5/04
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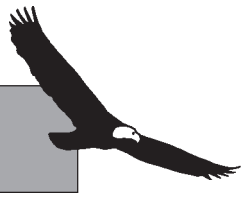
free flight • vol libre

Priorities



Kevin Bennett, SAC Pacific Zone Director

As a new member of the SAC board of directors, I am looking forward to getting involved in the many ongoing issues we are dealing with in our soaring community. These issues seem to be the same year after year, which should tell us something. Firstly, all these issues (safety/accident record, insurance, membership, etc.) require constant ongoing attention to ensure they don't get the best of us. Secondly, a constant search for new or different approaches to dealing with each of these issues is required to ensure the best practices are employed at any given point in time. I was personally quite active in Cu Nim and ASC organizations during the eighties and early nineties, but have paid very little attention to the soaring organization in the past ten years as I chose to focus on flying instead. Now that I have jumped back into the ring, I see that the main topics of discussion haven't changed. I look forward to being involved and hope I can contribute. The next SAC directors meeting is November 6 and 7 in Ottawa. Everyone ... please get your two cents worth in to your representative prior to the meeting.

One area that has always been a focus for me has been Flight Training and Safety. Over my thirty plus years of flying, I have seen too many of my friends and acquaintances perish in this sport. I have also witnessed many other accidents and incidents that could have also resulted in fatalities. Every time I witness an incident or read or hear about an accident, I always reflect on my own flying practices to ensure I don't make the same mistake. Flying is an activity where we have to learn, not only from our own mistakes ... but most importantly, we must learn from others as we won't very often get a chance to make the same mistake twice! Even the most seasoned and experienced pilot is not immune!

I remember the shock and disbelief when I heard the news of the death of my long time friend, Peter Masak, earlier this summer. I couldn't believe that this could happen. I have known Peter for my entire flying career (and his), and have many fond memories of our early flying days, of our contest flying and of our travels and even some business ventures. Seth Schlifer's great article in the last issue of *free flight* recounted some of the things that made Peter the icon he was. For me, Peter's entrepreneurial enthusiasm and creativity were an inspiration in my life. Many of us are aware of Peter's contribution to our sport, a sport he loved with a passion, and gave endlessly. But hearing of his accident was quite sobering. Even the most seasoned and experienced pilot is not immune!

Let's all pledge to ourselves to learn from other people's mistakes, to always err on the side of caution, so we can live to fly another day.

In memory of my buddy ... the "Tinker Meister". ❖

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5/04 – Oct/Nov

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

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Cover

André Pepin, of the Montreal Soaring Council, flies his 18m DG-600 "DB" over the beautiful Rouge River north of Hawkesbury on a cross-country flight. The photo was taken on 25 July from the back seat of the towplane flown by Alain Orfila. The camera is a Canon 6.3 MP Digital SLR equipped with a 70-200 mm zoom lens.

photo: Hicham Hobeika

DEPARTMENTS

Comment on the aging pilot problem

Henry Wyatt, ESC

FREE FLIGHT HAS PUBLISHED SEVERAL ARTICLES recently about the aging pilot. For example, the June/July issue presents two: one in the Safety & Training section and the other a letter by Dr. Peter Perry. The first of these articles was circulated in the "Instructor Upgrade" package for this year's courses.

I, and I suspect others in my age group, do not understand what SAC intends by their publication. Is SAC persuading older glider pilots to go and do something else? Is that really SAC's intention? I note that on 17 July at the COPA convention, Dr. Randy Knipping talked about, *Evidence-Based Life Style Changes: how to become a 90 year old pilot,* apparently the opposite approach.

The article in the Safety & Training section is a puzzle. Reading of the accomplishments of those pilots I can't see a reason for them to give up. They are current, proficient, healthy, and in full enjoyment of our sport. And yet they write: "Unless we are prepared to give up solo flying at a given age, we should all accept the responsibility to decide for ourselves when enough is enough — before an accident removes our choice." The first part of the sentence is true enough, but what is implied by the second? That a current, proficient, and healthy glider pilot at seventy four years old is inevitably headed for an accident? What evidence do we have for that position?

The letter from Dr. Perry is not much more helpful. He quickly reviews some characteristics of changing mental function as the years go by. He concludes that changes are difficult to identify, and we should all be looking for them "... because on their own they may be innocuous, but they may be compounded by fatigue, dehydration, and flight stresses in difficult situations, thus putting the pilot and possibly others at risk." But surely this applies to all pilots, and in any case is a field where Human Factors analysis should allow us to develop personal strategies to offset the risks.

On a continent where freedom to fly is so highly valued, I doubt that much will be achieved by SAC's approach. The issue needs rather to be examined in terms of culture: the different cultures associated with different ages.

When we talk about safety we are really talking about risk management. In any flying situation we are faced with risks within our control and risks outside our control. Our task is to assess these two domains, to take steps to control those risks which are controllable, and to decide whether we are ready to accept those risks which are not. For example, a launch failure is beyond our control, but the management of a launch failure is not. This is the basis of using the SOAR technique.

One of the risks constantly changing throughout life arises because of our changing physical and mental functions with age. By and large, physical functions are the concern of the Aviation Medical Examiner (AME) whose job it is to review the risk factors for significant disease for each age group and to advise on management of those risks. For glider instructors the requirement is to undergo an examination by an AME once every five years unless the physician finds indication that the examinations should be at shorter intervals. The requirement is independent of age. Incidentally, I do find this strange. Where instructors take responsibility for the welfare of others, be they visitors or students, that interval seems too long for an older pilot. In power flying anyone holding a commercial licence who is over forty years old is required to undergo an examination every six months, and for a private pilot licence in the same age group, every two years. What is the rationale for allowing a gliding instructor over seventy years old to be checked only once every five years?

But I sense the FT&S committee is more concerned about the effects of aging on mental skills — aptitude, reaction time, problem solving under stress, and so on. These functions are not assessed by an AME. Their assessment is the responsibility of the clubs and individuals. I accept that clubs must be concerned about the older pilot in these matters, just as we must be concerned about the performance of students, who, incidentally, accept a culture of control which would be intolerable to the freelance culture of licensed pilots in the middle years.

⇨ **p20**

The
SOARING ASSOCIATION of CANADA

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

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Images may be sent as photo prints or as hi-resolution greyscale/colour .jpg or .tif files. Prints returned on request.

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

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5th **January, March**
May, July
September, November

L'ASSOCIATION CANADIENNE DE VOL À VOILE

est une organisation à but non lucratif formée d'enthousiastes et vouée à l'essor de cette activité sous toutes ses formes, sur le plan national et international. L'association est membre de l'Aéro-Club du Canada (ACC), qui représente le Canada au sein de la Fédération Aéronautique Internationale (FAI), laquelle est responsable des sports aériens à l'échelle mondiale et formée des aéroclubs nationaux. L'ACC a confié à l'ACVV la supervision des activités vélivoles aux normes de la FAI, telles les tentatives de record, la sanction des compétitions, la délivrance des insignes, et la sélection des membres de l'équipe nationale aux compétitions mondiales.

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Les articles publiés dans *vol libre* proviennent d'individus ou de groupes de vélivoles bienveillants. Leur contenu n'engage que leurs auteurs. Aucune rémunération n'est versée pour ces articles. Tous sont invités à participer à la réalisation du magazine, soit par des reportages, des échanges d'idées, des nouvelles des clubs, des photos pertinentes, etc. L'idéal est de soumettre ces articles par courrier électronique, bien que d'autres moyens soient acceptés. Ils seront publiés selon l'espace disponible, leur intérêt et leur respect des normes de qualité du magazine.

Des photos, des fichiers .jpg ou .tif haute définition et niveaux de gris peuvent servir d'illustrations. Les photos vous seront retournées sur demande.

vol libre sert aussi de forum et on y publiera les lettres des lecteurs selon l'espace disponible. Leur contenu ne saurait engager la responsabilité du magazine, ni celle de l'association. Toute personne qui désire faire des représentations sur un sujet précis auprès de l'ACVV devra s'adresser au directeur régional.

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A Cosmonaut remembered

Hillar Kurlents, MSC

The 3rd Russian in space, cosmonaut Andrian Nikolayev died at 74 on 3 July 2004. But wait, there is a gliding connection.

Back in the early '80s, I represented SPAR Aerospace at the TELECOM show in Geneva. This is to telecommunication what the Paris Air Show is to aviation. The Soviets had an enormous display and later a reception at their embassy compound. I was invited, probably because they were very interested in our space work, including the "Canadarm".

As one of their star attractions, Cosmonaut Andrian Nikolayev was being introduced to selected guests. When I was introduced I surprised him by *not* asking him about his 64 orbits around the world in Vostok 3 in '62 but rather if we might have something in common in the event he was perhaps also a glider pilot, as was I.

This created an immediate problem since the translator was not familiar with the word "glider". The good Cosmonaut was very interested what I was saying and became rather aggressive towards the translator. Being an ex-lumberjack and having put on a few extra kilos during the "honoured guest circuit", he towered over the diminutive translator. The poor chap who had been sooo important just a few minutes before, started to perspire profusely and was stuttering something which obviously made no sense.

In an effort to help, I tried the French *planeur*. Nikolayev himself immediately understood and roared out *planera* in Russian, pointing an accusing finger at the poor translator. It turned out that indeed, he had flown a number of flights in gliders but time was short and he was rushed into cosmonaut training. He even said he would enjoy the sport if he could give it another try. I was wearing my Gold C but he did not comment, so he probably was not too familiar with advanced soaring.

We were both offered Russian vodka toasts. I mumbled something about shouldn't we also have caviar with it. But despite being at the Soviet embassy compound, consisting of at least half a dozen buildings, there seemed to be a problem finding any caviar. Finally, a woman carrying a tray emerged, presumably with the caviar. Unfortunately, this resulted in what could be compared to an avalanche of embassy residents. Even someone as important as the (then) world space duration record holder (ninety-six hours) was not able to sample the delicacy. It was literally gone in seconds.

Sadly, we toasted each other once more and I invited him to a glider flight if he came to Canada. Equally sadly he said if I get to go to Canada I will accept gladly. We never met again.

Finding stuff in *free flight* back issues

I am regularly asked in what issue some article may be found. Help is on the *free flight* page of the SAC website by clicking on *INDEX*. Type some appropriate word(s) – subject, author, etc. in the search box and see what gets listed for you. No luck? – follow some more of the search tips provided on the page. Tony

Practice makes perfect?

"Platypus", *from Sailplane & Gliding*

I've been struggling with the cello, taken up a couple of years ago. The sound is similar to that uttered by a sheep that has strayed on to a gliding site and finds itself being winch launched, which I understand happens from time to time in wilder and woollier regions.

I said to my teacher the other day, after the noises on the lowest string sounded more like a cow on the wire, "Well, I suppose if you do something often enough you eventually get good at it."

"No!" she yelled at me fiercely, "You only get good at it if you do it *right* often enough!"

I realized in a trice — 45 years late — what I and hundreds of other pilots, our logbooks bloated with hours, had been doing wrong all these years. (Platypus's logbook is a metaphorical entity of course, such documents not currently being required of UK glider pilots, though doubtless European integration will soon make it obligatory.)

What we have been doing wrong is assuming that if we just get our backsides into the sky for enough launches, hours, and cross-country miles we will all become aces, and we won't be able to walk for all the badges, diplomas and gold medals thrust upon us.

That assumption is patently wrong, but what do we do about it? Nothing, naturally, except blame our luck or the weather or our instruments or a temporary absence of form.

What we should blame is the fact that most of us just get ourselves into the air with the aim of flying for a given length of time, getting to a certain height or going round a set task (all good aims in themselves), ⇨ **p20**

Cross-country soaring performance

– an analysis

Ian Grant, Gatineau Gliding Club

THIS ARTICLE DESCRIBES a study of cross-country flight recorder data with the aim of spotting those variables that are associated with faster cross-country speed, and thereby gaining insights for improved pilot performance.

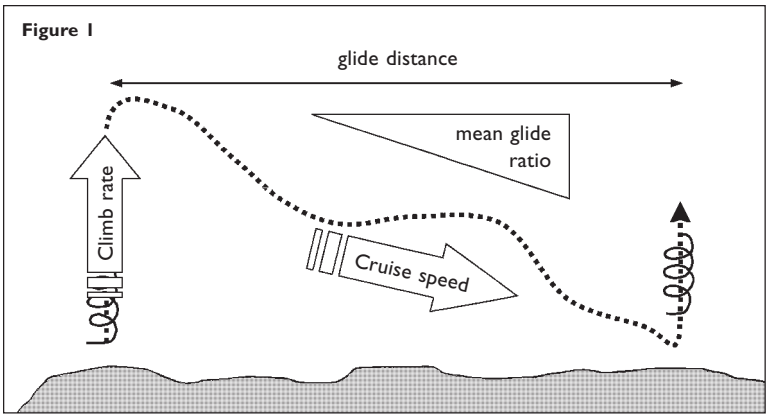
Most soaring pilots accept cross-country speed as a key performance measure. Contest scores are influenced by additional factors, such as tactical decision making on final glide or bonuses for getting home on time-distance tasks; however, most pilots would agree that consistently flying fast is part of any winning strategy.

I am interested in understanding how others go faster and how I can improve my speed. My interest was spurred by Dale Kramer's publication of analyses of past nationals competitors' log files, as well as by Alan Reeter and Bob Leve's study of the influence of sports psychology on soaring performance[1]. Yet if psychology does influence pilot performance, it must be through some physical connection with speed. The alternative is to accept that some pilots have a special something — the "Jonathan Livingstone Seagull Factor" — that lets them transcend the laws that bind more earthly mortals. Attempting to find these connections was my purpose.

To do so, first I reviewed the theory of optimum cross-country speed and published glider performance data. Then I collected recorder data from thermal soaring flights made by me and other pilots at different locations in Ontario.

The development of flight recording using the Global Positioning System (GPS) has made available data that was impossible to get only a few years ago. In the days of barographs and turnpoint cameras, pilots had little post-flight information on which to assess their successes and failures. Today, flight logs can be analyzed in rich detail.

Figure 1



With the theory as a guide I used statistical analysis to look for relationships in the flight data, for example between cross-country speed and average climb rate. This analysis revealed different pilot styles and highlighted some variables that appear to be important for cross-country speed.

Theory of optimum cross-country speed

Dr. Paul MacCready is credited with the theory of optimum cross-country speed, although others before him put forward similar ideas[2]. MacCready's success as a four-time World Champion between 1950 and 1956 ensured his ideas received wide attention. MacCready modeled a typical cross-country flight as a sequence of climbs followed by descending glides. Accordingly, the time to fly a given distance cross-country is the sum of the time spent climbing plus the time spent gliding. Maximizing cross-country speed entails minimizing the total time in both phases of flight.

MacCready showed that the fastest cross-country speed that a pilot can attain depends on three things: the glider performance, the average climb rate, and the inter-thermal cruise speed. The pilot attains the fastest cross-country speed by cruising faster at higher average climb rates, and slower with lower average climb rates. This is the basis of the MacCready ring speed director that soaring pilots are familiar with. Figure 1 illustrates these influential variables in cross-country flight.

Helmut Reichmann built on MacCready theory by representing the glider polar curve with a mathematical equation. From this equation he derived the following formulas for speed-to-fly and cross-country speed. These formulas confirm that the maximum attainable cross-country speed depends on glider performance, average climb rate and the inter-thermal cruise speed[3].

$$V_{stf} = [\,(c - Cl)\,/\,a\,]^{1/2}$$

$$V_{xc} = (Cl \cdot V_{stf})\,/\,(2Cl - 2c - b\,V_{stf})$$

where:

V_{stf} = speed-to-fly when cruising (still air)
V_{xc} = cross-country speed
Cl = climb rate
a, b, c the coefficients of the glider polar equation

Reichmann explored other factors also that influence cross-country speed. One such factor is dolphin flying in

which the pilot gains energy by cruising through rising air. Dolphin flying should be evident in flight recordings in which glide ratios exceed the glider's still air performance, and by cross-country speeds that exceed MacCready's theoretical optimum.

Wing loading is another factor that Reichmann considered. Pilots modify wing loading by adding water ballast. For a given climb rate, increased wing loading results in higher cross-country speed. However, higher wing loading degrades climb performance in thermals by increasing the turning radius and by increasing the sink rate in circling flight. Pilots must strike a balance between reduced climb performance and increased cruise speed.

Crucial questions are, "how much does increased wing loading reduce the climb rate, and what climb penalty is worth accepting for increased cruise speed?"

Figure 2

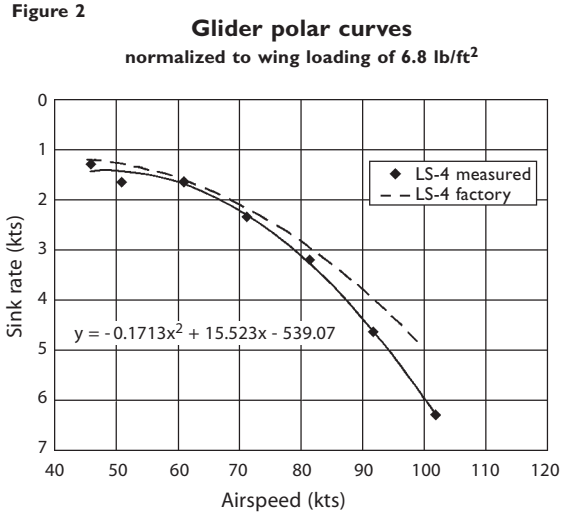
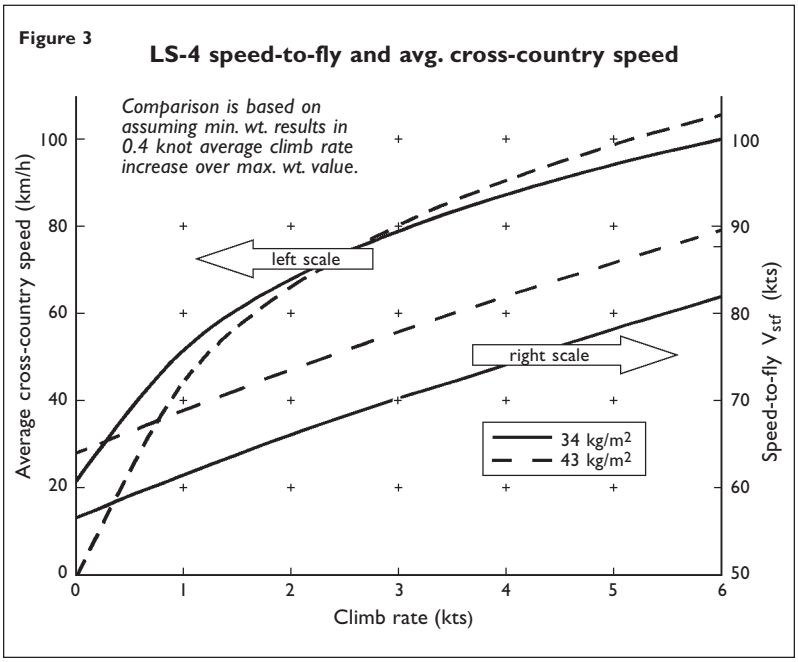


Figure 3



Reichmann furthermore observed that MacCready neglects the presence of the ground. The hard reality of terra firma introduces the possibility of landing out and leads pilots to modify their tactics.

John Cochrane analyzed tactics when lift is uncertain and landing out is a possibility[4]. At high altitude, the pilot has a long glide range and a high probability of finding lift. In these circumstances, MacCready theory is optimum. At low altitude, however, Cochrane shows that reduced ring settings are advisable to avoid landing out by maximizing glide range and the probability of finding lift. The ground thus is a constraint which tends to reduce cross-country speeds from MacCready's optimum.

Further sources of variation in cross-country speed between theory and practice are:

- The differences in height between start and finish on cross-country tasks. A pilot who starts at altitude and finishes at ground level benefits from the initial potential energy. The greater this initial energy relative to the total needed to complete the flight, the more MacCready underpredicts the achieved cross-country speed.

- The effect of wind velocity in reducing cross-country speed around a closed course.

Glider performance To compare flight recorder data with theoretical models, accurate glider performance data is necessary.

Figure 2 shows the factory polar for the Rolladen Schneider LS-4 Standard class glider together with flight test data published by Dick Johnston[5]. Both are normalized to 34 kg/m^2 (6.8 lb/ft^2) wing loading using the method described by Reichmann. The factory polar is optimistic compared with the flight test data, so a quadratic curve was fitted to the test data to obtain a "realistic" polar. This curve is also shown in Figure 2.

The curve fit to the flight test data was used with Reichmann's formulas above to calculate speed-to-fly and cross-country speed for a range of climb rates. A glider polar spreadsheet published on the internet in Australia was used to aid these calculations[6].

Figure 3 shows the resulting speed predictions for the LS-4 for "light" and "heavy" wing loadings. Figure 3 is made with the assumption, based on a "guesstimate" from the flight data, that the lighter wing loading gives about a half-knot increase in climb rate compared to the heavier wing loading. On these assumptions the heavier wing loading is advantageous at average climb rates exceeding three knots.

Flight recorder data Flight data was obtained from GPS flight recorder logs of thermal soaring flights made under racing conditions in national and provincial contests, and on cross-country tasks. Two data sets were used. The first data set (Table 1 on page 9) consisted of 13 flights totaling 3130 cross-country kilometres made

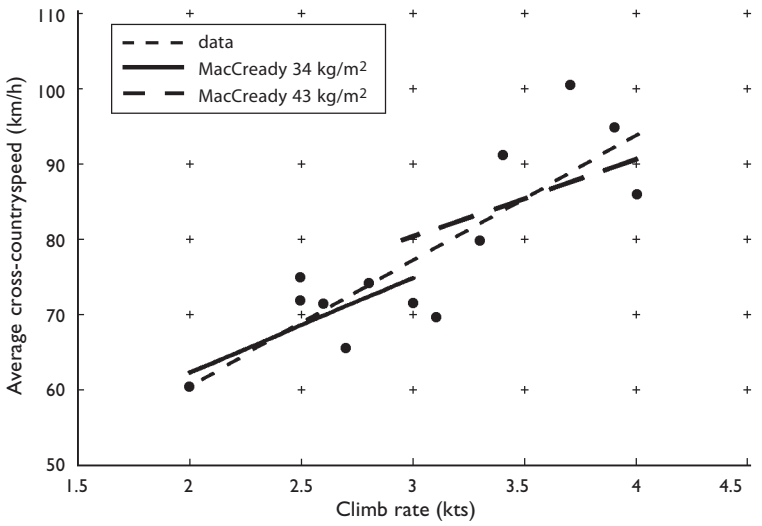
by me in my former LS-4 sailplane Zulu Tango from five sites in Ontario over three seasons from 2000 to 2002. This data set affords comparison between flights by a single pilot under a wide range of conditions. The second data set (Table 2 on following page) comprised fifteen flights totaling 4357 kilometres by three Standard class pilots on five days during the 2001 and 2002 Canadian National Championships held at SOSA in Rockton, ON and Montreal Soaring Council at Hawkesbury, ON respectively. This second data set, which includes some flights from the first, affords comparisons between pilots under different conditions on different days.

Analysis *SeeYou* flight analysis software was used to extract the parameters from the GPS recording of each flight[7] as depicted in Figure 1. I used statistical analysis to look for relationships between the variables. The analyses consisted of descriptive statistics, multiple linear regression to quantify trends, and analysis of variance to test for differences between groups. The analysis was done with the aid of a software add-in for Microsoft Excel called *Analyse-It*[8].

Findings

Single pilot data Multiple linear regression analysis of the data from my thirteen flights showed that mean climb rate and mean glide speed were the two variables most highly correlated with cross-country speed. The correlation coefficient is 0.72, showing a strong correlation. Glide ratio and glide distance were also positively associated with cross-country speed but adding these variables to the regression equation didn't greatly improve the overall correlation coefficient.

Figure 4



Climb rate The relationship between cross-country speed and mean climb rate is shown in Figure 4. For climb rates up to 3 knots, the trend in the data aligns closely with the MacCready prediction for a wing loading of 34 kg/m^2. At climb rates greater than 3 knots, however, the achieved cross-country speeds exceed the no-ballast MacCready prediction. Days with strong thermal condition flights were usually flown with 50–100 kg of water ballast to increase the wing loading to around 43 kg/m^2. The higher wing loading would increase the cross-country speed for a given climb rate. MacCready predictions for the higher wing loading agree well with the data for climb rates at the upper end of the range. Thus, when corrected for wing loading, MacCready is an excellent predictor of average cross-country speed. Nevertheless, considerable variation can be seen around the Figure 4 trend lines, about ±10 km/h for a given climb rate, showing that factors in addition to climb rate are influencing cross-country speed.

Positive speed variations are especially interesting because MacCready supposedly sets the maximum cross-country speed. Some flights exceed the MacCready prediction by as much as 10 km/h. These results may stem from dolphin flying, or possibly from start height effects. These are the only identified causes that can increase cross-country speed beyond the MacCready optimum.

Cruise Speed Cruise speed is correlated significantly with cross-country speed in the single pilot data set. One explanation is that the pilot is cruising slower than optimum, so that higher cruise speeds increase the average speed. The recorded cruise speeds are indeed 5–8 kts lower than the MacCready optimum speed to fly. However, cross-country speed is insensitive to deviations in cruise speed. Increasing cruise speed to the theoretical optimum would increase cross-country speed by only a few percent.

Another explanation for the association between cruise speed and cross-country speed is that strong thermal days were flown with higher wing loadings and consequently higher cruise speeds. The apparent effect of cruise speed may thus be an alias for wing loading.

Glide ratio The mean glide ratio and cruise speed recorded on many flights exceed the glider's still air polar. This evidence suggests that the pilot is finding sources of energy during cruise. As noted previously, several flights are recorded at cross-country speeds that exceed MacCready predictions. Both point to effective dolphin flying.

However, regression analysis did not show a significant correlation between mean glide ratio and average cross-country speed. The recorded variations in mean glide ratio do not strongly explain the cross-country speeds achieved on these flights.

Glide distance Mean glide distance between thermals is associated with cross-country speed although not significantly. The positive association could result from the fact that strong thermal days tend to have higher cloud bases and longer inter-thermal distances.

Contest data The analysis of the contest data set affords comparison of the performance of several pilots under different conditions on different days. Differences in glider performance were compensated by handicapping XC speed using the current SAC handicap list.

First, the differences in climb rate and average speed between contest days were statistically significant, confirming what pilots already know, namely that some days are better than others!

Second, the same variables as previously stand out as important, namely average climb rate and cruise speed. Different pilot styles are evident with respect to average climb rate, average cruise speed and glide ratio. The outcomes of the different styles are counterintuitive. Pilot B has the fastest XC speeds but the lowest mean climb rate (2.6 kts), the highest cruise speeds, and moderate glide ratios. Pilot A is second fastest with a better climb performance (2.9 kts), lower cruise speed, and the highest mean glide ratio. Pilot ZT with the best average climb performance (3.0 kts) has the lowest cross-country speed.

Task dist (km)	X-C speed (km/h)	Hcap speed (km/h)	Avg thermal (kts)	Cruise speed (km/h)	Avg glide distance (km)	Avg L/D
264.1	69.6	66.1	3.1	121	12.9	48.7
263.7	85.9	81.6	4.0	129	14.9	36.7
339.6	94.8	90.1	3.9	139	21.9	38.3
306.3	100.5	95.5	3.7	128	20.8	51.2
299.0	71.6	68.0	3.0	125	9.6	35.4
299.6	72.0	68.4	2.5	124	10.1	43.0
179.5	71.5	67.9	2.6	116	11.5	44.6
242.5	79.8	75.8	3.3	120	18.5	45.6
183.8	91.2	86.6	3.4	125	14.4	38.8
164.0	74.9	71.1	2.5	125	10.1	35.2
206.8	60.4	57.4	2.0	112	10.1	41.9
261.7	74.2	70.5	2.8	124	12.1	39.6
120.2	65.5	62.2	2.7	115	14.8	41.1
Mean	77.8	73.9	3.0	123.3	14.0	41.5

Table 1: Pilot data for ZT, LS-4, hcap = .95, 13 X-C flights 2000-02

	Task dist (km)	X-C speed (km/h)	Hcap speed (km/h)	Avg thermal (kts)	Cruise speed (km/h)	Avg Glide dist (km)	Avg L/D
A	343.3	114.3	106.3	4.4	134	52.5	91.0
B	364.6	121.5	113.0	3.3	163	21.4	67.2
ZT	306.3	100.5	95.5	3.7	128	20.8	51.2
A	298.1	75.0	69.8	2.4	139	10.4	39.9
B	297.4	77.5	72.0	2.5	147	10.7	38.9
ZT	299.0	71.6	68.0	3.0	125	9.6	35.4
A	316.7	67.7	63.0	2.0	128	10.1	52.7
B	340.9	78.9	73.4	2.6	144	10.6	45.4
ZT	299.6	72.0	68.4	2.5	124	10.1	43.0
A	249.2	75.1	69.9	2.6	122	13.0	50.9
B	206.2	66.0	61.4	2.0	134	12.6	47.9
ZT	179.5	71.5	67.9	2.6	116	11.5	44.6
A	295.5	78.5	73.0	3.2	127	24.0	72.9
B	318.6	99.9	92.9	2.7	158	18.2	54.6
ZT	242.5	79.8	75.8	3.3	120	18.5	45.6
Mean		83.3	78.0	2.9	133.9	16.9	52.1

Pilot A, LS-8, hcap = .93 Pilot B, LS-8, hcap = .93 Pilot ZT, LS-4, hcap = .95

Avg. climb (sum of altitude gained and altitude lost while circling divided by time)
Avg. glide dist. (total distance in cruise divided by number of glides)
Avg. glide speed (total distance in cruise divided by time)
Avg. glide ratio (total distance in cruise divided by the sum of altitude gained and lost).

Table 2: Contest data – comparison of sailplanes on 5 contest flights

Pilot B's style is consistent with flying at high wing loadings giving reduced climb performance and increased cruise speed. These findings suggest that maximizing climb performance alone is not a winning strategy. The advantages of water ballast in cruise in this case seem to outweigh the reduction in climb rate. This latter point is speculative, however, as no firm data were collected for the wing loading. Resolution of this point requires further study.

Conclusions

This study of flights made by several pilots under a variety of thermal soaring conditions shows MacCready theory is an excellent predictor of cross-country speed.

Average climb rate is the single most important determinant of cross-country speed. Although task distance is often quoted, more relevant might be the height gained during the task. A typical 250 kilometre flight involves climbing some 30,000 feet. The race is won in the climb rather than the run. A 0.5 knot increase in average climb rate is associated with an 8 km/h increase in cross-country speed for the standard class gliders studied.

Several flights were recorded with speeds faster than MacCready. Mean glide ratios better than the glider's still air polar give further evidence of effective dolphin flying. Different pilot styles are evident in the amount of dolphin flying done. The correlation between glide ratio and cross-country speed was not highly significant, however, suggesting that glide ratio alone is not a key factor.

Some evidence points to water ballast as an advantage for faster cross-country speed, even at the expense of average climb rate. However, more data on wing loading must be collected to resolve this point.

Overall, the conclusions for cross-country and competition pilots are:

- Find strong lift and fly in it;
- Dolphin fly to gain energy during cruise;
- Use water ballast to increase wing loading when average climb rates are above 3 knots.

Fly safe and fly fast! ❖

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Ovila (Shorty) Boudreault

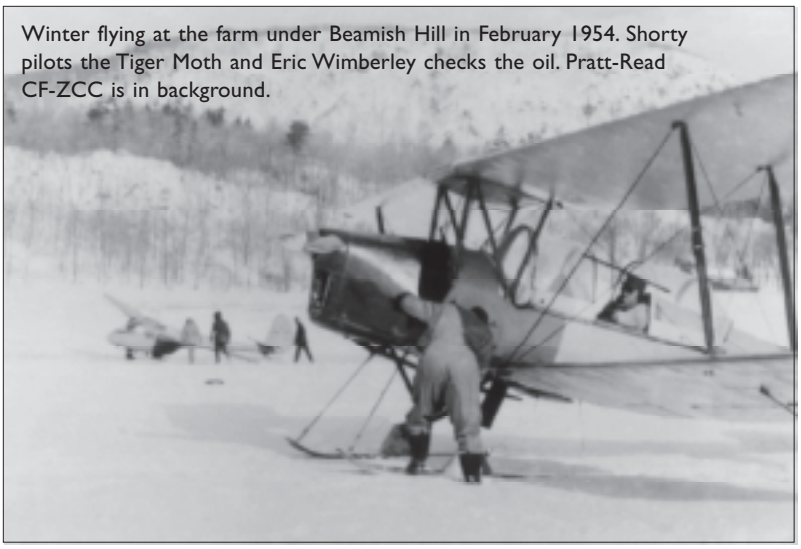
a SAC pioneer has left us

Jim McCollum, GGC

OVILA BOUDREAULT, wrote "Chem" Lecheminant in 1949, was a pioneer and towering 5'-1" pillar of strength of the Canadian soaring community and a founder of the Gatineau Gliding Club (GGC). He passed away earlier this year following an extended illness. Known as "Shorty" by most, his list of accomplishments was long, not the least of these was his capacity for making friends, a number of whom have contributed to this article. Let us begin, however, with a few brief details.

Shorty was born in Ottawa on 13 December 1917 and he left us on 29 March 2004. Professionally, he was an AME (Air Engineer's Certificate issued in September, 1941). He started his career with the Ottawa Flying Club, who was managing pilot training and aircraft maintenance at the British Commonwealth Air Training Plan airfield at St-Eugene, ON. He then went on to Air Transport Command at Dorval and then to the National Research Council (NRC) in Ottawa. He held Canadian FAI Certificate No.1, was the first Canadian to earn a C badge, the first to earn a Silver C, the last leg (5:28 hours in the Grunau Baby) completed on 1 August 1948, and was a leading member of Canada's first international team in Spain. His first glider flight was in a winch launched Dagling primary on a snowy day in November 1942; he recovered from a 300 foot agl spin in same; earned his Silver C in a Grunau Baby, and owned a Phoebus C (VNE), the first fibreglass glider in Canada. (It is still flying and currently owned by Tom Milc of the GGC). He learned to fly power in 1950 in a Tiger Moth at the Bradley Flying School in Carp, ON. The last recorded flight in Shorty's log books was on 10 July 1977, in VNE, at Pendleton airport, although he continued to fly dual for many years with various members of the club.

Shorty and the Dagling at Mulvihill farm in the Gatineau Hills west of Ottawa. He earned his C badge here in the Dagling, 4 July 44.



Winter flying at the farm under Beamish Hill in February 1954. Shorty pilots the Tiger Moth and Eric Wimberley checks the oil. Pratt-Read CF-ZCC is in background.

Shorty's logbooks indicate that he flew a wide variety of gliders: Dagling, Pratt-Read, Tutor, Olympia, T-21, Weihe, Skylark 3, Sisu, Blanik L-13, and a Phoebus C among others. Also sprinkled throughout these books are the names of many persons of importance in the development and history of our sport, particularly in Eastern Canada: Norm Le Cheminant, Norm Tucker, Glenn Lockhard, Charles Yeates, Elvie Smith, Albie Pow, Eric Wimberley, Les Staples and John Soulsby.

Ray Bastien (Président: Club de vol à voile Gatineau)
J'ai rencontré Ovila Boudreault pour la première fois, dès l'âge de 15 ans, alors que j'étais étudiant au Collège St-Michael de Buckingham, Québec, dans un des programmes de science sous la direction du Révérend Frère Hormidas Gamelin. Frère Hormidas, un pilote de planeur lui-même, ainsi qu'instructeur, l'a invité à entretenir ses élèves sur le vol à voile. Monsieur Boudreault nous a enchantés avec son petit modèle de planeur et quelques anecdotes de ses exploits merveilleux.

Ce n'est que quelques années plus tard, à Pendleton, que j'ai refait connaissance avec ce "grand" personnage de vol à voile, lors de mes premiers vols en solo. Ce ne fut, par la suite, qu'occasionnellement que nous nous sommes revus durant les quinze quelques années suivantes, parce que je volais principalement à Buckingham. Lors de mon retour en permanence à Pendleton au printemps 1977, nous avons de nouveau renoué amitié, une amitié qui a duré jusqu'à cette année.

Joe and Blodwen (Thomas) Piercy and Frank Woodward
Led by Señor Shorty, Team Canada literally "glided" into the international soaring competitive scene in a derelict

Shorty signals for a winch launch of the Grunau Baby CF-ZBH (one of the "war prize" gliders) at Carp airfield, ON in the late 40s.

1952 Madrid
Worlds or bust!

Shorty with the Skylark 3, CF-ZDJ, that he flew in the early 60s.

British taxi. Simply getting to the contest was a contest in itself, but great fun.

Here is what happened. The competitors: Shorty, Albie Pow, Frank Woodward, and Barrie Jeffery with crewman Peter Shaw arrived in London, England in an RCAF Canadair Northstar. There they joined fellow ground crew Blodwen Thomas and Joe Piercy. Joe bought a 15 year old London taxi to transport us from London via France to Madrid. The taxi, well-laden with luggage and spare tires, made its first stop in Paris, where Shorty's sister, Gaby, was working at the Canadian embassy. We spent the night in sleeping bags on the floor of l'Hôtel Boudreault, alias Gaby's apartment.

We soon became well acquainted with French mechanics, as well as the taxi's habit of having a flat tire every afternoon. Finally the chain that ran the generator and fan broke and, to our chagrin, a replacement had to be specially ordered from England. The consequences: there was a daily recharging of the battery or no lights (at one time a flashlight substituted), and we had to glide – power off – down Pyrenean hills and were eventually obliged to remove the hood to facilitate cooling the engine. The essential chain ultimately arrived in Madrid by post and our tired taxi was born again.

Your team camped by the roadside through France and Spain, as well as on Madrid's Cuatro Vientos Airport, home of the Real aeroclub de España and the competition site. Shorty and Albie Pow flew Weihe sailplanes in the monoplace competition, while Frank and Barrie flew a Kranich II in the biplace events. On the final day Shorty set a Canadian distance-to-goal record by flying some 77 miles from Madrid to Torresaviñan in an hour and 14 minutes.

Following the contest, we drove back to London via Switzerland, Germany and Belgium, albeit the person riding shotgun was no longer atop a duffle bag, but on a case of sherry donated by our new Spanish friends.

Eric Wimberley

I met Ovila on a cold and snowy November day in 1942. He and a group from the NRC had built a Dagling glider, a basic open design with the pilot sitting in an exposed seat with feet resting on a simple rudder bar in front. Its first flight was from a field just across the Richmond Road from my home, a site which is now home to a large shopping complex and residential neighbourhood. Ovila was one of the first to fly, launched by winch. That winter the Dagling hibernated in our barn.

The following spring the group moved to the Mulvihill farm, on the other side of the Ottawa River a bit west of Aylmer, Quebec. It was here that Ovila embarked on his journey to become Canada's premier glider pilot of the period by ridge soaring along the Eardley Escarpment.

Ovila was a moving force in establishing the Gatineau Gliding Club, whose name reflects the club's Eardley years, and participated in the establishment of the Soar-

Shorty with VNE at Gatineau in early 70s.

ing Association of Canada. He also played a major role, with Brother Hormidas, in developing a flying program at St. Michael's school in Buckingham, Québec.

I recall the Saturday when Ovila went AWOL. After a day's flying at Pendleton, he did not show up at home and his family became concerned. It seems that he left Pendleton for home, but it was a beautiful moonlit fall night and the wind was blowing in the right direction. When Ovila reached the highway along the Ottawa River at Wendover, he turned right towards Montreal, rather than left towards Ottawa. Five hours later, to his surprise, he found himself in Warren, VT; a natural navigational error that anyone could make, he claimed. On a hunch, the next day his family telephoned the Sugarbush airfield; they were informed that he could not come to the phone as he was wave soaring.

There are many, many other stories that could be told about Shorty. Without his ever-optimistic and energetic enthusiasm, many of our golden memories might never have been. He was a major player in advancing all aspects of the gliding movement in Canada and he will be sorely missed by all who knew him.


Shorty's last flight 26 Aug 2000: Dave Smith (back seat), Doug Laurie-Lean, and sister Gaby Boudreault.

Guy de Puyjalou

Les membres de ma génération, ceux qui ont eu l'honneur et le plaisir de te connaître et de te côtoyer dans les années lointaines où il faisait bon s'envoler vers les firmaments bleus dont nous étions tous passionnés, regrettons ton départ tout en rappelant des souvenirs ineffaçables de "Shorty" Boudreault, un de nos héros de l'aviation civile d'après-guerre. Nous avons goûté aux accomplissements et aux joies de ta vie de pilote, en partageant avec toi des récits d'expériences et en profitant de tes sages conseils. Tu étais un ami, un professionnel respecté, un modèle pour tous les apprentis-aviateurs que nous étions, émerveillés par tes prouesses.

Elisabeth McCollum and David Smith

Long after Ovila had stopped flying and VNE had been sold, he and the Boudreault sisters continued to visit the club. What a pleasure it was to see them! It appears that we were the privileged ones who shared his last flights. Comments in our log books reflect how very pleasant and meaningful these flights were for both of us; they will always be cherished.

Concluding remarks: An interesting paradox about the past is that it is not. Ovila will live on in the memories of those of us who were fortunate enough to know him, as well as in the important contributions that he made to the Gatineau Gliding Club, the Soaring Association of Canada and the Canadian aviation community more generally.

The late Will Rogers once remarked that he had never met a person that he did not like. It seems fair to conclude that Shorty could also claim the reverse; he never met a person that did not like him. ❖

Footnote: *Several others contributed in various ways to this article, in addition to those who authored portions of the text above. Most importantly were Shorty's sisters: Gabrielle, Annette, and Georgette, who supplied his log books, FAI certificates, and numerous anecdotes. Blodwen Piercy furnished some photos, as did Ian Dudley. David Smith also provided assistance. The texts of the various authors have been abbreviated to keep the article to a reasonable length. The complete texts make interesting reading and these, along with other articles and numerous photographs, have been published by the Gatineau Gliding Club in a booklet that can be ordered from the SAC office.*

Free flight has some excellent references to Shorty's soaring adventures. The best two, "The Ballad of Boudreault's Boat" and "Shorty and the Silver C", are in the 1995/1 anniversary issue (archived on the SAC website). Also, a good story of his early exploits is in SAC's 1948-49 Yearbook.

Ely, Nevada – 60 hours and 6000 km in 2 weeks

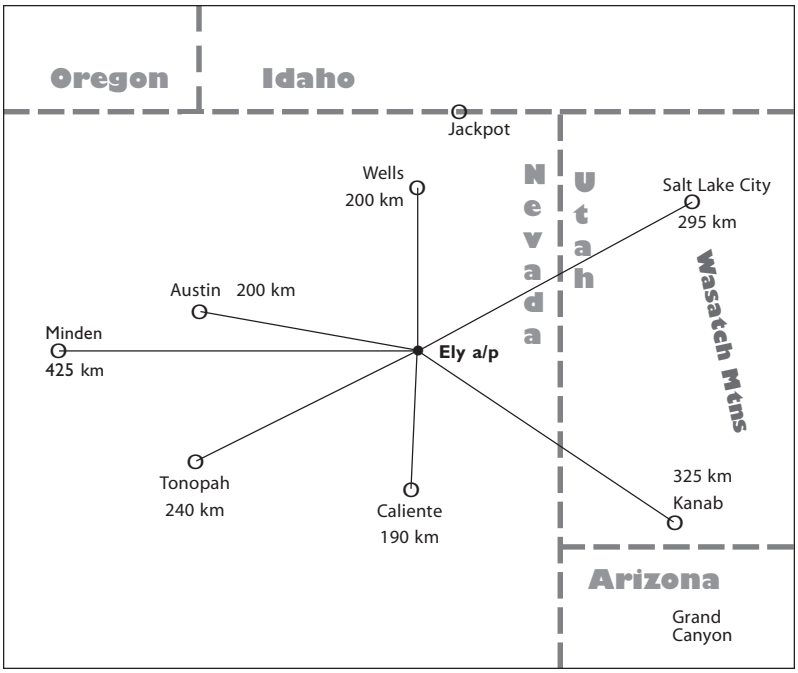
Larry Springford, SOSA

ELY, NEVADA is in the Great Basin Desert of the southwest. It is a premier gliding site, albeit with a few hazards which are unknown in southwestern Ontario. Among other things, the terrain you're flying over seems like moonscape. For seven years now, Tom Stowers, who operates High Country Soaring in Minden, Nevada has been putting on these camps. Prior to that he had been running soaring safaris through much of the same country, but found they were not feasible economically due to the large number of motorgliders taking part.

When I first learned about these operations, Tom had explained that he had started them to restore some of the social aspects of soaring that are missing in the western USA due to the large number of commercial operations. He has been successful in that. I now number several western glider pilots among my friends from these trips.

This was my second Ely Camp, and I had also previously done one of the safaris. However, on this one I felt as though I was still on a steep learning curve. On the first ones, it seems that I wasn't fully aware of all the hazards.

There were some *big* names at the camp. Ray Lynskey, the New Zealander who won the Open class in the Worlds in 1995, flying a Nimbus-3T regularly did flights over 1000 kilometres almost every day. I believe he's been coming to these camps since they started. I think his longest was an O&R up into Wyoming for about 1400 kilometres. Steve Fossett, an American, was there with Terry Delore, another Kiwi, attempting records in an ASH-25M. Fossett seems to have buckets of money — he arrived in his personal twin jet Citation. (He had just finished setting a round the world record in a sailboat.) Terry, if my memory serves me correctly, was the first person to fly 2000 kilometres in a glider — and in New Zealand where the two islands are each only a 1000 long! They missed a 1250 kilometre speed record by less than 0.5 km/h! Oh yes, and they flew into Oregon one day!



Carl Herold (of sailplane handicapping fame) was also there. He provided a lot of information to everyone since one of his main preoccupations now is to identify and assess the suitability of airfields and other landing sites. He gives lessons in his Nimbus-3DM, so he has a personal interest in identifying safe landing sites. Carl didn't start talking about landing sites until the second day. Prior to his marking up some sectionals with unsafe airfields, I was feeling pretty comfortable. I knew that in Nevada you only landed on dry lakebeds or airstrips. Then I found that some of these fields that I thought were okay, were in fact hazardous. In fact, one of the pilots had broken his glider on one of them last year. And not all the lakebeds were suitable either. My confidence took a bit of a hit that day.

One of the other interesting areas that Carl talked about was the density altitude effect on landing runs. Oh sure, I learned about density altitude in power flying and I knew I needed longer runways to take off at altitude, but anything I'd flown was designed to land in real tiny areas so landing runs were never given much attention. Well, the valley floor at Ely is 6000 feet. During the period I was there, the ASOS regularly reported the density altitude at 8700 to 9300 feet asl. Carl gave a rough rule of thumb that you should expect your landing roll to double for each 5000 feet of altitude. That meant that the field I landed in at the Nationals in Quebec was only one quarter of what I need here. That information gave me pause. But then he pointed out that the Open ships with their greater mass and even the Standard class ships with only spoilers had much more of a problem than my good old ASW-20 with its superb landing flaps. (Yes, I guess there are advantages to 15m ships!)

The weather on the first week started out great and then deteriorated, so that by the end of that week almost all of us took two days off due to weather rather than just being tired. The weather in Ely this year was as strange as it was across the rest of North America. The problem in this area was the increased moisture that was translating into virga which frequently contained lightning. On one flight when I was skirting some virga in which I'd seen some lightning, I heard a *bzzztt* on my left side, the side where the virga was. I immediately looked ⇨ **p19**

the Alberta provincials

the contest that was

Tony Burton, CD

AFTER THREE YEARS our provincial competition trophy has finally been freed from the last winner's mantelpiece. Not because Al Hoar had won three years in a row, but we finally got an official contest completed with two days of scoring using handicapped PST and TDT tasks. In 2002 only one flying day was possible and 2003 was cancelled when the Lost Creek forest fire in the Crowsnest Pass closed out the Cowley Summer Camp midweek.

Now 2004, the Provincials moved to Claresholm and I advertized it as the 2005 Nats dress rehearsal. We had two practice days and four contest days available from 29 June to 4 July. Surely more than enough time to get in some decent soaring in the best average soaring weather of the year. That turned out to be the trouble; instead of getting average weather (read climate) we got *actual* weather — more of the humid and unstable airmass that was locked into an "Omega block" that persisted for three weeks(!) to bedevil all of the Cowley camp *and* the contest.

29 June Only a few of the signed-up pilots were here for the first practice day — the Calgary guys were probably spending a day or two at work to justify their paycheck and see their wife and kids again — at least for those who had been at Cowley. The tephigram for the day showed that there was little likelihood for soaring as the temperature wasn't likely going to get high enough (26°C) to get around the elbow of the morning inversion. In any case, any better ground heating as was likely to occur on the higher ground to the west would go to cbs with the 50% humidity of the airmass. The flat ground stayed mostly blue and by 5 pm the few small cu to the east were extending upwards in tall columns of tcu.

30 June Forecast for the second practice day: showers and chance of severe thunderstorm. The morning had an extensive mid-level overcast from the night rain which did clear off. During the day there was some cu at 2500 agl until big anvils from cbs over the mountains shadowed what little lift there was. Only five short flights were made, and Bruce Friesen landed out his Standard Austria in a pasture just downwind of the sewage lagoon two miles to the west.

1 July An actual score produced! The forecast was poor; a trough was sitting between us and the Rockies, only a high of 22°C was called for and thundershowers. However, it actually turned out to be soarable, with the build-ups staying away to the north, and the high went to about 26 which provided an 8000+ cloudbase and good little thermals if you could find them. The cu were persistent in the vicinity of Claresholm but one needed legs to cross a blue patch to the east to go that way. A street led over Claresholm from Granum (to the south) to the fire lookout on the Porcupine Hills (to the west) that tempted a few pilots to try that turnpoint. A lot of cirrus and cb blowoff made it risky to go too far afield because the conditions changed quickly and could shut down at any time.

A short 1.5 hour TDT task was called and Struan Vaughan was motored off in his DG-400 as sniffer when cu started to form at a useable height. With the second thermal found, the grid was launched at 1300. The start gate opened a few minutes before 1400 with quite a few pilots lurking in the start area up near cloudbase. All got going asap given the uncertain looking sky. Everyone got a score. Rolf Siebert and Vaughan Allan dared to go a long way downwind to the northeast and both made the Bassano Dam turnpoint 114 kilometres away and timed out on the way back. With good looking cu lined up between Granum and Stavely, the next town north of Claresholm, I stayed close to home, flying conservatively, and was surprised to find that the strategy had won me the day.

2 July Thunderstorm warnings (again), PoP 40%. Pilot meeting delayed to noon to see if any soaring possible. By 1130 a big cb building to the northwest was moving south down the Porkies and its anvil was overhead at noon. The day was cancelled. A severe thunderstorm warning was issued later in the early evening. All remaining gliders were derigged, the last one after 10 pm by headlights. At last light the huge cb to the north evaporated.

More of the same old same old the next day. By late morning there was some cu development at 2000 agl and a little clearing of the mid-level overcast. By noon there was no change and the day was cancelled. By 1230 there was a massive line of black moving down from the northwest which gave heavy rain at 1330 and that was it for competing in Claresholm.

There was opinion that we really have to try to make the contest legal by having a "Provincials – part 2" on the August long weekend. The Central Alberta Gliding Club said, "be our guests at Innisfail" — so okay, back to work preparing a new set of turnpoints ....

Innisfail

30 July This Friday, naturally, turned out to be the best day of the weekend with cloudbases at 8500 (5500 agl) and moderate thermals. Arriving early, I flew locally for a couple of hours then tied down E2 and went off for dinner in town with a pilot from CAGC. On leaving the restaurant 45 minutes later, the earlier benign-looking sky now was utterly evil, with low scud and a wall of rain bearing down from the north. As we drove quickly to the airport, it was apparent that the very edge of a monster storm had gone by as it then stopped raining and became blue overhead as we arrived. The airfield was saturated and hail-covered, and E2's stab had many small impact dimples! It was amazing how quickly a nothing sky had morphed into a hail-filled cb.

31 July There was a cold airmass to the north, clear to the south but a lot of cloud overhead at 10,000 where the wet and dry adiabats met. There was no task. ⇨ **p19**

the Ontario provincials

the contest that wasn't

Jim Fryett, Contest Manager

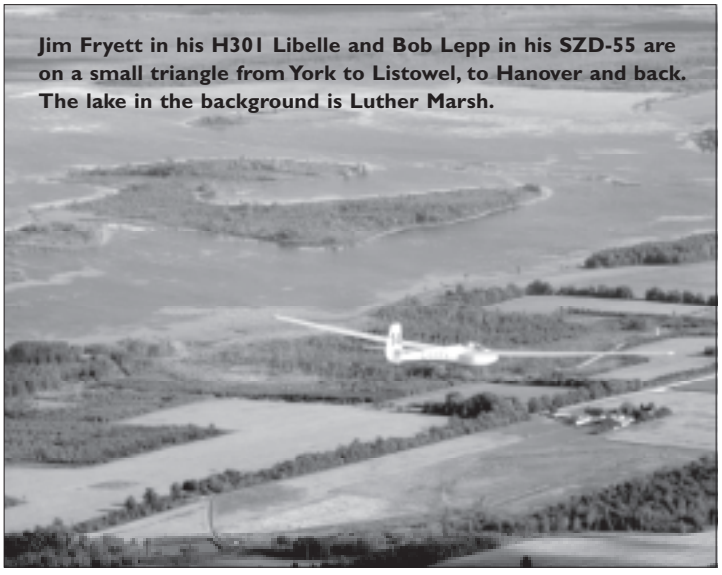
THE LABOUR DAY long weekend traditionally marks the Ontario Provincial Contest date, and this year, York Soaring hosted the festivities thanks to the courtesy and great patience of club president Walter Chmela. This was a "homecoming", in that many of the pilots had flown their first contest at York many years ago.

York has specialized in being a facility for training and introducing the public to gliding through intro flights, and is probably the busiest club in Canada. It has begun to attract quite a few cross-country pilots due to its excellent location, far from lake effect and airspace issues, and the fact that it is open for business every day during what passes for summer in Southern Ontario. The York pilots, including Bob Lepp and Tim Wood, have been scoring very well on the On Line Contest, and Charles Petersen has become a champion for cross-country soaring at the club. He has arranged Bronze Badge courses and the CAS clinic at the club the last two years, and his partner-in-soaring, Tony Firmin, coordinates the OLC and deals with file-submission issues. Erin Soaring is now operating out of York, and they have brought their enthusiasm to the mix.

At the winter banquet, Charles announced that we would be hosting the Provincial Contest, and the preparations, and nail-biting, began. I have enjoyed cross-country soaring for many years, I look forward to seeing old friends at these contests, and in fact actually won the Ontario Provincials three years ago, in "14", my faithful Libelle 301. I live near the club and was asked to take care of the contest organization. Thankfully, old hands Ed Hollestelle Senior in A1 and Dave Springford in F1 agreed to be Contest Director and Official Scorer. We were underway.

As part of his fostering of cross-country soaring, Charles works hard with Youth Flight Canada and is a big fan of the Canadian Junior Team, currently operating out of SOSA with the sponsorship of Jerzy Szemplinski at Windpath Corporation. Charles worked with Doug Scott, the Ontario SAC Director, and Richard Sawyer, York CFI, to include a Novice class in the contest to allow newer cross-country pilots to meet and to learn from the big guys and learn the basics of flying a contest. Doug set some local tasks to minimize off-field landings, and Richard coached and selected some budding club pilots including a couple of instructors and his own son, Jeremy, who is up to three landouts in his first 39 hours. On a related topic, Doug was team-flying with Brian Laurence, whose idea of practising seems to be landing out in order to uncover the shortcomings of the CS-77 trailer. Once again, Charles to the rescue.

Bob Lepp



Jim Fryett in his H301 Libelle and Bob Lepp in his SZD-55 are on a small triangle from York to Listowel, to Hanover and back. The lake in the background is Luther Marsh.

We also had the participation of the Social committee at York, including Eillean MacKenzie, Estelle Forget and John Platel, who set up and provided some terrific meals, including the best tasting corn I've seen since my last landout. Paul Moggach and Dave McKenzie organized the grid and the launch sequence, with help from Chief Towpilot, Jon DeMarco. Great Lakes brought their entire operation over to York for the weekend, and kindly added their Pawnee towplane to the mix. Nearby Toronto Soaring had their towplane on standby for us, and we greatly appreciated the support. We were delighted to see twenty-one entrants, surpassing the recent Nationals, and eight gliders in the Novice class. There was some team flying involved, so there were well over thirty participants.

Great Lakes has an aggressive way to promote cross-country soaring — they had a two seater in each class, allowing each day a novice pilot to be coached by an experienced back-seater. They also brought their 1-26 and Ka6 to the Novice class. Jan Juurlink of Great Lakes was pleased to renew his acquaintance with Willem Langelaan of SOSA, whom he had last seen on the Dutch National Team in the early 70s. "Patches" Hildesheim and family from Gatineau travelled the furthest. In all, seven clubs were represented. Many pilots were flying their first or second contest, and we were really encouraged by the novices wanting to advance their skills. (We need to prepare for the day when Jim Carpenter and Walter Weir decide to retire.)

Day One, the viz was poor and the day was scrubbed, for safety concerns, but Jerzy in MF and Marian Nowak in N1 flew the task, and Richard Jones from Toronto Soaring flew the Novice task. Stan Martin of Erin added to his birthday celebrations by contributing the lone landout. He missed dinner, but Walter Chmela cut the cake anyway, and we had big fun.

Days Two and Three were also scrubbed, but we had a great time, terrific briefings courtesy of Ed, Dave, and Jörg Stieber, and we look forward to hosting the Provincials again next year at York, and we, like all of Southern Ontario, hope for better weather. ❖

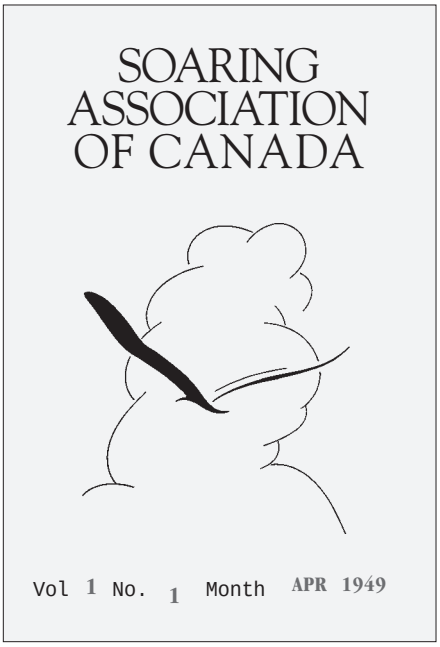
the first *free flight*

Tony Burton

SAC, after its founding in 1945, had maintained contact with its few members by occasional newsletters. Membership, at $4 per annum, was voluntary at the time – for another $2.50 you got the SSA's *SOARING* magazine. In 1949, a one time printing of the very good *1948-49 Yearbook* was well received (for general content, it compared more than favourably with much later *free flights*). In 1949, SAC decided that a more regular form of communication was needed, thus the "Bulletin" was born. That very first issue is replicated here.

In April 1950, the Bulletin was renamed *free flight*. It's astonishing that some of the concerns expressed then (an aging membership for example) are *exactly* the same today.

The Bulletin was mailed monthly in a half page (8-1/2" x 5-1/2") format with a blue cover, sealed at the edge with a 1¢ postage stamp.



AN INTRODUCTION

by

A.N. Lecheminant
President, S.A.C.

In introducing a new venture of the SAC, a regular Bulletin, we go forward yet another step in our aims - the early dissemination of knowledge and information affecting or of interest to those who glide and soar.

The Bulletin will replace very largely the newsletters of the past.

Regarding our Year Book, the response and reports have been most encouraging. It has been voted an unqualified success and will add prestige and stimulus to the gliding movement in Canada as a whole. One of the unexpected results of collecting material for the book was the extensive cooperation of many of our members. It is in the light of this co-operation that we have ventured upon the Bulletin; we are aware now that our members can and will contribute; we are counting upon them to do so regularly.

page (b)

Doug. Shenstone, who clears Box 851, opens and distributes all mail through the proper channels; he is thus able to extract information "on the fly", so to speak. Since he has taken on the responsibility of the Bulletin, he gains a certain amount of information in this way. However, the success of the Bulletin does ultimately rest with the members.

Letters, descriptions and articles covering gliding operations or problems are required.

May I request that everyone try to take time out to forward such information.

If you accomplish a notable flight, if only of note in your own district, let us hear about it; if you find your way through or over a technical problem, make a new winch or discover a more effective method of operation, it may well help someone else.

It will be the aim this year to weld the SAC into a more efficient organization. Future

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information to appear in the Bulletin will outline these aims and the methods of achieving them.

As far as financial assistance is concerned, while the SAC has in the past, and will in the future make representations with a view to improving and assisting gliding generally, it is quite apparent that for another year at least we will have to stand on our own feet. There is an old adage about God helping those who help themselves -- but there is an even better version about helping each other.

Remember, too, the younger people. A definite trend is apparent at international meets which reveals the average age of participants to be increasing each year. This simply means that the younger generation is being neglected. They take flying for granted and the emphasis on speed often blinds them to the greater sport to be had in the buoyant lift of thermals.

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Two clubs have recently been formed, each with a school as a background; they are the efforts of older, experienced people who realize that our future lies in the encouragement of interest in motorless flight at as early an age as possible.

Every operating club should strive to encourage the interest of the young in its community. Reduction or elimination of fees - however unsound it may appear to the economic minded - is one way to enourage the appearance on our fields of the future generation of glider pilots. These lads and lasses can be quite useful. A sympathetic ear to questions - a drive to the field - the assigning of a task - these will, I am sure well repay the time spent.

It will be a great pity if, after years of gruelling endeavour we have to experience the sight of high performance sailplanes sitting on the ground, awaiting pilots to fly them.

Good soaring and success to the SAC Bulletin.

Montreal, Que.
April, 1949.

SOARING ASSOCIATION OF CANADA

P.O. BOX 851 OTTAWA, ONT.

APRIL 1949

This, the first issue for the new SAC bulletin must necessarily be confined mostly to business matters rather than human interest.

<u>THE ANNUAL MEETING</u>

This took place at Kingston, Ont. on 12 February, bringing about a change in the executive which, during 1948-49 had carried on under the able presidency of W/C Don. Holman, of Toronto.

F/L A.N. Lecheminant of Montreal was elected President, with

Gordon Spafford of Queen's U. Gliding Club as Vice-Pres. Barrie Jeffery of Arnprior was appointed Secretary and Ken McGurk has agreed to carry on at least for the time being, as Treasurer.

Directors were elected as follows:

Bill Frayn - Kingston, Ont.
Don Holman - Toronto, Ont.
D.A. Shenstone - Ottawa, Ont.

Honorary life membership in the SAC was unanimously voted B. S. Shenstone now with British European Airways in England, for his many services on behalf of the Association.

MEMBERSHIP FEES

During the meeting the question

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of membership fees and the tie-in with the magazine "SOARING" was brought up. It was felt that a number of prospective members were discouraged from joining the SAC due to the fee of $4.00 a year, and that this fee could be reduced if it were not obligatory to take the magazine.

After considerable discussion the matter was put to the vote, the outcome of which was that subscription to the SAC would in future be $2.50 and, if a member wished to receive the magazine, he would be charged an additional $2.50.

It was however urged, during discussion and is still urged, that the membership of the SAC support the magazine to their utmost, since it is the only publication of its kind on this continent and is the only channel through which gliding people may keep in touch with developments. It was also pointed out that the magazine contains a Canadian section which would develop with the growth of the sport in Canada.

CHALLENGE TROPHIES

Presentation of the BAIC Trophy to Ralph Anders of Toronto Gliding Club was made by last year's winner, Jack Ames. Anders' flight of 69 miles from Oshawa to Trenton was the best flight of the year and constitutes the Canadian duration record to date.

Queen's University Gliding Club was presented with the Roden Trophy as the most active club during the year.

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Dr. R.C. Wallace, Principal of the University accepted the trophy from Berkely Roden on behalf of Bob Cuddy, President of the Queen's Club.

CLUB NEWS

A meeting of the Gatineau Gliding Club of Ottawa, held on 25 March resulted in the election of a new slate of officers: Mr. A. B. Coulter took over as President, with Herb Henshaw as Vice-Pres. and Nadine Harley, Shorty Boudreault and Jack Fleming as Directors.

Herb Henshaw also was elected to the chairmanship of the Management Committee with Shorty Boudreault as Chief Engineer and C.F.I., and as members, Bill Curran and Nadine Harley. Kay Taylor was appointed Secretary and Gordon Grant as Treasurer.

This club's Pratt-Read, damaged last year, is now in working order again and at present under the eye of Barrie Jeffery at the Arnprior airport, where it has been flown briefly this winter. The Olympia is now under repair at Hughes-Owens Ltd., thanks to Bill Curran. The main spar and port wing are spliced and passed out, and the nose is ready for fitting. Tests are planned for early summer.

Ralph Anders reports that the Toronto Gliding Club held a successful social evening on 26 March at the home of Helen Edwards.

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With assistance of Al. Goodenough - and the Dominion Met. Office - some interesting films on cloud types were shown. The one dealing with cumulo-nimbus was given special attention and a number of members were heard making resolutions for the coming season.

A cartoon and other shorts made up the film show. Pamphlets on weather were made available by the Met. Office and a large number of copies of "SAILPLANE & GLIDER", "SOARING" and other books of interest were brought along by members.

"Hats off to Helen and her mother", Anders closed, "for the wonderful spread of sandwiches and gallons of coffee. It felt better than ever to be in the Toronto Gliding Club".

THE MARKET PLACE

It is planned to make this column a monthly feature to spread the news among members and friends who have for sale, or are interested in buying or swapping gliding equipment of all types.

Send in your information and it will reach to every member across Canada. It's suggested that, if you are selling, you name the approximate price you wish to realize.

Meantime, the SAC has a number of interesting items both for sale and for free, which are listed below.

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1. Approved winch blueprints. (No price available yet).
2. Approved tow-hook installation for Moth (2 drawings) .....25¢
3. Approved "weak link" drawings ..10¢
4. Canadian FAI "B"&"C" badges ...75¢
5. Log Books .....50¢
6. Precis: "Approved Gliders and Sailplanes" .....FREE
7. Precis: "Notes for Contest Organizers" .....FREE
8. Precis: "Notes for FAI Observers" .....FREE

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S.A.C. BADGES

Members are requested to give their opinions of the desirability or not, of having SAC Badges made. Such an emblem would take the form of an oval lapel pin with a gull-wing sailplane of silver on a blue background, with the letters "SAC" beneath the craft. Price of these pins would run to about $1.50 each.

Arrangements will be made to secure them, providing enough members signify their interest. All members will be kept advised through this bulletin.

THE S.A.C. YEAR BOOK

There are still some copies of the Year Book available. Many clubs have found that the distribution of this publication to friends and interested firms has been of great value in increasing membership and gaining financial support.

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Attractively set up in digest size the book has been enthusiastically received across Canada. It contains some 80 pages and numerous photographs. ⇨ next page

THE BULLETIN

This is the form in which it is planned to contact you every month for at least the next 12 months. However, in order to issue it regularly and have it contain matters of interest to you and fellow members, the editor must depend upon each one of you to contribute news and information.

The bulletin is planned so that it may expand without heavy cost and the more you contribute, the bigger and better it will become.

Presidents of Clubs, or leaders of groups are asked to take on, or assign to one of their members the task of writing to the editor at least once every month. Since the bulletin will be issued in the first week of every month, material should arrive on or before the close of the previous month.

The lifetime and quality of this bulletin depend entirely upon you.

Suggestions and criticisms are welcome. Address all inquiries and information to:

Doug. Shenstone,
P.O. Box 851
Ottawa, Ont.

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Club news

York solos paraplegic pilot

It can be done, and it has been done — on Monday 13 September, Michael Clarke became the first Canadian paraplegic glider pilot with his solo in the Krosno of "Freedom's Wings Canada", 4 Kilo Papa, equipped with a rudder stick and modified spoilers.

Saturday saw Mike arrive with his medical (finally) from Transport Canada. Sunday saw Mike arrive with his medical and his birth certificate, and Walter Chmela soon issued the Student Pilot Permit. Mike made two solo flights, and then enjoyed the traditional "Baptême de l'Air" as a bucket of water was inverted over his head. Only eighteen more solo flights to go and, of course, the small formality of the TC exam, and Mike will have his licence!

The events were captured by well-known Carl Hiebert, a paraplegic ultralight pilot and published photographer, and Carl will make the pix available for our website and scrapbooks. Carl also took a flight and had the aircraft mastered midway through – a result of his hours of hang gliding and flying the ultralight.

We also had a troop from the Chedoak Rehab Hospital in Hamilton, led by Rob Murphy, who has declared his interest in following Mike's example, and he will commence his flight training. We welcome Rob to our club.

On behalf of Freedom's Wings Canada, my thanks to all the members and instructors who assisted in Mike's training and flying.

Charles Petersen

† Paul A. Schweizer

Paul Schweizer died on 18 August at the age of 91. He was a true pioneer of soaring in North America. Paul was not only deeply involved with all the gliders designed at Schweizer Aircraft but was well known as a competition pilot, author, lecturer, soaring historian, and spokesman for soaring. I believe he would have considered his major achievements to be the formation of the 1-26 one-design class, and the founding of the National Soaring Museum on Harris Hill.

It is probable that he first became known to Canadian soaring pilots when Canadians began to seek repair service for the war surplus TG-2 and TG-3 gliders that were imported to Canada shortly after the end of WWII. A few years later we saw the arrival of the 1-19 and 2-22. We must not forget that the only 1-23 to be built outside the factory was assembled in Winnipeg by Dick Noonan, and I am sure that there was considerable correspondence with Paul for that project!

With the increased activity in Canada, Paul became a welcome annual visitor to our SAC Annual General Meetings.

I know that he was very pleased when the Air Cadet League of Canada adopted the 2-33 as their training glider and the League has been equally pleased with the support that they received from Paul.

I first met Paul in 1954 at the World Gliding Championships in England and last met him at the 2000 International Vintage Sailplane Meet where he told me that he hoped to attend the next SAC AGM when it was next to be held in the Toronto area. I promised that I would see that he received an invitation. I was looking forward to meeting him again at the 2005 International Vintage Sailplane Meet at Harris Hill, Elmira, over the week of 20-27 August. Alas, this is not to be.

Paul is survived by his wife, Ginny, who was one of the early female glider pilots and holder of several records.

Terry Beasley

Alberta provincials

from page 14

1 August At 4:50 am tenters were awakened to a whole lot of noise as a cold front arrived with another mighty wind and downpour. The torrent eased off after a while but the rain persisted until 8 am with just over an inch having fallen.

As the morning progressed the classic nature of this cold front was seen, with the overcast progressively breaking up, then blue sky followed by quickly-forming low cumulus moving down from the northwest. The sun was shining by noon, low cu at 1300, and the high was forecast at only 18-19°C. We had a chance to go flying and I called for gridding and be ready to go at 1430.

The task was a 2 hour PST. Conditions were quite weak but it was a go and the start gate opened at 1520. The cu looked suspicious and the thermals were soft, though there was the occasional 4 to 5 knots that couldn't be centred. There was more overdevelopment as the afternoon advanced and you had to stay in the sunshine with only the better-drained fallow or swathed fields generating any lift. With the bases only at 6200 msl until late in the day when they got to 6800 to the north, it was "get high and stay high" and use everything you could find and tiptoe along with the less than 2000 feet of questionable operating height.

By day's end it was finally a contest, though no one got very far. Day winner Bruce Friesen actually got to a turnpoint , Pine Lake (37 km away) *and* return, mostly to see the house of the relative he was staying with. Phil Stade did well getting to Caroline 50 km to the west, but he landed about halfway back, and I got to Hespero airport (39 km away), also landing halfway back.

The retrieve crew garnering the most honour and an solid gold IOU on dinners was John Gruber and Al Hoar who got me out of the middle of a very big soft, damp, well-plowed field. As soon as E2's gear gained purchase at the flare, it was an abrupt carrier landing stop — the wheel mark was only about 30 feet long! At stop the fuselage was resting well down in the dirt on its belly. That was a 5g max arrest if my math is correct (I had a sore neck for the rest of the evening).

After getting the trailer set up in the back yard abutting the field, it was a 500 foot return slog three times to manhandle the bits back to clean grass. The really hard work was moving the fuselage. It turned out that the abrupt stop had bent the wheel downlock, and the wheel would retract every time we hit a big lump of earth while rolling. Then the wheel got progressively harder to turn as it gathered up the soil. We rolled it backwards for a while (that also solved the self-retracting problem) until, with about 150 feet remaining to the "shoreline", the wheel got loaded up that way also. The fuselage had to be carried the rest of the way to the side of the house where it took much hosing down to get the belly and wheel well clean enough to fit on the cradle and to retract the gear.

The *really* interesting contest stories always seem to be retrieves. Thanks to Al and John, and thanks to the farmer too; it took all four of us.

2 August The forecast had been for warmer weather (23°C) on Monday with our hopes that it would be a better soaring day with a drier countryside and higher bases. It wasn't there; it was humid, insipid cumulus gave an 80% cloud cover, and bases were only 2000 agl. So, no task, but finally a real contest.

A total of thirteen pilots competed, although not all were able to attend both halves of the contest. The final scores were:

1	Tony Burton	Russia	1.19	E2	826
2	Phil Stade	Cirrus	1.00	JM	558
3	Rolf Siebert	G304	0.95	RS	494
4	Vaughan Allan	DG-800A	0.85	91	493
5	Tim O'Hanlon	SZD-55-1	0.94	TJ	478
6	Bruce Friesen	Std Austria	1.35	DM	472
7	Struan Vaughan	DG-400	0.88	F9	457
8	Al Stirling	ASW-20B	0.90	1	444
9	John Gruber	L33-Solo	1.26	FO	364
10	Alan Hoar	PIK-20E	0.92	9L	203
11	John Mulder	Jantar	0.97	JJ	67
12	Peter Neary	IS-32 Lark	0.92	CU	49
13	Dave Rolland	Jantar	0.97	FG	42

Thanks to all the CAGC types who helped to make it a memorable weekend for the visiting warriors. We'll all come again. ❖

Ely, Nevada

from page 13

out at my left wing tip, hoping it wasn't shredded. It wasn't, and then it occurred to me that my radio speaker is located right behind my left ear. All I had heard was my radio picking up the electrical output from the lightning. However, the virga and the thunderstorms were regular and continuous problems.

On one day when I had finally managed to get home after a couple of low (and long) saves, three other gliders were left on the north side of the virga which I had managed to penetrate.

Flying during this camp gave me another personal first — in penetrating (or flying lift in) virga, I accumulated rime ice on my wings for the first time. Not a new occurrence that I was particularly happy about.

Primarily due to the thunderstorms, there were more landouts on this camp than in any of the previous ones. Typically in the past there had been maybe one or two air retrieves per camp. This year there were seven in one day and most of them had to be ground retrieves.

As someone described it, flying at Ely is not mountain flying, it is flying the thermals that are generated by the mountains. One is rarely close to the mountain tops (at least not if you are a chicken like me). The mountain ranges are not terribly long individually. They are scattered throughout the Great Basin, oriented north-south and separated by valleys that can be fairly wide, typically about 30 km.

So, you fly the ranges when you can, setting up your tasks to take advantage of them, but if you're trying to do anything but "yo–yo" flights up and down the same range, you have to cross the valleys to get to other ranges. My personal range this year was a couple of hundred kilometres in radius, 360 degrees around the field. However, there were many going a lot further out than that. The long winged ships regularly flew over to the Wasatch Mountains south of Salt Lake City, 300 kilometres away. In fact, the only people who got recognition at the morning meetings were those who had flown at least 1000 the day before!

So is it a worthwhile place to fly? I think so since this was my third trip that included Ely. If the weather cooperates halfway, the flying can be great. On the marginal days, though, you're limited to only 400 kilometres. How do you handle the new hazards? Well, after you have learned the basics, the saying in Ely is, "Get high, stay high, and don't look down!"

Carl Herold is running cross-country clinics there. Dan Callaghan the airport manager provides tows with his Pawnee.

Ely Camp contact info:
Tom Stowers, <*stowersjandt@charter.net*> ❖

... on the aging pilot

from page 4

Which brings me to what I think is the crux of the problem of aging in pilots. Dr. Perry said it in three separate comments:

"... it is difficult to come up with hard facts to confront the pilot with, and quite likely he will defend his position passionately",

"although psychologists have a variety of tests to assess a variety of mental deficiencies, it will be highly unlikely that the pilot will submit to them in the early stages",

"be prudent and firm in our management, always hoping to deal with it by cooperation rather than confrontation."

Would the Flight Training & Safety committee agree that what is needed is a change in the attitude of older pilots from a culture of resistance to a culture of awareness – a generative culture. So, what are the characteristics of the culture of resistance in older pilots:

• Belief in past systems. Memories of happier times with old friends sometimes lead to a point of view that since things have changed they must have changed for the worse.

• Opposition to change, often because a proposal has been tried before. Human communities need change to thrive. Even though proposals made by new members may have been tried before and failed, the proposals may have merit both because in different hands they may succeed, and because young members need to be encouraged, not repressed.

• Reluctance to take criticism. With increasing age it becomes more and more difficult. We sometimes ask ourselves what we have accomplished in life, feeling insecure, and criticism of our skills increases our insecurity.

• Resistance to the club's new responsibilities for safety. Ever-increasing concerns over the accident and claims record in soaring may lead to a point of view where senior club members feel an implied accusation of using unsafe practices in the past, and hence to a reactionary response.

• Lack of awareness of how people view older pilots. It is an alarming experience to meet someone whom one knew many years ago and to see how they have aged. And of course, the other person sees us in the same light. Prejudice about older people is common, and although it may be unpleasant and promote an antagonistic feeling, it must be accepted that people would often prefer to be taught, or taken for an introductory flight, by someone in the middle years. Those who age well know this and accept the situation with good grace.

So, the problem lies in the culture of we older members which tempts us into a defensive and sometimes paranoid response to any suggestion that the issue needs attention.

Will the FT&S committee be happy if we who wish to continue flying recognize our cultural biases and accept that clubs have no choice but to put us under closer scrutiny? Are clubs ready to accept that responsibility? Or does SAC really hope that older pilots will quietly melt away? ❖

practice makes perfect?

from page 5

but we don't say: "What do I usually do wrong that I ought to start doing correctly, not next month or next season, but today?" We don't analyze our weaknesses or systematically plan to eliminate them.

Examples abound, but the most obvious one is, how long does it take you to get the best rate of climb out of a thermal from the moment you enter it? And how accurate was your assessment of that thermal's strength before you reached it? My own besetting problem is coming out of the top pointing the wrong way, for which there is no excuse.

My teacher makes another crucial point. Once you find yourself suddenly doing it right, you mustn't just say smugly, "There, I knew I could do it!" then quit and put the kettle on. You go back and you do it again and again. If you do it perfectly six times in a row it is just possible that you didn't just hit a lucky patch, and that you are beginning to turn a difficult, artificial activity into a natural and instinctive one. Make a note of it.

S&G is available through the British Gliding Association <www.gliding.co.uk>. The long-standing humorous collection of columns in S&G by Platypus, "The Platypus Papers", is available from Marion Barritt in Minden NV, (775) 782-7353 at US$29.95.

FAI badges

Walter Weir

3 Sumac Court, Burketon, RR2, Blackstock, ON L0B 1B0
(905) 263-4374, <*waltweir@ca.inter.net*>

The following badge legs were recorded in the Canadian Soaring Register during the period 10 July to 11 September 2004.

***DIAMOND DISTANCE** (500 km flight)*

Matt Kazakoff	Rockies	502.4 km	ASW-19	Invermere, BC
Art Grant	Winnipeg	506.1 km	Jantar	Invermere, BC

***DIAMOND GOAL** (300 km goal flight)*

Glen Buhr	Winnipeg	302.1 km	Std Cirrus	Invermere, BC
Ray Perino	Rockies	303.0 km	PW-5	Invermere, BC
Art Grant	Winnipeg	398.1 km	Jantar	Invermere, BC
Landon Carter	to New Zealand	304.1 km	Astir CS	Invermere, BC

***DIAMOND ALTITUDE** (5000 m gain)*

Daniel Daly	Bluenose	5160 m	L-13	Westcliffe, CO

***GOLD DISTANCE** (300 km flight)*

Glen Buhr	Winnipeg	302.1 km	Std Cirrus	Invermere, BC
Landon Carter	to New Zealand	304.1 km	Astir CS	Invermere, BC

***SILVER DISTANCE** (50 km flight)*

Martin Brassard	SOSA	65.3 km	LS-6b	Rockton, ON

***SILVER ALTITUDE** (1000 m gain)*

Kazimierz Bulka	York	1280 m	1-34	Arthur East, ON

***SILVER DURATION** (5 hour flight)*

Wictor Puzej	York	5:32 h	1-23	Arthur East, ON

***C BADGE** (1 hour flight)*

2788	Wictor Puzej	York	5:32 h	1-23	Arthur East, ON
2789	Landon Carter	Rockies	5:30 h	Astir CS	Invermere, BC
2790	Boris Wong	York	1:09 h	2-33	Arthur East, ON

SAC records

Roger Hildesheim

49 Maitland Street, Box 1351, Richmond, ON K0A 2Z0
(613) 838-4470, <*lucile@istar.ca*>

The following record claims have been approved:

Pilot	**Rolf Siebert**
Date/Place	10 August 2004, Ely, NV, USA
Record type	100 km Speed to goal , Open & Club, Citizen
FAI Category	SAC
Sailplane Type	304CZ-17.4m, N304RS
Speed	183.7 km/h (169.0 km/h Club)
Task	GPS turnpoints
Previous Record	Open: 147.7 km/h, 1992, Walter Weir
	Club: 119.8 km/h, 2004, Tim Wood

Pilot	**Rolf Siebert**
Date/Place	11 August 2004, Ely, NV, USA
Record type	400 km Speed triangle, Open & Club, Citizen
FAI Category	SAC
Sailplane Type	304CZ-17.4m, N304RS
Speed	140.1 km/h (128.9 km/h Club)
Task	GPS turnpoints
Previous Record	Open: 119.7 km/h, 1994, Charles Yeates
	Club: 82.2 km/h, 2002, Tracie Wark

Congratulations to Rolf for a very impressive pair of flights. These flights didn't just exceed the existing records but more appropriately "blew them away".

These records almost didn't make the books. It turns out that the *.igc files that were auto-generated by Rolf's recorder did not pass the data security/integrity test. Fortunately he had kept his raw *.fil files from his recorder which were then successfully converted/verified for data security/integrity. With this recent event in mind, please send me both your *.igc file *and* your raw data file from your flight recorder when you submit a record claim. Some programs that claim to generate a *.igc file from various raw recorder files may corrupt the data integrity information in the file.

FAI BADGE SUPPLIES

Order through FAI badges chairman – Walter Weir
3 Sumac Court, Burketon, RR2, Blackstock, ON L0B 1B0
Note: items 4 and 5 not stocked – external purchase approval is given

1	FAI 'C' badge, silver plate pin		$ 6.00
2	FAI SILVER badge, pin		$45.00
3	FAI GOLD badge, gold plate pin		$50.00
4	FAI GOLD badge, 10k or 14k pin		
5	FAI DIAMOND badge, 10k or 14k pin and diamonds		
6	FAI Gliding Certificate	**10 for $39.00 to clubs**	$10.00
	Processing fee for each FAI application form submitted		**$15.00**
36	FAI SILVER badge, cloth 3" dia.		$12.00
37	FAI GOLD badge, cloth 3" dia.		$12.00

Order these through the SAC office

33	FAI 'A' badge, silver plate pin *(available from your club)*	$ 3.00
34	FAI 'B' badge, silver plate pin *(available from your club)*	$ 3.00
35	SAC BRONZE badge pin *(available from your club)*	$ 3.00

Please enclose payment with order; price includes postage.
GST not required. Ontario residents, add 8% sales tax.

SAC forms *(downloadable from SAC web site forms page)*
FAI badge application, Official Observer application, Flight trophies, FAI Records application, Flight Declaration form

ARTICLES FAI POUR INSIGNES

Disponibles au président des prix de la FAI – Walter Weir
3 Sumac Court, Burketon, RR2, Blackstock, ON L0B 1B0
Les articles 4 et 5 ne sont pas en stock – permis d'achat externe

1	Insigne FAI 'C', plaqué argent
2	Insigne FAI d'ARGENT
3	Insigne FAI d'OR, plaqué d'or
4	Insigne FAI d'OR, 10c ou 14c
5	Insigne FAI DIAMANT, 10c ou 14c et diamants
6	Certificat FAI de vol à voile (receuil des insignes)
	Frais de services pour chaque formulaire de demande soumis
36	Insigne FAI ARGENT, écusson en tissu, 3" dia.
37	Insigne FAI OR, écusson en tissu, 3" dia.

Disponibles au bureau de l'ACVV

33	Insigne FAI 'A', plaqué d'argent *(disponible au club)*
34	Insigne FAI 'B', plaqué d'argent *(disponible au club)*
35	Insigne ACVV badge de BRONZE *(disponible au club)*

Votre paiement dévrait accompagner la commande. La livraison est incluse dans le prix. TPS n'est pas requise. Les résidents de l'Ontario sont priés d'ajouter la taxe de 8%.

Formulaires ACVV
Formulaire de demande pour insignes FAI, Observateur Officiel, trophées, records FAI, formulaire de déclaration de vol

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single seat

1-26A, CF-ZDQ, #70, 2260h. Metal wings. Framing check and recovered 1998. New paint 2002. Basic inst, open trailer. $10,000 firm. At London SS. Chuck McGee, <*cmcgee@quadro.net*> (519) 283-6260.

BG12B, CF-UKB, 774h, 1967, basic instruments plus T&B, 2 elec varios (one with audio), O2, chute, encl. metal trailer. Construction plans available. A good performer and capable XC ship. Always hangared or in trailer. Asking $7000 but open to offers. Derek Kirby (905) 458-0819, <*dkirbyc614@rogers.com*>.

L-Spatz 55, C-GBBI, 15 metre, L/D 29 at 39 kts, min sink 1.3 kts, empty 165 kg, loaded 265 kg (very light, a real floater). Basic insts. No trailer (the ASW-20 trailer could be borrowed for transport). At Atlantic Canada Aviation Museum, Halifax. History and photo at < *http://acam.ednet.ns.ca/cgbbi.htm*>. Needs 100+ hr work to be airworthy. Fabric looks good but may need recovering. Make offer. Peter Myers, (613) 531-9364, <*petermyers@cogeco.ca*>

Std Jantar, C-FLZS, 1205h,1976. All ADs done. Basic instruments, ATR 760 chan radio & boom mike, LX4000 computer, metal trailer. $28,500 obo. For info see <*www.hunkeler-online.com*>.

LS1-C, #54, 1970, 2088h. Good cond; gelcoat needs redoing. Responsive, excel L/D value for those who want to DYI. Annual in 2000, all ADs done. Basic inst, mech. vario, electric vario with audio, radio. Metal trailer, overhauled and painted with Imron in 2000, with wingstand, tail dolly, and solar-powered fan. At Montreal Soaring Council. $13,000 obo. Contact: (514) 240-8642 or <*pkom@videotron.ca*>.

ASW-15, C-FBEQ, 1846h, 1970. All ADs done. One man rigging & tow-out gear, Garmin GPS, 720 chan radio, hinged canopy, nice finish, chute. $15,000. Tom Foote (902) 466-2906.

ASW-15, C-GKDS, 1040h. Std. instruments + TE vario with audio, CofA till Oct. 2004. Semi-aerobatic glider, always hangared, never damaged. $18,000 obo. Includes factory trailer and misc. items. Call Ted Beyke (416) 244-8855, <*tedbeyke@excite.com*>.

Hornet, 3458h, 1977, wings refinished in 1992 and fuse in 2002. All ADs done, annualled for 2004. Automatic control hook-up. Dittel ATR 760 radio with boom mic, Blumenauer EFA1 electric vario and flight computer, Sage mech vario. Metal tube trailer vg cond. (by Günther Geyer). $23,500. Info contact John Brennan <*hornet@sosaglidingclub.com*>.

HP-14T, C-FAXH, 1480h, glider & trailer in good condition. Trailer very stable when towing. New MicroAir 760 with boom mike, ILEC SB8, ELT, O2, new winglet-fences. Low maintenance A/C giving good bang for your dollar. E-mail me for current photos. Asking $19,300. <*spencer.robinson@sympatico.ca*> (416) 620-1218.

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H301 Libelle, 1/2 share, $12,500. Located at York Soaring. Tracy Wark, details contact Gino Cavicchioli, <*gino@ginocavicchioli.com*> (905) 549-2638.

Glasflugel 304CZ, 230h, NDH, always hangared, 15m winglets & 17.4m tips, Roger release, Cambridge L-Nav, vario & GPSNAV Model 20, Sage SV vario, ATR 57 radio, Compaq Aero PDA, tow-out gear, one-man rig. Cobra trailer, solar vent, stabilizer jacks, swing-down supports, centre rail loading ramp. In Ottawa. $US59,500. Contact: <*rwalker@devon.com*>.

Grob Astir Club IIIb, C-GTMX, #5570, 197h. Last flown July 1997. Fixed gear version. Basic insts, Ball vario and audio, Dittel 16 channel radio. Wing spigot AD done, one other req'd. At Gananoque, ON on open trailer (designed to have lift top cover, but not built), pulls very well. $26,000 obo. Glider data at <*www.sailplanedirectory.com/PlaneDetails.cfm?planeID=22*>, Peter Myers <*petermyers@cogeco.ca*>.

ASW-20, 1981, 2100h, ELT, Varicalc GPS/computer/recorder, Dittel 720 ch radio, Security 150 chute, 1989 Cobra trailer, tow-out gear. Nick Bonnière, <*bonnfutt@magma.ca*>.

ASW-20, was C-GBDJ; #20033, 190h. Last flown '86. damaged - good project to register as homebuilt. Complete factory drawings for ASW-20 and long winged ASW-20L included. At Stanley, NS on open trailer (designed to have lift top cover, but not built). Pulls very well. ASW-20 data at <*http://www.sailplanedirectory.comPlaneDetails.cfm?planeID=27*>. Reasonable offer for package. Peter Myers, (613) 531-9364, <*petermyers@cogeco.ca*>.

two-place

Ka7, C-FHFN, #441, 950h, old style canopy (blown canopy available). In storage since 1989, no trailer. Data at <*http://www.sailplanedirectory.com/PlaneDetails.cfm?planeID=182*> Factory drawings. Open to reasonable offer. Peter Myers (613) 531-9364, <*petermyers@cogeco.ca*>.

Grob 103 - Twin II, C-GGLA, #3804, about 2310h. Basic Instruments - both seats, 760 chan radio. Asking $42,500. Pictures available in the members section of <*www.sosaglidingclub.com*>. More info at <*grob@sosaglidingclub.com*>.

Lark IS28-B2, C-GVLI. #67, 1800h, basic inst, Cambridge vario & repeater, Varicalc computer, Alpha-100 radio, g-meters, professional open trailer. 20 year inspection/o'haul in '99 at 1585h. $US18,500 obo. Matt Chislett, (204) 254-3767. More info at: <*www.autobahn.mb.ca/~mbc/Lark%20advert.htm*>.

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Air Cadets seek 2-33s The Air Cadet League of Canada is looking to buy 2-33s to supplement their current fleet. They need complete flyable or repairable gliders as well as certifiable wings. Also interested in Scout and L-19 towplanes. Contact: Jerry Elias at <*j-jelias@rogers.com*> (519) 634-9913.

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magazines

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SOARING — the monthly journal of the Soaring Society of America. Subscriptions, US$43 price includes postage. Credit cards accepted. Box 2100, Hobbs, NM 88241-2100. <*info@ssa.org*>. (505) 392-1177, fax (505) 392-8154.

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