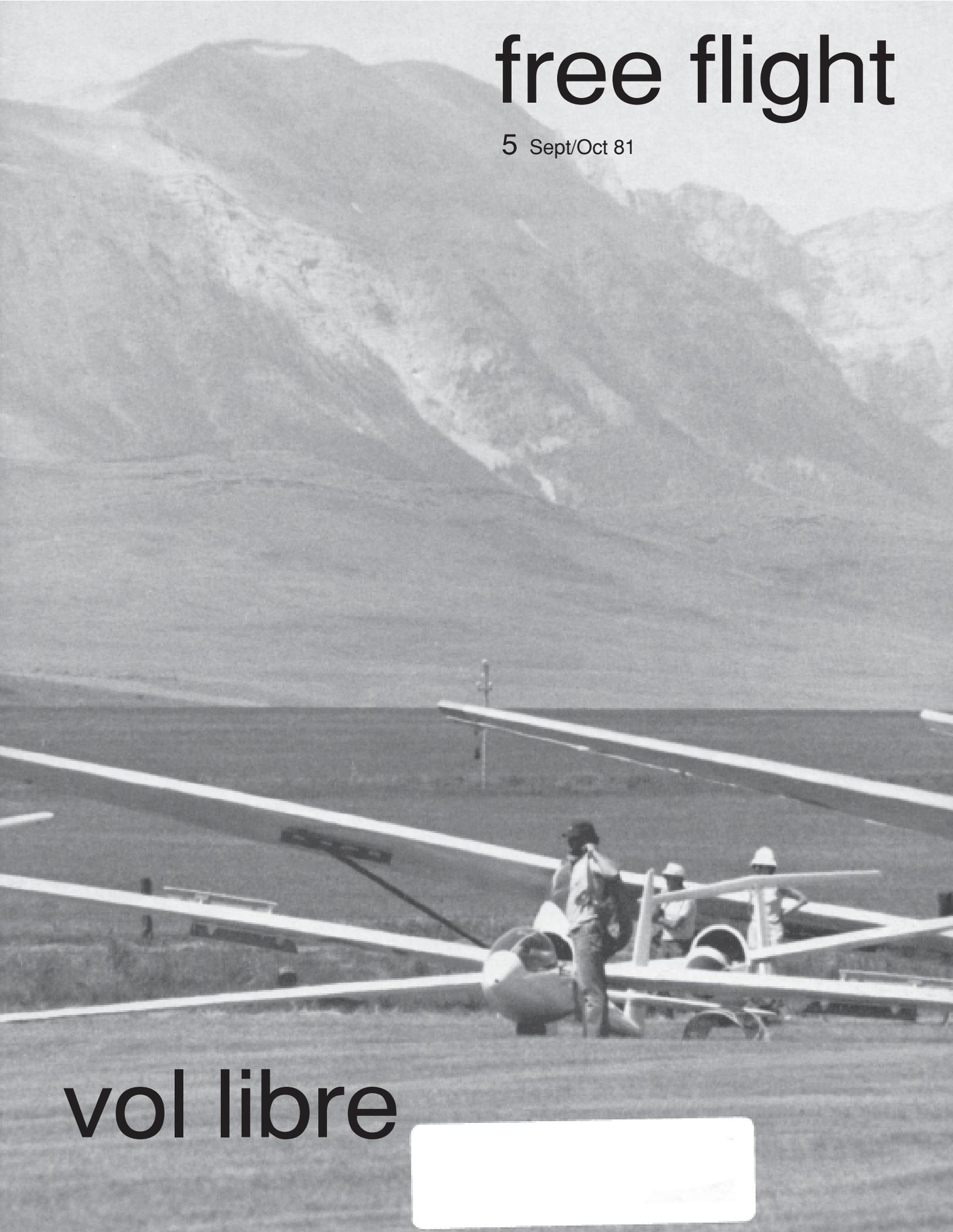


free flight

5 Sept/Oct 81



vol libre



President's Notes:

For part of the soaring community, contests and competition flying will always be an alien mystery. Each time we send a team to "the World Championships we hear the question, "Should we be putting so much of our energy and resources into this one event?" This is essentially the same question that is inevitably raised by some of the members of a club which is hosting a regional or national contest, and it really comes down to the question, "What is this doing for me or for my club?"

Now that the competition season is largely over for the year, we can perhaps look for some answers from the perspective of the people and clubs involved in the World Contest in Germany and our own Eastern and Western Regionals. (In all three competitions, incidentally, weather was a problem, and even some of the most avid competition pilots were heard to mumble "Why do we bother?")

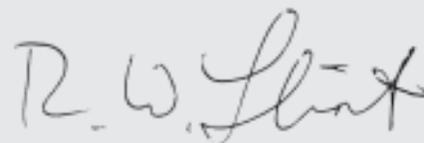
The Eastern Regionals were held at the home site of the hosting club, (more page 11) while the Western Contest was held at an airfield 50 miles from the home club site (more page 10). Even in the latter case, however, over 40% of the membership were either directly involved in the contest or were interested enough to drive out and see what was happening and to take part in flying some of the many 'Familiarization' flights given to visitors to the site. In both contests, the hands-on experience of crewing, flying, operating a start-gate, time-keeping, or whatever, was rewarding for those who were able to participate for the whole contest; while the learning experience of attending weather briefings, watching a well-organized launch procedure, listening to an ad-hoc talk on a technical topic on a non-flying day, or just "being around" provided stimulation for anyone there. The opportunity of seeing a large aggregation of different types of sailplanes is one that does not often occur for the average club member, and for the aspiring cross-country pilot who is waiting for 7000 foot cloud bases to fly his Silver C distance, it is an inspiration to see sailplanes arriving home from a 300 km triangle having set out with the cu at 3000 feet agl.

An unusual postscript to the Western Regionals is that two days after the finish of the contest, the owner/operator of the airport had located and bought a two-seat trainer, with the enthusiastic encouragement of his wife. Sufficient local interest was generated by the contest that this could possibly be the nucleus of a new club.

Concerns about the "negative" effects of these contests ranged from loss of club revenue to curtailment of club activities, to massive impacts on our insurance premiums next year. The host club of the Western Regionals in fact saw net income from the contest as a result of the familiarization flights given to the public, though of course student flying at the home club was curtailed due to the absence of the 2-33. The situation in the East may have had even less impact on students since the contest was at the home site. Unfortunately, there were some insurance claims as a result of the contest in the East, though the Western contest remained accident-free. What happens to our insurance premiums, of course, depends on how well the rest of us fly (and tie our aircraft down!) for the rest of the year! Perhaps the biggest "negative" I saw at the Western contest was the frustration of families hanging around waiting for their pilots to be told it was a "no-contest" day at 1:30 in the afternoon. (An item here for serious consideration by future contest organizers!)

Regarding the World Contest, there is certainly less opportunity for direct involvement of many of us, though again the contest experience is available not just to the four pilots, but also to their crews who, through their first hand accounts and slide-shows at their own clubs are able to generate some of that interest, enthusiasm and motivation which Ian Oldaker wrote about recently (3/81 page 9). Our involvement enables us to keep a high profile as an important sport with the Federal (and Provincial) Government, a factor which in the past has enabled SAC to grow in ways which otherwise would not have been possible, or would have imposed considerable burdens on individuals or clubs.

Ian also wrote about 'Goals'. Whether one's goal is to attain that first half-hour soaring flight or the chance to compete against the world's best, a "goal" is an essential part of any sport. Although only a few can attain the highest goals, they must be there. The benefits go not just to those who attain them.



Russ Flint
President



free flight

5 Sept/Oct 81

The Journal of the SOARING ASSOCIATION OF CANADA
Le Journal de L'ASSOCIATION CANADIENNE DE VOL À VOILE

- 📖 **President's Notes**
by Russ Flint
- 2 **Executive Director's Notes**
by Jim Leach
- 3 **Cowley Summer Camp**
by Derek Ryder
- 4 **Looking for Gold in Saskatchewan**
by Jerry Dixon
- 5 **An Aviary of Gliding Types**
by Eric Newsome
- 6 **The Crash of '29. The Diary of a Student Glider Pilot**
by Christine Firth
- 9 **Flying in a Stormfront**
by Jack Parkinson
- 10 **Western Regional Gliding Championships**
by Hazel Flint
- 11 **Eastern Regionals — A Casualty of the Weather**
by Karl and Margaret Doetsch
- 12 **Safety Column**
- 13 **Elusive Southern Ontario 500 km Triangle Discovered**
by Colin Tootill
- 14 **HP-19 & HP-20 Update**
Interview
- 15 **Across the Prairies in Three**
- 16 **Why O₂ above 13,000 feet?**
- 17 **Report on CIVV Meeting**
by David Marsden
- 18 **Hangar Flying & Club News**
- 19 **FAI Badges**
by Dave Belchamber



photo: Steve Weinhold

Cover

8364 foot Centre Peak of the [Livingstone](#) Range is the backdrop for the Cowley Airstrip in Happy Valley, Alberta. Rob Young prepares to launch in his Open Cirrus [C-GORT](#).

Executive Director's Notes

by Jim Leach

The Cold Lake Soaring Club recently experienced an unfortunate incident with their Bellanca Scout towplane during an Open House recruiting drive at the club. The incident, an undercarriage failure, has been well documented by Joe Wood, Club CFI, complete with pictures and passed to Eric Newsome, Chairman of the Safety Committee. Joe has requested that all SAC clubs using Bellanca aircraft be made aware of their incident. Joe's statement under CFI comments on the Safety Committee's Glider Incident/Accident Notification report is quoted below:

"All clubs using Bellanca A/C (Scout or Citabria) should inspect the U-Bolts on the undercarriage, using N.D.T. methods to detect fatigue cracks. Suggest reinspection every 200 landings or 25 hours whichever comes first. The failed U-Bolts had 40 hours and 250 (approximately) landings. Other Bellanca A/C in the area were inspected and a large number were found unserviceable."

Now that the mail strike is over and mail is again flowing into the office, I would like to appeal to all members to complete the demographic profile form in the May/June edition of **free flight** and forward to the office. To date we only have 23 and we should have 500 or more to attempt to identify trends or potential market areas for advertising or corporate grants. PLEASE FILL IT OUT AND MAIL TODAY! We are hoping we will not have to repeat publication of the survey in subsequent editions this year.

Our membership to date (31 Aug 1981) stands at 1476 members which, based on past years members for end August, puts us in a good position to exceed our 1980 membership figures of 1597 members in all categories.

A review of growth by zones shows some interesting statistics. Of the 44 clubs registered to date, 24 have met or exceeded 1980 membership figures. A breakdown by zone shows the following:

Maritime Zone	— 1 of 3 clubs have met or exceeded 1980 membership
Quebec Zone	— 4 of 9 clubs have met or exceeded 1980 membership
Ontario Zone	— 4 of 16 clubs have met or exceeded 1980 membership
Prairie Zone	— 3 of 3 clubs have met or exceeded 1980 membership
Alberta	— 6 of 6 clubs have met or exceeded 1980 membership
Pacific Zone	— 6 of 7 clubs have met or exceeded 1980 membership
Total 24 of 44 clubs have met or exceeded 1980 membership	

The three clubs showing the greatest growth in 1981 are listed below with the percentage of growth shown in brackets.

1. Gatineau Gliding Club (62%)
2. Cold Lake Soaring Club (50%)
3. Air Sailing Club (38%)

In the 24 clubs meeting or exceeding their 1980 membership figures the average increase is in the range of 20%.

It was with much thought that the decision was taken this year not to publish a 1982 calendar. The primary reason for this decision was the number and quality of slides received from which to make our selection. As the calendar project was budgeted to break even this year through our expanded marketing program, it was considered essential that the quality of the production be as good as or better than the 1981 product. With the material available, this was not possible.

The calendar project is a very worthwhile effort for SAC due to its invaluable public relations worth. If this project is to succeed, we need a firm commitment from at least 6 persons (one from each zone would be ideal) to submit 6-12 slides each during the month of Sep/Oct so that the final selection can be made in January and the calendar produced by our annual AGM.

This time frame will ensure the requisite time necessary to have the calendars placed in the greatest number of markets which should in turn provide us with a greater return on our investment.

The Directors will discuss the calendar project in Halifax in October. If you are interested in providing slides on a continuing basis — contact your Zone Director. I will recommend that reasonable expenses be paid for the provision of quality slides.

It has now been confirmed that 1982 Canadian Soaring Championships will be held at Rockton, Ont, home of the SOSA Gliding Club.

Bids are welcomed to conduct the 1982 Basic Instructors Course (East and West). To date only one bid has been received; SOSA has submitted to conduct the Eastern Course. Please forward bids here to the National Office.

Many queries have been received concerning 1/2 year membership to SAC and 1/2 year insurance rates. The SAC 1/2 year membership is effective 1 Sep 1981, and 1/2 year insurance remains at 1 October annually. (FF #3, Sep/Oct, page 5 refers.)

Please direct all SAC mail to:
Soaring Association of Canada
485 Bank Street, 2nd Floor, Ottawa, Ont. K2P 1Z2
or phone: (613) 232-1243.

The SOARING ASSOCIATION OF CANADA

is a non-profit organization of enthusiasts who seek to foster and promote all phases of gliding and soaring on a national and international basis. The ASSOCIATION is a member of the Royal Canadian Flying Clubs Association (RCFCA), the Canadian national aero club which represents Canada in the Fédération Aéronautique Internationale (FAI, the world sport aviation governing body composed of national aero clubs). The RCFCA has delegated to SAC the supervision of FAI-related soaring activities such as record attempts, competition sanctions, issuance of FAI badges, and the selection of a Canadian team for the biennial World soaring championships. *free flight* is the Association's official journal.

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

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

All contributions to the magazine will be acknowledged on receipt. We will endeavour to say when it will be used. All material is subject to editing to the space requirements and the quality standards of the magazine.

The contents of *free flight* may be reprinted; however, SAC requests that both **free flight** and the author be given acknowledgement on any such reprint.

Subscription rate to non-SAC members \$15.00 per year. Contact National Office.

President Dr. R. W. Flint

Vice President D. Collard

Secretary-Treasurer Dr. K.H. Doetsch

Executive Director Jim Leach

SAC National Office
485 Bank St., 2nd Floor
Ottawa, Ont. K2P 1Z2
(613) 232-1243

free flight is printed by M.O.M. Printing

L'ASSOCIATION CANADIENNE DE VOL À VOILE

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

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

vol libre est le journal officiel de l'ASSOCIATION.

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

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

L'exactitude des articles publiés est la responsabilité des auteurs et ne saurait, en aucun cas, engager celle de la revue vol libre, ni celle de l'ACVV, ni refléter leurs idées.

Toute correspondance faisant l'objet d'un sujet personnel devra être adressée au directeur régional dont le nom apparaît dans cette revue.

Pour chaque article reçu, nous retournerons un accusé de réception et donnerons la date probable de sa publication. Les textes et les photos seront soumis à la rédaction et, dépendant de leur intérêt, seront insérés dans la revue.

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

Frais d'abonnements aux non-membres de l'ACVV, \$15.00 par année. Contacter le Bureau national.

free flight PERSONNEL

EDITOR
Ursula Burton (403) 625-4563
Box 1916
Claresholm, Alberta T0L 0T0

ADVERTISING & STOP-THE-PRESS
Jim Leach (613) 822-1797 (H)
(613) 232-1243

EDITORIAL ASSISTANT & GRAPHICS
Tony Burton

ASSISTANT LANGUE FRANÇAISE
Pierre Lemaire

PROOF READING
Phillip White

**Deadlines for contributions
10th day of every 2nd month**

**Limite pour publication
le 10e jour de deux mois**

COWLEY SUMMER CAMP



ROCKY MOUNTAIN SPECTACULARS, INC.

by Derek Ryder
Cu Nim

That first Saturday dawned cold, grey, wet and muddy, not in the least bit typical of this part of the country. For this was Cowley, Alberta's number one soaring centre, home of wave, butt-banging thermals, dry heat and the best annual Summer Family Camp in all of Canada. (see ff 4/81 page 18)

This year's camp, organized by the Alberta Soaring Council, Cu Nim Gliding Club, but mostly by Paul Pentek, was, despite its inauspicious beginnings, one of the best and most active in its nine year history. Excellent weather made in excess of 3000 square miles of surrounding territory available to the 60 plus pilots and more than 30 aircraft who showed up to enjoy the camp. Participants came from many clubs, including Port Alberni and Hope, BC; and Lethbridge, Edmonton and Calgary in Alberta. The numbers were increased even more by some long distance travellers, such as Stu and Linda Tittle with their LS-3 from Morega, California; Klaus and Joyce Ansoerge with the single place Lark from Sun Valley, Idaho; and Washington friends Harry Miltner and Sharon Schwindt with their Mosquito and Bob Moore with his Motor Pik, one of two to be there.

Most of the other aircraft, including the towplanes, came from Cu Nim in Calgary, but the BC people brought in a few, including a 2-33 and Lloyd Bungey's two place HP-14. It was a good job there were so many, too, as there was lots of flying to do. Witness ... Lloyd and passenger Dave Lovick set out one nice afternoon and ended up near Medicine Hat, 253 km out, to successfully beat by 18 km the old Canadian Multiplace Free Distance Record. An interesting trip, including the retrieve, especially since they returned at 5:30 in the morning. Tony Burton and Echo Echo, his RS-15, made a valiant attempt at a 500 km triangle, but got only a mere 373 km. Steve Weinhold picked up his entire Silver C Badge in his Open Class Cirrus C-GORT, including a flight of 7-1/2 hours (just to be on the safe side of his 5, according to Steve). Stu Pritchard picked up his 5 hours, too, as did Paul Pentek. Paul already has his Silver, and a bit more, I think, but his 5 was interesting because it was accomplished in a 2-33, just for fun. And a few of the less experienced pilots got a bit wet, as we even had a few first solos during the week.

Some pilots were slightly disappointed in that, despite the fact that the wave was active, few pilots if any contacted it directly via thermals. This did not stop a few from looking however, running around at 16,000 feet over the mountains, and a few of the more conservative types, including Rick Zabrodski, to pick up Silver height gains.

The Camp itself was a lot of fun for the families who stayed the week or just the weekends. Attendance seemed to drop a bit one early Wednesday morning, as a few of the female types were seen heading for a TV to catch a certain wedding. Even Mother Nature seemed to welcome us with some of the best Northern Lights displays seen in a while, and some spectacular thunderheads, most of which fortunately passed us by. During those which didn't, many are still grateful to Werner Newidok and his intrepid Subaru 4WD, who pulled no fewer than 5 vehicles out of the mud. The Oldman River swimming hole was its usual ice-cold refreshing self for the hardier kids and hypothermiacs in the crowd, and even managed to produce a breakfast or two for a few of the persistent fishermen.

Unlike the annual Wave Camp at Cowley, this year set for October 9-12, the Cowley Summer Camp is designed as more of a family fun camp, and for the 9th year in a row, exceeded the expectations of one and all. All who attended, even just for the weekends, had lots of fun, bad jokes, sunburn and relaxation, and I, like the rest of the gang, wouldn't miss next years', for all the thermals in Texas. Well, maybe not all. □



All throughout the early spring of 1981 I had been thinking of doing a cross-country flight in our good old club 1-26, the same sailplane that Julien Audette had used for his Diamond Goal flight back in 1958 (see 2/81 page 12). Spring was very early and dry this year and as I worked in my fields during the month of May I watched day after day of good soaring weather go by but the work had to be done first and also I had no crew or tow pilot lined up for mid-week soaring.

Finally on 26 May everything came together; my spring work was all done for a few days, I could get crewing help from Harry Hoiland and Al Paul, who is also an experienced tow pilot. The three of us had agreed to help each other to do cross-country flights that week. On the morning of my flight little cu started to form at eight o'clock and I thought it would be a very strong soaring day. At eleven o'clock we were all ready to go and the sky looked good. Al took a short hop in the tow plane and said that there was some lift working but not too much yet.

The wind is out of the SE at about 15 mph, we look at the map and pick Langham (30 km northwest of Saskatoon) as a goal for a Gold Distance of 305 km from Indian Head airport. I take another look at the map and wonder about flying that stretch in a 1-26. Al tows me off at 1115, I release in zero sink and start looking around for some good lift. By gosh, there is very little of that stuff yet so I just fly around trying to stay up. In the meantime the SE wind is drifting me steadily away from the field and out along my track two to three miles downwind, and my altitude is still the same, 4000 msl (2000 agl). There is not much lift yet, just zero sink and I have to keep circling just to stay at this height. I have to decide right now whether to return to the field or to go on. The sky ahead with some better cu

looks a little more promising so I head out there; the lift improves but not all that much. The flight continues on in this fashion till I get near the Qu'Appelle Valley just SW of Fort Qu'Appelle where the sky goes kind of dead and my altitude plays out. I am down to 1200 feet above the ground and I have only come about 15 miles. Oh well, just hang in there and keep trying. There seems to be a new cumulus cloud forming about a half mile away so I head for it and it provides some weak stuff just a little better than zero sink.

Now I am flying real tensed up trying to seek out the best areas of rising air and to centre the thermal. Slowly gaining height I drift towards the lake and over to the north side of the valley. I have been talking to my crew on the radio and tell them that I will be able to stay up for a while longer yet. Now on the north side I have climbed up to around 5000 feet msl and things look brighter for carrying on with the flight. It is now past noon and hunger pangs start to come so I break out my lunch while I try to figure out my exact position to tell the boys on the ground where I am. Looks like I am five miles southwest of Lipton. My altitude varies between 4 and 5000 msl for the next 30 miles, and then I have the second low point in the flight. My position is north of the town of Southey — there does not seem to be any more lift. I'm down to 900 feet agl and again I have my landing field picked out but try one more excursion around before setting up a landing. And what do you know, there is a nibble of lift and I work it for all it is worth. For a while it is only zero sink but it gradually becomes a respectable thermal which eventually takes me close to 7000 feet, the best height so far and the day seems to be picking up. While I am fighting to get back up the boys radio that they have me in sight and they will hold up till I get going again.

With all this new height I set out on track across the grassland and towards the town of Govan which is about 30 miles away with no way to check my position, not many roads for farms in this area. The flight is going a lot easier now and I am able to find lift under almost any of the cumulus clouds that cover the sky.

The visibility is not very good and I wonder if I might miss my check point of Govan and fly right on by. After a while I see something that could be a town straight ahead in the gloom and sure enough it is the town and I am right on course. Nothing to this navigation! My track will take me just on the north side of Last Mountain Lake so there will be no problem to check my position there. I am still over the grassland, and hardly a farm in sight, not even any roads. Sure hope I don't have to go down here. As I approach the lake from the south-east the lift starts to get harder to find and the clouds don't look as good. Must be due to the fact that the wind is coming off a large body of water and must be killing the lift to some extent. Just off the north tip of Last Mountain Lake I hit the third low of the flight and am down to 2000 agl. The ground below doesn't look too inviting, nothing but sparse grass pasture and alkaline flats.

I call the boys and tell them to hold up as I am scratching around looking for lift and after about 15 minutes of sweating bullets I find a boomer which takes me back over 7000 feet again and all is well.

Now there is another long stretch of remote country with few town or farms but the lift is good and I make good time up to the town of Watrous. Just before reaching it, Harry radios that I am just over half way to my goal. Boy, all that scraping and I have only come half way? "Just hang in there", Harry says.

AN AVIARY OF GLIDING TYPES

by Eric Newsome

Up near the town of Young I have still another low point, down to 2000 agl again but just for a few moments and then I find good lift. Harry and Al say they have me in sight again and will hold up till I can climb out of this mess. What a great crew!

My ground speed seems to be very slow now and by looking at the lakes around I see that the wind is ninety degrees to my track so no help there from now on. The clouds just ahead look to be overbuilding and very dark. Could be that I may have to go around them but I can see some sunlight away ahead and I have good altitude so I just point the nose down and go straight through and it works out and from now on the going is good as the clouds are producing good lift and my altitude goes up to 7000 or better on every climb. Now I am leaving my ground crew behind and no more low saves to worry about.

At the town of Allan I have to unfold my map to see the rest of the route. I'm quite surprised to see how close I am to Saskatoon. From now on I am straining to see the city and before long it does appear through the haze. Ten miles east of the city I get the best climb of the day, up to just over 9000 feet and life is suddenly very simple! Only about 50 km to goal and 9000 feet on the clock and cu all over the place. As I approach Saskatoon I toy with the idea of flying straight over the city and on to my goal. Then common sense takes over and I bend my path slightly to the right and go by the city several miles to the north to stay clear of the airport. While working my way past Saskatoon, Harry radios that they are stuck in the afternoon city traffic and also have to stop for fuel and that they will see me at Langham. Great confidence they have in me!

The sky ahead is clearing of cu now and I have to zig-zag back and forth from one cloud to the next to keep going but there is no problem as I climb close to 8000 feet each time I thermal. Now I am really straining to see my goal of Langham and finally it shows up right where it is supposed to be by the bend in the Saskatchewan River. Is that ever a sight for sore eyes! As I fly over the town and look for a good field close to town for a landing, the crew radios that they are on the way and will be at Langham shortly, so I tell them that I will hold over the town and they will be able to witness my landing. This is working out even better than I had hoped for. I tell them that I will land in a field just north of town near the elevators and they drive there and look it over and say that it is a good one and to come on in. Boy, what a great feeling to have flown all this way and make my goal and to have my crew there for the landing. I dive at high speed and with lots of spoiler to burn off altitude and it feels good to be able to do this after hours of trying to conserve altitude. It is a good landing and I come to a rather abrupt stop in the soft field about 50 metres in front of Harry and Al and they run over to congratulate me and help me out of the ship.

Just before they get there I sit quietly and listen to the barograph ticking away faithfully as it has done for the past six and a half hours. I had enjoyed this flight, it was one with lots of hard work, but I feel that a higher power has helped me all the way. □

All glider pilots belong to the species 'Aeronauticus'. Having said that, it should also be said that the species then degenerates into a plethora of fascinating sub-species. Indeed,

one of the joys of club life is to observe, identify and categorize the various sub-species; a refined form of bird watching in which the observed can reciprocate.



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

To 'Competicus' no cloud scene has ever appeared as a majestic ever-changing mountain vista, but only as a source of lift to be coldly

assessed. The slanting rays of the sun breaking through the overcast and bathing in a golden glow a patch of the earth elicit from him no appreciation of beauty but indicate where he should go for his next boost skyward.

The sub-species has a migratory habit which is exceptional in that it occurs in summer and the destination varies from year to year. The flock gathers regionally and nationally to compete and always 'Competicus' is first to arrive in his wreck of a car — all he can afford after he has purchased the finest glider available. He has a healthy measure of contempt for many of his fellow competitors who are there for what they mysteriously call the fun of competition and who would lapse into a state of terminal shock if by chance they should ever finish first on any given day. 'Competicus' should be kinder towards the competition, for if they were not there to be last how could he manage to be first? □

THE CRASH OF '29

The Diary of a Student Glider Pilot

Tale and Sketches by Christine Firth

SAC Historian

this is the 1st of a series of stories of

HOW THINGS BEGAN

This is the story of a young man from Alsaskman in the Prairies. Although I never knew him, I have been able to piece together enough of his early gliding history — yes, he did glide long enough to have one — from magazines and letters, to get a rough idea of what it was like to be a student pilot in 1929. In many ways he was no different from the students of today; a trifle more respectful of his elders perhaps, and certainly more careful with the equipment which he worked so hard to maintain. Airmindedness was at an all-time high in Canada; demonstrations and airshows were frequent, and even Lindberg flew a glider in his spare time. Instructors had taught themselves to fly and brought methods of instruction and designs for new gliders from Europe and the United States. Kronfeld's flights in 1928 and May 1929 were an inspiration to all; imagine one hundred and two kilometres distance and over 8000 feet in free flight with the wind in your face!

Here is a part of our student's diary:

TUES JUNE 22nd 1929

Another evening on my knees laying out top and bottom longerons for the "Challenger" fuselage. The new boy Tommy Banks was a real nuisance and kept driving the nails right into the floor instead of "just right" so that the whole frame didn't shift around on the pattern. Sure would be easier on the knees if we had a table to work on.

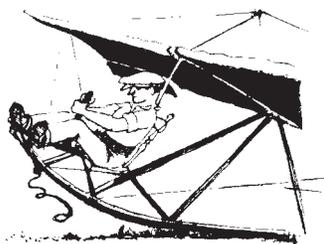
THURS JUNE 24

Finished my compulsory 50 hours in the workshop — a real milestone! Think Tommy Banks is going to quit; he says he thought he'd joined a flying club and didn't intend to spend his summer cooped up in a garage and going to boring lectures. I felt the same way back in February but it's not so bad after a while and a great way to get to know some of the members. Dad says if I don't make pilot I might make a carpenter one day — I think he's just glad I don't go down to the pool hall in the evenings like I used to. Think I may have got Mr. Biggs to come out to our field Saturday to see me start flying.

SAT JUNE 26

Well, had my first flying lesson today. It was sort of exciting and disappointing both at the same time. After watching the others doing "glides" and "turns" and "side slips" way up high — the best like Fred Elderman and Mr. Piletzky even "cloud-scraping", it was a little depressing to find out what a dummy I must have looked. There I was, sitting on Mrs.

Worthington's old kitchen chair — without the legs, strapped to the kingpost, the great wings just above my head, my feet through the toe loops on the rudder bar, and my hands tight on the stock — just willing myself to fly like Kronfeld ... swooping and turning at high speed ... when Joe Maitre lifted the wing tip off the ground and said, "Hold the wings level". Mr. Biggs and another gentleman from the



... Sitting on Mrs. Worthington's old kitchen chair ...

office were watching from the parking area and Dad was there too, so I sat up very straight to show them what an expert I was going to be ... Well the wings didn't cooperate, and even though I white-knuckled the stock that darned right wing just thumped back down again.

We tried this several times until finally the left wing thumped down and then it was Sam Parvenus' turn — he said it was easy!

Well, I had 9 more goes before sunset and on the last one, after all my visitors had left in disgust, I balanced on that narrow ski and kept those wings level for a whole four minutes and Joe Maitre said tomorrow I could start "slides". Now that was exciting!

SUN JUNE 27

It rained all day, so I did chores and read "Canadian Aviation".

MON JUNE 28

Sunny and windy today, wish it had been like that yesterday. Mr. Biggs said he would have thought I had better things to do with my time than chase around a quarter section after a flying clothes horse and what's more if I could afford to waste my money on such stunts then he was obviously paying me too much. That made me really mad and after he'd gone I said, "Just you wait till I've soared a hundred miles and become famous ...". Dad said it was because Mr. Biggs and a lot of other older gentlemen didn't hold with any kind of flying because they'd lived quite well for forty years without flying machines and airmen, and saw our new airmindedness as unnatural. Then Mum said I must respect Mr. Biggs for this and if I wanted him to think gliding was

a worthwhile activity I should always be polite and be sure to clean my fingernails before going to the office.

THURS JULY 1

Went along to the garage to see what was going on. Tommy Banks was still complaining but had Neil Pearson and his sister Kate along to watch. Neil said he might join the club now he had a summer job in the drafting office. Kate said she didn't think she could afford \$15 so Tommy Banks said he'd lend it to her. I don't know what he sees in her. Chips Bentwood said why didn't I lend a hand, but I reminded him I did my 50 hours. Tommy Banks said Chips was pretty grumpy these days.

SAT JULY 3

Very hot and windy today — it didn't take long to run up a sweat even at seven in the morning. Mr. Piletzky and Mr. Elderman test flew the "Gull" which Wolf Schmidt cracked up in March. The macaw colours we painted the new fabric with look really good.

Well, my turn came around and I climbed on board and Joe Maitre said to strap myself in real tight because he'd heard of someone who hadn't tightened the belt and who'd had a rope break at 50 feet and had shoved the stick forward so fast that he was thrown out of the seat. He said the pilot just made it back down okay, but with both his legs on the same side of the stick, he did a ground loop and broke some ribs and the trailing edge of the wing. Mr. Elderman was driving the car today and after I'd got those great wings to stay level again, Joe Maitre hooked up the short rope and I held the release loop in my left hand and he said to pull it as soon as I got in trouble. Then he said Mr. Elderman wouldn't let me get in trouble anyway; that when I kept the wings level he would drive faster and if I dropped a wing he would stop. Well, I'd been waiting for this moment for along time.



... Chips was pretty grumpy these days ...

I held the stick firmly, braced myself, and waited for the tow car to get going. After a while Joe Maitre yelled, "If you don't keep the wings level we'll be here all day". I hadn't realized he'd been holding up the tip, so I let go the release loop and got both hands on the stick, and wrenched that right wing up. Joe signalled 'All Out' and Mr. Elderman acknowledged.

Suddenly the machine shot forward and I was so startled that I pulled that stick right back as far as it would go and lifted both knees up. That hurt my feet a bit because of the toe straps and "made me start thinking about what Mr. Piletzky had taught us at lectures. I had to keep that stick dead centred and if I wanted to go back down I should push it forward. So I did that, and hit the ground real hard. The tow car was hidden in a cloud of dust and Joe Maitre was yelling something but what with the sliding noise and the wind, I couldn't hear him. Well, I thought, if I pull the stick back I'll get off the ground and it'll be quieter again so I eased it back a little and then a little more and nothing much happened. We weren't going very fast and Joe was still trotting beside the wing. "Okay" he yelled, "you've still got another 200 feet, do you want to try it faster?" I nodded, not daring to take my hands off the stick and the grinding noise quietened down as we rode over some tufty grass. Very soon the tow car reappeared through the dust and the glider settled back. Joe Maitre said, "Not bad, for the first slide. Release the rope and let's pull her back." I found my hands were sort of numb and couldn't get the loop sorted out. "Hurry up," he said, "they're waiting for the tow car". Funny, but I felt all stiff and strange, not what I expected at all. "You'll get another go later, remember to keep your feet on the rudder bar at all times and just keep the whole control system in neutral till I tell you," said Joe. Well I had two more goes later and pretty much the same happened except that by the last go I could keep the wings level with just one hand; as Sam Parvenu said, it was pretty easy.

SUNDAY JULY 4

Mr. Piletzky said our glider needed the wires adjusted and the 'Challenger' could always use some idle hands — we weren't allowed to fly the 'Gull' yet, so we all biked over to the airport where some power jobs were doing aerobatics. It was really crowded and money was just pouring into the hat. Sam said we should try the same thing at our field to raise money for the 'Challenger' fittings so that Chips didn't have to work so hard making everything from scratch.

SAT JULY 10

No flying today, the tow car was being fixed.

SUN JULY 11

Hot and muggy. Still no flying. Chips says he can't do everything and would appreciate some help. He's just so grumpy that it's no fun and now I've done my fifty hours I'd rather stay around the field, help with the flying, and get myself a tan.

SAT JULY 17

Pretty day, with clouds lined up in rows as far as you could see. Mr. Piletzky gave us a lecture this morning about helping in the workshop. He made a good case though, and said that we could pay a full time airframe mechanic and have the car fixed at commercial rates but it would cost more than fifty

cents a flight which we pay now. Since most of us don't have any extra cash we went along to the garage to help Chips. He was real pleasant today and we ended up with all gliders serviceable and the head back on the tow car.

SUN JULY 18

Hot and hazy today. Tommy Banks came out for his first go. He got through his fifty hours real quick. I'll bet he was just showing off to Kate; he says both of them — Pearsons that is, will be ready to fly next weekend. Neil offered to drive the tow car today but Mr. Piletzky said no way, anyone who wasn't solo could drive it because it was a very skilled job.

Really got the feel of the controls today and did seven slides. I worked real hard retrieving the tow rope and pulling the glider back to the start all day; don't know why they don't put a wheel under it like the 'Gull'. Joe Maitre said if we had more members we could maybe afford another car or get a team to tow the gliders back instead of tiring out the pilots all the time.

Had the last flight of the day and Joe let me start "hops". He said if I let the stick go back of neutral at any time he'd have to tie the elevator in place. He looked sort of funny when he said that, and Sam Parvenu and Wolf Schmidt started laughing real hard.

Well, we started off down the field with me in firm control, riding the tufts and ploughing a neat furrow through the dirt, the stick just ahead of neutral, going faster and faster, and then comes a gopher mound and I'm flying — four feet — six feet — way above the willow brush, and Joe Maitre starts yelling from the back of the tow car and I push the stock forward real fast and she crashes onto the ground and stops. The wing thumped down and Joe appeared out of the dust, "Okay," he said, "That's enough for today, you're not doing what I told you." I told the others the view up there was amazing and Mr. Piletzky said loose control cables weren't very amazing and I'd better do a thorough inspection and repair before leaving. Dad was mad, and Mum was all quiet when I got home; but anyway I did fly.

SUN JULY 25

Didn't feel like going out again today so stayed home and read 'The Aeroplane'.

SAT JULY 31

Thunder and heavy rain. Took the gliders apart and stowed them in the workshop in case of hail.

SUN AUG 1

Put the gliders together and in the afternoon had two great "flights". I really got the idea that when you're in the air, the stick movements have to be real gentle and smooth, not like the firm hand you need on the ground at all. Tommy Banks is caught up and doing "hops" too; he had a lot of flights last weekend and Kate said Joe Maitre said that Tommy is a "natural". Natural nuisance if you ask me.

SAT AUG 7

Asked Joe Maitre if I could start "landings", but he said more "hops" to be sure. I now have four hours time, and can stay about five feet off the ground for the whole tow; Mr. Elderman said that in England they call it "daisy cutting" when you're a bit lower and "hedge hopping" when you're a bit higher. Guess we could call it "willow brushing"!

SUN AUG 8

Well, Sam Parvenu had it coming, he was always too cocky. He landed on the wingtip and scrunched it up beyond the ailerons. Mr. Piletzky told him not to try downwind landings when it was blowing the wash out level and now everyone has to stop flying.

THURS AUG 26

Really fed up with shop work, but helped get the final coat of dope on the wing. Chips says we can fly her this weekend.

SAT AUG 28

Raining and windy so didn't even bother to rig.

SUN AUG 29

Snow last night, cold and overcast all day. Decided to help Chips with the 'Challenger' in the garage. Seems everyone else had the same idea. Had the stove lit for the glue, it was that cold.

SAT SEPT 4

Well, had my first free flight today. Climbed easy to four feet, released the rope, levelled off and held her off the ground as long as possible by easing back on the stick, settled her down nice and easy. No sweat. Tommy Banks stalled-in off a "hop" today but didn't do any damage except biting his tongue. That'll teach him. Kate got mad when we all laughed at him, which made us laugh even more.

SUN SEPT 5

Warm and sunny, so Dad brought Mum along to watch today. Started "glides" today which were beautiful. Nice long run and then gently up to twenty feet above ground, level off, release, and then nose gently down to the landing level and ease her on. Dad said I did a fine job and you could see Mum was real proud even though she said she thought it was quite unsafe. I said there was nothing to it and said wait till I start turns, they're the tricky part.

SAT SEPT 11

Cold and overcast. Did three "glides" but quit early because it was too cold.

SUN SEPT 12

Mr. Piletzky let in to me today for being too close to the stall so I got the nose down more and then didn't flatten off the glide enough before landing and cracked the seat and some filler blocks. Wolf Schmidt stayed up for 80 seconds in the 'Gull' — a club record.

SAT SEPT 18

Went shopping for winter clothes with Mum.

SUN SEPT 19

Wore my new plus fours and diamond pattern stockings; Kate said I looked just like Ramon Novarro, and Sam Parvenu said more like Herbert Hoover if you asked him. Neil has left town to go to university. Too windy to fly.

SAT SEPT 25

Cold and sunny. Started to use the rudder today and did "S" turns behind the tow car — eight hops to the run. The difficult part was thinking you had the wing down too far, but Mr. Piletzky explained what was happening and at the end of the day he said I was coordinating my turns quite well.

SUN SEPT 26

I used the long rope today and stepped up the altitude; the last flight was about fifty feet

and I flew the length of the field before landing. I now have twelve hours time.

SAT OCT 2

The tow car blew a gasket, so no flying. Tommy and Kate have decided to get hitched; we had an engagement party and everyone had a high time of it. Chips was really funny and did impressions of the students — I wasn't too sure about the one he did of me though, with my hands in my pockets all the time, but the others thought it was great.

SUN OCT 3

A good job, the tow car wasn't ready before the afternoon; boy, what a head!

SAT OCT 9

Great flights today on the long rope. Did "S" turns after releasing at fifty feet and on the last flight did a one-eighty and landed back at the take-off point.

SUN OCT 10

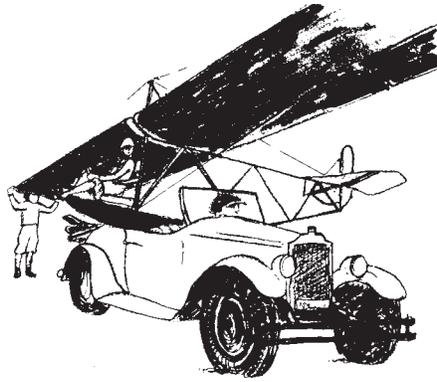
No wind today so did more one-eighties and spot landings; one of them was just a foot from the mark. Joe Maitre said that was beginner's luck and Mr. Elderman said I mustn't get overconfident.

SAT OCT 23

Mr. Piletzky said he'd let me tow to one hundred feet today since I now have almost fourteen hours; and could do three hundred and sixties as soon as the wind died a bit. The second flight (stayed up fifty seconds and felt like the king of the world looking down on everybody, and I started singing in tune with the rigging and really enjoyed myself. Well, I did a beautiful landing and expected some compliments and was a bit put out when Mr. Piletzky came up and said very sternly that he'd pass me on the gliding but on no account would he applaud my singing. Well, I didn't know what to say, and then he started laughing and said it was a good job, we weren't at an airport used for motor craft because "the hilarity of a glider club" would really disturb them.

SUN OCT 24

Just my luck. Mr. Piletzky had just said I could graduate to the Detroit 'Gull' as soon as I'd done "figure of eights" and could keep quiet enough up there to hear how fast I was going, when Sam Parvenu flew her into the ground and did another ground loop. This time he broke the skid off and cracked the landing box. Mr. Piletzky grounded him for the rest of the season and said with the cold weather



... load the 'Gull' onto the car ...

setting in, maybe it was time we all packed up for the year.

TUE OCT 26

Decided if I was going to fly the 'Gull' I'd have to do some fixing myself. Most of the others have lost interest. Took the skid to pieces, removed the cracked wood, glued up some splits, cut out new parts, and trimmed them to size. Chips came by and said I was doing a good job and offered me a drink. He said he was glad that I wasn't like some he knew; all brawn and bravado. He also said he'd lend a hand but that his back wasn't too good at the moment. He can be real friendly sometimes.

THUR OCT 28

Worked some more at the garage and got everything reassembled. Mr. Elderman lent a hand and said if I could take her out to the field tomorrow after work and get her rigged, then she'd be ready to fly first thing after she was checked out.

FRI OCT 29

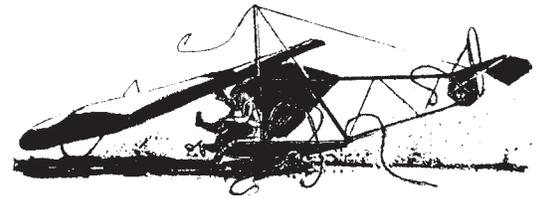
Tommy and Kate helped to load the 'Gull' onto the car and we drove out to the field. It was pretty cold and blowing hard, but we got her rigged and she looked sort of inviting, so we took turns sitting in the seat and keeping the wings level. The seat was padded and more comfortable than our other primary and the wind was strong enough you could just balance her on the little wheels back of the skid. She felt real good. Too good to leave her on the ground. Tommy said he'd drive the tow car and Kate started fussing and saying we shouldn't do it. Well, I guess we shouldn't have.

Well, it was getting a bit dark so we just took the short rope and hitched up. I did the straps up nice and tight and off we went. Well, she went up like a rocket, what with the wheels and the wind, and I was soon up at the end of the rope, so I cast off and started a one eighty.

Well, the controls were much lighter than the old primary and she whipped around and I was real glad of my new stockings and plus fours because it was getting pretty draughty. Well, I was easing her down, when I remembered that the wind was a bit strong for a downwind landing and I didn't want to run on and hit the fence, so I did another one eighty to get headed into wind again.

Well, the wind wasn't quite so strong down by the willow brush and it took a bit longer to get the wing up and level off and when I got straightened out and looked up, there was Tommy in the car just turned round and coming, straight for me.

Well, I pushed so hard on the rudder bar that it snapped right in half and then there was a great ping noise and a big whoosh and everything went black. The first thing Tommy said was, "Holy Cow, what a mess," and Kate started crying and said, "Now look what you've done, you know, she looks a lot like a praying mantis with the wing in front of her like that." Then she started laughing, and Tommy said, "Hurry, we don't have much time."



... a lot like a praying mantis ...

Well, after I managed to climb out, we pulled the wing back into position so that it all looked normal and tied her down for the night, then I unbolted the rudder bar and got home just as it got completely dark.

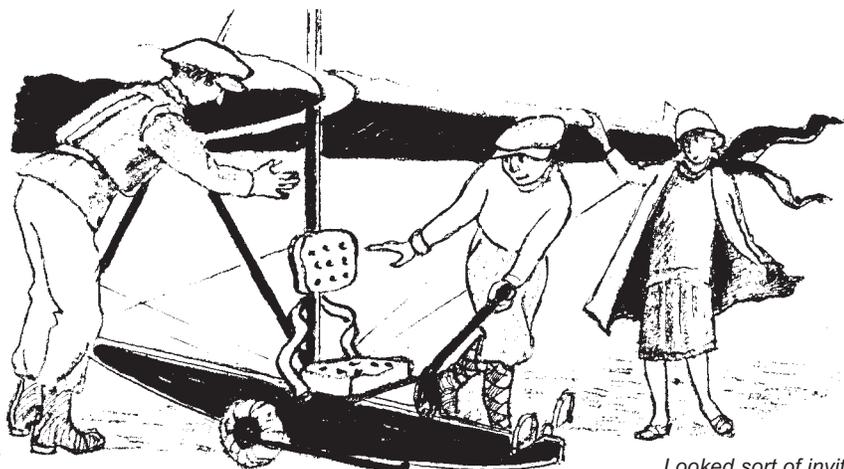
SAT OCT 30

Well, I went along to the garage at four this morning and sleeved up the rudder bar, then I took some tools and some new piano wire and went off to the field. By the time the others arrived, there was the 'Gull' almost good as new, and Mr. Elderman did an inspection and Mr. Piletzky and Joe Maitre also went over it and there was a big crowd of people all standing around. Then Mr. Piletzky said "Good, she's ready to fly, anyone who's checked out can now have a go." I put my hand up and said I was ready, and then Mr. Piletzky turned round and said, "You are grounded, yesterday was 'Black Friday' in more ways than one; next time you break the rules and bend the glider don't pretend it didn't happen. You and Tommy will put in another fifty hours in the workshop before you come near this field again!" Tommy said, "How did you know we'd had a crack-up?" and Mr. Elderman said that he thought that we'd be tempted to fly and he'd watched the whole thing from the parking area and had inspected the damage after we'd gone home. Kate said what about her, and Mr. Piletzky said since she was going to be with Tommy for the rest of her life, that was punishment enough.

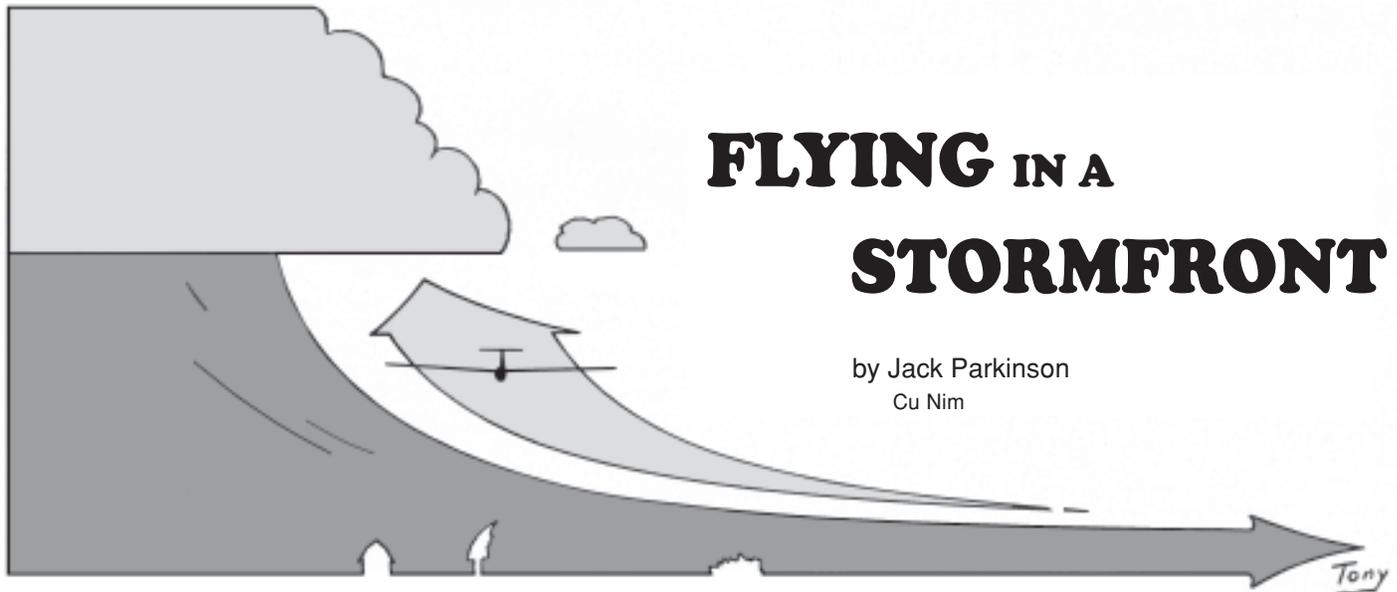
SUN OCT 31

Another evening on my knees ...

... Mum had Mrs. Worthington's daughter 'round to supper and said maybe I'd be interested in her hobby which was amateur theatricals ...□



... Looked sort of inviting ...



FLYING IN A STORMFRONT

by Jack Parkinson
Cu Nim

The 1980 Alberta Soaring Council May Meet was flown from Innisfail, May 16, 17, 18 and was blessed with some of the fine soaring conditions the Prairies are famous for. The Day One task was set conservatively at 250 km in deference to the duffers who were out for our first flights of the year. The weather was super so, not too surprisingly, every one of the seventeen contest pilots completed the Innisfail, Ponoka, Three Hills triangle.

The Task Committee lashed right out for the Day Two task by setting a 300 plus km triangle Innisfail, Stettler, Rosedale. The weather forecast called for southeast winds 5-10 kts, convection starting about noon and going to 13,000 feet. Cirrus was forecast for late in the afternoon with scattered CB cells with blow-off overcast.

To me this forecast meant "get going early because we fly slowly". A brief explanation is due. The author hasn't learned to fly without the aid of a glider so his exploits are always accomplished by teamwork — the glider does the flying, the author the steering. Hence, the term "we" throughout this scintillating tale.

We got away early and spent the better part of the first leg picking out good landing fields only to get away to select another one, from low altitude, further along. To stay aloft we were forced to chase dust devils and managed to deviate about 5 miles off course. By the first turnpoint we were sure every ship in the contest was ahead of us. We had good going to the second turnpoint at Rosedale, with good climbs and long glides.

Things looked good for the final leg, but the cirrus was starting to move in and weaken the lift — things weren't good! We worked along from thermal to thermal, never getting quite as high as before, but nevertheless making progress on course. Near Three Hills we were saved from a landing when we encountered a weak thermal that took us up to about 2000 feet above ground — enough for a glide most of the way to Wimburn.

At this point I noticed a rain shower starting to fall from a CB that was about 20 miles to the

west and moving slowly towards our course. Our problem now was to get past this shower, before it crossed our track, to avoid landing where we would get rained on. We reckoned (when flying as a team it is common courtesy to discuss matters of importance with your team mate — so I do) we could do this at max L/D glide.

A few miles after passing Three Hills the variors started to indicate zero sink, then one knot up, then zero sink, then one knot down. By experimenting with headings we were able to maintain zero sink and one knot up steadily for long stretches. About this time we noticed the rain from the CB had pretty well stopped and what appeared to be the start of a squall line in front of the cell was beginning to pick up dust from the fields. Since we still had about 2000 feet above ground, we decided to venture carefully closer to the dust in hopes of flying the squall line. By now, a matter of only a few minutes later, the line of dust had developed into an ominous dark cloud of dust to altitudes I guessed to be 6000 feet above the ground. FOAK, "my trusted team mate", thought 7000 feet was a better estimate. As we got closer the lift improved to two, four, six knots and up in the edge of the dust. There was light turbulence just before getting to the dust, then the lift was quite smooth and steady at 6 knots.

As we flew along the line I took time to look at what was happening on the ground. It was scary to say the least! My earlier guess was confirmed — we were experiencing a fully developed "downdraft" of moderate proportions. The downdraft from the cell was dragging a mess of dirty dark cloud several thousand feet downward from cloud base in an inverted cone shape. On striking the ground the air was spreading in all directions and picking up the dust all around except where the soil had been dampened by the shower. Judging from the streams of dust being driven along the surface and picked up, I estimated the wind speeds on the ground to be about 50-60 knots, perhaps more.

Another thought crossed my mind at this point. On the ground with my friend and confidant

FOAK, Dart 17R, is not the place to be in that wind! While we were presently climbing nicely and things seemed to be entirely under control, they could change. We developed a plan of action in the event that the situation deteriorated — and the wings stayed on. There was a farm with a nice windbreak of spruce and poplar trees about three miles out in the clear. Our plan was to make haste, in the event of an emergency, and land in the field close into the trees for shelter before the squall line arrived.

All went well, however, and we kept the plan on the shelf. We were now on the "finish line side" of the cell so we circled a few times to get enough altitude to glide home before leaving the dust. As we were about to light out for home a call over the radio indicated Cec Sorenson in Whisky Zulu was about 10 miles behind us — much to our surprise! He was in the weak lift we had experienced after passing Three Hills, so a call to him to tell him of the lift in the dust seemed appropriate at the time. However, Cec had this all figured out and was already on his way over.

The glide home was interesting as it was the reverse of the approach to the cell — decreasing lift over about four miles then a nice smooth glide to the finish. I was surprised that the effects of the cold air undercutting the warm surface air extended so far from the cell, which was not a big one by some standards.

For me it was an extremely stimulating and educational flight, even if not an epic one. We were the first through the start gate and the second last to finish! Needless to say, we didn't win the day but nobody enjoyed their flight any more than we did ours.

Why, you ask, didn't we land at Three Hills where there was a nice paved runway? Well, after crossing the start line, my other partner and crew for the day, George Dunbar, asked me over the radio if he should go to Three Hills and stand by. With great alacrity and lack of forethought, I replied that wouldn't be necessary. So, you see, we just had to complete the course. □

Those of us who live in this God-forsaken Province of Manitoba just cannot believe that we can be getting so many bad days in a row — but as we all know, a sure way of ruining the summer is to host a gliding contest — and so it goes with the

WESTERN REGIONAL GLIDING CHAMPIONSHIPS

by Hazel Flint

In common with other contests this year, we had most disappointing weather, with only three 'Days' possible, and two of those being devalued. Needless to say, the weekends just before and after the meet were gorgeous, with several flights over 400 km being made. Well, I guess July is a month for going swimming. No one in their right minds would be at a gliding contest, sweltering in the sun for hours, all for the sake of a 22 km flight — and then getting muddy and soaked in a storm ... Ah well, who ever said glider pilots had to be like other people, anyway!

Local flying was possible on the first practice day, but that evening there was quite a storm that turned the campsite into a mud bath (shades of Carman 1970!) and shredded the lovely marquee that we were using at the field for pilots' meetings. Soggy papers and crumpled flags were rescued from the ruins and transferred to the front of one of Bob and Elaine Diemert's hangars. There followed two cold grey days, and then another day of local flying before the first contest day dawned. An alarming early morning 'incident' ended, without harm to man and machine when our towplane, striving for upper-air temperatures for the weather man, got cut off from the airfield by a belt of fog. They tried many ways of penetrating safely through the layer of clag and eventually landed on a highway quite relieved thanks to excellent flying by CTP Bill LeBrun, leaving them with nightmare visions of wing tips that seemed to be only inches off the ground as they weaved around and popped over hedges trying to find somewhere to set down.

DAY 1, 17 JULY

What a relief to see a decent day at last!

The first day's forecast looked promising, and a 235 km triangle was set for the Championship Class, with a smaller one (158 km) for the Sports Class. Unfortunately the cloud base just refused to rise to decent heights, making for a late start. Five Championship Class pilots managed to get away before a blue hole established itself over the field. Flying conditions were tricky, and local knowledge paid off as Russ Flint won the day making it to the second turnpoint (129 km). He was never much above 3500 agl the whole time. Dave Marsden was a close second, but the rest of the fleet landed near the first turnpoint — with Mike Apps and his borrowed Std. Jantar setting down softly in a freshly manured field ...

DAY 2, 18 JULY

Glider pilots are born optimists — if needed they suck on the optimism "refills" they all seem to have somewhere handy ...

Day 2 looked beautiful, and we welcomed late-comer Peter Masak flying Mike's HP-14 and making a total of nine in the Championship Class. The task set was the same as Day 1 but to be flown the other way round. Sailplanes were assembled at the flight line by 11:30, but by noon

some high cirrus had moved in, and a change of task was announced: an O & R to Holland (126 km) for all contestants. Conditions turned out much better than expected, and a longer task could have been flown. The Day provided a very exciting finish, with Jim Oke, Dave and Mike crossing the line with only a few hundred feet between them. Dave was in fact the day's winner as he had a later start time than the other two pilots. Tony Burton and Russ also finished, still wondering how the winners got 20 minutes ahead of them as they were all together at the turnpoint!

Mike showed even more enthusiasm by taking a second launch to fly the task again. He was half way to Holland when he realized he had not taken a photo of the field or board; he came back for his picture and started out again, but by then the best of the day was over.

In the Sports Class, Dennis Miller made a scoring distance — the only cross-country flight made by the Sports Class gliders at the contest. Conditions just were not strong enough for them. The team entry flying an HP-14 were unable to launch because of a broken tail wheel.

DAY 3, 19 JULY

Oh, these early morning puffs in the deep blue sky ...

Day 3 was really a cruel temptress of a day. Again it looked beautiful, and the forecast was good. Again persistent low cloud delayed the launch for the 307 km task and again a blue hole developed over the field in the early afternoon, putting paid to the chances of several pilots. Seven pilots set out on course, and five of them got shot down by sheets of rain cascading down underneath towering storm clouds, only some 30 km from the field. All credit must go to Dave who actually made it all the way round, and Tony who landed at the second turnpoint, both of them proving that the day was quite good if you were at the right place at the right time. They both got rained on but made it around the shower to lift on the other side. It was a pity that points for the day were so devalued, as they deserved better!

"I feel sure its going to be a good day tomorrow. I know because a bird got me at the campsite this afternoon, as I was slurping my afternoon tea, and as every good Irish woman knows, a bird's hit means good fortune."

The remaining five days were frustrating in the extreme: Each morning it was cool and cloudy, but expected to clear and become fine. Each day we sat around, calling pilots' meetings for 11:30 and 1:30 in the hopes of a task, only to be disappointed. When all hope of a task was gone (about 4 o'clock) it cleared and we had beautiful evenings, only to awake to more of that impenetrable low cloud. One day we could hear gliders at Winnipeg Gliding Club (50 km NE) enjoying 5 hour flights, while we sat under that miserable cloud.

We are still hoping for a 'Day' on Friday (the last) but the forecast looks awful at this point. And so it ended, with just three flying days.

Official results are shown on p.18. We were very grateful to local businessmen in Carman, and our hosts Bob and Elaine Diemert, for the generous donation of 'Day Prizes' (gas and grocery

cont'd on page 18



E

13-24 JUL

CARMAN



Scores for both contests on page 18

Schreiter's 1st Law of Competition Meteorology (paraphrased) "Unusual weather is directly proportional to the square of the amount of fibreglass on a grid. (Six West German sailplanes seems to constitute a critical mass)"

Eastern Regionals — Casualty of the Weather

by Karl and Margaret Doetsch

This year, the Eastern Regionals were hosted by the Gatineau Gliding Club at Pendleton, Ontario during the period 27 June to 6 July. Because of the large number of entrants, the field was divided into two classes on the basis of a glider's handicap: the modern 15 Metre and Open Class ships were placed in Class A, whilst the Standard and Open Class ships with a gen-

erally lower performance were assigned to Class B. The option was available to set different tasks for the two classes but this was not exercised. Instead, Class B was always launched first to give the pilots in this class the opportunity of utilizing the maximum length of soaring day. Weather forecasts were provided on the basis of information phoned in by Sepp Froeschl who collated area forecasts and passed them to Karl Doetsch to evaluate in conjunction with actual local conditions.

DAY 1, 27 JUNE

The weather was clear and post-cold-frontal with no inversion to 12,000 feet. The promise of a good day was hampered only by northwesterly winds at about 20 to 25 knots. The trigger temperature was expected to be reached at 12:30 pm. An out-and-return to Shawville (218 km) was declared, which took contestants north of the Ottawa River along the picturesque Laurentian and Gatineau Hills. The day lived up to its promise at higher levels above 4000 feet, with good lift to cloudbase that reached 8000 feet. Below 4000 feet, lift was markedly weaker and this led to the grief and outlandings of several contestants. The day was also shorter-lived than had been predicted.

For those pilots who landed at Limbour, there was light entertainment in the form of a display of water bombing by the ultra-lights that fly from there. Colin Tootill, the last contestant to arrive there, was given a standing ovation when he touched down. He was at a loss to explain this until he discovered that he was the first to land his sailplane without incident!

DAY 2, 28 JUNE

The weather was predicted to be slightly more stable than on the previous day but with light winds (15 to 20 knots), more cloud-streeting and lower cloudbase. The triangle, Pendleton-Merrickville-Alexandria was set (232 km).

The day proved to be interesting with its variety of excellent streeting, fast conditions and much blue, apparently dead, air round the second turnpoint. A much larger percentage of the field was able to complete the task, and contestants were left in high spirits after two good days.

29 JUNE — 2 JULY

On the Monday, warm stable air accompanied by twenty-five knot westerly winds precluded contest flying. By Tuesday, a cold front was approaching. Hurricane Brett, parked in the Atlantic, blocked off normal weather-system flow, and on Wednesday Pendleton sat in indecisive weather — rain or cloud most of the day.

On Thursday a broad ridge provided a clearing in weather but with basically stable air. A short triangle was called, Pendleton-Alexandria-Hawkesbury (114 km). Cloudbase remained 3000 feet, with the clouds providing a sky which looked considerably better than the pilots found it to be.

Most did not set off, and all but all of those that did so landed short of the minimum scoring distance. There was one highlight: John Firth and Colin Tootill were able to climb up the outside of a cloud 2000 feet above cloudbase — still not enough to give them a decisive advantage.

DAY 3, 3 JULY

There was still the same, stalled, warm and stable airmass, but with considerably more moisture. A triangle, Pendleton-Winchester-Maxville (120 km) was set. The sky looked deceptively encouraging but it soon became apparent that conditions were weak.

Slow gaggle flying prevailed, and such patience paid off, as can be seen from the results. Too much press-on spirit by early starters had some of them sitting on the ground enviously watching large gaggles pass slowly overhead later. Such a one was Karl Doetsch who attracted the attention of a reporter from the Chesterville tabloid expecting a gory news story. Instead, he found the pilot "unhurt", but frustrated at having landed early.

4-6 JULY

After Friday, the essentially same airmass oscillated over Pendleton providing minor variations in moisture level and cloud developments which included, on some days, rapid over-development. Despite valiant attempts by all pilots to extract another contest day from the weather, no such luck prevailed. Thus, the ten day period resulted in only three competition days, a major disappointment to the contestants alleviated only by the splendid hospitality of the Gatineau Gliding Club.

Particular mention must be made of the excellent banquet held on 4 July for which external catering was provided — club members thus relieved of this duty were able to have a very relaxing evening with their visitors. The cool, soothing waters of the swimming pool also proved a popular attraction on the hot, muggy days which characterized most of the competition.

Congratulations go to the winners of these Eastern Regionals — to Wilfried Krueger in Class A, the second-time Eastern Regional Champion, and to Walter Herten who, through his exceptionally consistent flying, became the winner of Class B.

The members of the Gatineau Gliding Club under their president, Phillip White, are to be commended for the excellent organization of these Regionals. Art Schubert, as we have come to expect, was a very effective Contest Director. □

ANOTHER LIMERICK AGAIN

by 'Phredde'

He hadn't been up in a year,
but his flying was surely in gear,
he refused a check flight,
gave himself a bad fright,
and hasn't been seen since 'round here.

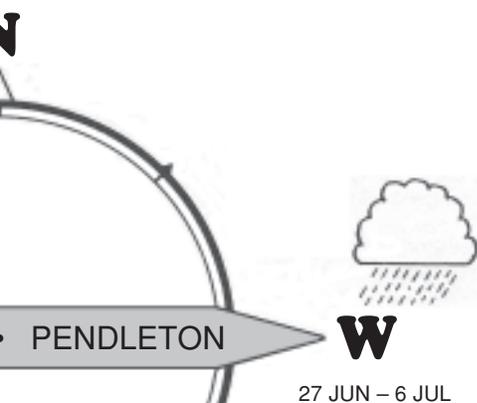


photo: Don Dunn

SAFETY COLUMN

THE PROFESSIONAL APPROACH TO FLYING

— adapted from an idea in the USAF "Aerospace Safety"

by Gerry Nye
MSC Safety Officer

All forms of aviation require a professional approach but the most demanding discipline in this field of endeavour is flying itself. Many of us lack the spare time required to mull over regulations, manuals, emergency procedures, etc. Further, some of us may not even think about flying during the normal routine of our jobs. Nonetheless, we as part-time pilots must fly to the same set of standards and under the same rules and regulations as our full-time counterparts. To do all of this safely requires us to take a full-time *professional* approach to our part-time activity. As a consequence, it is important that we set aside periods of time between flights to re-acquaint ourselves with the various types of aircraft that we fly and what their limitations are. Even more important, we should take the time (and this segment requires a lot of courage) to evaluate ourselves. How do we approach each flight? Are we conversant enough with the prevailing weather conditions? Are there other factors we should be aware of? In effect, all of us should be able to recognize an area in our personal state of readiness which necessitates that little bit of extra attention. The place to find this out is on the ground — not in the air.

A professional approach is not something that can be turned on just as you start to secure your safety belt. It should start long before that and it means making a conscientious and concerted effort to start thinking about flying as soon as you know that you are next on the flight line. Maybe we only fly part-time but we should be thinking professionally full-time. Let me emphasize that professionalism begins with the recognition that your licence carries with it not only the freedom to perform acts not given to mere mortals, but the responsibility to be good at those acts — that means *knowledge and judgement*. As a pilot, you are responsible for knowing your aircraft's limitations and your own, and as such you are responsible for ensuring that neither are exceeded. Demanding more than you or the aircraft are designed for will inevitably result in an accident. Sad as it may seem, accidents are not the mark of a good pilot. While a crash may be a spectacular ending to a flight, the impression it leaves on your peers is not what you had in mind when you took off. Good pilots are decisive individuals who know when to quit or can refuse the continuing temptation to show just how good they are.

On the subject of accidents, I think it is important to remember that no pilot expects to have an accident when he takes off on a flight. But, it is equally important to note that the common thread in most accidents is failure by the pilot to exercise basic common sense. Many

of us are guilty of having violated good judgement at one time or another. It's amazing how often you get away with these violations but if you're not careful, it eventually catches up with you. Consequently, many mishaps are avoidable if a pilot exercises reasonable caution. This caution is a characteristic you are assumed to possess when you are awarded your licence and is something that is supposed to go beyond the letter of legislation or regulation.

Air discipline begins with thorough knowledge of the rules and regulations (club and Transport Canada) and full acceptance that they were written or formulated for your benefit and safety. Having a "Mr. Gotcha" in our club, whose pleasure it is going to be to keep you from having fun in your aircraft, is not an answer to preventing accidents. Instituting additional compulsory checks is not going to solve the problem either. The problem is the pilot himself. If he is incapable of disciplining himself and does not know when to cry "uncle", then no amount of close supervision on our part is going to keep that pilot from doing something stupid at one time or another. I think it is more important to impress upon pilots that the rules and regulations were written to ensure, insofar as possible, safe and enjoyable flying. A pilot's failure to know the rules is no less dangerous than failure to follow them. The result is the same — risk to life and equipment. I guess I've said enough for now. Let me close by saying that, as pilots, we have the responsibility of trying to become the best possible aviators. This means not only having highly skilled hands and feet but developing *professional* attitudes and practising air discipline. In effect, the name of the game is *fly smart!* □

Murphy's Law Demonstrated

by Tony Burton

Thanks to Tony for the following confession. It's another rigging horror story, and will hopefully drive home the point started by Kurt Moser in the last issue.

You know Murphy's Law — it says that whatever can go wrong eventually will. When this law is applied to rigging a glider, the value of a proper inspection and cockpit check prior to flying is not only reassuring, it will save your butt one day. My second to last flight one fall very clearly drove home this point to me, and I relate it now to emphasize that one day YOU will be Murphy's potential victim.

On that day, John Firth offered me the opportunity to fly his Kestrel 19. I happily accepted, and we began to rig. Here is what happened:

1. I removed the tail with its supporting frame from the trailer.
2. I then removed the tail from the frame, noticing that John had added an additional

tail hold-down on this frame. Unlocking it required pulling out a pip-pin from the area of the centre of the tail rear spar. What I didn't notice was that this pin was backed up by a loose plate. I didn't see it because I wasn't expecting to see it. Ordinarily I would have found it because the plate was tied to the rest of the frame by a length of string. This time, the string broke, leaving the plate sitting in the space formed by the spar and the gap seal. I didn't pay any attention to a stray bit of string on the tail support frame.

3. I handed the tail to John, who locked it into place on the rudder. John didn't see the errant plate because of its partially hidden location and because, I suspect, it wasn't supposed to be there anyway. It didn't interfere with attaching the tail, so a security check of the tail didn't reveal the plate, John had done this dozens of times before, but seldom without also personally removing the tail from the frame.

Do you see all the things that had to go wrong to set up the situation? Each event was more or less innocuous in itself, but the combination was potentially disastrous.

My suspicions were finally aroused after I was strapped in and ready to go, but waiting for the tug to refuel. I noticed that the control stick travel was limited in the backwards direction to a degree and didn't feel right. I didn't notice this during the initial cockpit check because it was only the second time I had been in the Kestrel, the first time four months previously, so I had no "correct" control feel to compare with. John would have noticed immediately had he chanced to move the control stick, but he had been called to do an instructional flight as soon as the Kestrel had been rigged.

When I asked someone to check the tail for me, it was discovered that I had almost no "up" elevator travel. The foreign object was finally found when the tail was removed for inspection.

I don't credit myself with any brains. If the tug had been ready to go, and had less time been available to worry about the control feel, I might have taken off. There was probably enough "up" elevator travel to maintain control, but such "probables" break aeroplanes.

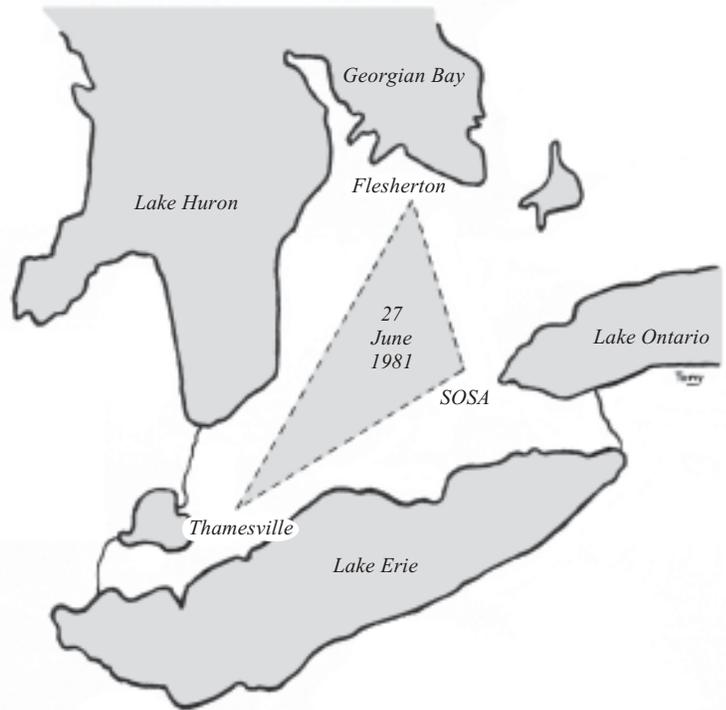
The moral of course is to assume *nothing* when doing your glider inspection, and you may become an old pilot. □

ANOTHER LIMERICK AGAIN by 'Phredde'

While flying one day, very high,
this pilot's oxygen ran dry,
he carried right on,
and now where he's gone,
he doesn't need sailplanes to fly.

FLASH!

ELUSIVE SOUTHERN ONTARIO 500 TRIANGLE DISCOVERED



by Colin Tootill

To those unfamiliar with Southern Ontario let me explain that it is bordered on all sides by the Great Lakes; specifically the Georgian Bay to the north, Lake Huron to the northwest and west, Lake Erie to the south, and Lake Ontario to the east. The proximity of these large masses of water makes flying long distances in this area an unpredictable pastime due to the dreaded "lake effect".

Setting out on a 500 km triangle from SOSA Gliding Club had been long an ambition of X-country pilots operating from Rockton. Until this year however, all 500 km flights from our field (with the sole exception of Hal Werneburg's O&R to Essex near Windsor in 1973) had been downwind dashes to Albany in New York State. In passing it should be noted that Hal flew 600 km of a 650 km O&R to Pontiac, Michigan in 1979.

Finally, while most of SOSA's X-country pilots (who seem to have picked up the label, "Rent-a-Contest") were at Pendleton flying in the Eastern Regionals, Peter Schwirtlich flew the very first 500 km triangle from Rockton in his Std. Libelle on Saturday, 27 June.

Peter's turnpoints were Thamesville, 25 km northeast of Chatham, and Flesherton, about 35 km south of Georgian Bay, a total distance of 501 km.

On this Saturday, a high pressure area dominated SW Ontario. There was very little wind, and cloud base eventually got up to 7000 feet agl. Thermal strengths were 6 knots, occasionally more. Peter ran the first leg, approximately 170 km, in about 1-1/2 hours. "I had forgotten my watch and had to call on the radio to check the time and how fast I was going. The second leg of 222 km took me about 2-1/2 hours." Peter dumped his water 35 km short of the second turnpoint when he got down to 2500 feet above ground near Mount Forest. The last leg of about 110 km took a slower 1-3/4 hours.

This flight, SOSA's historic "500 km barrier crossing" was completed in 5:45 hours. But, to Peter's dismay, the turnpoint pictures of Flesherton were out of quadrant, so there was no badge leg to claim.

Thursday, 23 July promised a repeat of the same weather with the high located centrally over the course area. This time, Peter was not alone, as Andy Gough (Mini-Nimbus), John Brennan (ASW-20), and Paul Thompson (Std Cirrus), decided that flying took precedence over work and declared the same task that Peter had flown in June.

Our friend remarks, "It was much easier this time, knowing that others were coming along. We talked occasionally on the radio and encouraged each other. The first leg took me a slow 3 hours. Eventually rounding Thamesville at 2 o'clock, we all realized that it was time to move on, and we took off along the second leg like a bunch of scared rabbits. The second leg took me three hours again but I was fortunate to get a good thermal to 7000 asl at Mount Forest that carried me around the second turnpoint which was in dead air."

"I got down to 2500 agl again before getting lift. The last leg was flown in decaying conditions under large cu. Locating lift low down was not easy. I finally made it back to Rockton at 7 pm having sat in the cockpit for nearly eight hours. This time my pictures were OK and I earned my badge."

John Brennan took off the last of the four at about 11:15 and flew low the first leg, never getting above 4000 asl. The best lift he found on the first leg was 3 knots. "About 20 miles from Thamesville we came upon high cirrus that put the turnpoint in dead air. Like the others, the first leg took me about three hours, and we all wasted a lot of time just short of Flesherton trying to get enough height to go in and take our picture."

At the start of the second leg John and Andy, with their higher performance sailplanes, left

Peter and Paul behind; they saw each other only twice before they both arrived just short of Flesherton at the same time. John recounted, "Once we got out from under the cirrus near the first turnpoint lift improved to 6 knots. The cloud behaved in a predictable manner and my confidence increased as did my speed. I averaged 90 km/h on the second leg, although I did get a low of 1300 at Mount Forest. Again, the second turnpoint was dead, and Andy and I went in together for our pictures. After flying another 10 miles we eventually got a thermal back to cloud base at 6500. The last leg only took me one hour, and my total flight time was 6:30 hours." Meanwhile, Paul had been slower and did not have enough height to make a glide around the second turn and decided to return home. Paul eventually landed at nearly 8 o'clock at York Soaring, 60 km from Rockton.

Andy's start reflects the others: "We started around 11 and the conditions on the first leg were good to weak depending on where you caught the lift. We got to near the first turnpoint in fair time but wasted a lot trying to get in and out. The good weather always seem to be just behind us on the first leg; and eventually, while we were hanging around just short of Thamesville, it caught us up. Out of the first turnpoint, I was staying high and running 10 to 15 miles between thermals. I reached Strathroy and got to 5000, and then 6000 feet, and really started to speed up until Mount Forest where it overdeveloped, with the second turnpoint in a hole. I met John and we went in together, and then got down to 2300 before we climbed once more. I latched on the end of a cloud street and flew high along it to Belwood Lake, then jumped a blue hole towards Guelph and arrived there at 4000. Enough to get home, but I got a good thermal that took me to 6000 feet and I finished in style. I landed at 6 pm — seven hours in the air.

Editor: Colin says that the dam is now broken, and he wouldn't be surprised to see many 600 km plus attempts over the next few seasons coming out of Southern Ontario. □

HP-19 & HP-20

UPDATE

A FREE FLIGHT INTERVIEW

by Tony Burton

On April 14, Ursula and I just happened to find ourselves in Bryan, Ohio while delivering a 2-33 to Cu Nim from Elmira. Since we had spoken with Henry Preiss in January on progress in Dick Schreder's Bryan Aircraft Corp. with the HP-19 and HP-20 (see #1/81), we were naturally curious on their progress.

We spoke with Henry Preiss, who had given the HP-19 its first test flight only a week beforehand, and who produced the fuselage from his basement for our camera. And we also talked with Dick Schreder about the HP-20, and inspected the work in progress.

First, HENRY:

ff: We were surprised to hear you made the first test flight of the HP-19 on the schedule you had hoped for in January. Homebuilders generally get delayed somehow. How did it go?

Henry: The first attempt was aborted on the runway three days prior to the actual flight due to a lack of ailerons response. The problem was in the effective aileron differential movement which was all wrong. In my previous gliders (RHJ-8, RHJ-9) the aileron hinge line was along the top of the surface. In the HP-19, it was on the bottom side, and this made a big difference when the aileron control system geometry was taken into account. The problem was corrected easily. The first test flight took place at Bryan on 8 April with Dick towing. The elevator effectiveness on the new T-tail was very positive, too positive in fact, and the ship was touchy to control in pitch. There was a lot of porpoising on that tow. I have increased the ratio on the elevator push-pull tube bellcrank from 2:1 to 3:1. Now, the same stick movement will result in a smaller elevator deflection and make the ship more manageable in pitch.

ff: What else did you find on the flight?

Henry: I didn't test as much as I wanted to, the lift was marginal and I only got to 3000 feet once. The stall was about 35 knots without flaps and 32-33 with positive flap. I expect that will be reduced further when the winglets are added later.

With the new airfoil, Dick didn't know what the correct (that is safe) C of G range would work out to be. A design goal was to have the ship trim out to fly in all normal flight modes with flap position changes only and little if any elevator movement. That minimizes control surface drag. Ideally, we wanted the ship to fly 40 to 50 knots with +5 to +10° of flap, 60 to 70 knots with no flap, and about 90 knots with full negative flap. On this flight it turned out that the C of G was too far forward.

On the flap motion test I was flying about 50 to 55 knots with +10° flap and when I moved the flap to -10°, the ship quickly increased speed and was showing no signs of settling down as it reached 100 knots. That test had to be stopped there.

I figure that about 10 pounds added to the tail will trim the ship out properly with my weight of 200 pounds. Since the HP-20 will be similar in design, Dick has moved the wing position forward slightly to correct this problem. By the way, the airfoil computer design work was aided by NASA, not Columbus University as I had mentioned in the last interview.

ff: I'm beginning to appreciate the value of prototype test flights! How much does the HP-19 weigh?

Henry: It weighs 440 pounds with radio, instruments, battery, but not counting the parachute. Remember that the spar is carbon and will hold 300 pounds of water. I'm really happy about the finished weight.

ff: That sounds great. It should do well in weak conditions with such a low dry wing loading (about 6 lbs/ft²).

Henry: I'm very happy with the glider, it seems to have good ailerons response — noticeably better than the RS-15 I flew.

ff: What's next on the agenda?

Henry: Well, I'm going to continue the testing of course. My spare evenings for a while will be dedicated to helping Dick get the HP-20 finished, and I'll be looking for a buyer for my



Henry displays his HP-19 fuselage.

photo by Tony Burton

two-seater side-by-side. (It has been sold in the meantime — ed.)

ff: Thanks for showing us the ship, Henry. I hope you will be able to report more test flight results before this issue of **free flight** is printed.

I was snooping around Dick Schreder's glider shop, taking photos of the HP-20 project and chatting with the foreman, Deloss, when Dick walked in:

ff: Hi, Dick. Things seem to be progressing slowly but steadily since I was here last April. Now I'm spying for **free flight**, how are things going?

Dick: Well, as you see, the fuselage structure is complete and the stabilizer and rudder is attached. We are finishing the wing substructure and will be skinning them very soon.

ff: I see that the spar is different from what you have done before. The spar caps are laminated from four sheets of what looks like .060" aluminum.

Dick: The spar is much the same as the HP-18 or RS-15, but wider. It is a box spar of constant 4 inch width. However, milled spar caps are no longer available at a reasonable price, so the caps are being laminated from sheet stock. The inside laminations are of decreasing length towards the tip, with only one thickness remaining outboard of the midpoint. The laminations are riveted together along the edges and are also bonded under pressure. Furthermore, the end of each lamination is scarfed (tapered) over 6 inches to eliminate stress concentrations.

ff: It would seem that the bonding and scarfing of these laminations will be a difficult chore for the homebuilder.

Dick: The inboard half of the cap would probably be done here if these spars were to be included in a kit as it is the most highly stressed structural component and requires tools and bonding techniques not readily available to the average homebuilder.

ff: You say "if". Is there some question as to whether the HP-20 will be sold as a kit?

Dick: I won't sell the HP-20 unless I feel that

it will be a better glider than my previous kits and will fly competitively.

ff: I see that the airfoil section is quite different from the Wortmann section you used on the 18. It has a blunter leading edge and is thicker on both sides of the spar.

Dick: I was looking for a laminar airfoil that had a higher maximum lift coefficient than the Wortmann section. I am trying to design the HP-20 to have very good climb capabilities at low speed in weak lift, and make use of the flap and considerable water ballast to go fast in strong conditions.

ff: How exactly did the section evolve during its tests?

Dick: I was able to make use of a computer program which simulates wind tunnel tests. The program accepts a drawing of the airfoil and measures and stores the airfoil coordinates. It then calculates how the airfoil would react in a wind tunnel, and provides an output in the form of a graph of lift and drag coefficients at varying angles of attack. My first airfoil was just a guess at what I thought would do the job, and NASA found that although it gave about a 25% better maximum lift coefficient, there was separation over the entire lower surface! The nose was too blunt, and other changes were suggested. After the fourth version was run through the computer, the airfoil seemed to be giving me what I was looking for, so I stopped there. I suppose the airfoil will be called the 'Schreder Number Four.'

ff: It would seem that with a design emphasis on good low speed performance, the flaps will be more critical in achieving reasonable penetration with your airfoil than with Wortmann's.

Dick: Yes. Henry's first flight in the HP-19 gives an indication that it will be all right. It

may be that precise flap position will be fairly important to good results at various climb and cruise speeds. It will take more test flying to work that out.

ff: Is there anything else you can say about the wing?

Dick: Well, as you can see, this wing uses the same construction techniques of closely-spaced foam ribs and bonded skins as I used in the last models. The HP-20 wing will have a double taper to closely approximate the ideal elliptical platform. Only comparison flights with the straight-tapered wing of the 19 will show how much advantage this will provide.



Dick Schreder's HP-20 wing structure in progress. Note foam ribs and large box spar which carries water ballast.

photo by Tony Burton

ff: An elliptical wing has rather vigorous stall characteristics since the entire wing stalls at the same time. What do you expect the stall of the double-tapered wing to be like?

Dick: The stall is quite sudden on elliptical wings, particularly those of low aspect ratio as found on conventional aircraft. The stall will be tamer on a glider wing, and I will also be using short winglets to improve aileron effectiveness.

ff: Let's finish off with the fuselage and tail surfaces.

Dick: Well, except for the tail, the fuselage structure is quite similar to the HP-16, and the control system is similar to the HP-18. The fuselage has a lower profile than the 16, however, and there are other minor differences — the canopy rail is much stiffer, for example. The vertical stabilizer contains three spars, the middle one at the point of maximum thickness to provide extra rigidity for the top-mounted elevator. The elevator has its counterweight inside the stabilizer. The horizontal stabilizer main spar is a box section formed by riveting two aluminum U-channels together.

ff: This has been a delightful tour Dick, thanks for telling us about the work, and I hope that not only is the HP-20 successful, but that you also have it ready in time for the 15 Metre contest.

FOOTNOTE: The HP-20 did not get finished in time for the US 15 Metre Nationals in Minden, Nevada. Dick had to stop working on the HP-20 for a time to prepare his standby HP-18 for the 15 Metre competition. The HP-20 will debut in a Regional Contest in Ionia, Michigan in early September. Henry has finished painting the HP-19 and has got some time in it, but has not had an opportunity to conduct serious comparison flights. □

ACROSS the PRAIRIES in THREE

In three separate flights this summer, Tony Burton spanned the Canadian prairies from Cowley, Alberta to near Carman, Manitoba. On 12 July, while travelling to the Western Regionals, he launched from Indian Head, Sask. and landed 20 km short of Carman for 401 km. On 26 July while travelling from the same contest, he achieved a 509 km goal flight from Indian Head to Medicine Hat airport. Finally, on 1 August at the Cowley Summer Camp, he flew 373 km of a broken 500 km triangle whose second turnpoint was at Manyberries, Alberta, south of Medicine Hat, and coincidentally almost exactly the same longitude as Medicine Hat airport.

Of the three flights Tony comments: "It turned out the best flying of the Western Regionals took place going and coming. The flight to Carman on 12 July was in the bag (I thought) up until 40 minutes before landing, and I was contemplating overflying my goal and continuing another 80 km to get my Diamond Distance.

However, after good cu most of the day, the area was dead the last 60 km and I landed 20 km short of Carman in a pasture. I couldn't understand the sudden change in conditions until the farmer said that 2.3" of rain had fallen the previous day!"

"My Diamond Badge flight going west from Indian Head was a pleasure to achieve and a greater pleasure to finish after being eight hours airborne. It was a slow flight into fairly light headwinds and I only averaged 40 mph groundspeed. Thank God the day lasted as long as it did. I had a late (11:30) and very slow start getting the first 50 miles to Regina, and I was sure there was no way I would make it until I crossed a lot of blue in Saskatchewan, and beautiful cu again appeared on the Alberta border. My computer says I gained 28 minutes of sun time on the trip, so that helped take care of some of the headwind. I landed at 19:30, cutting a TIMEAIR flight from Calgary out of his long final. The pilot didn't mind, and talked to me while a batch of pass-

engers were being recycled. The air traffic controllers said that TIMEAIR had been flying into Medicine Hat for almost a year so it was time they practised a missed approach!"

"As long as one is travelling a long distance anyway, its a beautiful opportunity to attempt a straight flight, Ursula was in sight along the Trans-Canada for a long time west of Regina and she was at the airport to witness my landing. That's performance!"

"So far as I have been able to determine, mine has been the first 500 km flight east to west in Canada."

"The flight out of Cowley held a lot of promise. The previous day looked great, but naturally, I was committed to a wedding reception. I declared a Bow Island — Manyberries 510 km triangle. The day was not too good though — too blue — and full of those miserable wisps that dissolve when you try to go for them. I only got halfway back on the third leg. The Cowley valley is superb for gliding, it's surely one of North America's best kept gliding secrets, although the word is getting out slowly". □

why O₂ above 13,000 feet ?

HYPOXIA and YOUR OXYGEN SYSTEM

By the time this issue is in your hand, the wave flying season will be upon us, so read on. The following article is compiled from a contribution by AnnemarieHollestelle (London Soaring), Tony Burton (Cu Nim), and the Transport Canada Publication "Instrument Procedures Manual."

Pilots fly in two main regions of the atmosphere: the troposphere, extending outward from the earth's surface to 9 km at the poles and 18 km at the equator, and the stratosphere, extending a further 80 km above the earth's surface. In these regions the constituents are nitrogen (78%), oxygen (20.9%) and carbon dioxide (1.1%) and other minor components. Each gas contributes its proportionate share (or partial pressure) to the total air pressure at all altitudes. Due to atmospheric circulation, the percentage relationship of these gases normally remains constant to an altitude of approximately 70,000 feet.

Nitrogen contributes to most of the atmospheric pressure but is not used directly in human body functions. Oxygen, however, is essential to burn (oxidize) food and produce heat and energy, and is transmitted or absorbed in the blood through the lungs. This process of respiration produces carbon dioxide, which is released to the atmosphere through the lungs by exhaling.

Since the mixture of the gases remains fairly constant to an altitude greater than that at which most of us glider pilots operate, it is necessary to describe why the human body requires supplemental oxygen above 10,000/13,000 feet.

Available Oxygen and Body Needs

The amount of oxygen required by the body depends on the individual's degree of physical or mental activity. When walking briskly, a person consumes approximately four times more oxygen than when resting. In an average day, a normal adult male consumes approximately two and one-half pounds of oxygen, usually equal to the amount of food ingested.

A supply of oxygen adequate for a person at rest would not be sufficient for that person under the mental stress of high altitude flight.

At high altitudes the partial pressure of oxygen decreases, even though the percentage of oxygen in the air remains constant. With increasing altitude there is a corresponding decrease in the amount of oxygen transferred from the air sacs within the lungs to the blood, thereby reducing the level of oxygen throughout the body.

All body cells, and particularly the brain and nervous system, are adversely affected by deficiency of oxygen at high altitude. The deterioration of physical and mental performance above 10,000 feet is progressive. A pilot's abilities decrease with increased altitude as well as with prolonged exposure.

Hypoxia

Hypoxia is the term used to designate the medical effects of an insufficient oxygen supply. The symptoms include:

1. an increased breathing rate
2. light-headed or dizzy sensations
3. sweating
4. reduced vision or tunnel-vision
5. sleepiness
6. blue colouring of skin, fingernails and lips
7. behaviour changes

Some people can tolerate altitudes well above 10,000 feet without serious deficiency in performance, and some experience hypoxic effects at levels below this altitude. Those who do not exercise regularly, are in poor physical condition, or persons who have recently consumed any alcohol, are moderate-to-heavy smokers, or have taken certain drugs, are more susceptible to hypoxia. This susceptibility can vary in each individual, from day to day or indeed from morning to evening.

The most dangerous symptom of hypoxia is an insidious, gradual feeling of security and well-being. It is particularly dangerous because it obscures an individual's judgement and even the ability to recognize hypoxia. In fact, a hypoxic pilot usually believes things are improving as he approaches total collapse.

While all hypoxic symptoms do not occur in each individual, it is safe to say that each person develops the same set of symptoms, in the same order, during successive occurrences of hypoxia. Therefore, a pilot is better prepared to avoid this condition if he has experienced hypoxia under careful supervision, such as in a decompression chamber. It is important to know what your special symptoms are. If it happens they are not recognizable (getting blue fingernails is no help if you are wearing gloves on a wave flight) or are tricky to recognize (euphoria), then you must pay very careful attention to the serviceability of your oxygen system.

TUC

The time of useful consciousness is that in which an individual is able to perform tasks necessary for survival. However, this time becomes rapidly shorter above 20,000 feet, but usually is sufficient to confirm an oxygen supply to the mask.

A mild oxygen deficiency is tolerable for relatively long periods. At 10,000 feet the blood contains about 90% of its usual oxygen supply. Continuous operation at this altitude for more than four hours, however, may cause fatigue. A pilot may have trouble concentrat-

ing, solving problems, and making continuous adjustments for flight conditions when flying for a prolonged period at this altitude without supplementary oxygen.

At 15,000 feet the difficulties associated with drowsiness, fatigue and problem solving increase as other aspects of hypoxia begin to take effect. A false sense of well-being, a form of psychological impairment, may cause errors in judgement and cause poor coordination. Simple tasks become difficult in approximately two hours or less.

Above 25,000 ft, the time of useful consciousness shortens to minutes from hours. At this altitude the glider pilot must start paying close attention to his breathing and self-awareness and the oxygen system. Pilots new to these heights may tend to hyperventilate from the excitement or anxiety. This may give symptoms similar to hypoxia plus tingling sensations so keep your breathing consciously regular.

Above 30,000 feet, the time of useful consciousness is measured in seconds (30 seconds at 35,000 feet). No glider pilot should be flying at these altitudes without a good serviceable diluter demand oxygen regulator and mask (which is tight and well-fitting), and an emergency "bail-out" oxygen bottle. A leaking mask at these altitudes seriously degrades your oxygen intake since the regulator will be delivering 100% oxygen by 34,000 feet.

Above 30,000 feet it is a good idea to switch the regulator to the 100% oxygen setting. If you run completely out of oxygen on this setting, you will not be able to inhale through the mask. Not being able to inhale is an eye-opening warning to use the bail-out bottle and descend quickly.

At all altitudes above 20,000 feet, the pilot should switch the regulator to **100% OXYGEN** and descend **IMMEDIATELY** if he has the least suspicion of oxygen system malfunction or hypoxia, and above 30,000 feet should use the bail-out bottle also.

It is a good idea to switch to 100% oxygen for a short period prior to entering the circuit after a high altitude flight just to sharpen you up a little.

Pilots flying at high altitudes should not let their pleasure be spoiled by these thoughts, but should be aware of what can happen and so be ready to react in the correct way.

For your own peace of mind, memorize the "**PRICE**" oxygen system checklist — and **USE** it. □

REPORT ON CIVV MEETING

by David Marsden
SAC Sporting Committee

The Comité Internationale du Vol à Voile (CIVV) is the International Gliding Committee of FAI, composed of representatives of many nations, including Canada, and each nation pays an annual fee to FAI. The CIVV is responsible to FAI for establishing, and keeping up-to-date, universal rules and regulations governing competitions, record claims and FAI Badges for the sport of gliding. It publishes the gliding rules and regulations in the Gliding Sporting Code, Section 3 — Class D.

The Directors of SAC attempt to have delegates attend most of the CIVV semi-annual meetings in order to represent SAC, RCFCA and Canada during the discussions by the Committee of various gliding matters.

The new Sporting Code, effective January 1981 (details 4/81 page 20) has been printed and distributed to National Aero Clubs.

EUROPEAN COMPETITIONS

European Championships for motorgliders, Standard Class, Club Class and European Feminine Championships are being organized for 1982. These are European Championships, but one or two entries from North America would probably be allowed to compete.

The Club Class (Sports Class) is to be run without handicapped scoring, but entry is restricted to sailplanes not better than some designated type, the Ka6E for example. The 1982 European Club Class Championships will be held at Hamelburg, West Germany, from 5 to 20 of June 1982.

1983 WORLD CHAMPIONSHIPS IN ARGENTINA

The site of the 1983 World Championships in Argentina has been moved from LaCruz to Adolfo Gonzales Chaves, an airfield 450 km

southwest of Buenos Aires. This site has somewhat better facilities and the weather is expected to be more reliably good than at LaCruz. Dates for this competition are January 9-14 practice days, and January 16-29, 1983 for the World Contest.

1985 WORLD CONTEST

Australia and Italy presented proposals for the 1985 World Championships and the USSR indicated that they will also submit a proposal.

The site proposed by Italy is Rieti, in the mountains about 70 km northeast of Rome. Rieti has frequently been the site of Italian National Championships and is quite famous for strong soaring conditions.

The Australian proposal is for Benalla, a well developed gliding airport with consistently excellent weather for competition. An international competition is planned for Benalla in 1984 no matter which site is chosen for the 1985 World Championships.

FAI/ICAO ACTIVITIES AFFECTING GLIDING

Mr. Bob Buck, FAI representative to ICAO reported on discussions of revised Visual Flight Rules, Pilots Licence Requirements, and Standardization of Radio Frequency for glider VHF.

A review of visual flight rules (VFR) is taking place in some European countries. Changes in these rules could affect gliding operations and it is important that the gliding community should monitor proposed changes and have some input to new rule-making. Our representative on ICAO is the FAI.

A proposal for glider pilot licence requirements was put forward by the CIVV at the request of the FAI. ICAO makes recommendations for

standards for pilots licences, but the final responsibility for such regulations in any country rests with such government organizations as our Transport Canada. It may be remembered that it was following an ICAO recommendation that Transport Canada introduced medical requirements for glider pilots in Canada in the early 1970s.

The FAI would like to put forward some realistic standards in order to establish some credibility for the gliding world as we hope to share airspace with civil and military aviation.

The proposed standards approved by the CIVV at this meeting would require a written test covering the same material as in the current Canadian licence requirements. Flight experience would be increased to 15 hours with at least 5 hours solo and 15 takeoffs and landings, with reductions allowed for holders of a licence to fly aeroplanes. A demonstration of skill (flight test) would be required. Again this is essentially the same as current Canadian standards.

For medical requirements the pilot would be required to sign a declaration at intervals of not more than 2 years that he or she is not suffering from any injury or illness that might impair his or her ability to fly gliders.

If this is accepted by ICAO it could give us some leverage in getting Transport Canada to remove the present requirement for medical examination by a physician.

LILIANTHAL MEDAL

The Lilianthal medal for 1981 is to be awarded to Mr. Hans Wolfe of Austria. Other nominees were Mr. Franciszek Kepka of Poland, Mrs. Izabella Gorokhova of the USSR and Mr. Wallace Scott of the USA.

“STOP THE PRESS”

On 13 September 1981, during the first weekend of the Quebec Soaring Club Wave Camp at Baie St-Paul, PQ, 2 Diamond altitude gains have been recorded in separate flights in Std. Cirruses.

The first pilot, Alex Krieger recorded 22,500 feet after an 18,000 ft climb. The second pilot, Maurice Laviolette went to 22,500 ft after a

17,000 ft. climb. These gains if officially recognized appear to be the first attitude diamond flights in Eastern Canada (East of the Rockies).

A third pilot, Jean Bellevance in Kestrel 19 obtained 25,400 feet, but unfortunately he was not carrying a barograph. Another pilot, Denis Pepin in the club's Ka6CR missed his diamond by only 1,500 feet.

OXYGEN SYSTEM CHECKLIST	P	PRESSURE	1500-1800 psi and check oxygen bottle ON
	R	REGULATOR	Selector to 100% . With mask disconnected from regulator perform blowback check on regulator hose . Little or no resistance indicates leaky hose or defective regulator. Selector to NORMAL. Repeat blowback check.
	I	INDICATOR	Selector to 100% . Check blinker for operation. Return selector to normal for take-off.
	C	CONNECTIONS	Connection secure at regulator Check hose for kinks, cuts or fraying Check quick-disconnect not warped and rubber gasket in place Check mask hose properly connected
	E	EMERGENCY	Check bail-out bottle pressure . Should read 1800 psi Check hose properly connected to quick disconnect

EASTERN REGIONALS			DAY 1 (218km)			DAY 2 (232 km)			DAY 3 (120km)			TOTAL
CLASS	PILOT	SAILPLANE	km/h	Points	Placing	km/h	Points	Placing	km/h	Points	Placing	
	CLASS A	1 Krueger, W	ASW-20	71.8	939	3	74.77	850	2	63.16	794	3
2 Firth, J		Kestrel 19	91.04	1000	1	89.71	1000	1	48.48	536	8	2536
3 Brennan, J		ASW-20	78.56	971	2	76.34	844(P)	3	57.45	677(P)	5	2492
4 Gough, A		Mini Nimb.	164*	585	7	66.87	779	5	73.85	1000	1	2363
5 Hollestelle, E		Pik-20B	175*	618	5	65.51	755	7	63.72	822	2	2195
6 Tootill, C		Pik-20D	169*	614	6	62.70	742	8	57.07	739	4	2095
7 Conlin/Hicks		ASW -17	181*	571	8	206*	350	10	58.86	539(P)	7	1460
8 Wilson, C		Mosq. B	181*	628	4	86*	161(P)	12	54.61	656	6	1444
9 Pözl, H		Nimbus 2C	133*	420	10	79.77	824	4	dnc		12	1244
10 Vaughan, F		Pik-20B	132*	479	9	63.90	757	6	dnc		12	1236
11 Henry/Adams		Nimbus 2C	18*	57	14	71.32	733	9	93*	245	11	1035
12 Leon, G		Zuni	40*	145	12	156*	305	11	41.86	482	9	932
13 Bayly, T		Pik 20B	27*	95	13	73*	139	13	100*	295	10	530
14 Palfreeman, B		Pik 20	71*	258	11	dnc		14	dnc		12	258
CLASS B	1 Herten, W	Ka6E	58.83	1000	1	56.55	958	4	43.2	990	2	2948
	2 Bantin, C	RS-15	63.24	962	3	61.73	928	5	46.5	950	4	2835
	3 Silliphant/ Lockhard	Skylark 4	169*	502	7	54.13	976	3	39.79	965	3	2443
	4 Skensved, P	SHK	50.50	795	6	57.28	844	7	38.54	795	6	2434
	5 Di Pietro, R	Std. Jantar	199*	497	8	57.05	828	8	45.57	931	5	2256
	6 Doetsch, K	HP-14	64.65	990	2	63.95	981	2	36.0*	150	9	2122
	7 Thompson, P	Std. Cirrus	61.22	943	5	58.0*	83	9	48.8	1000	1	2026
	8 Springford, L	Std. Libelle	61.17	951	4	57.13	853	6	38.0*	160	8	1964
	9 Gauvin, D	IS 29	59*	158	9	60.96	1000	1	93.0*	412	7	1571
	10 Spence, I	Std. Jantar	59*	142	10	dnc		10	dnc		10	142

(*) Distance (km) on speed tasks

(P) Photo penalty

Note: all distances and speeds are shown after application of the handicap

WESTERN REGIONALS			DAY 1 (235 km)			DAY 2 (126km)			DAY 3 (307 km)			TOTAL
CLASS	PILOT	SAILPLANE	km	Points	Placing	km/h	Points	Placing	km/h	Points	Placing	
	CHAMPIONSHIP CLASS	1 Marsden, D	Gemini	107.3	436	2	73.3	1000	1	62.2	200	1
2 Flint, R		Std. Cirrus	125.2	526	1	57.5	798	5	20.8*	12	7	1336
3 Burton, T		RS-15	69.9	246	3	64.3	884	4	183.1*	108	2	1238
4 Oke, J		Std. Cirrus	61.2	206	4	69.0	945	2	36.9*	22	4	1173
5 Apps, M		Std. Jantar	48.4	142	5	67.6	926	3	27.9*	16	5	1084
6 Masak, P		HP-14	dnc			104.5*	433	6	38.4*	23	3	456
7 Tinkler/Taylor		Astir CS	14.5	0	6	0	0	7	21.0*	12	6	12
8 Cumming, J		Phoebus 17	0	0		0	0		0	0		0
9 Hennigar/ Tustin/ Pedersen		HP-14	0	0		dnc			0	0		0
SPORTS CLASS	1 Miller, D	1-23	53.2*	200	(126 km) 1							200
	2 Bandorf, J	Duster	0	0								0

Western Regionals (cont'd from page 10)

certificates, free meals, etc.) and prizes for the Winner and Runner-Up, Dave and Russ. Russ was also declared the first Manitoba Provincial Champion, with Jim the runner-up, Tony received a plaque for his third place finish. We had terrific support and interest from the local area, and gave over 75 familiarization flights to visitors. There were a number of radios and newspaper articles in both the local and Winnipeg papers, and altogether the event was excellent publicity for the sport of soaring.

Several members of the Winnipeg Gliding Club received empty beer mugs at the Awards Banquet to mark the work they had done in putting

on the contest. The weather man, Norm Taylor, did an excellent job with only sketchy information as he had no facilities at the site and was usually unable to get upper-air temperature readings because of cloud. It's rotten being the weather man when the weather is bad; thank you Norm, but you were right on! We were also grateful to Al Sunley who came from Edmonton to act as Competition Director. The contest organizers were very disappointed at the lack of entries from Alberta clubs, and I think we have now proved both in 1976 (when the Manitoba Regionals was cancelled for lack of entries) and in 1981 that future Regional Contests should be held in Alberta.

Although there were some disappointments about this contest, it also had its positive side. There

were no accidents (therefore no insurance claims). There was excellent local support and interest. We had some really good social events: a steak barbecue given by the Diemerts in the first week; a fish-fry in the second week; the awards banquet, and a lot of campsite, pub, and around-the-field gatherings. Above all, there was a fine atmosphere of friendship and fellowship throughout the whole contest. It was often frustrating and boring for crew and families, and we nearly all suffered a dreadful stomach flu that really gave one a bleak outlook on life for a day, but by the end of the two weeks we were a real community of gliding folk, sharing alike our frustration at the weather and our enthusiasm for our sport, and we all departed from Carman with at least a few positive memories of the 1981 Western Regionals. □

HANGAR FLYING & CLUB NEWS

LONG FLIGHT BY MIKE APPS

Another long flight was made by a competitor heading for the Western Regionals. On 11 July, Mike Apps launched from Chipman, Alberta with a goal of Indian Head, Saskatchewan, a 720 km straight distance and goal record attempt. It was not the day however, but Mike made it as far as Chamberlain, 80 km NW of Regina, for a distance of 580 km. Mike was flying a Standard Jantar (Jam Jar), owned by Jim Strong and Garnet Thomas.

The west has been good to Canadian glider pilots this year, with half a dozen 500 plus flights achieved. The USA has not been as lucky, the SSA FAI Badge Chairman, Cindy Brickner, told **free flight** that she has received no Diamond Distance claims yet.

GERMAN CLUB CLASS EFFORT UNDERWAY

*Excerpt from 'aerokurier' 1/81
by Horst Schlueter*

The excitement over the fibreglass ships has overrun the recognition of the values of medium performance ships such as the K8 and Ka6. Although these machines are 15 to 20 year old designs, they easily achieve today's long distance flights of 300 km or more, thanks to experience and knowledge of meteorology and its proper application. But their production is discontinued, and the only equivalent successors would be the Club Astir and the Mistral.

Forgotten has been the aspect of recreation for young and old average pilots who enjoy Ka6-type ships from their first training lessons to solo, their first cross-country flight, and competition flying. Also a trainer should be a good climber and have the values of good penetration for distance flights, because students should be trained to X-C from the very beginning.

High performance and the design of super-ships has created a huge gap between the club class and the racer. After about 20 years of racing and greater distance flights, the necessity of a come-back of the Club class is being realized. A committee has been formed to study and implement certain characteristics for Club class ships to be manufactured, and finally to close the gap between the racer and the medium performance machine.

Here are some of the most important aspects under consideration:

Cost: below DM 20,000 (\$12,000)
Wing span: 15/16 m, possibly 13 m
Wing loading: 25 kg/m² (5 lb/ft²)
Pilot height: 160 to 200 cm (5 to 6 ft)
Max. pilot weight: 110 kg (250 lbs)
Min. speed at max. weight: 60 km/h (40 mph)
Max. speed: 220 km/h (150 mph)
Glide angle (full spoilers): 1:5, 1:6
Max. L/D: 34-36 to 1
Roll rate 45°: 3-4 secs at 90 km/h (60 mph)
T-tail, automatic trim, no water ballast
Rudder pedals adjustable in flight
Good disc brakes, very good visibility

DG-400 MOTORGLIDER UNVEILED



GLASER-DIRKS has introduced a new motorglider, the DG-400. Powered with a "Rotax" engine, the sailplane is an outgrowth of the DG-200/17. Its maiden flight took place on 1 May 1981, and the following 'engine-on' data were obtained:

Climb: 700 fpm at 2900 rpm
Cruising speed: 76 knots at 3000 rpm
Max. speed level flight: 87 knots at 3300 rpm

The engine is very quiet, and the DG-400 flight characteristics correspond to those of the normal DG-200 or DG-200/17.

The second prototype flew at Paderborn. German type certification is expected to be completed towards the end of the year, and series production will begin in November.

20th ANNIVERSARY YORK SOARING ASSOCIATION

This year it will be twenty years ago that Walter Chmela founded the York Soaring Association. In 1962 the first two gliders arrived: two Doppelraabs. An Auster and a winch filled out the equipment. It was stationed at the old Markham field. In 1964 a move was made to Goodwood, at which time a flat-top LK was added. A move to Orangeville in 1969 brought also a MÜ13 and a K7. The Auster was replaced by a PA12.

In 1970 the operation was moved to Arthur and the first 5000 square feet hangar was built. The total number of flights that year was 269. In 1971 the second K7 was added and in September of that year the first 2-33 arrived.

In 1974 YSA got a tremendous boost when the Pioneer fleet became part of our fleet. In 1974 an adjacent farm was added and the airfield now comprises 200 acres. There are now four runways in use in which some 14,000 feet of drainage tile is embedded. The runway area is about 70 acres and the rest is sub-let to farming. A second 10,000 square feet hangar was started in 1978 and finished in 1979 at which time YSA hosted the Nationals. A clubhouse that can accommodate 120 people was added to the hangar, complete with modern washrooms, office and storeroom.

The old farmhouse is used for gatherings in the evening and breakfast on Saturday and Sunday mornings. One old farm building is a workshop and another is transformed into a bunkhouse, known as the "Chicken coop".

The aircraft fleet now consists of seven 2-33's, two 2-32's, three 1-26's, one 1-23, one 1-35, one Blanik, and four towplanes: one 180 hp PA18, two 150 hp PA18's, one PA12. There are a dozen private aircraft stationed at the field. If you think that YSA leans heavily towards training, you are absolutely right. There are about 35 instructors and between 25 and 45 students a year are graduated. Also every first week in January YSA conducts a Wave Camp in Colorado Springs. It has done so for the last dozen years. Internal contests are organized (from spot landings to cross-countries).

A lot of progress has been made since 1970. About 5000 to 6000 flights are now conducted in club equipment per year. The record stands at 202 flights daily. Our membership fee this year is \$235. Glider fees range from 15 to 20 cents a minute. Tows are \$6.50 for 2000 feet (\$5 before 11 o'clock).

PILOTS PILE UP KILOMETRES

SOSA Gliding Club members have done well this summer. In addition to the 500 km flown by Peter Schwirtlich, John Brennan and Andy Gough, no less than *eleven* 300 km triangles have been flown, though not all for badge legs.

Ted Beyke flew three 300's in this ASW-15 before his untrusty barograph finally gave him his Gold Distance and Diamond Goal (he carried two barographs on his third flight just to make sure).

Paul Thompson finally took all the right pictures and flew his 300, leaving Rockton at 1400 hours and coming home just before 1900 to claim his Gold Badge (complete) and Diamond Goal.

Pat O'Donnell (RS-15) completed his 300 on 27 June, the day the first 500 km triangle by Peter was flown. Unfortunately his turnpoint photos were out of quadrant, [*ed. I think SOSA pilots should take a camera course or read Tony's SAC Procedures Booklet*]

Colin Tootill got his Diamond Goal and Gold Distance on 1 August in his PIK-20D.

Others who flew 300 km were Peter Schwirtlich, Andy Gough, Steve Burany, and Paul Sears. Wilf Krueger flew 400 km O&R to Sarnia on 21 July.

Other happy pilots are: Sid Wood (Cherokee), Harry Mahood (Ka6), and Bob Carlson (1-26), who all completed their Silver C Badges with 50 km distance flights.

And last but not least, there were seven new solo pilots who have a lot to look forward to.

Although the season has been marvellous, there is a sad note to it: Doug Winger, CFI and a 20 years SOSA member, died after a long courageous fight with cancer. Doug is thoroughly missed amongst his friends.

cont'd on page 20

FAI BADGES

by Dave Belchamber

29E Varley Drive
Kanata, Ontario K2K 1G4 (613) 592-5516

The following badges and badge legs were recorded in the Canadian Soaring Register during the period May 30, 1981 to August 4, 1981.

DIAMOND BADGE

38 Tony Burton Cu Nim (World Number pending)

GOLD BADGE

182 Jock Proudfoot London

SILVER BADGE

584 Georg Brueckert Vancouver
585 Georg Matthias Vancouver
586 Ulo Okapuu Gatineau

DIAMOND DISTANCE 500 km (310.7 mi) Straight Line, Dogleg, O&R or Triangle
Tony Burton Cu Nim 509 km RS-15 Indian Head, Sask.

SILVER DURATION 5 Hours
Ulo Okapuu Gatineau 5:25 1-35 Pendleton, Ont.

SILVER DISTANCE 50 km (31.1 mi) Straight Line
Georg Brueckert Vancouver 71 km Blanik Innisfail, Alta.
Georg Matthias Vancouver 70 km Ka6E Innisfail, Alta.
Ulo Okapuu Gatineau 59 km 1-35 Pendleton, Ont.
Sid Wood SOSA 62 km Cherokee II Rockton, Ont.

SILVER ALTITUDE 1000 m Gain (3281 ft)
Dale Hogg York 1525m Libelle Arthur, Ont.
Georg Brueckert Vancouver 1395m Blanik Innisfail, Alta.
Ulo Okapuu Gatineau 1615m 1-35 Pendleton, Ont.
James Dippel SOSA 1200m 1-26 Rockton, Ont.
Vladimir Konecny Windsor 1340m Ka8 Dresden, Ont.
Sid Wood SOSA 1495m Cherokee II Rockton, Ont.

C BADGE 1 hour Duration
1720 Andre Roy Champlain 2:04 1-26 St-Antoine, Quebec
1721 Michel Rochette Champlain 1:01 2-22 St-Antoine, Quebec
1722 Ulo Okapuu Gatineau 5:25 1-35 Pendleton, Ont.
1723 Vladimir Konecny Windsor 2:06 Ka7 Dresden, Ont.
1724 Sid Wood SOSA 1:20 Cherokee II Rockton, Ont.

NOTE TO OFFICIAL OBSERVERS

The 1981 FAI Sporting Code (for Gliders) is now in effect. It is available from the SAC National Office. **ALL OFFICIAL OBSERVERS** should be familiar with the new Code, and should have a copy of it and the **SAC FAI Procedures Booklet** as reference books on their duties.

Hangar Flying (continued)

CANADIAN O&R RECORD CLAIM IN WEST

One of the long western flights referred to earlier is an O&R record claim by Rainer Zimm of Cu Nim. On 7 June, flying a Std. Cirrus, he completed a 620 km flight from Black Diamond to a point on the Trans-Canada Highway very near the Alberta/Saskatchewan border, and return. He says that the early conditions were excellent, and he made the turn in only 3 hours. However, the lift weakened markedly around 3 o'clock and the rest of the trip was a struggle and he didn't get back until after 8 PM.

Rainer had some barograph problems, but he hopes the trace is sufficiently clear for the flight to be accepted.

On the same day, two other members of Cu Nim, Don Rowe and Lee Coates, both flew a 502 km O&R east to a point near Seven Persons, Alberta. (Along with Manyberries, there's lots of picturesque place-names out here.)

DIRECTORS AND OFFICERS

PRESIDENT
Dr. R.W. Flint
96 Harvard Avenue
Winnipeg, Man. R3M 0K4
(204) 284-5941 (H)

PAST PRESIDENT
Dr. K.H. Doetsch
1610 Apeldoorn Ave.
Ottawa, Ont. K2C 1V5
(613) 224-1470 (H)
(613) 993-2110 (B)

VICE-PRESIDENT
Mr. D. Collard
8717 Alton Pl.
Surrey, B.C. V3S 5E5

SECRETARY-TREASURER
Dr. Karl H. Doetsch

DIRECTOR PACIFIC ZONE
Mr. L. Bungey
General Delivery
Port Mellon, BC V0N 2S0
(604) 884-5341 (H)
(604) 884-5223 (B)

DIRECTOR ALBERTA ZONE
Dr. M. Apps
11455 - 43 Ave.
Edmonton, Alta. T6J 0Y2
(403) 436-9003

DIRECTOR PRAIRIE ZONE
Mr. D. Collard
8717 Alton Pl.
Surrey, B.C. V3S 5E5
(604) 591-3490

DIRECTOR ONTARIO ZONE
Mr. Al O. Schreiter
3298 Lone feather Cres.
Mississauga, Ont. L4Y 3G5
(416) 625-0400 (H)
(416) 926-1225 (B)

DIRECTOR QUEBEC ZONE
Mr. A.W. Krieger
1450 Oak Avenue
Quebec, Que. G1T 1Z9
(418) 681-3638 (H)
(418) 656-2207 (B)

DIRECTOR MARITIME ZONE
Mr. G. Graham
1-125 Hospital Ave.
New Glasgow, NS B2H 2C8
(902) 752-3803 (H)

EXECUTIVE DIRECTOR
Mr. J.W. Leach
485 Bank Street
Ottawa, Ont. K2P 1Z2
(613) 232-1243 (B)
(613) 822-1797 (H)

COMMITTEE CHAIRMEN

Air Cadets
Mr. Glen Fraser
1105 - 2175 Marine Dr.
Oakville, Ont. L6L 5L5

Air Space
Mr. D. G. Tustin
581 Lodge Avenue
Winnipeg, Man. R3J 0S7

Financial Planning Committee
Mr. F. Stevens
302 Boreham Blvd.
Winnipeg, Man. R3P 0J6

Free Flight
Mrs. Ursula Burton
Box 1916
Claresholm, AB T0L 0T0

Historian
Mrs. C. Firth
542 Coronation Avenue
Ottawa, Ont. K1G 0M4

Instructor
Mr. I. Oldaker
135 Mountainview Rd N
Georgetown, Ont. L7G 3P8

Insurance
Mr. A. O. Schreiter
3298 Lone Feather Cres.
Mississauga, Ont. L4Y 3G5

Medical
Dr. W. Leers
4889 Dundas St. W
Islington, Ont. M9A 1B2

Membership
Mr. C. Keith
58 Wentworth Ave.
Willowdale, Ont. M2N 1B2

Provincial Associations
Mr. L. Bungey

Publicity
Vacant

Radio
Mr. F. Vaughan
Box 113, RR 1
Kanata, Ont. K2K 1X7

Safety
Mr. E. Newsome
131 - 13710 - 67th Ave.
Surrey, BC V3W 6X6

Sporting
Dr. D. Marsden
3920 Aspen Dr. W.
Edmonton, Alta. T6B 2B3

Sub Committees

FAI Awards
Mr. D Belchamber
29E Varley Dr.
Kanata, Ont. K2K 1G4

FAI Records
Dr. & Mrs. R. Flint
96 Harvard Ave.
Winnipeg, Man. R3M 0K4

Sailplane Registry - Contest Letters
Mr. R.L. Barry
542 Rouge Rd.
Winnipeg, Man. R3K 1K4

Technical Committee
Mr. J Henry
3151 Ste. Rose Blvd.
Montreal, Que H7R 1Y7

Trophies & Statistics
Mr. D. Miller
19 Richie Cresc.
Regina, Sask. S4R 5A5

Trophy Claims
Capt. J.W. Oke
551 Bruce Ave.
Winnipeg, Man. R3J 0W3

Meteorology Consultant
Dr. S. Froeschl
1845 Brookdale Ave.
Dorval, Que. H9P 1X5

World Contest
Mr. A. O. Schreiter
3298 Lone Feather Cres.
Mississauga, Ont. L4Y 3G5

MEMBER CLUBS

MARITIME ZONE

BLUENOSE SOARING CLUB

c/o 608-105 Dunbrack St., Halifax, N.S. B3M 3G7

NEW BRUNSWICK SOARING ASSOCIATION

521 Blythwood Ave., Riverview, N.B. E1B 2H3

NEWFOUNDLAND SOARING SOCIETY

c/o Mr. J.J. Williams, 57 Boyle St., St. John's, Nfld. A1E 2H5

QUEBEC ZONE

AERO CLUB DES OUTARDES

1690 Chemin St-Damien, Ville St-Gabriel de Brandon, Que. JOK 2N0

ARIADNE SOARING INC.

735 Rivière aux Pins, Boucherville, Que. J4B 3A8

ASSOCIATION DE VOL À VOILE CHAMPLAIN

590 Townsend, St. Lambert, Que. J4R 1M5

CLUB DE VOL À VOILE APPALACHIEN

Box 271, Sherbrooke, Que. J1H 5J1

CLUB DE VOL À VOILE ASBESTOS

379 Castonguay, Asbestos, Que. J1T 2X3

CLUB DE VOL À VOILE QUEBEC

Box 9276, Ste. Foy, Que. G1V 4B1

MISSISQUOI SOARING ASSOCIATION

Box 189, Mansonville, Que. JOE 1X0

MONTREAL SOARING COUNCIL

Box 1082, Montreal, Que. H4L 4W6

ONTARIO ZONE

AIR SAILING CLUB

Box 3, Etobicoke, Ont. M9C 4V2

BASE BORDEN SOARING GROUP

Mr. J. Gratton, 51 Quebec Loop, Site 3, Borden, Ont. LOM 1C0

BONNECHERE SOARING INC.

Box 1081, Deep River, Ont. K0J 1P0

CALEDON GLIDING CLUB

P.O. Box 70, Caledon, Ont.

CENTRAL ONTARIO SOARING ASSOCIATION

Box 762, Peterborough, Ont. K9J 7A2

ERIN SOARING SOCIETY

Box 523, Erin, Ont. N0B 1T0

GATINEAU GLIDING CLUB

Box 883, Station B, Ottawa, Ont. K1P 5P9

HURONIA SOARING ASSOCIATION

Box 153, Wyler St., Coldwater, Ont. LOK 1E0

KAWARTHÁ SOARING CLUB INC.

P.O. Box 168, Ormeme, Ont. K0L 2W0

LONDON SOARING SOCIETY

Box 773, Station B, London, Ont. N6A 4Y8

RIDEAU GLIDING CLUB

c/o Mr. H. Janzen, 172 College St., Kingston, Ont. K7L 4L8

RIDEAU VALLEY SOARING SCHOOL

Box 93, R.R. #1, Kars, Ont. K0A 2E0

SOSA GLIDING CLUB

Box 654, Station 0, Toronto, Ont. M4T 2N5

TORONTO SOARING CLUB

P.O. Box 856, Station F, Toronto, Ont. M4Y 2N7

WINDSOR GLIDING CLUB

Mr. H. Berg, 2665 Bouffard Rd., Windsor, Ont. N9H 1W3

YORK SOARING ASSOCIATION

Box 660, Station Q, Toronto, Ont. M4T 2N5

PRAIRIE ZONE

REGINA GLIDING & SOARING CLUB

19 Ritchie Cresc., Regina, Sask. S4R 5A5

SASKATOON SOARING CLUB

Box 379, SPO 6, Saskatoon, Sask. S7N 0W0

SWAN VALLEY SOARING ASSOCIATION

510 Main St. E., Swan River, Man. R0L 1Z0

WINNIPEG GLIDING CLUB

Box 1255, Winnipeg, Man. R3C2Y4

ALBERTA ZONE

COLD LAKE SOARING CLUB

Box 1714, Medley, Alta. T0A 2M0

CU NIM GLIDING CLUB

Box 2275, Stn. M., Calgary, Alta. T2P 2M6

EDMONTON SOARING CLUB

Box 472, Edmonton, Alta. T5J 2T6

GRANDE PRAIRIE SOARING SOCIETY

Box 550, Grande Prairie, Alta. T8V 3A7

NAMAO SOARING CLUB

Capt. K. Peters, CFB Edmonton, Lancaster Park, Alta. T0A 2H0

SOUTHERN ALBERTA GLIDING ASSOC.

Mr. D. Clark, 514 Sunderland Ave., SW Calgary, Alta. T3C 2K4

CHINOOK SOARING RESEARCH ASSOCIATION

3720 Utah Dr., NW, Calgary, Alta.

PACIFIC ZONE

ADVANCED SOARING TRAINING & RESEARCH ASSOC.

Mr. L.M. Bungey Gen Del Port Mellon, B.C. V0N 2S0

ALBERNI VALLEY SOARING ASSOCIATION

Box 201, Port Alberni, B.C. V9Y 7N7

BULKELEY VALLEY SOARING CLUB

Box 474, Smithers, B.C. V0J 2N0

NORTH OKANAGAN SOARING CLUB

Mrs. L. Woodford, Grindrod, B.C. V0E 1Y0

SWANSEA SOARING SOCIETY

P.O. Box 716, Invermere, B.C. N0A 1K0

VANCOUVER SOARING ASSOCIATION

Box 3651, Vancouver, B.C. V6B 3Y8

WIDE SKY FLYING CLUB

Box 6931, Fort St. John, B.C. V1J 4J3

COMING EVENTS

Sep 81, BC High Altitude Training Camp, Hudson Hope, BC. Hosted by Wide Sky Flying Club, Box 6931, Fort St. John, BC V1J 4J3.

Sep 5-7, 81 XC Clinic (Mini Contest) hosted by ESC, Chipman Gliderport, Alberta. Contact Dan Pandur, 7103-180 St. Edmonton, Alberta (403) 471-2822.

Sep 26, 81 Wave Flying Seminar, hosted by ESC, Chipman Gliderport, Alberta. Contact Dave Lacy, 12137-87 St., Edmonton, Alberta (403) 471-3722.

Oct 3-4, 81 **SAC Directors Meeting**, Halifax, Nova Scotia.

Oct 9-12, 81 **Cowley Wave Camp** at Cowley Airfield. Hosted by Alberta Soaring Council. Contact Dave Lacy, 12137-87 St., Edmonton, Alberta (403) 471-3722.

CLASSIFIED