farmer named Mulvihill. It must have been at that time that the club was named the Gatineau Gliding Club, and the fall colours russet, green, and gold chosen to represent the club. It was from Mulvihill Field that Shorty made his first soaring flights. Shorty tells me that Bill Campbell made his C flight the same day he made his ... Tom Mulvihill, the son of the owner of the field, worked at NRC and lent support to the club.

Mulvihill Field was not too good in many ways. The ground was low and in a wet spring, months of flying could be lost due to the soggy ground. The members erected a hangar there for the Dagling and a winch, but the specially designed "breakdown" hangar was dismantled in record time by Mother Nature one breezy day. Shorty remembers gathering up panels from the surrounding fields with Jim Simpson, the only other volunteer available. With these discouragements, in 1947 the club moved to Carp, about 15 miles west of Ottawa, where they had the benefit of runways, hangars, aerotows, and great thermals.

It is significant, I think, that when I joined the club in 1948, Shorty was the only member of the embryonic group of glider builders from 1942 that was still an active participant in the group. In 1994, he is still a member. •

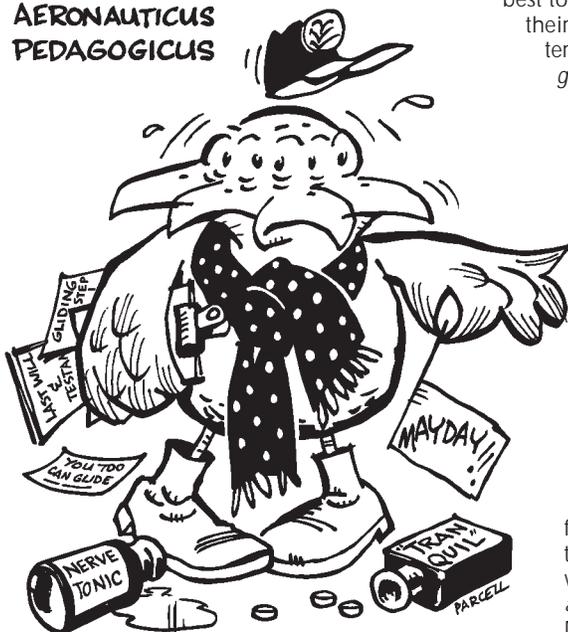
Aeronauticus pedagogicus is an exclusive breed, the members of which have evolved from the generality of the flock. They fly best when trying to see around a large head with large ears and a larger hat. They have some claim to psychic powers, exhibited by their ability to forestall the suicidal flying moves of fledglings before they occur. There is within the group an obvious aging process. In early days there is no known

way of keeping *pedagogicus* out of the back seat of trainers, but with increasing experience and affluence (usually ending in the fractional ownership of some glass slipper), it develops protective camouflage and becomes difficult to find. It is particularly adept at blending into the scenery when a fledgling is heard to ask for an instructor.

Pedagogicus exhibits a marked tendency to flock together with other members of the subspecies to discuss how best to get *A. embryonicus* through their fledgling stage. It is a matter of pride that no two *pedagogicii* shall ever agree on the single correct way to do anything. The result is that flock meetings are interminable and seldom make significant decisions. Indeed, certain unkind ornithologists have borrowed Shakespeare's phrase, "An idiot's tale of sound and fury, signifying nothing", to describe flock meetings.

Still, *pedagogicus* is our chosen instrument for perpetuating the myths and legends of soaring lore. If the fledglings survive his ministrations, they may yet soar with the eagles. Here's to *aeronauticus pedagogicus*. May he also survive.

AERONAUTICUS PEDAGOGICUS



In the spring of 1951 I was transferred to Sarnia, and had to leave all the club equipment behind. Both the Pratt-Read and the Tiger Moth had been bought by individual subscription by members of the club. Also, it was about this time that gliding licences were first introduced, and I was the only licensed pilot or instructor, and therefore there was little or no actual flying after my move in 1951.

The Tiger Moth was disposed of when it was spun in by one of our members with a passenger on board. I believe they were both injured, but not seriously. Later an arrangement was made with the Montreal club that they took over the Pratt-Read, first on a rental basis and then they bought it. John Agnew was involved with this arrangement.

Bob Douglass was a power pilot and a keen flyer and tried to carry on with the Gull club after we left, but I don't think much flying was done. The Cadet sat there for a while, and I think the fabric was in pretty bad shape. I believe it was taken over by some fellows in Parrsboro, but I don't think they ever did very much. I think the Cadet eventually just disintegrated.

My wife Grace was an active member of the Gull club, from the beginning. She had taken some power instruction (in Moths, I believe) with the Halifax Flying Club. She flew with the club at Stanley a number of times, but then began to feel uncomfortable in the air and gave up active flying, though she remained keenly interested in the sport.

Once we were settled in Sarnia, we worked on starting a gliding club there. We formed a small group, which we called the Sarnia Gliding Club. A TG-3A was bought from a club in either Calgary or Red Deer — Ken Collins was the contact in this. They trailed the glider to Bemidji, in northern Minnesota, and we drove out from Sarnia to pick it up. Someone had a Tiger Moth near Sarnia, and we flew for a short time in 1959 from the Sarnia airport.

The Sarnia operation didn't last too long. The fabric on the TG-3A deteriorated badly, and the glider was U/S. I believe it came back to Alberta. Meanwhile I joined SOSA, which was flying from Brantford at the time. We drove over from Sarnia on weekends, until around 1960, when I was transferred to Toronto, which of course was closer to Brantford. While at Brantford, I flew mainly in their 1-26s for several years, and then, in 1963, together with Eric Ketonen and Ralph Van Humbeck bought an LK-10A. This was CF-ZAS, which had been "flat-topped", that is, the normal large LK canopy had been removed and replaced with a deck with a simple bubble installed to fit over the pilot's head. It was also converted to a single seat machine — by removing the rear seat and covering over the opening.

I flew this LK during 1963 and 1964, including a Silver duration and cross-country flight, and a weekend at Sugarbush, Vermont. My transfer to Calgary came about in the fall of 1964, and Grace and I drove out to look for a house, and took the LK with us. By that time, the third owner had been transferred away and Eric was willing to sell his share, as he wanted to buy another glider.



Sally Dunbar

The Cu Nim Gliding Club had been formed in 1950-51, and had a number of active pilots. I generally flew my LK, but the club also had a Schweizer 1-19 (or maybe it was a 1-20), an L-Spatz, and a Bergfalke II. We were flying from DeWinton Airport, towing with an Auster.

I flew the LK until 1967, and then sold it to a fellow from the USA. We took it to the border in British Columbia, and he met us there to pick it up. About the same time Eric Mortis was working on getting a Slingsby Dart from England, and I became his partner. After some years he left the club, and over the next years I had several other members as partners with CF-OAK. I got my diamond climb in OAK at Cowley in 1981.

When my last Dart partner, Jack Parkinson, moved to Edmonton, we decided to sell the Dart, and shortly after (in 1983) I bought my present machine, the Standard Cirrus C-GEOD.

My other activity in Calgary has been the scoring at quite a number of regional and national meets. My first participation in this was for the annual spring meet at Innisfail, in 1969. This was intended as practise for the Nationals, which were also held at Innisfail that year.

The scoring would include the early use of a computer, having on site a remote terminal of the type used on the Canadian General Electric Time-sharing computing system. This company was written in January

to ask if they would supply (free of charge) a terminal for our use during the contest period. It would include the cost of the terminal itself, time on a mainframe computer in Seattle, and the telephone toll charges to Vancouver, where connection was made automatically to the computer system.

Printed results were shown, such as could be calculated by a preliminary computer program. Input to this simplified program were the times or miles flown in a triangular speed task, for each competitor. The printed results showed these data, along with the points calculated for each pilot, his total points to date in the contest, and his placing on both a daily and overall basis.

It was further suggested that if appropriate latitude and longitude data were supplied to the computer, the machine could also calculate the distances flown, and thus eliminate the task of reading these from the map. To do this would require adding to the program additional calculations to measure distances in each of the various tasks that might be assigned, and including the appropriate formulas for calculation of scores. Each day data would have to be supplied specifying the latitude and longitude of goals or turning points, and the type of task assigned. Latitude and longitude values for the landing point for each pilot would then be supplied, or his time, if a speed task was completed. Details of these requirements were to be developed, but it was felt such a system would be feasible.

It was agreed that if I was successful in negotiating the use of the computer facilities, it would be the first time this has been done on this continent and add a great deal of polish to the contest.

Several other time-sharing systems were used for scoring at regional meets over the next few years. In 1982 I bought my first personal computer, and immediately converted the programs to this machine. Over the years numerous additions and extensions were made to the programs. I have since used them for scoring nine Nationals beginning in 1980.

I haven't any outstanding flights in GEOD to describe, but should mention the several international meets which I have attended or worked at. These include:

- 1987 crewed for Mike Apps at the Worlds in Benalla, Australia
- 1988 crewed for Jörg Stieber at Austra-glide in Wiener Neustadt, Austria
- 1989 crewed for Jörg at the Worlds also in Austria
- 1990 crewed for Kevin Bennett at the Ameriglide, Minden, Nevada

Both Grace and I served on the SAC Board of Directors as Secretary and Treasurer in 1954, I was elected Pacific Zone director for 1970, served as Trophy & Awards chairman from 1983 to 1988 and was elected as a Director-at-Large from 1991 to 1994. It has been fun!

1962

Great moments in soaring

Canada's first Diamond Badge was awarded to Julien Audette in May 1962. In accomplishing this, he also broke existing records in all three badge categories. A pioneer of soaring in western Canada and of exploring the Cowley wave, Julien was issued Diamond # 1 (World No. 240) for these flights:

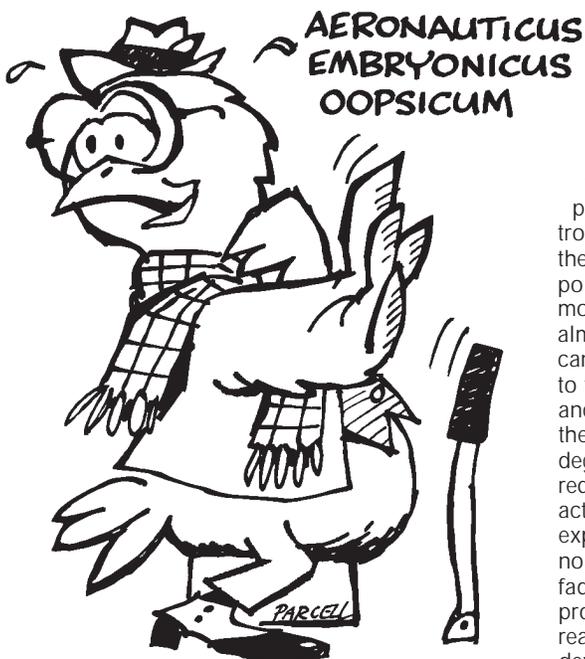
The Goal flight

On 10 July 1958, Julien flew 200 miles from Wenatchee to Davenport in Washing-

Aeronauticus embryonicus, like all fledglings, appears in the spring in great quantity and variety. With varying degrees of trepidation, they have the common characteristic of wanting to try out their newly discovered wings.

Fledglings are not easily distinguished, as they range from very trim females, delightful to strap into a glider, to gross males almost impossible to fit. They are chiefly identified by their habit of being the only ones to work on the flight line. Senior flock members have long since discovered that the use of fledgling energy in running wings, retrieving ropes and pushing gliders is infinitely preferable to using their own fading energies.

Charged with the task of getting *embryonicus* safely airborne is *A. pedagogicus*. As is the way of the young, the manner in which *embryonicus* regards *pedagogicus* changes with developing



ton, surpassing the existing Canadian Straight Distance to Goal record. His glider was a 1-26, CF-ZDF, which had been built from a kit by Julien and two others, and first test flown on 20 May of the same year.

The Altitude flight

On 1 April 1961 at Pincher Creek, Alberta, Julien climbed to an indicated altitude of 31,200 feet for a gain of 24,400 feet. After instrument calibration, the true heights were revised to 30,630 feet and 23,320 feet respectively, to claim the altitude leg and the Canadian Absolute Altitude and Altitude Gain records previously held by Ralph White. He flew a 1-23G CF-ZDO. It took two attempts that day to earn the leg. On the first flight, Julien went higher but the barograph failed. On the second try, two

skill and confidence: first he appears as a hero-pilot who can miraculously fly; then as a disembodied voice calmly explaining how to do things that never seem to work out; later as a 'put-down' artist who, when the fledgling is convinced that all elements are conspiring to make flight impossible, places a casual hand on the stick to restore peace. Later still he becomes a nagging, ever more critical voice over the shoulder, and finally poor *pedagogicus* is relegated to the lowly status of excess baggage to be dumped as soon as possible.

In the air, *A. embryonicus* can be further subdivided according to reaction to training. Examples of these divisions are *A. embryonicus oopsicum*, *musculatum*, *stifnesticus*, and *randomum*.

Both sexes of *A. oopsicum* are the maiden aunts of the flock. No one knows why they want to fly. Installed in the front cockpit, they resemble Queen Victoria in her most 'we are not amused' mood with eyes fixed imperiously forward — a fixation that will not change throughout the flight. When eventually, *oopsicum* can be persuaded to handle the control column, it will be with the same distaste accorded to poisonous snakes, and any movement is so gentle as to be almost imperceptible. This bird can, with patience, be taught to fly straight at a sedate pace and will also master turns if the bank does not exceed five degrees. To any sudden event requiring immediate corrective action, the only reaction to be expected is a shrill 'Oops!' — no more. *Ooopsicum* gradually fades from the scene with profuse apologies about not really having enough time to devote to gliding.

OOs were used, the altimeter was sealed, and all altitudes of record (takeoff, release, low and high points) were photographed during the flight. Afterwards, the altimeter was recalibrated to determine the true altitudes reached under standard conditions. Subsequent to this flight, this method of recording altitude was no longer recognized.

The Distance flight

The last leg of Julien's Diamond was flown on 22 April 1962, again in CF-ZDO. Starting at Pincher Creek, the flight ended 10 miles east of Moose Jaw, Saskatchewan, 395 miles away. As the release altitude was a high 9500 feet, a distance penalty reduced the recognized distance of 374.5 miles. However, this was more than enough to earn him the Canadian Free Distance record previously held by Charlie Yeates at 332 miles. The first part of this flight was a wave climb over Cowley to 19,000 feet. A move over to a second wave system provided an additional gain to 27,800 feet. From this point, ZDO was turned eastwards and Julien headed out for the Prairies. The straight-out glide extended to the Alberta-Saskatchewan border before contacting thermals to continue the distance flight by more prosaic means to earn a most coveted badge in most non-prosaic fashion.

1965

Great moments in soaring

CHARLES YEATES flew 355 miles (571 km) in an Austria SH-1 from Rockton, ON to his goal of Fall River airport, Massachusetts on the Atlantic coast on 13 August 1962. The flight, at 77.1 km/h, took 7-1/2 hours and earned him the Canadian distance to goal and 500 km speed to goal records.

Cumulus started at 10:15 at 2500 feet and rose to 7000 feet in late afternoon, and a 20 knot tailwind helped. Near Stowe, Vermont, Mount Mansfield poked up into the clouds at 4200 feet. He had to ridge soar in this area for awhile until the clouds cleared away. In the lee of this ridge there was a lot of sink but conditions improved quite quickly thereafter. After crossing a 25 mile clear gap near Lebanon, lift increased to 600 ft/min or better. While in this blue area he was looked over by a Phantom jet whose pilot lowered gear and flaps to slow down while circling for a good look.

The last part of the flight was straightforward and he arrived at the goal at 3000 feet. Struck by the scenery, he took another thermal and flew east along the shoreline of Cape Cod past New Bedford to Falmouth before returning to Fall River for a landing at 6:30.

Charles had studied the route for 18 months and had made attempts in 1961 which showed him the lie of the land, as along much of the course airports were the only landing option.

the Viking 104

photo not available

Canada's first fibreglass sailplane, a homebuilt, flew in 1962!

Kerry Bissell, from *ASCent* 2/91

THE VIKING PROJECT was conceived in the late 1950s by an enthusiastic and dedicated group in the Edmonton Soaring Club. Paul Tingskou spearheaded developing the design concept while Oscar "Pete" Peterson tackled the construction. The structure was not totally of fibreglass reinforced plastic (FRP) since the wing and empennage incorporated wooden spars and ribs. Nevertheless, it was state-of-the-art in its use of FRP for glider construction, and the technology as applied to the aircraft industry generally grew around the experience gained in designing gliders built with this material. Efficient use of FRP required that a prototype be constructed in hand-built molds, a time consuming and costly process. Subsequent production models would then be more economically completed using the molds.

The Viking design incorporated a molded fuselage, and all exterior surfaces of the wings and empennage were of molded skins.

The prototype Viking, serial number FLS-1, was registered CF-RCR. The glider was a cantilevered midwing single seat machine with a neatly faired fixed main wheel and nose skid. Scissors-type spoilers provided effective glide path control. Following test flying of this glider a decision was taken to redesign the fuselage in an attempt to reduce the empty weight. The original wings, stabilizer and elevators were fitted to a new fuselage which incorporated a neatly swept-back fin and rudder. The design objectives remained the same — the creation of a glider having docile, stable handling characteristics which would afford an easy transition from the current crop of two-seat trainers (the Edmonton club had a TG-2, a TG-3, a Pratt-Read and a 2-22 in the early '60s).

The Viking was to fly as easily as a 1-26 or a 1-23, but have much higher performance.

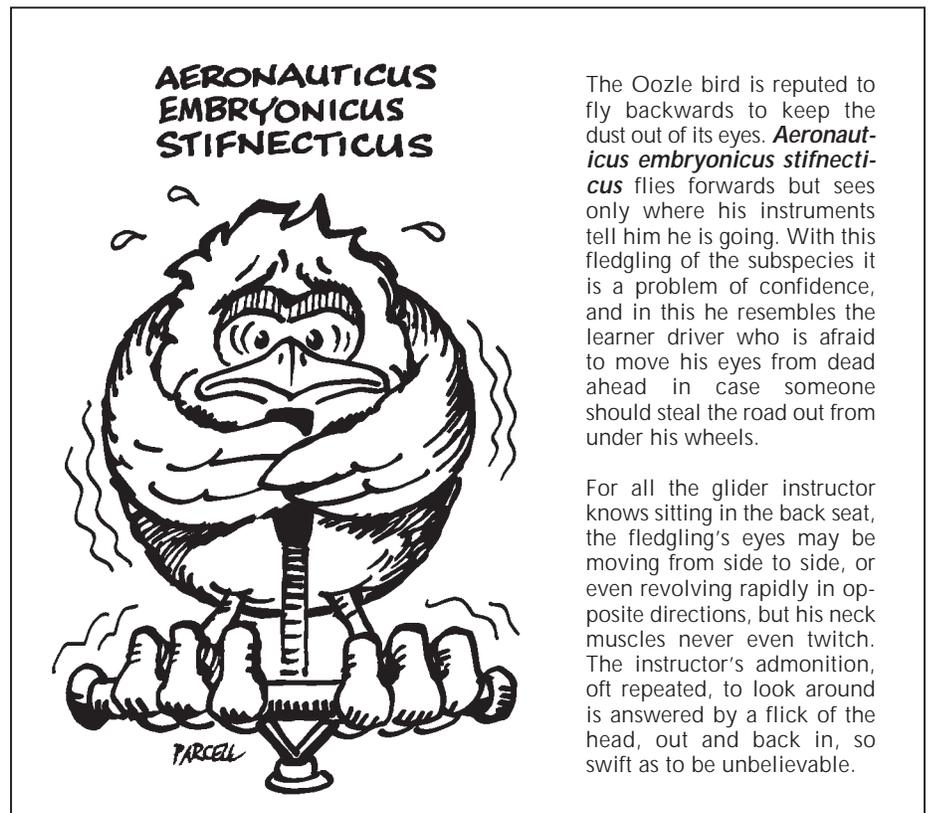
The second effort produced a very attractive glider — serial number FLS-2 and registered as CF-REF in February 1962. The glider was test flown by John Pomietlarz and Ross Grady in March and April. The test reports indicated a slight reduction in the stall speed

— still high at 48 mph and a tendency to roll to the left. John made 20 flights up to the end of 1963. Flight characteristics were still not up to expectations and the project faltered. Paul Tingskou became employed by Bristol Aircraft and moved to Winnipeg. The Viking did not fly in 1964. In late 1964, it was purchased by Kerry Bissell and Walt McKinnon and based at Penhold, Alberta. Kerry flew the Viking regularly and completed 98 flights in the seven year period during which he shared ownership — 1966 to 1973. During this period four flights exceeded five hours, and one was a Diamond height climb to 27,200 in the Cowley wave.

The Viking was sold again in 1973 but it was not registered by its new owner nor was it ever flown again. It was abandoned by the new owner and literally shunted from hangar to barn to field. It was scavenged of its trailer, wheel, instruments and canopy.

In 1990 the Alberta Soaring Council moved to undertake the acquisition and restoration of the Viking, and Canada's Aviation Hall of Fame in Edmonton agreed to provide a "home" for it in their museum. Through contact with Air Cadet personnel in Penhold the glider was located in the Olds area. Members of the Edmonton Soaring Club, largely through volunteer effort, brought the glider to Edmonton and restored it for display purposes.

The Viking glider symbolizes the pioneering spirit with which advanced technology was applied to the design and construction of sailplanes in the early 60s — a technology which has been refined and developed to be state-of-the-art in the 90s. •



The Oozle bird is reputed to fly backwards to keep the dust out of its eyes. **Aeronauticus embryonicus stifnecticus** flies forwards but sees only where his instruments tell him he is going. With this fledgling of the subspecies it is a problem of confidence, and in this he resembles the learner driver who is afraid to move his eyes from dead ahead in case someone should steal the road out from under his wheels.

For all the glider instructor knows sitting in the back seat, the fledgling's eyes may be moving from side to side, or even revolving rapidly in opposite directions, but his neck muscles never even twitch. The instructor's admonition, oft repeated, to look around is answered by a flick of the head, out and back in, so swift as to be unbelievable.

Help wanted: towpilot

When the Alberta Soaring Council acquired its Scout towplane, the word must have got out that ASC was checking out towpilots, because they received the following letter...

Dear ASC Chief Towpilot,

I would like to apply for a job as a towpilot, I have a lot of experience — almost 75 hours — and have had only two accidents. I probably wouldn't have had that first one if my instructor hadn't let me solo with the wind blowing. I don't think he realized how difficult it is to land a tricycle gear airplane when it's windy. It really gets tough in a

high performance airplane like the Cessna 150. Maybe you already knew that.

If you hire me I could use my own uniform. I have a brand new pair of sunglasses (Ray-ban) and my own jacket with a buckle on the back. I wear them with my new Wellington boots, so I really look like a tow-pilot. The jacket has epilepse where I could put co-pilot or even captain stripes (later, of course). It also has a fur collar which makes me look strong. My girlfriend picked it out. She liked the black one but I liked the brown one better. I got the black one because she said it makes me look more mature — kinda like what's his name in "The High and Mighty". It has some great pockets for carrying gloves and things like that. If I had a pair of leather gloves I could sort of let them hang out of the pocket which always impresses people. The jacket isn't really leather but pretty much looks like leather. I don't think anyone would know it

isn't leather except maybe some other tow-pilots as experienced as me.

I don't have any wings but if you could give me a salary advance I have a friend who says he will sell me his. They are just the right size so that everyone will be able to see them when I walk through the club house (I'm not sure where he got them, maybe from an Army surplus store).

I can go to work almost anytime except next Sunday. My girlfriend and I are going to a rock concert.

Thank you,

Chuck

PS. If you don't like the buckle on the back of the jacket I could probably take it off. I don't think that will bother the belt. After you see it you may want to order some for your other towpilots who don't have any.

.....

This application was duly passed on to Tom Schollie of Red Deer, the ASC CTP at the time. Now one of Tom's few bad habits is to think in verse, so he responded this way:

Dear Prospective Towpilot:

*I want to thank you for your letter.
I couldn't imagine anyone better.
Seventy-five hours of intense flying
Only two prangs, and no fear of dying.*

*You're very keen on how you look,
Willing to fly right by the book,
Willing to use your own clothes too,
That's really awfully good of you.*

*I've considered your offer and I advise
You don't quite qualify in my eyes.
Tricycle time is fine but lacking,
Most gliding clubs would send you packing.*

*You must be great with a tailwheel crate,
And wheel land or stall on as winds dictate.
Crosswinds must be a welcome delight,
And lift must be sought with every flight.*

*And stamina is vital too,
Days are long and rests are few.
And you cannot smoke while you fly for us.
Why, you say, what's the fuss?
There are many risks we have to run,
But loss by smoking isn't one.*

*So, clean up your act, pile up your hours,
Solo a glider to earn your wildflowers.
Know your taildragers inside and out,
Recognize danger and get the hell out!
It's safety first and safety last,
So live down your short and sorry past.*

*When detractors declare you a real sensation,
Feel free to renew your tow application.*

Yours truly, *TOM* ASC CTP

Aeronauticus embryonicus randomum is entirely unpredictable and so is the cause of many nightmares and grey hairs among the *pedagogicii*. He is apparently fitted with a switch that activates the moment he leaves the ground and which has the charming effect of turning off his brain. It is a curious fact that when one of the *pedagogicii* is driven demented by *randomum's* inability to maintain a steady airspeed and so turn him over to another instructor, the airspeed control will become rock-steady, but *randomum* will then exhibit a marked inability to turn without skidding wildly.

On being told that it is time to land *randomum* has been known to fly complacently away from the airfield until roused by the screams of the instructor who is starting to fear for his life. At this point he has then been known to execute a perfect circuit in the opposite direction to all other traffic and when somehow safely on the ground has responded to the instructor's anguished cry of "Why?" with an unbelieving stare.

As *randomum* flies like a wounded hen on one flight and like an angel on the next, instructors are seen to hide as he approaches in the hope that they will not have to make the fateful decision as to whether or not he is ready for solo flying. Eventually he corners a *pedagogicus* who has not been around for a few weeks and doesn't know what he is facing, and produces a checkflight of unexceptional quality.

Only when it is too late and he is just airborne solo do the members of the *pedagogicii* clan emerge from hiding and inform the unfortunate colleague of the enormity of his deed. From that time on the guilty instructor watches the glider as though mesmerized, all the time steadily chewing on the brim of his hat. Inevitably the gods who look after fools and little children prevail, and *randomum* makes a copybook flight and lands like a feather. But wait until the next flight!

Who will remain a penguin, and who will soar with the eagles? No one knows, but here's to our *Aeronauticus embryonicii*, the future of the sport!

**AERONAUTICUS
EMBRYONICUS
RANDOMUM**



Inventing the Rudder

Tom Knauff
from *SOARING*

ASK THE AVERAGE PILOT, "Why does an aircraft have a rudder?" You will get a variety of responses:

- "It counteracts adverse yaw."
- "It causes the aircraft to rotate about the yaw axis."
- "It's used to sideslip."
- "It turns the aircraft."
- "It provides a place to put competition numbers."
- "It is used to steer on the ground while taxiing."
- "You have to end the aircraft somewhere!"

In fact, there is only one correct answer to the question. The Wright Brothers discovered the reason a rudder is needed. Their genius was not inventing the wing, or the elevator, or even lateral control (they used wing warping which has the same effect as ailerons). Others had the same basic information on these matters.

The Wright Brothers seemed to understand better than anyone else that if they were able to fly, they would then need to control the aircraft. Their first flights were in gliders of their own design, and they took great care not to fly so high that if they crashed, they would kill themselves. Ground skimming flights proved the concept of their designs. The Wright Brothers were the first to understand the need for, and the function of the rudder. The following information comes from their many writings.

Their first flights were in a glider that had a horizontal control out front to control the angle of attack of the wing. Unfortunately they called this a rudder, which adds confusion to understanding their writings. We now call it an elevator. They fully understood how the elevator controls the angle of attack of the wing, affecting the lift produced. To roll, they warped the wings with a cradle device their hips could move. This caused each wing to produce more or less lift, which then caused the glider to turn. They understood the lift of the wing turned the glider, not any control.

They would glide down the hill at Kitty Hawk, North Carolina, making many hundreds of successful glides. In most cases, the glider would glide in; a straight line to the bottom of the hill. They were not interested in soaring flight, or even making turns.

Should a wing begin to go down, causing the glider to begin a turn, they would shift their hips in the opposite direction which would warp the wings, bringing the wings level again ... most of the time. But sometimes when they shifted their hips and warped the wings, the wing would react just opposite as they expected, and the wayward wing would continue to go down, causing the glider to crash. This was confounding. Repairs in the rustic conditions along the beach were difficult and time consuming. What was happening? Why did the glider respond as expected so much of the time, and yet just the opposite some times?

It was a serious problem, and Wilbur Wright wrote of his frustrations by explaining that man would some day fly, but perhaps not in his lifetime. Wilbur was the genius behind the invention. Orville made many contributions, but it was Wilbur who was the mechanical genius. Was there something about the infinitely variable adjustability of a bird's body that allowed them to make adjustments not possible in a fixed structure? We must remember how early pioneers looked to birds for inspiration, and birds have no vertical surfaces.

One night, after they had experienced the most recent series of crashes when the glider seemed to go out of control for no reason, Orville was awake most of the time thinking about the problem, and discovered both the problem and the answer. The next morning, he explained that he would reveal his inspiration during breakfast. Orville fully understood the magnitude of this revelation and the effect it would have on history. This discovery was going to make controlled flight possible!

At breakfast, he calmly explained the problem, being the drag produced by the downward twisted wing when the angle of attack was increased. Increasing the angle of at-

tack on the wing caused two effects. One was the desired effect of increasing lift, but another undesired effect was increased drag. Also, since the angle of attack was very high, any downward twisting of the wing caused the wing to stall and the lift to decrease.

To overcome this undesired effect, Orville explained the need for a vertical, moveable surface which we now call the rudder. Moving the rudder at the same time as the wing warping would solve the problem!

Wilbur listened quietly as Orville explained. His facial expression never changed as this revolutionary idea became the obvious answer. After a short time, he responded, "Yes, and to tell when to apply this new control, and to tell how much to apply, we will install a short piece of string out front where we can see it. This string will tell us all we need to know!" (paraphrased) Wilbur had just invented the yaw string — the first aircraft instrument.

Comment: While the Wright's rudder was an ingenious solution and continues to be used on virtually all aircraft, it should also be understood why the rudder is not absolutely necessary. Specifically, the aileron can be designed such that the increase in drag is nominally the same for either upward or downward motion. This means a banking turn increases drag equally on the inner and outer wing and leads to a coordinated turn without the need for any rudder action, as demonstrated by all birds which fly very well without rudders.

Thus the rudder should not be seen as a fundamental necessity, but an acknowledgment that the engineer's aileron and wing design will be less than perfect aerodynamically, and that the rudder remains the best method to correct this human deficiency.

Frank Wicks, Schenectady, NY

More great moments in soaring

THE FIRST 750 KM TRIANGLE FLOWN IN North America was accomplished by John Firth on 10 July 1977, flying his Kestrel 19 752.5 km from Kars, Ontario around turnpoints at Bethany and South River at an average speed of 87.4 km/h, earning the triangle distance and 750 km triangle speed records. The unusual aspect of the course was that the first 80 km of the third leg was over the wilds of Algonquin National Park. Though this may seem formidable, the crossing was to be over high ground at the expected peak of the day with cloudbase above 8000 feet and a tailwind to help.

The day followed the passage of a cold front and the lift, though not strong, was

consistent and started early. At the 10 am launch the lift was already 3-4 knots with an unusual easterly wind forming streets on course and John was off in fine style. Bethany was reached at 12:30 under 6000 foot cu and the east wind had slackened and shifted to the expected north, so now he had streets lining up again on the second leg! Pressing on and staying high, John reached the second turnpoint in only two hours with bases now at 7000.

To the east and home now the last small cu formed two lines along course. Choosing the southerly one, John took every cu to cloudbase and glided across Algonquin Park at a conservative 75 knots. The sky went blue and thermals were harder to find and work and speed dropped to 60 knots and for the first time John wondered if he would get home. He did get a little low back closer to home over friendlier territory but worked some weak lift and finished with a good margin around 6:30 pm.



Contest Letters/Numbers Register Registre des Lettres d'Appel

Here are the current contents of the contest letter register kept by SAC as a service to sailplane owners to use on their gliders. Letter/number combinations may also be reserved for future use. The register also contains addresses and phone numbers of owners which were omitted here for brevity.

The purpose of publishing the list (*as is*) is to ask pilots to send in corrections to the register: listed owners have changed sailplanes, died, got out of soaring, or have moved; some listed sailplanes have been written off, been exported, or are no longer in service; and there are a lot of spelling errors.

Don't be a slacker — call or send a note to Robert Binette to correct any error you know of (particularly regarding errors related to pilots no longer associated with SAC). Robert's address is 5140 St-Patrick, Montreal, PQ, H4E 4N5 tel (514) 849-5910 H, (514) 287-1045 (B).

AB	GULX	ASW 20	Buzz Burwash	EY	GUXQ	Lark IS29D2	Ian Oldaker
AC	FRNN	HP-11	Allen B. Clarke	FJ	GFBJ	Jantar Std.2	Cu Nim Gliding Club
AI	CJDZ	Discus	Kurt Meyer	GB		Jantar Std.2	Gilles Boily
AJ	GRUR	Ventus B	Andrew Jackson	GC			reserved for Gatineau Gliding Club
AM	FSIR	Cirrus-ST	Maurice Laviolette et Alex Krieger	GD		DG 300	Geyer/Webb/Bennett
AO	GYSO	SGS 1-35	Allan Wood and Rod Crocker	GJ	GCGJ	Jantar Std.2	Brian Milner
AS	GAUL	PIK 20	Ariadne Soaring Inc.	GO	GOTZ	LS4	Bryce Gormley
AU	GDPJ	Jantar	Ray Richard	GP	GORE	PIK 20B	Gary Paradis
BA	FASU	HP18	Albert Leslie Scott	GR	FFGR	Kestrel 19	Paul Daudin
BF	GPLS	DG400	Bruce Finley	GS	GVLB	DG-200	Gilles-André Séguin
BG	GOBG	Diamant 16.5	Peter F. Flanagan	GW			reserved for George Wilson
BJ	FBMK	PIK 20	Bernard Palfreeman	GY	GINY	PIK 20 D	Graham and Jane Midwinter
BK			réservé pour Carole King et Bob Bell	HG	GLHG	Std Cirrus B.	Dugald Stewart
BM	C GEST	PIK 20B	Michel Perreault	HH	FDHH	DG-400	Norman A. MacSween
BQ	GUJF	Jantar Std.	Paul Dorion et Claude Gosselin	HK	GHDR	Jantar Std.2	Hermann Ksander
BW	GDBW	Jantar Std.	Gatineau Gliding Club	HP	FHPI	HP 14	High Performance Inc.
BZ	GGEA	Jantar Std. 2	Réjean Dallaire	HY	FWSE	RS-15	Harold Yardy
CB	FTUB	LS-1	William Roach	HZ	GPHZ	RS-15	Robert Mercer
CC	GJSO	Jantar Std 2		IR	FSIR	Std Cirrus	Alex Krieger et Michel Krieger
CD	GBIG	Astir CS 77		JC	FKSS	Phoebus C	
CL			reserved for Ursula Wiese	JD	GHJD	Std Cirrus	Russ Flint, Glen Buhr
DB	FDGD	DG 600	André Pepin	JF			reserved for John Firth
DC	FBDC	Libelle 201 B	Carole King	JJ	GXTS	Jantar Std.	Garnet Thomas
DG	GCTZ	DG 300	Vankleek Sailplanes Ltd.	JK	GCJK	Libelle 201B	George Wilson
DH	FZDH	Skylark 3B	Peter Sully	JM	FDN	Cirrus Std.	Jos Jonkers and Rob Young
DS	GADS	Pilatus	Arthur Klinge	JO			reserved for Jim Oke
DW	GQMB	Hornet	SOSA	JR			réservé pour Jean-Marc Surprenant
DZ	GBZO	ASW 20B	Robert Di Pietro	JS	GTGO	LS-4	Joerg Stieber
EB	GFEP	ASW 20	Karl Doetsch	JW			reserved for John Weber Dec. 1987
EE	GPUB	RS 15	Tony Burton	KB	FUXB	HP 11A	Bob Patterson
EH	GYRE	Libelle Std.	Paul Puky	KC			reserved for Harry Polzl
EQ	GBEQ	Lark IS29D2	Denis Gauvin	KM	GDXT	PIK-20 B	Peter Skensved
ET	FETQ	HP-18	Udo Rumpf	KQ			réservé pour Walter Pille
				KR	GTYF	Nimbus 2C	Heinz Rominger
				KT	GTBL	Lark IS29D2	Rob Maheu
				KV	GJOH	ASW-19	Kevin Clifton
				KW	GJKW	HP 18	Keith Williams
				KY	F-UKY	Phoebus C	Keith Deller
				LD			reserved for Lawrence Dobranski
				LL		Jantar Std.	Paul Anderson
				LM	FPLM	SHK-1	Herbert Lach
				LS			reserved for Bryce Gormley
				LT	C-FALT	HP-14	Dixon More
				MC	FBON	Libelle 201B	Gail Oneschuk
				MF	GEMF	Jantar Std. 2	Jim Feyerer
				ML	FKJO	KA6-CR	David McAsey
				MM	FZBH	Grunau Baby 2	David Fowlow
				MO	GMOE	DG 100	Georges Cousineau, Jean Provencher
				MZ	GIKC	ASW 20 B	Ulli Werneburg
				ND	GOON	Pioneer II	Ted Lightly

NG	FBNG	M-100-S	Marc Lussier	2W	GGWW	ASW 20B	Walter Weir
NJ	GPEN	PIK 20B	Julius Nagy	3A	GLDR	Mini Nimbus	Al Stirling/ Guy Peasley/ Peter Barnett
NY			réservé pour Gerry Nye	3B	GRKX	ASW 20	Colin C. Bantin
OB	FZUZ	ASW 15	Oscar Boesch	3K			reserved for Ken Couser
OC	FBMX	Open Cirrus	Harold Eley (& al)	3Y	FRXG	Austria Std SH1	Black/Officer
OR	GFOR	ASW 20	Frank Vaughan	4E	GEOD	Std Cirrus	George Dunbar
OT			réservé pour Guy Bourassé	4N	N184N	Std Cirrus	Richard Cook
PC	FWZT	HP-14	Paul Chevrier	4Q		SZD 55-1	Richard A. Longhurst
PM	GGGE	ASW 20	Terry Southwood	6E	FXSX	KA6E	Meyer/ Tremmel/ Helmenstein
PP	GFRM	PIK-20-E	F.R. Matthews	7G	GPRS	Libelle 201 B	A.O. Schreiter
PR			reserved for Peter Lamla	7Z	GVTZ	Jantar Std.	Vancouver Soaring Association
PT			reserved for Peter Timm	9P	FQKE	Cirrus Std	Konrad Heussi, O. Maranta
PY	GHMY	Jantar Std. 2	Paul Yardy	A1	GDZ	Discuss	Ed Hollestelle
RJ	GKEJ	ASW 19	Rick Ryll	A2			reserved for Eddy Hollestelle
RL			réservé pour Roger Laroche	A7	FEQH	DG 300	Ray Richards
RM	FASW	ASW 12	Dick Mamini	B1	FAQV	Cirrus Std	Stewart Baillie
RP			réservé pour Richard Poissa	B2	GQLB	HP 14	Lloyd M. Bungey
SA	GVSA	Grob 103 Acro	Vancouver Soaring Association	B9	FOAK	Dart 17/R	Sylvain Larue
SD	FBAH	Jantar Std. 2	Sam Whiteside	C1	GUJG	Jantar	AVV Champlain
SM	FARE	Std Cirrus	Don Russell	D9	GUIL	Open Cirrus	Dick Vine (& al)
SR		ASW20	Dave Frank	K2	GRXX	ASW 20	Wilfried Krueger
SS	GXMO	Mosquito	Klaus Stachow	K6	FOLO	KA6E	Richard Longhurst
ST	GEST	ASW20	Dominique Bonnière	L4	FFGU	Libelle Std.	David Springford
SU	FAOS	LS4	Sue Eaves	L7	FPSQ	BG-12 BD	Keith Lee
SW	GFIS	DG 202	Francisco Dias	M7	GYMZ	ASW 20	Jane Midwinter
SX			reserved for Walter Herten	P5	GVZT	Libelle Std.	Mike Frastacky
TC	GXWD	PIK 20	Lee Coates	R2	GRRM	ASW 20	Rick Matthews
TI	GWTI	1-35	D. Pandur	S1	GVDO	ASW-20	Larry Springford
TT	GYSA	1-35	David Harper	T2	GIZC	LS4	Paul J. Thompson
TW	GCTW	Std Cirrus	Tom Okany	T7	GOPN	PIK 20 D	Bob Carlson
TZ	GBTZ	ASW 20	Robert Gairns	V1	FAMG	DG400	Wolf Thiele
US		Kestrel 19	Steve Weinhold	W2	GRKW	Mosquito C	Chris Wilson
UV	GLUV	Pioneer II	Albert Sorignet/Paul Daudin	X1	GJJO	Ventus	Kevin Bennett
VB	FCVD	Ventus B	H Werneburg and R Zabrodski	X6	GJXG	ASW 19	Bruce MacGowan
VI	FAJH	KA-6-E	Dean Toplis	Y3	GYYY	ASW 20	David Baker
VQ	FNVQ	ASW-20	Peter William Foster	Z1	GZMB	K5 (homebuilt)	Danny Zdrzila
VR	GVRR	DG 202	D Marsden, G Schaeffer, C Zwarych	Z3	GZZZ	RS15	Pat O'Donnall
WK			reserved for Roman Levicek	11	FSNZ	KW 45	Fred Wollrad
WP			reserved for Terry Southwood	14	FYFL	Libelle H-301	Joe Somfay
WW	FPMV	ASW-24	Ian Spence	18	GAJM		Mike Apps
XC	GOXX	Jantar Std. 2	X-C Flt. Association	19	FVNE	Phoebus	Tom Milc
XH	FAXH	HP14	Mike Thompson	22	GNBE	Std Libelle	P. Schwirtlich
XI	GVLB	DG 20	Bob Gage	23	FXGU	Open Cirrus	Grp. 79 Ltd
XL	GFAI	Skylark 4	Chris Futter and Fred Schaeftgen	24	GSXA	Mini Nimbus	Hans Konig
XR	GPXR	Club Libelle	Terry Elligott	26	GVRS	Ventus B	Bruce Hea
XT		LS-4B	Douglas G. Bremner	41	GVES	VES 1	Jerry Vesely
XU		ASW 15 B	Chris Eaves	52	GMSG	Jantar Std. 2	Wasilewski (& al)
XZ	GTXZ	DG 202	Harry Peters	54	GLYD	Mini Nimbus	V. Jay Poscente
YW	GBYW	DG 202	John H. Bisscheroux	55	N551CN	SZD 55	Chuck Keith
YZ	GHEU	Duster	Bruno Schrein	57		Diamant 16.5	P Pepin, M Rochette, R Laroche
ZF	FRZF	HP-11T	David J. Morgan	69	GGBW	Jantar Std. 2	Richard Longhurst
ZQ	GVQW	ASW 17	Stanley Doda	71	FQJS	Libelle	Ruth Thumm
ZT	GIZT	LS4	Ian Grant	77	GPON	ASW 20	Jim Oke
ZX	GTZX	PIK 20	G.H.U	78			reseed for John Brennan
ZZ	GMZZ	LS 4	Jim Carpenter	91	GVLA	Pick 20 E	D.V. Allan
1M		Jantar I	James Adamczyk & Fred Hunkeler	94	GNZY	Nini Nimbus	A.O. Schreiter
1Y	GQIY	HP-18	Peter Masak	96	GLYD	1-23H-15	Ruth Thumm
2C		Nimbus 2C	James R. Henry	PI		ASW 20	Jock Proudfoot
2L	GORT	Open Cirrus	David Fowlow	Σ	GVJV	Sigma	Dave Marsden

A change for the better?

A new look at Lesson 1 of the instructors' syllabus

Terry Southwood
Cu Nim Gliding Club

LAST SUMMER it was my pleasure to assist and apprentice in the Eastern Instructors' Course with Ian Oldaker, with a view to my taking over the Western Course next year. (Paul Moggach ran this year's Western Course at Chipman and very kindly invited me up to help out there as well.)

While working with Ian down east, I proposed a small, but perhaps important change to the content of the first lesson in the instructors' syllabus which we were teaching. Ian was not only interested, but keenly supportive, and asked me to write an article detailing the suggested change.

To begin with, I believe that this first lesson is crucial because it carries double importance. From an instructional point of view, it is important that the first lesson be done "right", not just because it covers a lot of information, but because the Primacy Law of Learning tells us that the student will remember this first lesson for a long time. Secondly, from the perspective of our sport, this lesson — with its lasting impression — may very well determine our success in keeping this person as a new member.

Let me enlarge on that last statement a bit. In my experience, the first instructional lesson is very often given in the context of an introductory flight. For those of you who feel that intro flights should not extend beyond the process of chauffeuring people about the skies, I would remind you that it is not an airline service that we run — we are in the business of teaching people to fly, and I personally think it is imperative that we offer that option on every intro flight we do.

I say that because I think we are up against a kind of Murphy's Law of Negativism on intro flights, that is, a positive first impression does not guarantee positive results (eg. a new member), but a negative first impression will most certainly guarantee negative results. Now I realize that not everyone wants to try flying the glider, but a blanket restriction against it seems to be a very negative approach. Especially in light of the positive reaction I have seen from people who have opted for my version of their first lesson.

At present, lesson one of the syllabus teaches the new student the independent effect of controls, plus speed control. Lesson two introduces aileron drag, gentle turns and straight flight. From the student's point of view, I think that lesson one is a little too simple, and leaves the student with very little sense of achievement in flying the airplane — a sense of achievement that I think is really important if we are to have any chance of keeping this person on as a member of our sport.

The change that I am suggesting simply remolds the first two lessons into one, with a slight shift of emphasis. It evolved out of numerous flights over the past couple of seasons, and it seems to allow the student to achieve significant progress on his or her first flight.

The air lesson itself is very straightforward. Once we are off tow, with the student following through, I demonstrate the nose down / nose up pitch control, with emphasis on how our resulting attitude controls our speed. (As part of the preflight briefing, I have already explained this in terms of a toboggan going downhill — the steeper the hill, the faster the toboggan goes.) Then I have the student try it. (If your instruction refers only to the nose and not the stick, it should help your student avoid over-controlling.)

Next, I quickly demonstrate a sequence leading up to the turn, with the student neither following through, nor repeating the manoeuvre afterwards. First, I demonstrate rudder only, and its resultant yaw — with the whole point of the exercise being to show that the rudder does not turn the airplane. Then I explain that we turn the airplane by banking the wings, but demonstrate what happens when I bank the wings using the stick alone. I point out the adverse yaw, and explain that we use the rudder to prevent this — so every time we want to roll the wings, we have to use stick and rudder together.

After inviting the student back onto the controls — and doing a joint lookout — I demonstrate a coordinated gentle turn using stick and rudder together, centring the controls when the turn is established, and stopping the turn by rolling the wings level — again using stick and rudder together.

Then I have the student try it. (A quick prompt to centre the controls will help prevent overbanking.)

With a bit of practise, which a high tow will provide, your student will very quickly have reasonable control over both his speed and direction and a whole world of possibilities opens up.

When thermals are present, your students can become "soaring pilots" on their very first flight. Even with a little practise under their belts, most people can fly at least a portion of the circuit for you — further extending both their flying time, and their sense of achievement.

As you can see, my change wouldn't alter the syllabus very much, other than combining the first two lessons together, all it does really is shuffle the order of instruction around to provide perhaps a bit better flow. But however small the change, I have been really excited by the good results it seems to get. How good? Well, I think it gives people a wonderful impression of gliding because it allows them to reach a very satisfying level of achievement on their very first flight. And, even if they don't all stay on as members, the look of joy on their faces at the end of a flight is certainly one of the things that keeps me here!

Postscript

Ian Oldaker has previewed this article and plans to discuss the suggested change at the next meeting of the Flight Training & Safety committee, with the intention of incorporating it into the training syllabus. We would appreciate hearing any comments or concerns from instructors across the country, either through *free flight*, Ian Oldaker, or the author at: 24 Hyler Place SW, Calgary AB T2V 3G6 (403) 255-4667.

Terry is the Cu Nim CFI and a new member of the Flight Training & Safety committee.

"SOAR AND LEARN TO FLY GLIDERS"

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that sometimes has a few problems, and these problems often beset the more experienced or adventurous cross-country pilots.

The whole question of safety is a delicate matter, with very little black and white and lots of grey. The parameters may vary immensely with skill, experience and currency and a safe, rational action for one pilot may very well be highly dangerous for the next. I believe currency is one of the most vital factors in staying safe. A pilot who is not very experienced, or particularly skilled, may still be quite safe if they are aware of their own personal limits, something that goes hand-in-hand with plenty of flying. At the other extreme we have the most dangerous scenario, an experienced but not current pilot who flies according to his *past* ability. His aircraft handling skills and judgement of height and angles may be degraded from lack of practise. He may fly himself into a situation that he no longer has the ability to fly himself out of.

So what can we do to improve our chances? Fly as much as you can before you venture away from home, but above all, be honest with yourself — can you put your glider on your selected landing spot every time? Be imaginative in your circuits at the home airfield. Land in a different place and do an approach as if you have to clear high obstacles and pull up in a short distance before the fence arrives. Throw in a strong wind for good measure. Now how close to your mark are you? How much you missed it by needs to be taken into account when you decide on a safety margin doing the real thing. The point is not whether you can hit the spot every time, but in being honest with yourself on how much you missed it. There is nobody out in the middle of the paddock to check you — it's in your hands.

Beware of windy days. If the breeze below 1000 feet is over about 15 knots, take great care at circuit joining height. Working "possible" lift (ie. when you aren't actually climbing!) can see a safe circuit vanish in just one extra turn. Don't be tempted. These days also produce lots of turbulence near the ground — not ideal for low level man-

Aeronauticus embryonicus musculatum is as far from *oopsicum* as can be

imagined. He is confident, fearless and extremely strong. Several years of driving bulldozers and farm tractors have instilled in him the belief that any machine can be tamed providing you get a firm grip on the controls and demonstrate who is boss.



His grip on the stick is so fearsome as to render the instructor helpless to correct errors unless he is prepared to push the control column with both feet. This is particularly troublesome on landing when it is often necessary to modify *musculatum's* habit of driving the glider onto the ground as though it were a bus.

In spite of this he often becomes a very good pilot when his touch has been gentled a little, and he is a good flock member, being particularly useful for heavy lifting around the nest.

euvering. Add a strong wind gradient to this and the scene is set for some excitement.

The most difficult outlandings come while soaring conditions are still good. A run of heavy sink can find a pilot at decision height quite quickly, coupled with possible lift/sink in the circuit, more turbulence and all the while he's wondering why he's arrived in this predicament. The fact is that you are low and a good outlanding takes precedence over saving face and scratching away. A landing at the end of the day, or when soaring is no longer possible, is generally easier. The pilot has usually accepted the inevitable, the air is smooth and there's more time for planning.

Try to familiarize yourself with local hazards. Where do power lines run, along roads, or anywhere? In Victoria, a couple of years ago, I was climbing away from my chosen field after yet another low point, and as I drifted slowly downwind the sun glinted off a single wire across my likely landing run. Even when I knew where the line ran there were no poles visible from the air. A little knowledge of area farming practises can also help. Are there many contour slopes and if so, are they ploughed over like the rest of the field? This also makes them invisible. Are fallow or stubble fields safe or will a ploughed field be a better option? These decisions will rarely harm the pilot, but a broken glider can spoil your day. The pressure of competition can be another factor to take into consideration. We hear tales of competitions at mountain sites where pilots fly after dark and destroy gliders in "backyard" sized fields, all for the sake of more points at the end of the day. Likewise "bar talk" relates miraculous saves from tree top height in our wide open spaces. As I said before, the safety of your flight is in your hands and you have to bear the consequences of any misjudgement.

Aviation is totally unforgiving of carelessness or foolhardy behaviour. Having become involved in it, you must play the game seriously. Above all, be honest with yourself about your abilities and remain within your own limits. Do plenty of flying so you understand these limits. While you're at it, you may even enjoy yourself!

1995 NATIONALS UPDATE

Things are going very well in the preparations for the '95 Nats at Pendleton. The big news at this time is that corporate sponsors are providing big prizes for the winners in each class. The 15m and Standard class prizes cannot be confirmed at the date this is written, but AIR CANADA is awarding *two return tickets anywhere they fly* to the Sports class winner. This prize is worth up to \$4000(!) and should certainly encourage a large entry in the class.

We sincerely hope the soaring community will respond and come. It will be fun and worth the effort.

Bob Mercer, contest manager

club news

PORT ALBERNI, BC

Finally completing our move to the new Port Alberni Airport in this corner of Vancouver Island has resulted in increased activity from an average of 93 flights each year for the last five years to 260 flights in 1994. Membership increased by three and two beginners went solo. Our aged winch still provides 1000 foot plus launches for beginners to enjoy less expensive training.

The best day of the year was the official opening of the airport when over a thousand spectators saw the club give 26 free introductory flights which promoted some more interest for the coming season. The nearby Beaufort Range has still only provided one long flight of 6 1/2 hours, but with another season's experience it is hoped such flights will become common events.

Doug Moore

WINNIPEG REPORT

It is deep into the winter months and all around there is a blanket of white powder snow making it seem that all is quiet at the club. But this is as far from the truth as is possible. Sure we have been shut down operationally for three months, but behind the scenes there is a high level of activity. Our new executive was voted in at our Annual General Meeting held on December 7 and again Jim Oke will lead his Directors through the administrative duties associated with running the club. On the table for discussion is a five year fleet renewal plan that has already seen some progress with the possible sale of one of the 2-33's. We are also actively investigating various two seat trainers to replace the venerable Schweizers. If there are any ideas/opinions out there, please forward them to Jim.

Our year ended officially on October 29 with the last flights and that evening we had our annual potluck dinner held at the field. The event was well attended and capped off a very successful season. We flew more flights in '94 than in any of our ten years of flying at Starbuck. There was a dramatic increase in badge claims and several first cross-country flights for many of our newer licensed pilots.

Now that the season is long over, it is time to prepare for '95. Our annual ground school is now in the planning stage and we hope to have a successful Open House/Information evening one week prior to the start. We will also have a local display with a Jantar set up in the largest mall in town. Although the work involved in getting a display like this together is time consuming, it does seem to pay off, and we have seen several new students sign up over the years because of events such as these.

In order to assist in promoting the 50th anniversary of SAC, our club is putting together a plan of attack that will see a blitz on the media to get the word out on our sport. So far, we have planned a separate Media Day, Public Open House, and a tentative fly-in breakfast for power pilots. It was felt that there is a large market out there to tap into, especially amongst the power pilots who find it too expensive to rent aircraft from the local flying clubs. Also on the books is an expedition to Brandon and Dauphin to promote gliding at these two larger towns. Dauphin now has a 2-22 up and flying with a converted Pawnee for a towplane.

There is also a chance that the club may take a glider and towplane south of the border into North Dakota to a small town called Bottineau and try flying around the Turtle Mountains (hills). For those that receive SOARING magazine, you may recall an article by Jack Olsen on the flying possibilities of this area.

We plan on starting our season on April 1 again this year at Southport which is the ex-military base now operated privately. Initial indications are that the management there is more than happy to assist us in our operations and for the month of April we expect to have all our instructors and some private members receiving their checkouts. Now that Transport Canada has relented on their five-flight rule, it should speed things up dramatically. It is a great way to get the enthusiasm up and as this is being written it will only be three short months away before we are up and flying, (egads, where has the winter gone)!

Mike Maskell

CVV QUEBEC

Le début de saison 1994 fut assez particulier, voir même difficile. La première fin de semaine du 14-15 mai était marquée par le départ du 2-33 (FXGX) et du 1-26 (FRSD) pour la traversée du Canada en camion. Avec le départ du 2-33, l'instruction de base s'effectuait pour la première fois entièrement sur L-13. La progression des élèves sur les Blaniks était aussi rapide et de meilleure qualité que sur le 2-33. En ce début de saison fébrile, toute l'attention des membres était concentrée sur l'achat d'un nouveau biplace (Puchacz) ainsi que la recherche d'un avion remorqueur pour remplacer le L-19, lui aussi vendu pendant l'hiver.

La météo n'était pas au rendez-vous pour les mois de mai et juin. Nous avons manqué plusieurs fins de semaine importantes. Les bonnes conditions de cross-country étaient rares et peu exploitées.

En juillet, le club opérait sept jours par semaine et nous avons eu un excellent cours

d'instructeur de SAC donné en français. L'instructeur Serge Morin nous y a fait bénéficier de sa grande expérience. Nous sommes heureux d'avoir partagé ce cours avec trois membres du club des Outardes. Nous avons ainsi quatre nouveaux instructeurs de classe III, un de classe II, et un de classe I.

Le camp de Baie St-Paul s'est ouvert à la fin de septembre. Au début de novembre, 180 vols avaient été complétés. Toutes les formes de vols furent exploitées; thermique, pente et onde. La région de Baie St-Paul étant très touristique (nature, expédition à la baleine, restaurants, expositions de peintures, casino de Charlevoix et vol à voile), de nombreux passagers ont apprécié flotter doucement au dessus du majestueux fleuve St-Laurent. D'autres ont longé la pente à bout d'aile ou encore se sont retrouvés dans l'onde à 10,000 pieds au dessus des Laurentides. Pour chaque vol de passager, un montant de \$5 était versé à l'organisation "Rêves d'automne" afin d'aider les patients handicapés de l'hôpital local.

Octobre fut merveilleux pour nous; l'été des indiens a duré jusqu'à novembre. Deux biplaces et deux monoplaces se trouvaient à Baie St-Paul ou le Pawnee nous a démontré ses grandes qualités de grimpeur. L'onde fut productive et des vols de 10, 14, 16 et 18,000 pieds furent réalisés. Un membre s'est même permis un vol d'onde jusqu'au Cap Tourmente, près du mont St-Anne. Cet aller-retour de 60 kilomètres s'est fait à une altitude moyenne de 10,000 pieds.

Pendant ce temps, à la base de St-Raymond, les opérations normales continuaient. Tous les membres sont tombés en amour avec notre nouveau biplace, un Puchacz (GDUQ) qui est arrivé le 17 octobre au plus grand plaisir de tous.

Un total de 1435 vols furent réalisés en 1994. Considérant que nous avons deux planeurs et un avion remorqueur de moins que l'an dernier jusqu'en octobre, le taux d'efficacité de notre club a considérablement augmenté par rapport à l'an dernier.

Georges Cousineau

In response to the editor's curiosity in the last issue on the state of wave soaring in Quebec, Georges writes:

The Baie St-Paul wave camp opened at the end of September this year, and 180 flights were made 'til the end of October. All forms of flight were experienced; thermal, ridge and wave.

The region has many attractions in the fall — nature, whale watching, good restaurants, art galleries, the Charlevoix casino, and soaring of course. Many tourists enjoyed floating softly over the great St-Lawrence River, experienced the ridge on the wingtip, or found themselves at 10,000 feet over the Laurentides. For each passenger flight, five dollars was donated to a special organization ("Autumn Dreams") to help handicapped patients at the local hospital.

October was marvellous for us with an Indian summer extending to the beginning of November. The wave was there and flights up to 18,000 feet were made. One pilot had a flight averaging 10,000 feet to Cap Tourmente, near Mont St-Anne, and return in wave, a distance of 60 kilometres.

The club sold its 2-33 and a 1-26, so for the first time all the basic instruction was done solely on the Blanik. We found that the student's progression was satisfying, about as fast as when we were using the 2-33, and the quality of instruction they received was better. The new Puchacz was worth the wait, and all the club members fell in love with it when it arrived on the field on 17 October.

MONTREAL AND VANCOUVER CLUBS FIGHT FOR THEIR TURF

New Class C airspace over Hawkesbury was threatening to seriously limit the ability of Montreal Soaring Council pilots to pursue their sport. MSC has been able to negotiate with Transport Canada a draft airspace agreement which, with Area Control Centre notification, allows soaring pilots a 4000 or 5000 foot ceiling in the airspace generally to the east of Hawkesbury to a bit past Lachute. This area is divided into three zones whose altitude caps depend on which runways are in use at Mirabel Airport. Pilots will be able to contact the ACC for requests for higher altitudes depending on traffic.

The agreement was signed after TC also agreed to establishing a soaring Alert Area to 8000 feet directly over the airfield at Hawkesbury.

Meanwhile, the Vancouver club has been negotiating madly to retain and improve its 25 year use of the airport ever since Transport Canada got out of the business of running Hope airport and turned it over to the Regional District and town of Hope.

Concerns are towplane noise, leasing land to build a clubhouse, parking, and hangars, the denial of the future use of mogas for the towplanes, removal of house trailers, etc.

A large delegation from the club attended a public meeting in Hope on the future of the airport development and was well received.

What!

There's no one at your club working on publicity? Get one. PR is as essential to your club's viability as the sailplanes you fly.

•
If you don't publicize, a horrible thing happens,

NOTHING!

Simple suggestions for the club executive

Eight rules to happy soaring

Rule #1

Remember, WE ARE ALL HERE TO FLY GLIDERS AND HAVE FUN.

Rule #2

When things get tough, and the whiners and the complainers start to get to you, remember Rule #1.

Rule #3

When the persons mentioned in Rule #2 really start to get to you, ignore them and refer to Rule #1.

Rule #4

Consider the source. If someone whose views you respect tells you that there is something wrong, maybe there is. But, then again, maybe there isn't. In case of confusion, refer to Rule #1.

Rule #5

There is nothing so important that it cannot be postponed to a non-soaring day. (This is really Rule #1 stated differently).

Rule #6

Insist that all your directions be obeyed promptly and to the letter — particularly "*Take up slack*" and "*All out*".

Rule #7

Delegate authority. Nobody will listen to you anyway, so they might as well not listen to somebody else while you go follow Rule #1.

Rule #8

Keep your sense of humour. People will try to take it away from you, but it's hard to follow Rule #1 without one.

Dave Baker

a past-president of the Vancouver Soaring Association

1979 Great moments in soaring

Crossing the Prairies by Grunau Baby! On 14 May, Dave Baker flew a little open cockpit Grunau Baby 317 kilometres in 6:45 hours from Chipman, AB to the North Battleford, SK airport on his second ever cross-country flight.

With the forecast winds aloft at 310° and 10–15 knots and cloudbases to 8000 feet, it turned out to be one of the best soaring days the Edmonton club had seen. With everyone busy choosing tasks (usually good solid 300 km out and returns — and six of nine pilots were successful), Dave picked Minburn, a good solid 100 km straight downwind and down the highway — with a Grunau there is no question of a return. He knew how those kamakaze chaps felt.

“Where are you going today Dave (snicker, snicker)?” was the question as he pushed the Baby into line ... yesterday on his first cross-country he landed 10 kilometres and one weak thermal downwind. “Minburn first, then if it’s going okay I’ll keep on to North Battleford,” he said, mustering as much dignity as possible as everyone within earshot immediately collapsed in gales of laughter. While he was the first to admit that the first effort had been less than resounding, Dave didn’t think he deserved such a display of disrespect.

Armed with a vast store of cross-country knowledge from the previous day (Rule #1 — get high and stay high; rule #2 — never pass up lift), he was shoehorned into the little ship by giggling helpers and flung into the sky. Dave said that the next six hours really weren’t that difficult technically though excruciating physically. It was a superb day and apart from a couple of blue holes he had to tiptoe around it was just a question of endurance. He thought of painting on the back of the Grunau, “Caution: this glider stops for all lift!”

About 20 kilometres short of North Battleford he got his last good thermal to 8000 feet, then the struggle began. In dead air he soon found himself down to 800 feet and five kilometres short of the airport, on the wrong side of the river and the town of course. That last five took 25 minutes but he eventually settled onto the empty runway at 7 pm on a beautiful prairie evening and waited for the hordes of admirers that were sure to come streaming across the field.

Silence. Dave ate his apple. Silence. He practised assuming a jaunty pose, helmet and goggles in hand, leaning on the Grunau. Then from the town over the crest of the hill in a cloud of rolling dust appeared two fire trucks which roared up to a stop while Dave cried, “Don’t foam it, it might shrink and it’s too damn small now!” The firemen *did* sign his landing certificate though.



This bird, unfortunately, is not rare and shows no sign of ever becoming extinct. The subspecies is best identified by a large gaping hole just above his chin that is in constant motion and from which issues a never ending stream of sound. The most readily identified sound is that of the simple word “I” and it is been observed that if “I” could be removed from his endless birdsong he would be struck mercifully dumb.

The eyes of *hotshoticus* exhibit certain peculiarities in that they do not see flying instruments as do other eyes: rates of climb are doubled, speeds appear greater and altitude higher. Curiously, the time perception of *hotshoticus* shows a certain waywardness in that time in conjunction with speed tasks appears to be less while in conjunction with duration of flight claims it seems to be greater. Many of these strange phenomena might have gone undiscovered had it not been for the fact that *hotshoticus* is often equipped with a powerful and much used radio by which he is able to report his instrument readings to lesser pilots nearby who see things on a different scale. The only temporarily effective means of silencing his radio monologue is to

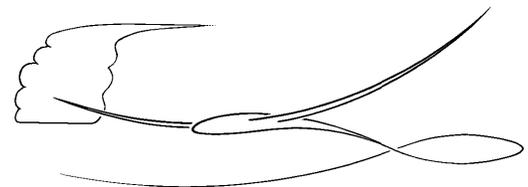
ask him to look up to see if your wheel is retracted just after he has radioed his great height and general soaring ability.

Hotshoticus flies with a flair that in lesser subspecies is fairly characterized as bad airmanship. Naturally he considers rules are made for others who need them more. His idea of a standard landing circuit is a high speed pass across the field, flicking the top of the long grass, followed by a zooming climb and a steep turning approach to the runway. It has happened that *hotshoticus* had been so dazzled by his own virtuoso performance that he has forgotten to put his wheel down and so has landed amid a fine shower of fibreglass particles. On the occasions when his wheel is firmly locked down, his landing run is predictably unorthodox as he cuts in front of the line of gliders waiting to takeoff and skilfully using his wheel brake (which this time happens to be working), comes to rest with the sailplane’s nose only a few inches from the door of his glider trailer. Very impressive.

Scientists are somewhat puzzled by the position of *hotshoticus* on the scale of glider pilot evolution. Is he the apex of development to which all will eventually climb, or is he a case of arrested development? It is reliably reported that most glider pilots exhibit some small streak of *hotshoticus*, whether it be as a latent development or a vestigial remnant, and this streak can be intensified by adding alcohol to the bloodstream by an oral injection through the neck of a bottle.

Here’s to *hotshoticus*. May his deeds be as great as his words.

Happy
anniversary
to SAC!



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AERONAUTICUS OVERCONFIDENSUS



There is hope for fledglings but none at all for the subspecies known as *Aeronauticus overconfidensus*. This bird is usually found in gaggles on days when thermals are rare (and crowded) spiralling merrily upward with head and eyes caged in blissful ignorance of other gliders. If you feel in need of stimulation get into such a gaggle and meet one of the subspecies head on at the same altitude and circling in the oppo-

site direction to every other glider in the thermal. Don't be afraid of startling him, he knows he's alone in the big blue sky and will never see you.

A cardinal rule of the air is to see and be seen. As there is no way of being sure that you have been seen, it is wise to assume that every other pilot is a fool and a blind fool at that. With *overconfidensus* this is an accurate assumption. The air gives freedom in dimensions unknown to the ground-bound, but it also gives the possibility of trouble from all angles.

Here's to *A. overconfidensus*. May he follow the dodo bird into extinction. Until then, keep your neck swivelling.

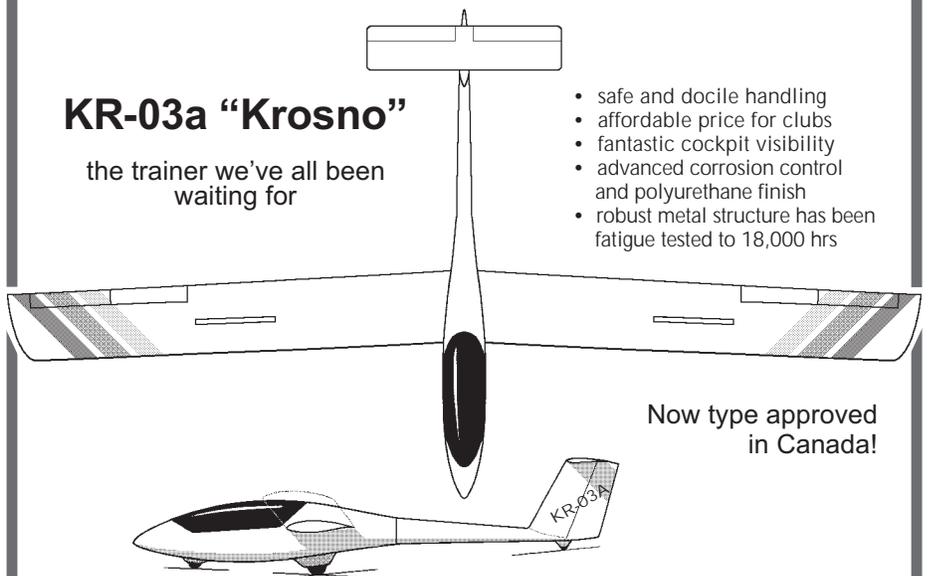


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SOLAIRE
 CANADA

1984 Great moments in soaring

On 2 June, Mike Apps in an ASW-20FP, and Dave Marsden in a DG-202/17, completed the first FAI Diplome flight in Canada with a pair flight between the Edmonton and Winnipeg gliding clubs for a total distance of 1121 kilometres, earning them a straight distance record of 1093 kilometres (reduced due to a height penalty) and a distance to goal record of 707 kilometres to Indian Head, SK which they photographed on passing.

All long flights are said to be easy, otherwise they wouldn't be long! All that is required is a definition of easy.

They had been watching the weather forecasts, and that Saturday a big low in northern Saskatchewan and a ridge in BC was feeding 20-30 knot winds around the low

right across the prairies. They launched from Chipman after 1030 and rapidly drifted off southeast in 2-3 knot lift. At the airfield it soon became overcast and flying stopped. They soon found that there was a radio reception problem (from a disconnected antenna in Mike's ship) and they could only communicate if they were within about a mile of each other, which complicated the pair flying.

They never got low and as the day progressed lift and cloudbase raised substantially — it was 12,000 feet and 8 knots at times but usually 5-6. With the strong tailwind and dolphining for long stretches around and past a dust storm near Saskatoon, ground speeds of over 150 km/h were achieved. Only one obstacle presented itself in the form of a solid line of cloud northwest of Regina which required a southerly diversion towards Moose Jaw.

The lateral visibility was reduced in the dust and for a time they were unsure of their position, but navigation was a cinch once they reached the Trans-Canada Highway. Past Regina the towns rolled by quickly one after another under the wing with a speed ring setting of 6! They got separated by virga and out of radio contact for a while near Virden, Manitoba, the 1000 km point. Both pushed on though and got together again by having the same sense of where the best soaring was to be found. Soon they were in the Portage area heading towards Winnipeg and wondering where to go.

The Winnipeg tower asked if they wanted to land at the International, but they passed it up — probably losing the opportunity for a great publicity coup for Canadian soaring — and asked instead for directions to the gliding club (which had relocated to Starbuck). They could have flown another 200 km. In an anticlimactic landing, there were only three to greet them with a beer as the flying had been shut there down due to the high winds and dust.

AERONAUTICUS COMPETICUS

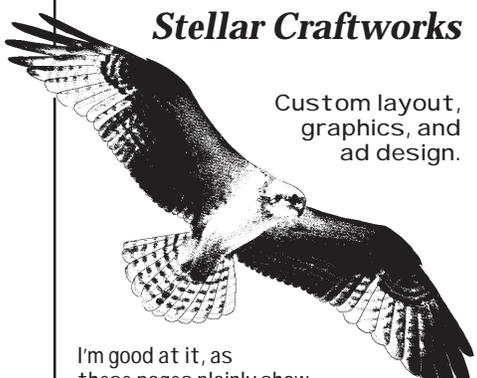


Aeronauticus Competicus is a simple, uncomplicated bird with but a single aim — winning. His single-minded devotion to his goal has been known to make him somewhat unpopular with the lesser breeds. Among his armament he has an encyclopaedic knowledge of every club rule ever written and a remarkable facility for using them to his advantage without ever transgressing the letter of the law by more than an hair's breadth. His knowledge is most frequently used in getting a tow just when he wants one, which is invariably as the first cu start to pop in the sky. He sees no harm in pushing out of the line naive romantics who wish to fly only for pleasure. It is obvious to him that it is far more important for him to get practise for important contests than it is for them to clutter up the sky to no purpose.

To *competicus* no cloud scene has ever appeared as a majestic ever-changing mountain vista, but only as a source of lift to be coldly assessed. Slanting sun-rays breaking through the overcast and bathing a patch of the earth in a golden glow elicit from him no appreciation of beauty but indicate where he should go for his next boost skyward.

The subspecies has a migratory habit which is exceptional in that it occurs in summer and the destination varies from year to year. The flock gathers regionally and nationally to compete and always *competicus* is first to arrive in his wreck of a car — all he can afford after he has purchased the finest glider available. He has a healthy measure of contempt for many of his fellow competitors who are there for what they mysteriously call the fun of competition and would lapse into terminal shock if by chance they should ever finish first some day.

Competicus should be kinder towards these competitors, for if they were not there to be last, how could he manage to be first?



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hangar flying

MASAK'S SCIMITAR FLIES

Finally, October 27, 1994 was the date of the maiden flight of the new 15 metre sailplane, *Scimitar*. It was flown by the designer, Peter Masak at Hempstead, Texas. Soon after the test flights, the Scimitar was prepared for shipment to New Zealand, where Peter will fly it in the World Championships at Omarama.

The handling and stability characteristics were evaluated and appear to be excellent. The stall speed was 35 knots with thermaling flap; the roll rate was a phenomenal 3.8 seconds (+/- 45 deg). Performance characteristics could not be measured because of the presence of light drizzle, but it was determined that the stall speed did not measurably increase in the presence of light rain. Flutter testing was done to 120 knots.

The appearance of this American built and Canadian designed sailplane at the world championships will be somewhat of a novelty. It will be the first time in almost thirty years that a member of the US national gliding team will be flying a sailplane built in the United States. When it appeared that the sailplane would not be ready in time, the call went out for help; several key people generously volunteered to help. There were many 14-18 hour days, and looking back at the work log, an incredible 600 man hours were put in during the month of October alone. Over the last three years, others have offered key advice and much appreciated assistance.

Peter Masak, Houston, Texas

CHEAP FLYING IN THE SUN

... Over a beer one evening, Gerhard Waibel told me of groups of glider pilots that band together to purchase a shipping container, then ship their gliders to Australia, New Zealand, or South Africa at the start of the European winter. The pilots then fly to that country for a month or two of soaring. My God, I thought, this is a rich man's game — but it isn't. The container costs about \$7000 and shipping costs are about \$5000 for the round trip, and the container will hold at least three gliders and one trailer, and three or four pilots per glider will be involved.

The first group into, say, Australia, buys a car and unloads the container and flies. A month or so later another group arrives, and finally the last group reverses the procedure by packing everything up, shipping it off, and selling the car. Each pilot therefore has about a month's use of a car and a good glider for about the cost of renting one for a week (\$600)! Some of the groups even outfit the container like a dorm so

they have cheap sleeping at the airport. The container can be used repeatedly of course, and eventually sold when they are done travelling ... the German team had a great deal with a truck manufacturer for the Worlds in New Zealand: they shipped the gliders in an empty truck, so their added cost was zero! I don't know about the return trip though.

Eric Greenwell, from *Towline*

200 KM/H SURPASSED!

Terry Delore of New Zealand, competing at a warm-up regional contest in November at Omarama following his 2100 km distance flight, completed a 297.6 km task in his ASW-20 at 203 km/h — a remarkable performance. Terry noted that the only way to go faster would have been to have a stronger glider with a higher redline. Second place was earned by Bill Walker at 183.7 k/h in a Discus.

By gentlemen's agreement, the start altitude was limited to 9500 feet (relatively easily enforced by observing start photos for scale and cloud). This prevented climbing high into the wave before starting. Anyone caught out had to buy beers for the whole class.

Steven Bell
from Internet, s.bell@Lincoln.ac.nz

QUOTES ON NAVIGATING

"The only problem (*at the European Championships*) was the higher than usual number of mistakes in the turnpoint pictures. One of the reasons for the many photographic mistakes is the GPS. Let me clarify this: the GPS is an excellent aid for the pilots, but they should not forget to look out. Many pilots trust their GPS so much they shoot their pictures when the instrument tells them that they are overhead the turning point,

and they no longer check visually whether their position is correct."

Fred Weinholz, competition steward,
from *Volo a Vela*

"A protest was lodged again (*at the USA 15m Nationals*), this time concerning the GPS coordinates for the camp at Nye... I realize this reporter is a no-name from the boonies who flies a 1-26, but is not the GPS still considered to be a *navaid*? Even if it will accurately report your position within 30 feet anywhere on the face of the earth, is it not incumbent upon the gent with the stick in his lap to look out the window once in a while? The mining camp at Nye has a screaming turquoise tailings pond that can be seen from low earth orbit, so there was little sympathy for the protest."

William Ard, from *SOARING*

IVSM – 95 UPDATE

The International Vintage Sailplane Meet is scheduled for July 16-25 at Harris Hill, Elmira, NY (the first time this event is being held in North America). Pilots from seven countries are now registered along with the stars, fifty vintage sailplanes. Two will go from Canada: Leo Schober's Breguet 905, and an LK-10A owned by Herrie ten Cate.

In 1973, two Vintage Sailplane Associations began independently of each other, one in England by Chris Wills and the other in the USA by Jan Scott with the goal of saving drawings, data, and other information useful to owners of vintage gliders, and both associations are now very successful.

A rare DFS Kranich II will be on hand from England. It was built in Sweden in the early '40s, one of a handful that survived WWII, and is the only one active in Europe. The last time one was seen on Harris Hill was in 1938. The Kranich was the first widely accepted training glider in Europe, and was used for a variety of research programs in the Luftwaffe. Designed by Hans Jacobs, it derives from the successful gull winged "Rhönsperber" series.

US National Soaring Museum News



"Genesis 1"
First flights for an
elegant little ship



**TESTING PROCEEDING WELL
ON GENESIS PROTOTYPE**

Genesis shows off its sleek lines on its second flight on 15 November 1994 with Jerry Mercer, president of Genesis Group. Several pilots have flown the ship to date and all report it to have nice handling qualities. Mercer states that the control feel is wonderful, very linear, and barely any rudder is needed to maintain turn coordination. The ship has very docile and solid low speed handling qualities, the stall (at about 42 knots) gives ample warning with a distinct rumble and recovers immediately back pressure is released. The rudder is powerful and full deflection will yaw the nose about thirty degrees. Visiting pilots have commented on the roominess of the cockpit, the good visibility, stability on tow, and nice turn coordination at all bank angles. "For a first out of the mold proof of concept prototype, it is a remarkable achievement."

Current focus on flight testing is on handling characteristics rather than performance. Validation of design performance will follow clean-up, some minor wing contouring, and painting of the surfaces. The production wing mold will be built around the prototype wing after tests are completed.

To date a series of handling, stall, and spin test flights have been done by noted NASA flight research engineer, Einar Enevoldson, who is recognized throughout the industry

as an expert in aircraft spin dynamics (he developed spin recovery procedures for the F14, F15, and F18 fighters). Along with tuning the control harmony of Genesis 1, he has explored its spin characteristics. As anticipated, the prototype has proven highly resistant to spinning. Enevoldson noted that, "...even when holding pro-spin controls, it would not depart into a stabilized spin rotation. One revolution is about all I could achieve ... even crossed controls had no effect on spin; it stops rotation independent of control input ... the pilot's only corrective action is recovery from the nose-down pitch attitude." Spin testing has been completed to within a few percent of maximum aft CG; a repeat of the tests with the addition of ballast will complete the series.

Static load testing has been completed. The wings were loaded with sandbags to +5g and -3g (or 2700 and 1600 lbs respectively). Tip deflection at 5g was 23" and controls operated normally. The vertical fin was loaded to a total of 535 pounds, equivalent to a full-rudder slip at 115 knots!

The ballistic recovery parachute system was ground tested on 15 December, which impressed the bystanders. It required a definite on-purpose pull of about 10 pounds over six inches to trigger.

The designers are very happy so far.

from news release and phone calls

SHUTTLE TRIVIA

In the words of Carl Sagan, the Shuttle is a "cost ineffective white elephant." Needless to say, it is a very expensive operation, with over two thirds of the cost directly related to the manned part of space flight. Some of the facts about the largest motorglider on earth are staggering. It takes two million pounds of solid rocket fuel in the boosters and over 500,000 gallons of liquid hydrogen and oxygen for the engines. While it is on the launch pad, the liquid propellant is evaporating at a rate of 100 gallons a minute. On launch, it reaches Mach 3 in just 1-3/4 minutes, and reaches orbital speed (17,500 mph) in 8-1/2 minutes.

Now to the glider part. The pilots cannot just read a manual to fly the beast back to earth. To simulate the last couple minutes of the flight they are trained in a specially modified Gulfstream 2. On climbing to 35,000 feet the aircraft engines are put into reverse and the controls handed over to the pilot in training. From there they drop to earth near the airport at a rate of 22,000 feet per minute (this surely is one ugly glide ratio!). This is repeated ten times a day for hundreds of cycles before the trainee is put into the front seat for a Shuttle mission. One of the astronauts compared the Shuttle aerodynamics to a pair of pliers and the landing sequence to a controlled crash.

Vince Miller, from *Towline*

***Czechlist von Oberleutnant Pfelz
Kommandant der Ka6***

- 1 Ist die Wingen solidisch ongetaped?*
 - 2 Auf both Sides?*
 - 3 Ist der Tail still in der Trailer?*
 - 4 Goes die Floppy auf den Wingen ruder up and down?*
 - 5 Und die oder Tailflopies alzo gewerken?*
 - 6 Ist der Parachute nicely gestarched?*
Zo perhaps it alles fliegen vill!
- Getaken from der Hope Segelflugplatz Klubhaus.*

GLASER-DIRKS ad

Mike Maskell in Winnipeg's Lark over Starbuck gliderport.



Mike Maskell

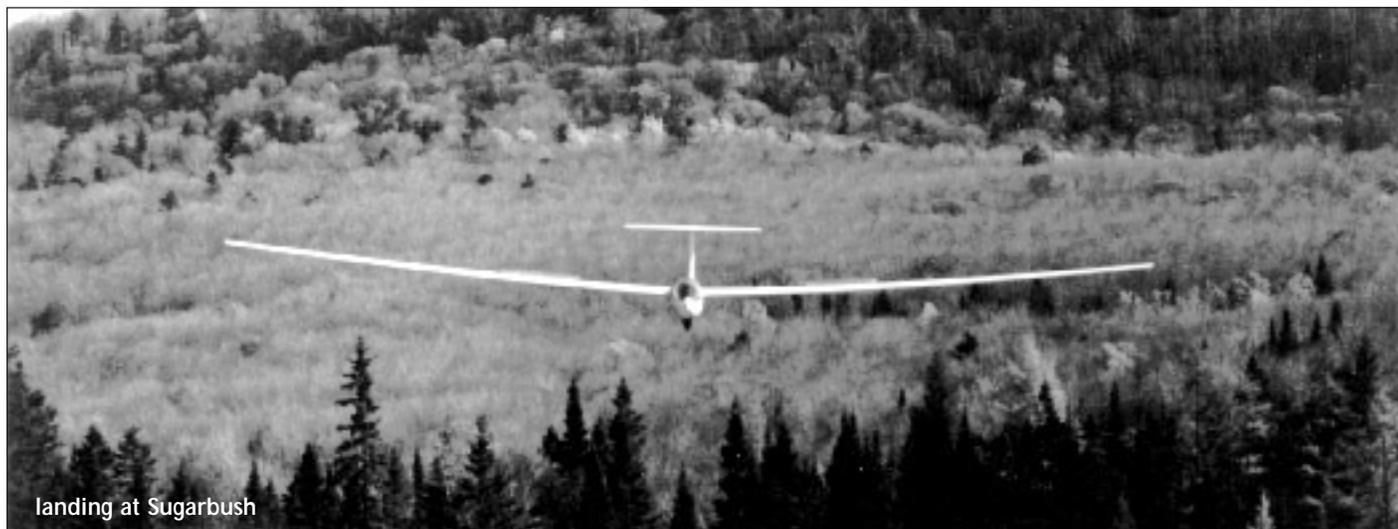
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AERONAUTICUS DESIGNICUS



This is an extremely rare subspecies of *Aeronauticus* and many experienced observers claim that the last place to spot this bird is on a glider airfield.

Aeronauticus designicus is a combination of sculptor, mathematician and the Marquis de Sade. Its creations, in their most refined mode, reach the pinnacle of form following function. It pays meticulous attention to flowing shape, to perfect finish, to minimum frontal area and to tucking away neatly all those things which must occasionally dangle in the breeze — but that's all outside.

The average pilot spends remarkably little time on the outside of a glider in flight but a considerable amount of time on the inside — assuming that he can get in. *Designicus* must, as a condition of entry to the designers club, be no more than five feet tall and weigh no more than ninety pounds soaking wet. If it were otherwise, he would be tempted to design a glider with an interior space large enough to contain a normal, healthy, well-fed male. The agonies suffered by sailplane pilots in

the name of pleasure are remarkable to an observer unbidden by the gliding bug, but the sight of a glider pilot being shoe-horned into the cockpit and then cowering down while the canopy is crammed down on his hat must be as idiotic a sight as can be imagined. By comparison, a submarine is like living in the wide open spaces.

Any pilot of modern sailplane can be stirred to revile *designicus* by any of the following questions: Have you ever tried reaching behind you and found yourself with one arm locked somewhere behind your neck at a critical moment? Have you ever dropped a map in the region of your left foot and had to land to pick it up? Have you ever tried to retract the wheel and found that you cannot get your elbow far enough back to complete the pull on the lever? Have you ever managed to tie yourself in tight by an arrangement of safety straps fitted in such a way as to require pulling in an impossible direction? Ever thought of bailing out?

Why can't *designicus* evolve to the point at which he starts with an un-aerodynamic shape, the human body, and design on from there? Perhaps as an aid to stimulating development, all designers should be required to certify that they themselves have been fattened to normal proportions before releasing their masterpieces, and in such condition have flown for five hours in rough air. Here's to *A. designicus*, may he be forced to learn and apply the lesson of:

*There was a young fellow named Hirth,
Who was rather broad in the girth.
His glider was slim,
He couldn't get in,
And now he flies on it, not in it.*

Congratulations to the
Soaring Association of Canada
on its first half century of gliding

We look forward to Group Genesis, Inc.
sailplanes and products being a part
of your next fifty years.

GROUP GENESIS

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1985 Great moments in soaring

Ursula Wiese completed her Diamond Distance flight on 12 June to become the first Canadian woman to earn the Diamond badge. Of special note was the fact that each of her Diamond flights were Canadian feminine records, paralleling the achievement of Julien Audette who did the same in 1962, earning the first Canadian Diamond with all record flights. Ursula completed all three flights in a Ka6CR, *Cloverleaf*, originally owned by longtime SAC member, Walter Piercy. Sadly, *Cloverleaf* ended its days near Golden, BC in 1994 when it was crashed into a mountainside by another pilot, who was luckily uninjured.

The flight originated in Chipman, AB at 11:15 and ended on a farm outside Dilke, SK (northwest of Regina) 8:10 hours later, covering 607 km and almost doubling the existing feminine straight distance record.

The day followed the passage of a strong cold front and featuring a fairly unstable airmass and 310°/20 knot winds. Many pilots set ambitious tasks (it was during a cross-country flying week) and an open multiplace distance and 500 km speed record was also set. Overdevelopment and rain around North Battleford was the primary flight problem affecting many pilots and Ursula was almost shot down in the area but got around to the south.

The best part of the day was around 5 pm when Ursula was near Biggar, SK at 9500 feet following a long cloudstreet southeast. She was out of radio contact with a flat battery and soon off the maps in the cockpit, and found flying on alone towards an unknown destination as evening approached a particularly liberating experience.

Canadian Advanced Soaring Assn News

Congratulations to our national association which is officially 50 years young this year. We are celebrating this anniversary by holding all major soaring events this year in the Ottawa area where SAC began as an organization. The annual meeting is scheduled for the first weekend in March and the National championships will take place the last two weeks in June at Pendleton, Ontario.

For the Canadian Advanced Soaring Association, this year also marks a milestone. This will be the first year we will accept students for our beginners' cross-country clinics under the new program rules set in cooperation with the Flight Training & Safety committee. They have now completed and distributed the new SAC instruction manual

to include the necessary exercises in preparation for cross-country training.

The Bronze badge is set as a minimum qualification, and pilots who are planning to attend should get in touch with their club's CFI for details. We realize there will be a transition period and we hope to work together with the clubs, the instructors and all pilots involved. I sincerely hope the clubs will implement this new extended training program with their instructors as soon as possible this spring.

We had our CASA annual meeting during the Nationals at Rockton last July and a report of this was printed in our newsletter. In summary: there were discussions on provincial and national "soaring ladders" and it was suggested that we should try to involve all the provinces in our endeavours. The contest kit is now complete and has been used extensively during the 1994 competition season. It was decided that CASA donate \$2000 to the Canadian team fund.

There were several discussions on fund raising and corporate sponsorship to support Canadian participation at the World Championships as intended and set out by the current SAC seeding system. Elections were held and due to rotation rules, Alan Wood was replaced by Paul Thompson as Secretary. Thanks for the years of service Alan. Our new editor Fred Hunkeler has produced his first newsletter and it looks great (yes, he's the same one who shares the discovery of the "Coates/Hunkeler effect", the now disallowed short warp speed task).

Now that the dates of the Nationals and Ontario Provincials have been set, the directors had a fall meeting and planned the dates for the 1995 cross-country clinics. They are published elsewhere in *free flight* and I encourage people to contact us as soon as possible for enrolment to avoid disappointment. In closing I would like to wish everybody a successful and safe 1995 soaring season.

Ed Hollestelle, president

AERONAUTICUS POLISHITICUS



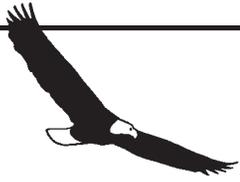
club members know *polishiticus* only by his posterior, the only view of him they have ever had as he investigates the rat's nest of wires and tubes which, theoretically keeps his instruments telling the truth. His glider trailer is likewise immaculate. Wing and fuselage cradles are lined with the finest of carpet, naturally matching that of the cockpit. All equipment is neatly painted and labelled. On sunny cumulus dappled days he can be found hiding from the scene as he assiduously cleans rust spots from the trailer axle.

Polishiticus has been known to fly on days when there is not too much dust blowing and when there is no chance of rain. He is, of course, properly dressed for flying and always wears gloves. His flying is proper and sedate and he never strays more than a few miles from "mother" airfield.

Here's to *A. polishiticus*. May he one day inadvertently go cross-country and have to land in a swamp!

Aeronauticus polishiticus has the finest and most modern glider that it is possible to buy, and this being one of the major investment of his life he considers it worthy of tender, loving care. It is immaculate and seldom flown. The stark white fibreglass gleams from constant polishing, no speck of dust or blade of grass is to be found in the spotless cockpit, which has been tastefully cushioned and carpeted by his mate. He is the mortal enemy of small boys with dirty, sticky fingers.

On the panel an expensive and complicated range of dials and instruments gleam mysteriously. However with so many instruments there is so much to go wrong. It is for this reason that many



Coming Events

8 Feb **Erin Soaring glider pilot ground school**, Weds eves 7:30 for 12 weeks. Registration first night. Terry Miller Rec Centre, Bramalea. Call Lee (905) 840-2932, or Ernie (905) 846-0822.

5 April **Toronto glider pilot ground school**, Spring session. Weds 7–10 pm for 8 weeks. Contact school at (416) 395-3160 for registration info, or Ulf Boehlau at (905) 884-3166.

20-22 May **Alberta Provincial Contest**, Innisfail, AB. Contact Terry Southwood (403) 255-4667.

24-28 May **Western Regional Sports Class contest**, Golden, BC. A fun contest for intermediate to advanced XC pilots in a spectacular setting. Call Uwe Kleinhempel 1-800-268-7627.

26 June - 5 July **1995 Nationals**, Pendleton, ON. Contest manager – Bob Mercer (514) 458-4627.

16-25 July **International Vintage Sailplane Meet**, Elmira, NY, USA. For info contact National Soaring Museum, Elmira, (607) 734-3128.

24-28 July **Advanced XC Clinic**, SOSA. Rain date 21-25 Aug. Contact Ed Hollestelle (519) 455-3316 or Paul Thompson (905) 776-1903.

5-7 August **Ontario Provincial Contest**, Hawkesbury or Guelph – more info later.

21-25 August **Beginners XC Clinic**, SOSA. Bronze badge required for entry. Contacts as above.

Great moments in trailering

It will rank as the greatest “Murphy” of all in trailering tales. At the end of April a glider delivery trip was arranged to haul a DG-200 from Claresholm, Alberta to the DG dealer near Hawkesbury, and return to Edmonton, Alberta with a DG-202 which had been repaired at the dealer’s shop.

The driver, who shall remain nameless, was a university student looking to pick up a little easy money. He picked up a DG trailer at Claresholm and headed east, arriving at Vankleek Sailplanes five days later where the boss immediately noticed that the trailer was strange. The hapless driver had picked up the WRONG trailer and hauled a DG-400 across Canada, and was now faced with three more 4000 km trips to get all the gliders reunited with their proper owners!

This story surely will rank high in the international mythology of soaring — right up there with the long retrieve many years ago in England to get to an outlanded Olympia in the dark and the rain, only for the crew to find another Olympia in the trailer when the ramp was lowered ...

CURRENT WORLD GLIDING RECORDS (as of June 94)

RECORD TYPE	OPEN	FEMININE	MULTI – OPEN	MULTI–FEM
DISTANCE (km)				
3.2.3.1 Straight distance	Hans–W Grosse (Ger) 1460.80	Karla Karel (UK) 949.70	G Herbaud/JN Herbaud (Fr) 1383.00	Pavlova/Fiomechkina (USSR) 864.86
3.2.3.2 Distance to goal	Drake, Speight, Georgeson (NZ) 1254.26	Joann Shaw(USA) 951.43	G Herbaud/JN Herbaud (Fr) 1383.00	Gorokhova/Kozlova (USSR) 864.86
3.2.3.3 Goal & Return dis.	Tom Knauff (USA) 1646.68	Doris Grove (USA) 1127.68	M Walker/T Delore (NZ) 1261.36	K Keim/A Orsi (Ger) 673.50
3.2.3.4 Triangle distance	Robertson(UK), Seymour, McMaster, Striedieck, Knauff (USA) 1362.68	Joann Shaw(USA) 847.27	Grosse/Kohlmeier (Ger) 1379.35	K Keim/A Orsi (Ger) 760.40
3.2.3.5 Free Distance	Tom Knauff (USA) 1394.04	not established	not established	not established
SPEED, Δ (km/h)				
3.2.3.6 100 km	Ingo Renner (Aust) 195.30	SP Beatty (S Africa) 145.49	Sommer/Andreson (Ger) 177.26	A Orsi/K Keim (Ger) 141.90
300 km	J–P Castel (Fr) 169.50	SP Beatty (S Africa) 143.90	H Grosse/K Grosse (Ger) 170.90	K Keim/A Orsi (Ger) 143.17
500 km	Beat Bünzli (Switz) 170.06	Susan Martin (Aust) 133.14	H Grosse/K Grosse (Ger) 163.03	K Keim/U Keim (Ger) 113.87
750 km	Hans–W Grosse (Ger) 158.41	SP Beatty (S Africa) 127.29	H Grosse/K Grosse (Ger) 161.33	K Keim/A Orsi (Ger) 121.02
1000 km	Hans–W Grosse (Ger) 145.33	not established	H Grosse/K Grosse (Ger) 157.25	not established
1250 km	Hans–W Grosse (Ger) 133.24	not established	H Grosse/Kohlmeier (Ger) 143.46	not established
ALTITUDE (m)				
3.2.3.7 Gain of Height	Paul Bickle (USA) 12,894	Yvonne Loader (NZ) 10,212	Jozefczak/Tarczon (Pol) 11,680	A Dankowska/Matejska (Pol) 8,430
3.2.3.8 Absolute Altitude	Robert Harris (USA) 14,938	S Jackintell (USA) 12,637	Edgar/Klieforth (USA) 13,489	Babs Nutt/H Duncan (USA) 10,809

1994 CANADIAN RECORDS

C indicates a record by a Canadian citizen originating outside the country.
T indicates the corresponding record set within Canada. (These are noted only when a greater "C" record exists.)

RECORD TYPE	OPEN	FEMININE	MULTI – OPEN	MULTI-FEM
DISTANCE (km)				
3.2.3.1 Straight distance	Marsden / Apps 1093 1984	Ursula Wiese 607.0 1986	C Zwanych (R Adam) 495.0 1986	not claimed
3.2.3.2 Distance to goal	Marsden / Apps 707 1984	A Williams 305.0 C 1975	C Zwanych (McColeman) 310.0 T 1984	A Williams (E Bell) 76.2 1979
3.2.3.3 Goal & Return dis.	Tony Burton 652.3 T 1993	Ursula Wiese 328.0 1984	J Proudfoot (G Fitzhugh) 304.0 C 1981	not claimed
3.2.3.4 Triangle distance	Walter Weir 1032.1 C 1993	Jane Midwinter 317.6 1988	Dave Marsden (E Dumas) 421.5 1979	not claimed
3.2.3.5 Free Distance	Hal Werneburg 803.7 T 1982	not claimed	John Firth (D Webber) 510.4 T 1986	not claimed
	Peter Masak 1007.0 C 1987		Charles Yeates (K Yeates) 510.2 C 1989	not claimed
	Brian Milner 1394.0 C 1993		not claimed	not claimed
SPEED, Δ (km/h)				
3.2.3.6 100 km	Kevin Bennett 131.1 T 1989	A Williams 54.5 C 1976	Dave Marsden (M Jones) 98.1 1975	A Cservenka (M Stone) 31.0 C 1970
not FAI 200 km	Peter Masak 141.4 C 1985	Marion Barritt 68.7 C 1970	Lloyd Bungey (T Burton) 76.0 T 1983	not claimed
3.2.3.6 300 km	John Firth 110.6 T 1984	Ursula Wiese 55.6 1983	Charles Yeates (K Yeates) 79.5 C 1987	not claimed
not FAI 400 km	Kevin Bennett 116.4 C 1994	not claimed	Dave Marsden (E Dumas) 69.9 T 1975	not claimed
3.2.3.6 500 km	John Bennett 113.1 T 1988	not claimed	Ian Spence (J-R Fallu) 128.5 C 1991	not claimed
3.2.3.6 750 km	Peter Masak 148.9 C 1985	not claimed	John Firth (D Webber) 88.8 1986	not claimed
3.2.3.6 1000 km	John Firth 99.0 T 1987	not claimed	not claimed	not claimed
	Charles Yeates 119.7 C 1994	not claimed	not claimed	not claimed
	Walter Weir 105.7 T 1991	not claimed	not claimed	not claimed
	Peter Masak 151.2 C 1985	not claimed	not claimed	not claimed
	Willi Krug 108.8 1982	not claimed	not claimed	not claimed
	Peter Masak 106.5 C 1987	not claimed	not claimed	not claimed
ALTITUDE (m)				
3.2.3.7 Gain of Altitude	Jay Beattie 8153 T 1983	Deirdre Duffy 6575 1991	Shirley (Campbell) 7102 1961	Cservenka (Kossuth) 2987 C 1970
3.2.3.8 Absolute Altitude	Walter Chmela 8321 C 1974	Deirdre Duffy 8986 T 1991	Shirley (Campbell) 9083 T 1961	Cservenka (Kossuth) 4206 C 1970
	Bruce Hea 10485 T 1981	A Cservenka 9772 C 1969	W Chmela (VanMaurik) 10390 C 1975	
	Walter Chmela 12449 C 1974			
SPEED, O & R (km/h)				
3.2.3.9 300 km	Hal Werneburg 115.2 T 1983	Ursula Wiese 59.6 1984	W Chmela (Rominger) 65.0 C 1976	not claimed
3.2.3.9 500 km	Walter Weir 191.3 C 1989	not claimed	not claimed	not claimed
3.2.3.9 750 km	Kevin Bennett 126.3 T 1992	not claimed	not claimed	not claimed
3.2.3.9 1000 km	Peter Masak 144.3 C 1985	not claimed	not claimed	not claimed
	Walter Weir 145.0 C 1994	not claimed	not claimed	not claimed
	Walter Weir 142.6 C 1993	not claimed	not claimed	not claimed
SPEED, GOAL (km/h)				
not FAI 100 km	Kevin Bennett 118.7 T 1985	not claimed	W Chmela (R Zimm) 47.0 1971	not claimed
not FAI 200 km	Walter Weir 147.7 C 1992	not claimed	not claimed	not claimed
not FAI 300 km	Kevin Bennett 125.9 1992	not claimed	Proudfoot (Fitzhugh) 70.2 C 1981	not claimed
not FAI 400 km	Wolff Mix 108.6 T 1966	not claimed	not claimed	not claimed
not FAI 500 km	Walter Weir 145.9 C 1994	not claimed	not claimed	not claimed
	Tony Burton 81.5 1990	not claimed	not claimed	not claimed
	Dave Marsden 97.1 T 1970	not claimed	not claimed	not claimed
	Walter Weir 138.4 C 1993	not claimed	not claimed	not claimed

FAI badges

Walter Weir

3 Sumac Court, RR2, Burketon, ON L0B 1B0 (905) 263-4374

The following Badge legs were recorded in the Canadian Soaring Register during the period 5 November to 31 December 1994.

DIAMOND GOAL (300 km declared course)

Mike Cook	Swansea	303.4 km	K5	Golden, BC
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DIAMOND ALTITUDE (5000 metre gain of height)

Keith Bjorndahl	Regina	5480 m	1-26	Cowley, AB
Mike Cook	Swansea	5760 m	K5	Cowley, AB

GOLD DISTANCE (300 km flight)

Mike Cook	Swansea	303.4 km	K5	Golden, BC
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GOLD ALTITUDE (3000 metre gain of height)

Keith Bjorndahl	Regina	5480 m	1-26	Cowley, AB
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SILVER DISTANCE (50 km flight)

Barry Usprech	London	59.7 km	1-34	Embro, ON
Darwin Roberts	Cu Nim	72.5 km	Jantar Std 2	Black Diamond, AB
Mike Cooke	Swansea	151.7 km	K5	Golden, BC

SILVER ALTITUDE (1000 metre gain of height)

Keith Bjorndahl	Regina	5480 m	1-26	Cowley, AB
James Thompson	Regina	1800 m	1-26	Cowley, AB
Darwin Roberts	Cu Nim	1630 m	Jantar Std 2	Black Diamond, AB
Michael Crowe	Cu Nim	2480 m	Jantar Std 2	Cowley, AB
Frank Herzog	Winnipeg	1690 m	L-Spatz III	Starbuck, MB

SILVER DURATION (5 hour flight)

Stephanie Kramer	Toronto	5:10 h	Ka6	Conn, ON
Daniel Cook	Gatineau	5:45 h	1-36	Pendleton, PQ
Miguel Cabrejas	Outardes	5:01 h	Blanik L13	St-Esprit, PQ
Michael Crowe	Cu Nim	5:18 h	Jantar Std 2	Cowley, AB

C BADGE (1 hour flight)

2454	Keith Bjorndahl	Regina			
2455	Pierre Moreau	Outardes	1:45 h	1-26	St-Esprit, PQ
2456	Miguel Cabrejas	Outardes	5:01 h	Blanik L13	St-Esprit, PQ
2457	Norman Schmidt	Winnipeg	2:53 h	1-26	Starbuck, MB
2458	Richard Sawyer	York	1:32 h	1-26	Arthur East, ON
2459	Bryan Deans	Vancouver	2:52 h	Blanik L23	Hope, BC
2460	J Susanne Cooke	Vancouver	1:01 h	Blanik L13	Hope, BC
2461	Darwin Roberts	Cu Nim			
2462	Georges Cabral	Quebec	1:50 h	Blanik L13	St-Raymond, PQ
2463	Michael Crowe	Cu Nim	5:18 h	Jantar Std 2	Cowley, AB
2464	Richard Noel	Quebec	1:07 h	Blanik L13	St-Raymond, PQ
2465	Neil MacKinnon	Winnipeg	1:51 h	L-Spatz III	Starbuck, MB
2466	André Bilodeau	Outardes	1:24 h	Blanik L13	St-Esprit, PQ

Congratulations to Karla Hopp of Regina who has been recognized by the 1-26 Association in earning two of their regional (Canada) 1-26 Association records for her wave flight at Cowley on 9 Oct 94. They were:

Open/Senior/Feminine – Gain of Height – 18,200 feet
Feminine – Absolute Altitude – 26,200 feet

I will be in Florida doing my usual late winter soaring at Seminole Gliderport and competing in their annual Seniors contest. There will be no Badge report for the next issue of *free flight*, but at this time of year I get less than a handful of claims anyway. Those pilots will see their badge legs in the 3/95 issue.

SENIOR OOs

You must send me a list of current OOs for 1995. No claims can be accepted from your club in 1995 until I have your list. The list remains valid for three years. Do it now.

SAC AGM

March 3-5, 1995

Château Cartier Sheraton
1170 Aylmer Road, Aylmer, PQ

★★★★★

- reservations: tel (819) 777-1088, fax 777-7161
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AIR CANADA is providing special convention rates. Call 1 (800) 361-7585 or your travel agent and quote event # CV950410 (code *must* appear on each ticket)

Airline travel for AGM guest speaker, Derek Piggott, is being provided by AIR CANADA.

AGM Agenda

Friday evening — **Events in Exhibition Room**

Registration, and meet the directors, committee chairmen, and Derek Piggott at a cash bar. Two gliders, commercial and historic displays, demonstrations, etc.

Saturday — **Workshops** all day in two salons

- New homebuilt sailplanes
- Derek Piggott
- Guest lecturer from France on their approach to instructing
- Flying the world's fastest glider
- Should SAC assume the airworthiness/licensing job from govt (as does BGA)?
- and more

Saturday noon — **SAC Awards luncheon**

- Advance registration only (see below)

Saturday eve. Cocktails: 6:30-7:30

Banquet: 7:30

Guest speaker and talks
Hospitality bar

Sunday **Annual general meeting** 09:00-12:00

Workshops conclude 10:30-14:00

The SAC awards are being presented at lunch to free up the evening. 7 days advance notice is required for lunch and banquet tickets. Those who do not reserve will have to eat away from the group or drive for food — it will not be possible to make arrangements on the day.

For most of you, it will be your best chance to meet the new directors and Derek Piggott in person. Attend the AGM — it's the only way to make it a success!

SAC Member Clubs

MARITIME ZONE

BLUENOSE SOARING CLUB
Ron Van Houten
17 John Brenton Drive
Dartmouth, NS B2X 2V5
(902) 434-1032

QUEBEC ZONE

AERO CLUB DES OUTARDES
Luc Boileau, 876 Bergeron
Ste-Thérèse, PQ J7E 4W8
(514) 430-0367

ASSOCIATION DE VOL A
VOILE CHAMPLAIN
Claude Gosselin
30 des Orties
La Prairie, PQ J5R 5J3
(514) 444-3450

CLUB DE VOL A VOILE
DE QUEBEC
Jean-Guy Hélie
85 Route de la Jacques-Cartier
Ste-Catherine, PQ G0A 3M0
(418) 875-2005

MONTREAL SOARING
COUNCIL
Box 1082
St. Laurent, PQ H4L 4W6

CLUB DE VOL A VOILE
MONT VALIN
3434 Ch. Ste Famille
Chicoutimi, PQ G7H 5B1

ONTARIO ZONE

AIR SAILING CLUB
Richard Longhurst
100, 1446 Don Mills Road
Don Mills, ON M3B 3N6
(416) 391-3100 ext 250 (W)

ARTHUR GLIDING CLUB
10 Courtwood Place
North York, ON M2K 1Z9

BASE BORDEN SOARING
c/o OC Rec. Platoon, CFSPER
CFB Borden, ON L0M 1C0

BEAVER VALLEY SOARING
Doug Munro
187 Chatham Avenue
Toronto, ON M4J 1K8
(416) 466-1046

BONNECHERE SOARING
Box 1081
Deep River, ON K0J 1P0

CENTRAL ONTARIO
SOARING ASSOCIATION
Bob Leger
866 Hyland Street
Whitby, ON L1N 6S1
(905) 668-5111

ERIN SOARING SOCIETY
Box 36060, 9025 Torbram Rd
Bramalea, ON L6S 6A3

GATINEAU GLIDING CLUB
Rick Officer
1085 St. Jovite Ridge
Orleans, ON K1C 1Y6
(613) 824-1174

GUELPH GLIDING &
SOARING ASSOCIATION
G. Ritchie (519) 763-7150
259 Cole Road
Guelph, ON N1G 3K1

LONDON SOARING SOCIETY
Brian Keron
RR 2,
Thamesford, ON N0M 2M0
(519) 285-2379

RIDEAU GLIDING CLUB
Box 307
Kingston, ON K7L 4W2

RIDEAU VALLEY
SOARING SCHOOL
Box 1164
Manotick, ON K4M 1A9
(613) 489-2691

SOSA GLIDING CLUB
Pat O'Donnell
74 Lincoln Avenue
Brantford, ON N3T 4S9
(519) 753-9136

TORONTO SOARING CLUB
Stephen Foster
10 Blyth Street
Richmond Hill, ON L4E 2X7
(905) 773-4147

WINDSOR GLIDING CLUB
Eric Durance
785 Bartlet Drive
Windsor, ON N9G 1V3

YORK SOARING ASSN
10 Courtwood Place
North York, ON M2K 1Z9

PRAIRIE ZONE

GRAVELBOURG GLIDING
& SOARING CLUB
Mark Jalbert
Box 213
Lafleche, SK S0H 2K0
(306) 472-5668

PRINCE ALBERT GLIDING
& SOARING CLUB
219 Scissons Court
Saskatoon, SK S7S 1B7

REGINA GLIDING &
SOARING CLUB
James Thompson
Box 4093
Regina, SK S4P 3W5
(306) 536-4119 or 536-5759

SASKATOON SOARING CLUB
Box 7943
Saskatoon, SK S7K 4R6

WINNIPEG GLIDING CLUB
Susan or Mike Maskell
489 Lodge Avenue
Winnipeg, MB R3J 0S5
(204) 837-8128

SWAN VALLEY SOARING ASSN
Sam Namaka
Box 1827
Swan River, MB R0L 1Z0
(204) 734-4677

WESTMAN SOARING CLUB
Box 1294
Brandon, MB R7A 6N2

ALBERTA ZONE

CENTRAL ALBERTA GLIDING
CLUB Jerry Mulder
4309 Grandview Boulevard
Red Deer, AB T4N 3E7
(403) 343-6924

COLD LAKE SOARING CLUB
Randy Blackwell
Box 2108
Medley, AB T0A 2M0
(403) 594-2171

CU NIM GLIDING CLUB
Keith Hay
7 Scenic Glen Gate NW
Calgary, AB T3L 1K5
(403) 239-5179

EDMONTON SOARING CLUB
Dave Puckrin
Box 472
Edmonton, AB T5J 2K1
(403) 459-8535

GRANDE PRAIRIE
SOARING SOCIETY
Walter Mueller
10317 - 82 Avenue
Grande Prairie, AB T8W 2A6
(403) 539-6991

PACIFIC ZONE

ALBERNI VALLEY
SOARING ASSN
Doug Moore,
Site 310, C6, RR3
Port Alberni, BC V9Y 7L7
(604) 723-9385

ASTRA
9280 - 168 Street
Surrey, BC V4N 3G3
(604) 589-4552

BULKLEY VALLEY SOARING
Ted Schmidt
Box 474
Smithers, BC V0J 2N0
(604) 847-3585

VANCOUVER SOARING ASSN
Membership Secretary
Box 3251
Vancouver, BC V6B 3X9
(604) 521-5501

SAC Directors & Officers

PRESIDENT & QUEBEC Zone

Pierre Pepin (1993)
590 rue Townshend
St-Lambert, PQ J4R 1M5
(514) 671-6594 (H)

VP & PACIFIC Zone

Harald Tilgner (1994)
50090 Lookout Road
RR2, Sardis, BC V2R 1B1
(604) 858-4312 (H)
(604) 521-5501 (VSA)

ATLANTIC Zone

Gordon Waugh (1993)
5546 Sentinel Square
Halifax, NS B3K 4A9
(902) 455-4045 (H)

ONTARIO Zone

Richard Longhurst (1993)
100 - 1446 Don Mills Road
Don Mills, ON M3B 3N6
(416) 391-2900 (H)
(416) 391-3100 ext 250 (B)

PRAIRIE Zone

Paul Moffat (1994)
1745 King Edward Street
Winnipeg, MB R2R 0M3
(204) 633-5221 (H&F)
(204) 957-2827 (B)

ALBERTA Zone

John Broomhall (1994)
1040 - 107 Street
Edmonton, AB T6J 6H2
(403) 438-3268 (H)
(403) 423-4730 (B)

Director-at-Large

George Dunbar (1993)
1419 Chardie Place SW
Calgary, AB T2V 2T7
(403) 255-7586 (H)

Director-at-Large

Chris Eaves (1994)
185 Canterbury Drive
Dorchester, ON N0L 1G3
(519) 268-8973 (H)
(519) 452-1240 (B)

Executive Secretary

Joan McCagg
111 - 1090 Ambleside Dr
Ottawa, ON K2B 8G7
(613) 829-0536 (B)
(613) 829-9497 (F)

Treasurer

Jim McCallum
6507 Bunker Road
Manotick, ON K4M 1B3
(613) 692-2227 (H)

Committees

Insurance

Richard Longhurst
100 - 1446 Don Mills Road
Don Mills, ON M3B 3N6
(416) 391-2900 (H)
(416) 391-3100 ext 250 (B)
Mbr: Doug Eaton

Air Cadets

Bob Mercer, Box 636
Hudson, PQ J0P 1H0
(514) 458-4627 (H)

Airspace

position to be filled

Contest Letters

Robert Binette
5140 St-Patrick
Montreal, PQ H4E 4N5
(514) 849-5910 (H)

FAI Awards

Walter Weir
3 Sumac Court, RR 2
Burketon, ON L0B 1B0
(905) 263-4374

FAI Records

Dave Hennigar
404 Moray Street
Winnipeg, MB R3J 3A5
(204) 837-1585 (H)

Fit Training & Safety

Ian Oldaker
RR1
Limehouse, ON L0P 1H0
(905) 873-6081 (H)
(905) 823-8006 (F)

Mbrs: Ken Brewin
Geo. Eckschmiedt
Fred Kisil
Paul Moggach
Richard Officer
Gilles Séguin
Terry Southwood
Richard Vine

Free Flight

Tony Burton
Box 1916
Claresholm, AB T0L 0T0
(403) 625-4563 (H&F)

Historical

Christine Firth
23 rue Barette
Hull, PQ J9A 1B9
(819) 770-3016 (H)

Medical

Dr. Peter Perry
64 Blair Road
Cambridge, ON N1S 2J1
(519) 623-1092 (H)
Mbr: Dr. W. Delaney

Meteorology

Stephen Foster
10 Blyth Street, Stn B
Richmond Hill, ON L4E 2X7
(519) 623-1092 (H)

Publicity

Pierre Tourangeau
5693 - 1 Eire Avenue
Montreal, PQ H1Y 3A3
(514) 722-2085 (H)

Radio & Comm

Paul Moffat
see Prairie Zone Director

Sporting

Charles Yeates
110 - 105 Dunbrack Street
Halifax, NS B3M 3G7
(902) 443-0094 (H)
Mbrs: George Dunbar
Robert DiPietro

Statistics

Randy Saueracker
1413 - 7 Avenue
Cold Lake, AB T0A 0V2
(403) 639-4049 (H)
(403) 594-2139 (F)

Technical

Chris Eaves
see Director at Large
Mbr: Herb Lach

Trophy Claims

Harold Eley
4136 Argyle Street
Regina, SK S4S 3L7
(306) 584-5712 (H)

Trading Post

single seat

Ka6CR, C-FZDT, #1002, 2010 h, new fabric 1984, new Imron paint '92, excellent glassy cream colour finish, instrument panel classic as instruments. Call Jean-Guy (418) 875-2005 ou appelez Yvon (418) 650-2431 le soir.

K8b, C-FTXX, 1275 h, electric vario, no trailer. \$11,000 obo. Pierre Bertrand (514) 421-6373 eves.

HP11, CF-CMZ \$12,000; lovely ship to fly and great for cross-country. Standard class performance for half the price, excellent trailer. Full panel incl Varicalc computer. Going abroad and must sell. Mike Apps (403) 436-9003 (H), 435-7305 (W).

RS-15, C-GPHZ, 500 h, Schreder trailer, chute, O2, basic instruments with audio vario. Excellent cond, Diamond distance performer. \$15,500. Dave Mercer (403) 639-2610.

KW-45, CF-SNZ, 500 h, homebuilt glass fuselage with Open Cirrus wings, tinted canopy, radio, O2, Ilec vario system, encl alum trailer. \$17,000. Fred Wollrad (403) 479-2886 or Harold (403) 474-0139.

Libelle H301, C-FYFL, 1300 h, Cambridge Mk 2 audio speed director, averager, Sage vario, Genave radio, O2, water, trailer, Niagara chute, baro, and covers. \$US15,500. Joe Somfay (519) 843-6866 or 746-4411, Csaba Gaal (416) 626-7148 or 233-3131.

ASW-15, 1100 h, radio, spare canopy, 2 varios and audio, 2 TP cameras, covered trailer. \$19,000 Tillmann Steckner (519) 471-3203.

Jantar Std 2, C-GMSG, 780 h, good cond, never damaged, all ADs. Schuemann & Ball varios, radio, O2, chute, metal encl trailer. \$US21,000 obo. Will deliver in western NA. Fred Guest (403) 289-8820 or Al Poldas (403) 271-8929 (H), 287-0144 (W).

Nimbus II, C-GAJM, 860 h. Excellent cond, super performer, loves to be taken X-country. Factory trailer, full panel incl radio, 2 varios, Cambridge computer, mylar seals, wing and fuselage covers. Going abroad and must sell. \$35,000 Mike Apps (403) 436-9003 (H), 435-7305 (W).

Grob single, Std Cirrus, ASW-19 wanted. Must be in excellent cond; trailer, instruments, chute don't matter. Cash waiting. Richard Longhurst (416) 391-3100 ext 250, fax (416) 391-2748.

PIK 20E-II, C-FIGW, self-launcher in excellent condition. TT 488 h, engine 145 h. Varicalc 3CN vario/computer, Becker radio, Bohli compass, Security 150 chute, one-person rigging, factory trailer, expensive spares and extras. Asking \$US42,000. Len Gelfand (613) 749-5101.

SOARING STUFF

The 1995 German and USA soaring calendars are out of stock right now but still available if you want them.

Call Joan at the SAC office.
(613) 829-0536.

non-commercial advertising

- Personal sailplane and sailplane equipment ads are free for SAC members, \$10 per insertion for non-members.
- **Ad will run three times.** If ad is to continue, notify editor for each additional three issues. Please notify editor when item is sold.
- Normal maximum length is 5 lines. Ads are subject to editing if space is limited.
- Send ad to editor, *not* to SAC office.

Chairpack chutes – \$1050

- New container in choice of colours
- 28 foot round canopy
- 2 years free repack
- 5 years parts and labour guarantee

Dave Puckrin
(403) 459-8535 home, 451-3660 work

USED SAILPLANES WANTED FROM CLUBS & PILOTS

If you are considering selling, call **FREE FLIGHT** immediately, don't wait for the magazine to appear! The sailplane market is tight, and the editor regularly gets calls to see if anything has become available.

two place

LK-10, 1/2 share in vintage 2-seat sailplane built in 1943 for USAAF. Soars like an angel. Based at SOSA. Herrie ten Cate (416) 604-3579.

magazines

SOARING — the journal of the Soaring Society of America. International subscriptions \$US35 second class. Box E, Hobbs, NM 88241 (505) 392-1177.

SOARING PILOT — bimonthly soaring news, views, and safety features from Knauff & Grove Publishers. New large format. \$US20, add \$8 for first class/foreign postage. Box 1145, Frederick, MD 21702-0145 USA.

NEW ZEALAND GLIDING KIWI — the official publication for the 1995 World Gliding Championships at Omarama and the bi-monthly journal of the N.Z. Gliding Association. Editor, John Roake. \$US25/year. N.Z. Gliding Kiwi, Private Bag, Tauranga, N.Z.

SAILPLANE & GLIDING — the only authoritative British magazine devoted entirely to gliding. 52 pp, bi-monthly. Canadian agent Terry Beasley, Box 169, L'Orignal, ON K0B 1K0 or to BGA, Kimberley House, Vaughan Way, Leicester, LE1 4SG, England. £15.50 per annum (\$US30) or \$US40 air.

AUSTRALIAN GLIDING — the journal of the Gliding Federation of Australia. Published monthly. \$A40.50 surface mail, \$A55 airmail per annum. Payable on an Australian bank, international money order, Visa, Mastercard. (No US\$ personal checks.) Box 1650, GPO, Adelaide, South Australia 5001.

miscellaneous

Winter barograph and vario for sale, call Gilles Séguin at (514) 377-5737.

Wanted – tow hook assembly certified for a Cessna 182. (604) 342-3565.

Wanted – horizontal stabilizer and elevator for a K7. Call Doug Girard, Bluenose Soaring (902) 462-0600.

New gliding school opening – Planning for spring '95 at First Nations Air Service Tyendinaga (Mohawk) airport, Deseronto, ON. We are looking for an L-13 or 2-33, and 1-26 or 1-34, preferably with trailers. Please call Michael Skubicky, 1-800-263-4220 or (613) 396-3100, fax (613) 396-3761.

Peravia barograph – the ultimate in barograph design, no ink, no smoke, nothing to fail, punches holes in barogram every four seconds. Excellent condition. **Glider tire**, unused odd-sized 4.95" x 3.5" (fits Skylark 4) Max Harris, 39 Seres Drive, Tillsonburg, ON N4G 5E9 (519) 842-7481. Make me an offer.

Trailer for Blanik L13 wanted. Call Julien at (604) 435-4239 (H), 432-5352 (W).

suppliers

REPAIRS & MAINT.

Sunaero Aviation. Glider repairs in fiberglass, wood, & metal. Jerry Vesely, Box 1928, Claresholm, AB T0L 0T0 (403) 625-3155 (B), 625-2281 (Fax).

INSTRUMENTS & OTHER STUFF

Instruments for sale — best prices anywhere. Call for list and prices for vario, altimeter, airspeed, T&B, G-meter, compass, radio, etc. Lee (905) 840-2932 H, evenings only.

Barograph calibration, most makes and models. Walter Chmela (416) 223-6487 (H).

Variometers, winglets, mylar seals — all products designed and built this side of the Atlantic! Peter Masak, High Performance Engineering, (713) 431-1795 (B), 431-2228 (Fax).

Variometer / Calculator. Versatile pressure transducer and microprocessor based vario and final glide calculator. Canadian designed and produced. Skytronics, 45 Carmichael Court, Kanata ON K2K 1K1. (613) 820-3751 or 592-0657.

Firmal Electronics. Cambridge variometers, L Nav and S Nav now both available with Global Positioning System (GPS) option. You need never be lost again! Write for list or phone John Firth, 542 Coronation Avenue, Ottawa K1G 0M4 (613) 731-6997.

MZ Supplies. CONFOR foam, Becker radios, most German soaring instruments. 1450 Goth Ave, Gloucester, ON K1T 1E4 tel/fax (613) 523-2581.

SAILPLANE DEALERS

Glaser-Dirks. DG300, 500, 500/22, 600, 800. Vankleek Sailplanes Ltd. Wolfgang Thiele, 5971 Dwyer Hill Road, Ashton, ON K0A 1B0 (613) 838-4902, fax (613) 829-4219.

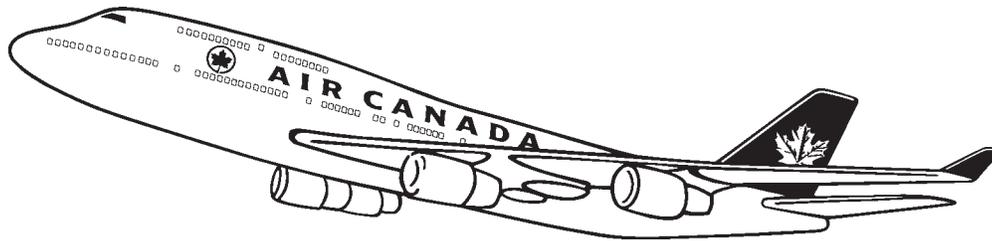
Schempp-Hirth. Nimbus, Janus, Ventus, Discus. Al Schreier, 3298 Lonefeather Cres, Mississauga, ON L4Y 3G5 (416) 625-0400 (H), 597-1999 (B).

Schleicher. ASK-21, 23, ASW-22, 24, ASH-25. Ulli Werneburg, 1450 Goth Avenue, Gloucester, ON K1T 1E4 (613) 523-2581.

Solaire Canada. Ed Hollestelle (519) 455-3316 tel & fax. SZD-55-1, Krosno, PW-5, trailers, GPS, and other sailplane stuff.



AIR CANADA



congratulations to the
SOARING ASSOCIATION of CANADA
on the occasion of their
1945 – FIFTIETH ANNIVERSARY – 1995

•

AIR CANADA is proud to be a major supporter of Canadian soaring in 1995.

we have provided travel from Britain for the internationally regarded gliding coach and author, *Mr. Derek Piggott*, guest speaker at the SAC Annual General Meeting,

&

for the 1995 Canadian National Soaring Championships,
the winner of the Sports Class will be presented with

2 system-wide AIR CANADA airline passes



2-33 in an edmonton sunset

Marty Slater

The proven **SZD-48-3 Jantar Std. 3** Best value in a performance sailplane that will last

Span 49.2 ft
 Length 22.5 ft
 Height 4.8 ft
 Wing area 114.7 sq ft
 Aspect ratio 21.1
 Weight empty 595 lb
 Weight max. 1190 lb
 Speed min. 38 kts
 Speed max. 154 kts
 L/D max. 40/1
 (at 60 kts & max t.o. wt)
 Min sink (52 kts) 154 ft/min
 g limits +5.3 / -2.65

Affordable 40/1 performance
 Exceptional flying qualities
 Spacious cockpit
 Front hinged one-piece canopy
 Fast ∇ E at 154 knots
 Aerobatic
 Built to last polyurethane finish
 Over 800 Jantars worldwide
 Soon to be type approved in Canada

The exiting **SZD-50-3 Puchacz** Best choice in an all around composite trainer

Span 54.7 ft
 Length 27.5 ft
 Height 6.7 ft
 Wing area 195.5 sq ft
 Weight empty 794 lb
 Weight max. 1256 lb
 Speed min. 33 kts
 Speed max. 116 kts
 L/D max. (48 kts) 32/1
 Min sink 138 ft/min
 g limits +5.3 / -2.65

The perfect trainer to prepare for today's
 high performance sailplanes
 Spacious cockpit – very quiet
 Fantastic visibility
 Exceptional handling qualities
 Spectacular aerobatic performance
 Robust glass strength with the famous
 polyurethane finish
 Over 200 in service
 Type approved in Canada

The ultimate **SZD-55-1** The best buy in Standard class high performance and handling

Span 49.2 ft
 Length 22.5 ft
 Height 4.8 ft
 Wing area 103.3 sq ft
 Aspect ratio 23.4
 Weight empty 465 lb
 Weight max. 1102 lb
 Speed min. 38 kts
 Speed max. 138 kts
 L/D max. 44/1
 (at 60 kts & max t.o. wt)
 Min sink (54 kts) 135 ft/min
 g limits +5.3 / -2.65

Very pleasant to fly
 Equally good in very weak and very
 strong conditions
 No turbulators required
 Excellent disk brake on large
 main wheel
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 No winglets required due to aero-
 dynamically ideal wing planform
 Integral ballast tanks with baffle plates



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For prices on all the fine products above as well as the Filser LX4000 GPS /Flight computer and the LX400 GPS /
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 We now also have a Canadian-built clamshell trailer by "Trailcraft" available at competitive prices.