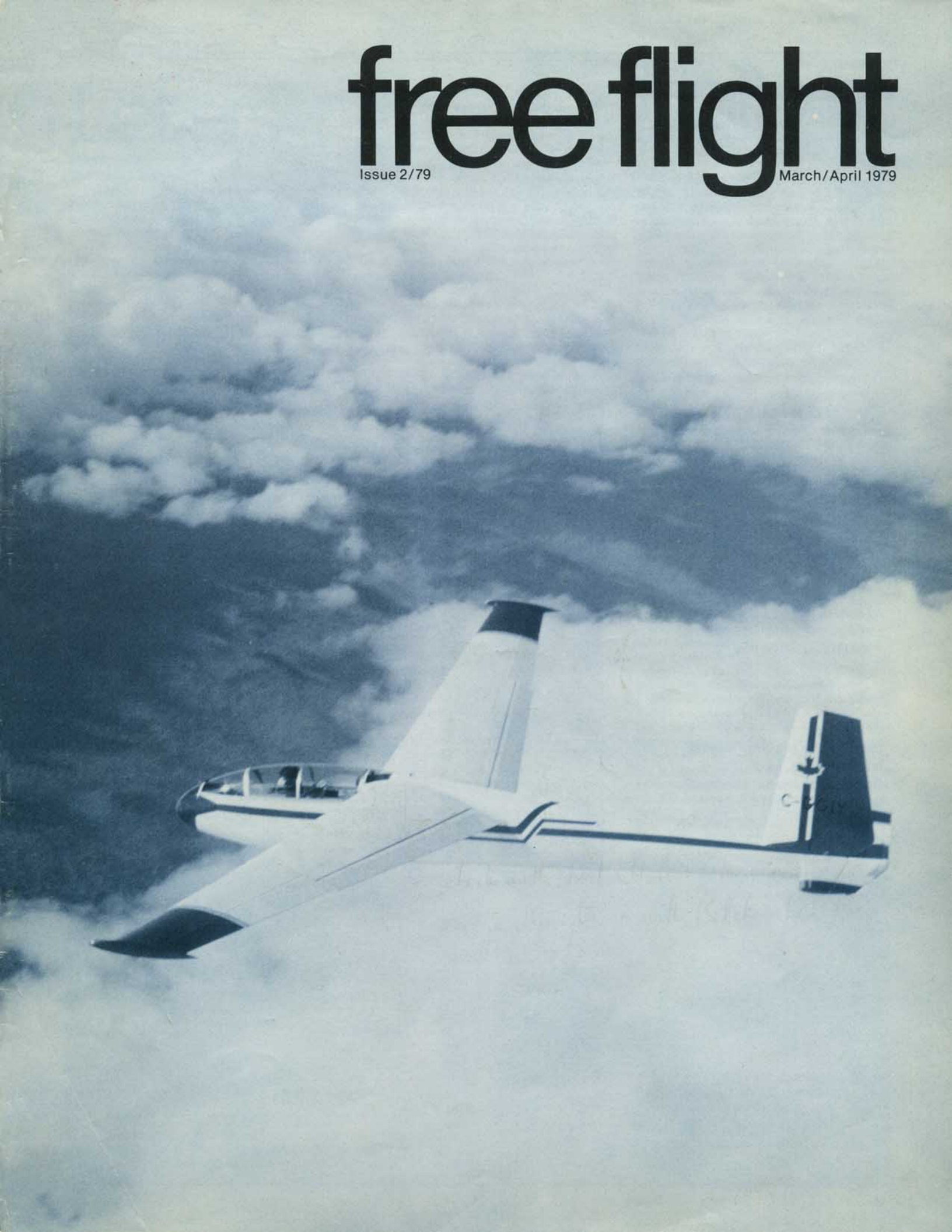
free flight

Issue 2/79 March/April 1979



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Issue 2/79 March/April 1979

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Editor: **Mark Perry**
Associate Editors:
John Bachynski
Lloyd Bungey
Peter Masak

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503 Rathgar Avenue
Winnipeg, Manitoba
R3L 1G2

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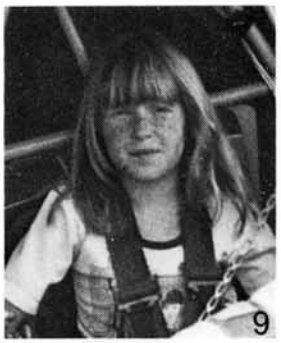
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Cover photo taken by Peter Rawes at 13,000 ft. in the Mount Washington Valley, near North Conway, of a Blanik piloted by Tom Gallager and Dale Goulin.

Letters

Dear Editor:

The recent report on the Western Regionals contained a couple of somewhat misguided references to a 'Firth' handicap system. In fact the handicap system was essentially the B.G.A. official list.

There appears to be a misconception that the Sporting Committee Chairman forces his personal ideas upon SAC members at large, through contest rules and other SAC regulations. Not so; the Committee, since I have been Chairman, has always consisted of three members who have always been consulted on matters involving a change from current practice. The introduction of a handicap system into Regional contests is a case in point.

In the last ten years, the National Contest has changed from a single group of assorted sailplanes into three or four class divisions, as the performance gradations between our competing sailplanes has widened. The drawback to this system is that we do not yet have enough pilots to make competition meaningful or even challenging in each class, especially when a fair proportion of the top pilots are away at a World Contest in one capacity or another. Faced with a similar problem in Regional contests, the BGA has adopted a handicap system which seems to work well and these contests are certainly well supported.

The introduction of a single handicapped class for our Regionals was considered for over a year and received substantial support from many pilots. It is certainly not, therefore, a whim of the Chairman, or even of the Committee. The actual handicaps used in the 1978 contests were taken from the BGA list of calculated handicaps; additional gliders were placed on it based on experience of comparative performance, in the absence of test reports for some types.

By all means let us have feed back and personal opinions on such matters, in the form of letters to the Committee, or to the Editor.

Of course we are bound to have instances of individuals who feel their ship has been unfairly assessed, but this should not be allowed to squash development of a system which can give meaningful, if not completely fair (no system can do that) comparisons of ability in competitive crosscountry flying. I urge clubs running informal weekend contests to try various types of handicap ideas; we may end up with something acceptable to the majority of pilots, most of whom cannot afford to compete financially at top level, in a straight class structured competition.

Yours sincerely
John Firth
past Chairman, Sporting Committee.

Vive le Raconteur

Comment by E. Feather

The tow pilot went to pull the release but it wouldn't let go. Imagine the pilot's reactions as he is hurtling towards the ground with a glider on tow, and due to the upward pull in the rope he can't pull up! I thought of this on one recent evening when reading "Sailplane and Gliding".

The article was about an occasion at Lasham, the UK's main gliding site when a tow pilot had an ASW-15 get so high on tow that the tow pilot went to pull the release. Nothing happened, until the adrenalin level gave him super strength and he managed to overcome the extra friction in the system, which (presumably) was caused by the now very tight tow rope. When the release did let go the towplane was diving steeply under full power! In this case the towpilot (belatedly) wrote up his experience and suggested that towplane releases might best be of the European type which feature over-centre locking, and which do not require excessive pull forces to let go of the rope, even if under extreme tension; he also suggested if in a dive reduce power before the release is pulled.

This reminded me of an episode at Pincher Creek which should have received a bit more attention at the time perhaps. This was written up in this magazine I believe by the HP-14 pilot. In this case extreme turbulence and strong sink close to the trees in a narrow valley made the tow pilot go for the release as both aircraft started into a dive. Again the towpilot had problems and he only managed to let go of the glider by using both hands on the release knob. When close to the ground like this it must have required a cool head to let go of the control column entirely. I can also sympathize if he had been reluctant to reduce power!

A number of other instances come to mind where releases have been unwilling to operate when called on to do so; maybe you can think of some too?

Two points emerge out of this. First, it seems there could be a case for using the "Tost" or "Ottfur" type of release on towplanes, particularily when used in mountainous regions. Can they be fitted to our towplanes I wondered, puffing on my pipe; are typical installation kits available, and if not would it be possible to prepare some? Would our Technical Committee care to comment - maybe I'll write FF, I said.

On the second point, the fact that these pilots discussed their experiences is great - we all learn from these instances when something went wrong and when the pilots managed to extricate themselves.

The new incident notification form introduced by our safety committee following last year's CFI's seminar in Toronto seems like the right idea, but it needs our support to become fully useful; I'll certainly support the system if we get feedback and if there is the chance that my insurance premiums will begin to go down again! So when we have an incident in our flying, let's write it up for others to learn from.

-Vive le Raconteur!-

Crossword

1. 4. Pictured; Home base W.G.C.
11. Prolific U.S. designer; UHP-1
12. Supplies for a journey
14. Small U.S. state (abbrev.)
15. Of three (comb. form)
17. Of; From (German name prefix)
18. B.S.C.'s home province (abbrev.)
19. Publishes SOARING (abbrev.)
21. Title to something; an assertion
23. Karl Doetsch's Home base (abbrev.)
24. Sodium (chem. symbol)
26. Also; plus (conj.)
27. Father (colloq.)
28. Respiratory organs
31. Team member at Chateauroux
34. Tin (chem symbol)
35. No so; nay
36. Correlative used with either
37. Nickel (chem. symbol)
38. Makes E-75 Silene
40. Raves
42. Cry of pain
43. Total (abbrev.)
46. Preposition
47. John Bachynski's Home base (abbrev.)
49. U.S. father and son team; Rudy & Herb.
51. Bob Maxwell's Home base (abbrev.)
54. Rhenium (chem. symbol)
55. Young child
56. Floor covering
58. Pronoun (impersonal)
59. Ideal condition for soaring (sport-colloq)
62. West Indian plum tree; Sapodilla
64. Que. Zone Director, Terry .....
65. Early fiberglass sailplane (Finland)

1. Name for Siren D-77
2. Gold (chem. symbol)
3. Seine
4. Shorty Boudreault's first name
5. Lithium (chem. symbol)
6. Pilot Webb to friends
7. Tiny particle
8. Relatives
9. Out of (prefix)
10. Ladder step
11. Pairs (abbrev.)
13. Gordon Bruce's Home base (abbrev.)
16. Pope Paul was one (abbrev.)
20. U.K. Glider pilot/authoress Welch
22. Adjective. One sort of: per
23. Type of long-nosed fish
25. M.S.C.'s John ..... ; G.P. Licence No. 1
27. Name for Polish SZD-30
28. Mike Frijter's Home base (abbrev.)
29. Having or consisting of one (comb. form)
30. Male progeny
31. Opposite of against
32. Trinitrotoluene (abbrev.)
33. Him (possessive pronoun)
39. Legendary bird
41. Head (colloq.)
43. Entire; sum
44. Ounce (abbrev.)
45. First name of S.A.C.'s First Lady
47. Unit of work
48. Slavic person from the Balkans
49. Small Belgian City
50. Ruthenium (chem. symbol)
52. Great U.S. sailplane of the '60s
53. Native of; adherent of (suffix)
55. Beverage
57. African antelope; Wildebeest
60. Electrical Engineer (abbrev.)
61. That is (abbrev.)
63. In; near

"...No Place for Philistines"

Opinions, from "Flowin' in the Wind" by Wynne Thomas, reprinted from "The Review" Vol 62, Number 3, 1978.)

Not the least of the appeals of gliding and one that brings me increasing solace, is the fact that it is one of the few sports that does not ultimately degenerate into a losing battle with advancing age. On the contrary, it rewards experience, and old pilots are generally more successful than bold ones. There have been world champions in their fifties and I know one pilot, now in his late sixties, against whom I would not care to pit my skills.

Regardless of where the pleasures and the appeal of gliding lie, one fact about the sport is emerging clearly: its popularity is (so to speak) soaring. In Canada during the past 10 years it has grown from a little-known pastime, practised in remote locations mainly by European immigrants, to that of a well-organized and widely accepted sport.

Gliding Clubs, once few and far between, have proliferated and the biggest of them rival anything the United States has to offer. Fifteen years ago the Soaring Association of Canada, the official body of the sport, had 650 members and most of the more active pilots knew each other. Today the Association has about three times that number, and one is doing well if one can recognize half the members in one's own club.

One interesting consequence of this sudden surge in gliding's popularity has been that the advertising business and its handmaiden, the media, have come to recognize the sport's publicity potential. Gliding, happily for years the most neglected of pastimes in terms of public interest, has acquired chic. It could be the worst thing that ever happened to the sport.

I first suspected that attitudes toward the sport were changing a couple of years ago when, in an advertisement for an expensive imported car, I caught a glimpse of a glider in the background. It was the first time I had ever seen a glider in any kind of consumer advertisement and I wondered if it was an omen of things to come. It was. Less than two months later there was another glider - this time selling beer. Since then, gliders have crept into television commercials, print ads for soft drinks, cigarettes, men's clothing, and heaven help us, perfume. They have taken over from sailboats as the "with-it" background against which to pose the beautiful people and their beautiful products.

Taking a cue, perhaps, from their advertisers, newspapers and magazines have caught on to the sport, and have produced a spate of articles on the subject, most of them of the I-took-my-life-in-my-hands-and-flew-in-a-glider variety. One can scarcely visit a gliding club these days without tripping over a film crew or magazine photographer.

"...gliding is not a passing diversion to be abandoned when the next fad beckons but an abiding necessity."

Such publicity has not proved an unmitigated blessing to the gliding movement. It threatens to turn what was once an almost secret sport into a populist pastime and, in the process, what were once personal kingdoms into public property. It has introduced the unique pleasures of motorless flight to many who would otherwise never have known them, and that is good. But it has also attracted a new kind of individual to the sport: one who comes to it because it is the "in" thing to do, or one who, having tired of other diversions, is seeking new thrills and new escapes.

The newcomers are of a different breed then the pilots I have come to know. My personal gliding friends are, by any standard, a mixed lot: public relations executive, airline pilot, truck driver, fruit farmer, electronics expert, dress designer turned garage mechanic, doctor, factory worker, art director, carpenter, accountant. They have many interests but a common bond: a passion for flying and a profound interest in the ways of the weather.

For such people, gliding is not a passing diversion to be abandoned when the next fad beckons but an abiding necessity. But some of the newcomers to the sport - not all, by any means, march to the sound of a different drum. They come to gliding not for satisfaction but for sensation. They have no affinity with the wind and the clouds; they would as soon take up scuba diving if it suited their purpose. I maintain the sky is no place for philistines.

I recall an evening flight of rare perfection with a prospective pilot, a young woman taking her first ride in a glider. Incredibly we have climbed to 8,000 feet in a clear blue sky and now float silently in a layer of silk-smooth air. Below, in perfect visibility, the rolling southern-Ontario countryside slips slowly under the wing.

In some ways it is a flight very reminiscent of my own introduction to the sport and I am pleased that a newcomer should have the good fortune to experience such conditions.

"Well," I ask of my companion, "what do you think of gliding?" There is a pause while she ponders the question.

"Of course, it's very pleasant," she says, "but I don't really understand what gliding is all about."

I consider this unexpected reply. I think of the rewards of gliding: of the exhilaration that comes from doing a difficult thing well, of the contemplation of beauty, of the satisfaction found in testing one's skill and fibre in the privacy of the sky, of the strange bond that man develops with machine, of the unique appeal of a sport that blends art with science. I think of gliding's frustrations, which are legion, and of its dangers, which are minimal but ever present.

But I talk of none of these matters to my passenger. Instead I reach for the air brakes and head for home. If in the middle of a flawless flight you do not understand something of what gliding is about, if something does not speak to your soul, then the sport is not for you, nor you for it.

A Logbook of Dreams

by Bert Small

For every hour of actual flying, we have ten hours of dreams, thoughts, plans and discussions about flying.

We already keep an accurate logbook of actual flights, so perhaps we should keep a second logbook reserved for dreams only.

Of course it would start with those first tentative flights as a student and would record such things as; the night before a flying day, when you would sit up in bed, back propped against a pillow and find yourself in the cockpit of the 2-22, the instructors voice coming from behind, "Do the cockpit check now, and don't miss anything!" You wait expectantly while the tow-plane takes up the slack and another erratic launch takes place. Once airborne and at a safe altitude, the controls are turned completely over to you and the tow-plane which was flying steadily in front of you, now lurches all over the sky. Or.. is it you! Wild gyrations, steep banks, yawing and skidding to stay in position until the moment of freedom comes and you release, all clammy and damp from exertion and anxiety.

For every tow like that we all have ten more in thoughts and dreams trying to figure out what we were doing wrong. And then it comes to you. Suddenly! On Saturday May 11th you were all over the sky, but on Sunday May 12th you could do it! A steady, almost perfect tow.

Now your dreams change, to co-ordinating the turns, circuits or flare-out for landing or any of the many facets of flying that must be worked at and perfected. As your experience grows your dreams become more sophisticated. You no longer are thrashing the sky on the end of a tow-rope, but instead you now dream about being in a smooth, medium banked turn, thermalling, just above the stall, watching the vario indicate 400 fpm up as the altimeter climbs past 8000'. Or....you are at 3 hrs. and 14 minutes on a duration attempt eventually to land short of the five hours but still excited inside about your longest flight ever. Remember, for recording in your dream log-book, that time is 32 hours and 20 minutes, exactly ten times the actual flight time.

Thoughts about travels to other airports can be entered in the book. Names like "Black Forest", Colorado, "Turf", Arizona, and the ultimate name in soaring, "Elmira" New York. Record the different traffic patterns of each airport, altimeter settings, local rules, terrain which are always relived time and time again.

People you meet in soaring, who are the real life versions of the names you have only read about up to this point. Whether they are students, veterans or record holders, they're much the same; a pleasure to be with. All soaring people enjoy life. I have yet to meet, in soaring, a bad tempered, disgruntled person, intent on making life miserable for anyone he touches. This person does not exist. They all have that look in their eyes, of seeing you, and acknowledging you, but looking through beyond into another world, reserved just for them. The eyes sparkle with adventures shared, or yet to come.

"...I understand...he's obviously only trying to make conversation until we get back to soaring again. We always do! There is no escape!"

They may be talkative or shy, but underneath it all, they are the same.

Don't forget those early morning hours, when you woke up and couldn't get back to sleep, so another dream flight was accomplished for your book.

Discussions with other people add more hours to your logbook. It seems that for some reason, every person I talk to now leads the conversation right to the subject of soaring. I don't know how they do it, but it's true.

They never did it before I was into soaring. When I was active in golf, they used to lead the discussion to that, and when I skied they seemed to want to talk about skiing. Well, I don't fight it anymore, I just go along with them and tell them anything they want to know about soaring, and if we get off the track and on to his stamp collection, or recent holiday in Mexico, or even his sons' achievements at school...I understand...he's obviously only trying to make conversation until we get back to soaring again. We always do! There is no escape!

If we don't record our dreams, we are missing out on a large part of our soaring experience.

Our dreams, thoughts and discussion, take up far more time than actually flying, so let's remember the details. Write them down for your own use later in life, record them, so that ten years from now you can savour the flight all over again. Like the time you were in the 1-26 and you stayed up longer than the Blanik. Or your first wave flight, releasing 20 miles from the airport, connecting with the wave and soaring to heights that you never expected to reach in a lifetime. These are all good for several pages and many dream hours. Prime subjects for your second log-book are badge flights that you never expected to make in a hundred years but are now yours.

How about the time you drove to the airport, but the weather was bad so there was no flying, but six of you ended up in the club trailer, the fire crackling in the stove, and spent four fast hours hangar flying. Sure there were exaggerations, and even outright lies, but cut them all in half and you still had excitement and adventure.

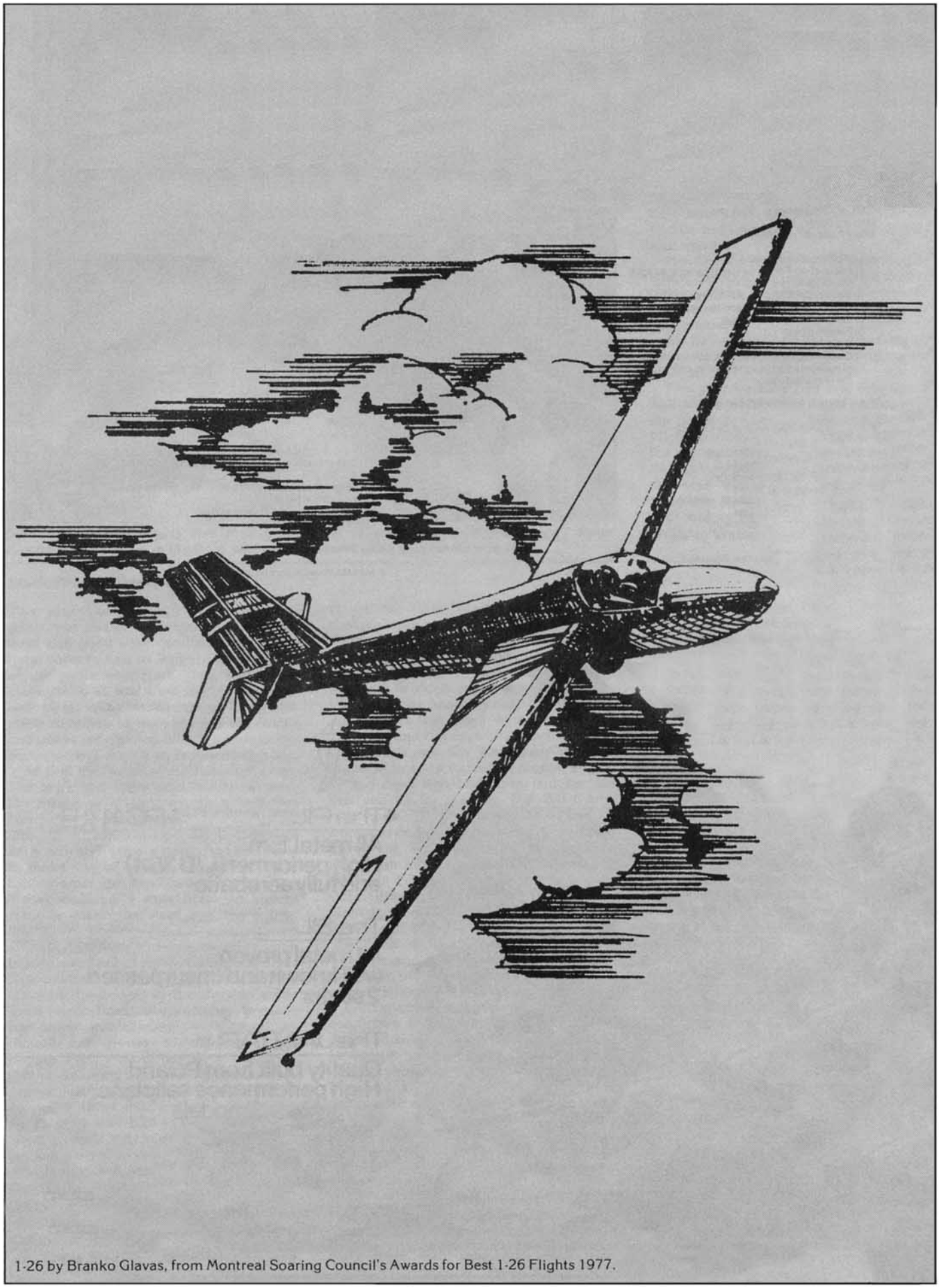
So record these happenings for your own use, or share them with others.

The main thing is, don't let these dreams get away and be forgotten. These incidents are important to your life and so touch everyone else interested in soaring and will be valued by "Pilots to be" in future years.

Write it down! You thought it important enough to drive 75 miles, work all day moving gliders, and spend your money for one half hour flight, so remember your experience by keeping a dream log.

For every hour of actual flying we have ten hours of dreams, thoughts, plans and discussions about flying.

Keep a log-book of dreams!



1-26 by Branko Glavas, from Montreal Soaring Council's Awards for Best 1-26 Flights 1977.

CLUB SUPPLIES

ITEM NO.	DESCRIPTION	PRICE (ADD POSTAGE)
1.	F.A.I. Soaring Badges, "A" & "B"	
	Sterling Silver	$ 7.50
	Silver Plate - Screw back	2.50
2.	F.A.I. Gliding Certificates & Badges:	
	a) Application Forms for Certificates & Badges Available from Club C.F.I.	N/C
	b) Gliding Certificates - S.A.C. Member	5.00
	- Non-Member	18.00
	c) Badge - "C" (button or pin)	2.50
	d) Badge - Silver "C"	13.00
	e) Gold	70.00
	f) Diamonds - SAC keeps no stock but issues a letter of authority for the applicant to order directly from the manufacturer.	
3.	F.A.I. Soaring Awards & Rules Booklet	1.50
4.	F.A.I. Sporting Code (English or French)	1.50
5.	S.A.C. Instruction Manuals:	
	a) Part I - Instructor's Guide	.75
	b) Part II - Air Instruction Notes	1.00
	c) Part III - Students Notes	1.00
	d) Air Cards - set of 11 plastic cards (8 x 5)	3.00
	e) Air Exercise Check List	.25
	f) Panel Check List - CISTRSC SWAFTS per set	1.00
6.	S.A.C. Tephigram & Weather Briefing Booklet	5/1.00 or 25¢ ea.
7.	Weather Briefing Form N-052 (8 1/2 x 11 sht.)	N/C
8.	Official Observer Application	N/C
9.	SAC Navy Blue Blazer Crest	9.00
10.	S.A.C. Decal	.25
11.	S.A.C. Cap (red, green or blue with white crest)	4.50
12.	S.A.C. Glider Pilot Log Book	2.50
13.	F.A.I. Cloth Badges - 3" diameter	
	a) "C"	.75
	b) Silver or Gold	1.50

NOTE:

1. Item 2 and 3 available from Mr. A.W. Burton
   611-860 Blackthorne Avenue, Ottawa, Ont. K1K 3Y7
   $5.00 processing fee.
2. All other items available from Box 1173, Station B, Ottawa, Ont. K1P 5A0
   or Mrs. T. Tucker, 786 Chapman Blvd., Ottawa, Ont. K1G 1T9
3. All cheques payable to S.AC.
4. Non Member Clubs: add 25% plus postage.

Club News

Debbie MacDonald gets her first glider ride in Huronia's 2-22. "Grandpa" Daws Campbell buckles up in the front seat. Huronia will have a new member in 1984.

Huronia

Huronia Soaring's field is located about three miles south of Midland's Huronia Airport runway. Our strip is 3000 feet long and about 80 feet wide with good approaches from both ends. The field slopes from the middle both ways so we have no problem with water.

Membership is a modest 25 including five new students this year. We have a 2-22 for training and a 1-23 for licenced pilots. The tow plane is a 150 Citabria belonging to a club memeber.

We fly Sundays plus the odd holiday and mid-week when we can con someone into towing.

This year we have had one first solo as well as one of last year's new people made the big step from the 2-22 into the 1-23. Flights per day usually run around 20 to 25 but we are not too long on cross-country. Having only two aircraft this has to be done mid-week and it is hard to find a tow pilot then. However, our landlord is a power pilot and we have hopes of recruiting him for the job.

Black Forest Glider Port,....

This year's wave camp, with twenty-five pilots, was one of the largest ever. Several days with good wave conditions made it a great success. Led by Walter Chmela, most of the pilots were from York, but others came along as well from SOSA, Omemee and as far away as Winnipeg. Seventeen pilots were new to wave soaring and twelve had not as yet claimed Silver altitude gains. So we weren't exactly an experienced group.

At first the weather did not co-operate. The snow and bitter cold, we knew, were the results of a low pressure trough that had brought good wave on the Thursday after Christmas. On that day a couple of early arrivals from our group had been able to make use of unused Schweizer 1-35's; Dave Harper got his Diamond, and Peter Masak endured a rope break in violent rotor to make the wave and reach over 35,000 ft., double lennie altitude, on his altimeter. Unfortunately, the barograph ticking away out of sight, registered Peter's high point as 34,800 ft. - two hundred feet short of the badge! In the days to come some magnificent discrepancies between barograph and altimeter were found, although not always so disappointingly. Happily Peter's climb has since been confirmed, following barograph calibration.

The gliderport had ten Schweizer gliders available: three 2-32's, two 1-35's, three 1-34's, and two 1-26's. On January 2nd the weather finally cleared and the wave began to work again. Thanks to the good organization and hard work by Walter and the Wave Flights instructors, the majority of the prerequisite orientation flights were completed. One of the more humorous flights of the day was undoubtedly Joe Taushman's first solo wave flight. Explaining later in the evening how he came to land at the Air Force Academy (off limits to civilians), Joe pointed out that 'a downdraft always stops before it hits the ground.' Because of this principle, several pine trees were saved from destruction, and Joe was able to ridge soar his way along the foothills to the Academy airstrip.

The three big days were Wednesday, Thursday and Friday, with the wave getting better each day. On Wednesday morning flights seemed to top out at around 24,000 ft. and most who had flown had decided that was all for the day. But Bill Sikma took up a 2-32 in the afternoon to wait for a resurgence, and when it came he worked it up for the first Diamond of the week. In there with him were Ross McNee and Pat Martin in 1-34's, both making very healthy Gold altitude gains. The day's noteworthy flight award could have been shared by Joe Blankier of SOSA and Richard Pearl, both of whom landed out. Sharing these moments with Joe and Richard was a Wave Flights instructor, who learned the two pilots he had given orientation flights to had gotten lost.

Enthusiasm ran higher on Thursday as conditions improved. Art Schubert came down clutching a Diamond, but a sceptical barograph turned it into a Gold claim; and Joe Taushman also came very close to a Diamond. Larry MacDonald, with a lower notch in the secondary wave was able to get a Diamond with some leeway. Meanwhile Steve Williams reached Gold height in a 1-34, while Per Talgoy and Lesley Lee bucked the wind in their 1-26's to reach Silver Altitude.

In spite of an adverse forecast, Friday was the big day. Showing he could get up there at will, Art Schubert immediately got a Diamond that stuck, as did Joe Taushman. After them with Diamonds came Rudi Mueller, John Kollar, Brent McNiven and Hans Stauffert. Joe Blankier of SOSA and Carlo Bassi worked their 1-26's into the Gold range as did Jane Williams, who in her first solo wave flight held on during what the tow pilot described as some of the worst rotor to become the first woman from York Soaring to ever get a Gold altitude gain. Wolf Leers, Herman Ksander, and Chris Baker all got high Gold flights as well, bringing to a close a very memorable day at Pikes Peak.

Well, not quite. Late in the day Walter took Jenny Schubert on a sightseeing ride to the Peak in a 2-32 and suddenly found himself showing her how you can squeeze lift out of a rotor, if you're low enough over Tooth Lake to count the cavities. It seems Walter had to release in the turbulence. No doubt anyone who has gone through one of Walter's simulated rotor tows will take great satisfaction.

By Saturday and the end of the Wave Camp, nine Diamonds had been won along with nine Golds and two Silvers. A total of sixteen 1 Lennie Pins were also awarded for flights to over 25,000 feet.

Most of the flights, and almost all of the real experiences, haven't been mentioned, the sensation of a uniquely intimate view of airliners and their contrails, the smoothness of lift with an incomprehensible view, the surreal absence of a sense of height. Whatever the individual memories may be, they owed much to the fact that the camp was a happy place to be, and that was largely due to our superlative dining under the careful, at times commanding, but always light-hearted supervision of Anna Marie van Maurik.

- Larry MacDonald.

Hangar Flying

FAI Identity Cards - 1

The FAI has produced a personal international identity card with space for head and shoulders photo, name and nationality, FAI seal, signature and FAI stamp renewable for six years.

The cards are available from the Royal Canadian Flying Clubs Association and can be obtained by applying in writing directly to the RCFA including surname, given names, nationality and a small passport-type photograph with a personal cheque or money order for $5.00. Aviation qualifications, licences, etc. can also be included as information in the folder.

The address to apply to is:

Royal Canadian Flying Clubs Assoc.
Suite 103, 1815 Alta Vista Drive,
Ottawa, Ontario K1G 3Y6

This folder should be additional valuable identification for pilots who go abroad.

SAC Eastern Instructors' School - 1

The next SAC Eastern Instructors School will be held from the 20th - 25th May, 1979 at Pendleton, Ontario. TG Bell, Director of the Course advises arrangements have not yet been finalized, as of 31st January, but he will send a memo to all club CFI's as soon as they are.

There will be space for 20 candidates, first come, first served.

Use of the Metric System

Please note that there was an error in the subject article published in the Sept/Oct FREE FLIGHT.

In the second column the examples do not make sense. The examples should read:

μN.m not mN.mm (microNewton metre not millinewton mm)

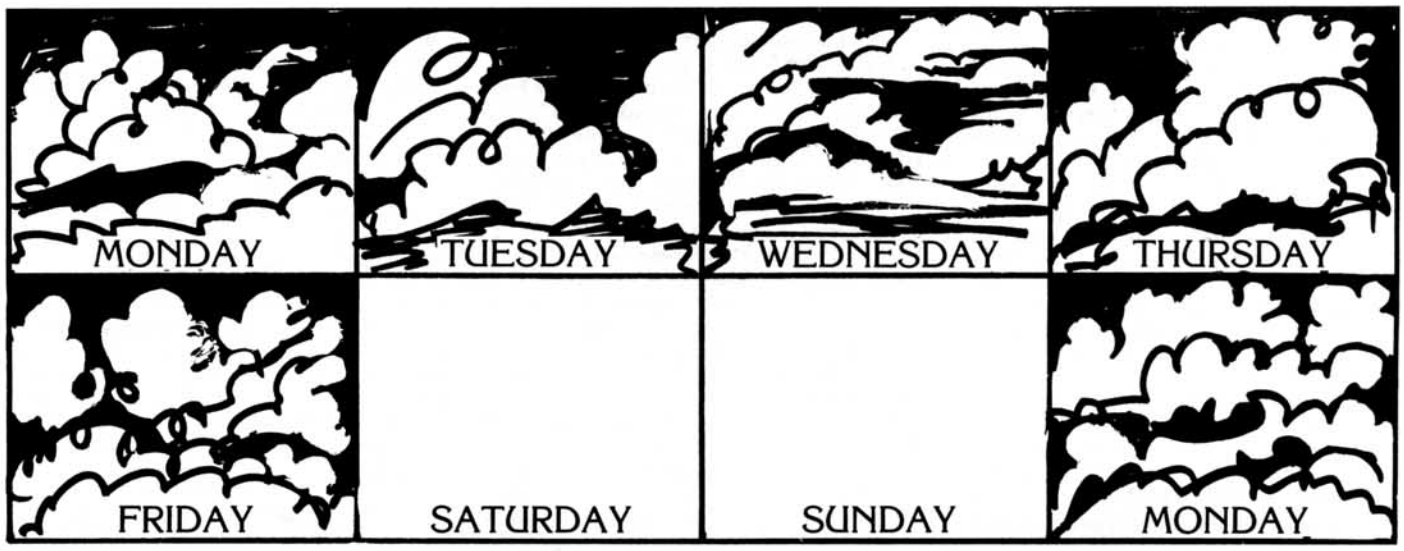
m Ω/m not Ω/km (milliohms per metre not ohms per kilometre)

It should also be noted that it appears that Canada will follow the USA decision to use the upper case L for litre rather than the script *l* as mentioned in the article.

The credit for the cover photograph on the Nov./Dec. issue should have read Sylvia Perry not Mark Perry.

A GLIDER PILOT'S WEEK

- by B. Small



Voice of a Soaring Poet

by J. Kemp Ward

Pioneer builder and literary critic Ward pleads for gentle treatment at hands of poet Matthews, following the accompanying review. "Everything went well, needless to say," reports the pilot, referring to the test flight.

There comes to the soaring world on too rare occasions writing like that of Bach, Lincoln, and Wills which conveys the mystery and challenge of our special kind of flight. It is, therefore, with great satisfaction that I present to connoisseurs some of the short poems of a hitherto unknown writer whose words burst upon your unsuspecting correspondent last night.

What had inspired Tom Matthews, a glider pilot-in-training, to this explosion of creativity was the completion of a friend's Marske flying wing (C-GUMY).

With typical modesty the poet introduces his work as "an anthology from the quill of an unknown master poet", and the standard of the collection is immediately made apparent by the first poem:

Lettuce is good,
Cabbage is yummy.
It's hard to find
The rhyme to GUMY.

This quatrain requires careful analysis. One can see here the first Wordsworthian stirrings of the creative mind, while Matthews sits pensively amongst his vegetables. Once in motion his mind produced yet another still-modest verse:

Milk is good
In bottle or cup.
Hope it flies
Right side up.

Here we notice a broadening of theme, the expression of concern for the newly-completed aircraft, as well as its pilot (an indication of the common reaction to tailless aircraft).

In the next poem there is a reference to a particular item of the machine, its go-cart main wheel. The apparent triviality of subject is an effective device which emphasises the theme of this selection:

Fall is coming,
Winter's ahead.
Glad your tire's
Got a snow tread.

The inevitable passage of time, that eternal force which overhangs and frustrates the home builder's efforts, could not be more succinctly phrased.

From the universality of this poem (number 5) the poet returns to the social level in this next offering, and shows more clearly than ever before the scope of his talent:

While you're in the air
Risking your life,
Permit me to comfort
Your worrying wife.

It is just this quiet, yet feeling, expression of fraternal affection of pilot for pilot that must find its way into aviation poetry for it to receive the wider recognition it deserves among poetry lovers.

A demonstration of a Shakespearean range of topics available to Mr. Matthews may be seen in:

A beer may be lager
Or even an ale.
Does your glider miss
Its piece of tail?

which with a characteristic subtlety refers, of course, not only to the flying wing design, but to the glider pilot's appreciation of a tall, cool one at the end of a long day.

No great poet is without his minor weaknesses, and it is perhaps unfair to point out the quibbling tone in the author's penchant for teasing (really a rotten side to his personality) that creeps into the next series, numbers 13 to 16, of which only two are given:

Roses are red,
Violets are blue.
Trust you used,
Quality glue.

and:

Snake slithers,
Bird sings.
Is it s'posed to
Flap its wings?

However we can overlook this lapse in taste when we consider the elevated quality of the whole. Giving further strength to the collection are several "theme" poems of which "Soaring 3" and "Soaring 5" are especially noteworth.

Soaring 3

Soar?
More!

and:

Soaring 5

Wheel chirps,
And one with three dimensions
Becomes
One with two.

Undoubtedly the masterful technique seen in these two poems serves to point up the outstanding value of Matthews' writing to aviation literature.

A slim volume is available to those who wish to possess first editions. These are tastefully bound in white paper, in sizes 3" x 4" and 3 1/4" x 4 1/2", suitable for inclusion on the shelves of the most discriminating collector.

The Ukrainian Air Force ch

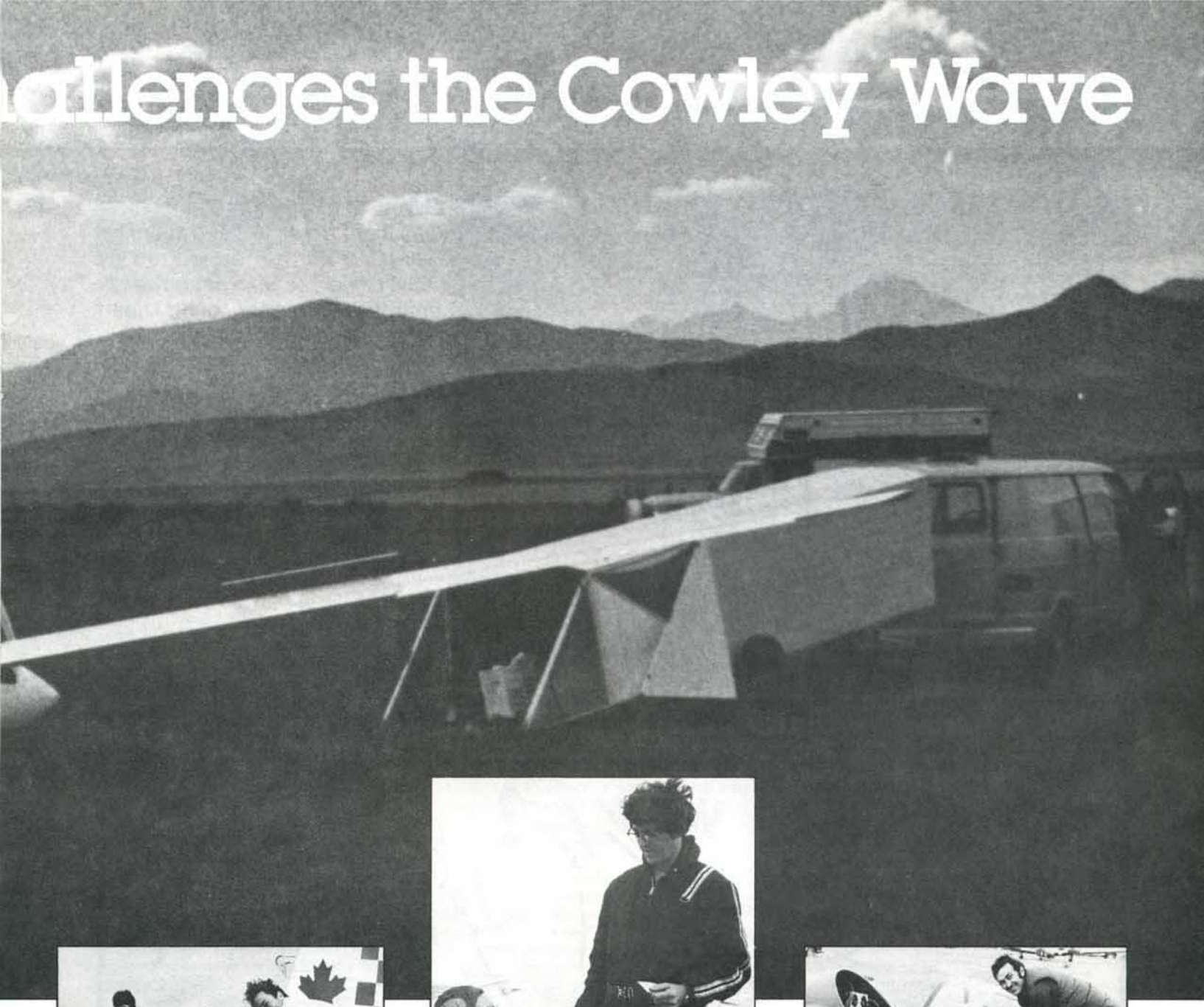
by Colonel John Bachynski

A wave camp during the Thanksgiving weekend is the second event each year where the Alberta soaring clubs get together, the first being a cross-country competition called, "The May Meet" (see Free Flight 5/78 p. 10.)

I moved to Alberta in '67 from Montreal mainly because of the excellent year-round hunting in the west and I didn't start soaring until '74. My conflict of interest began with Alberta opening its pheasant season the first day of the wave camp and in '75 I won the Brooks Trophy for the largest pheasant shot in southern Alberta. However, after four consecutive seasons of soaring, and not trying the Rocky Mountain wave at Cowley, I finally decided not to go hunting on the opening day for pheasants in '78 but joined the guys and gals down at the wave camp.

The day before the camp started, I trailered the 1-35 down to Pincher Creek and was met at Cowley Field the next day by Commander Dan Pandur who casually flew in on a Piper Cherokee The wave was really working the first two days and Ed Norgard and Les Pasmore in the Blanik broke the two-place Canadian altitude record without knowing it but couldn't verify the claim as they did not have a barograph on board. After helping everyone else get into the air, I finally got enough nerve to try it myself on the third day after a heavy snowfall. My instructor of four years past, Garnet Thomas, gave me a tow and said, "don't release until we are out of the rotor and you experience extremely quiet lift". At 10,000 ft. he wagged the towplanes wings but I didn't appreciate any lift. The scenery overlooking Centre Peak in the Livingstone Range was magnificent and clear and at 11,000 ft. the towplane again wagged its wings but again I wasn't in lift. Finally at 12,000 ft. I released and in ten minutes gained 50 ft., only to be followed

allenges the Cowley Wave



by a gradual descent back to the field twelve miles away to the southeast.

The following year, 1978, the Thanksgiving weather was warm and sunny. Having earned my first diamond that spring (see Free Flight 5/78 p.6), another opening day of the pheasant season was relinquished in favour of a try at the Cowley wave and a second possible diamond. My enthusiasm as shared by a large turnout of pilots with o less than twenty one sailplanes of nineteen different types. Edmonton's and Calgary's towplanes were assisted by Red Deer's Ted Sorenson who managed two tows for everyone elses one. Oxygen and gasoline were brought to the field, everyone helped in the running of the flight line, and therefore waiting for a tow was kept to a minimum.

Except for the first day, before the sun was up and the frost melted off my sailplanes wings, I had to wake up a tow pilot each morning in order to get the first tow. Commander Pandur had instructed me that the best wave conditions were in the early morning and therefore I wanted to take this advantage. If the presence of lennies were any indication of his observations, he was correct because as soon as the sun came over the horizon, the lennies would disappear. The final analysis of three long tows to high altitudes gave me a net gain of 4,000 ft. of climb on the last day but I was able to stay up for several hours by occasionally ducking into the erratic turbulent lift of the secondary rotor.

As I pulled away with my sailplane in its trailer on the last afternoon of the camp, I tuned the car air radio to 123.3 and heard Bruce Hea calling to a following herd of Winnipeg pilots that he was passing the 25,000 ft. level. My only consolation was the fact that two days later I bagged the largest Greater Canada Goose in Alberta in 1978 and won the Alberta Waterfowl Trophy.

Crossword Answer

J	A	N	U	S	■	■	■	M	O	T	T	O
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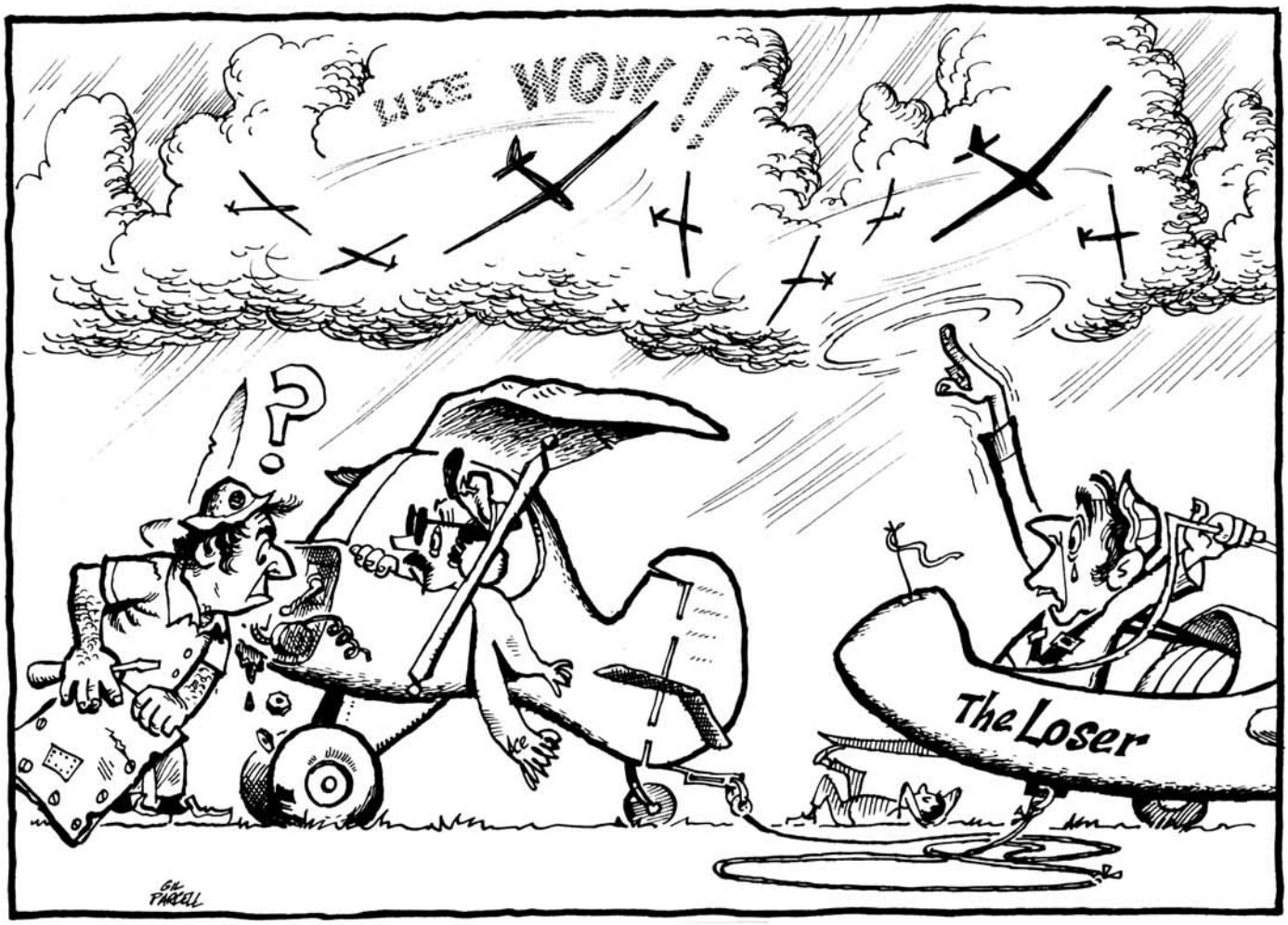
Notice to all Official Observers

The SAC Directors, at a recent meeting, have reaffirmed that NO flight made in contravention of MoT Air Regulations will be recognized by SAC, and an Official Observer will not knowingly sign any document in respect of a flight involving a breach of these regulations.

The most obvious situation in which a pilot may be tempted is a wave climb into a wave "window" that has not been opened by the approving Air Traffic Control authority. This is a serious matter, as an incident involving the illegal use of airspace by a glider could prejudice future soaring activity of *all* pilots.

Tony Burton
FAI Awards Chairman



Mountain Soaring Techniques

by Lloyd Bungey

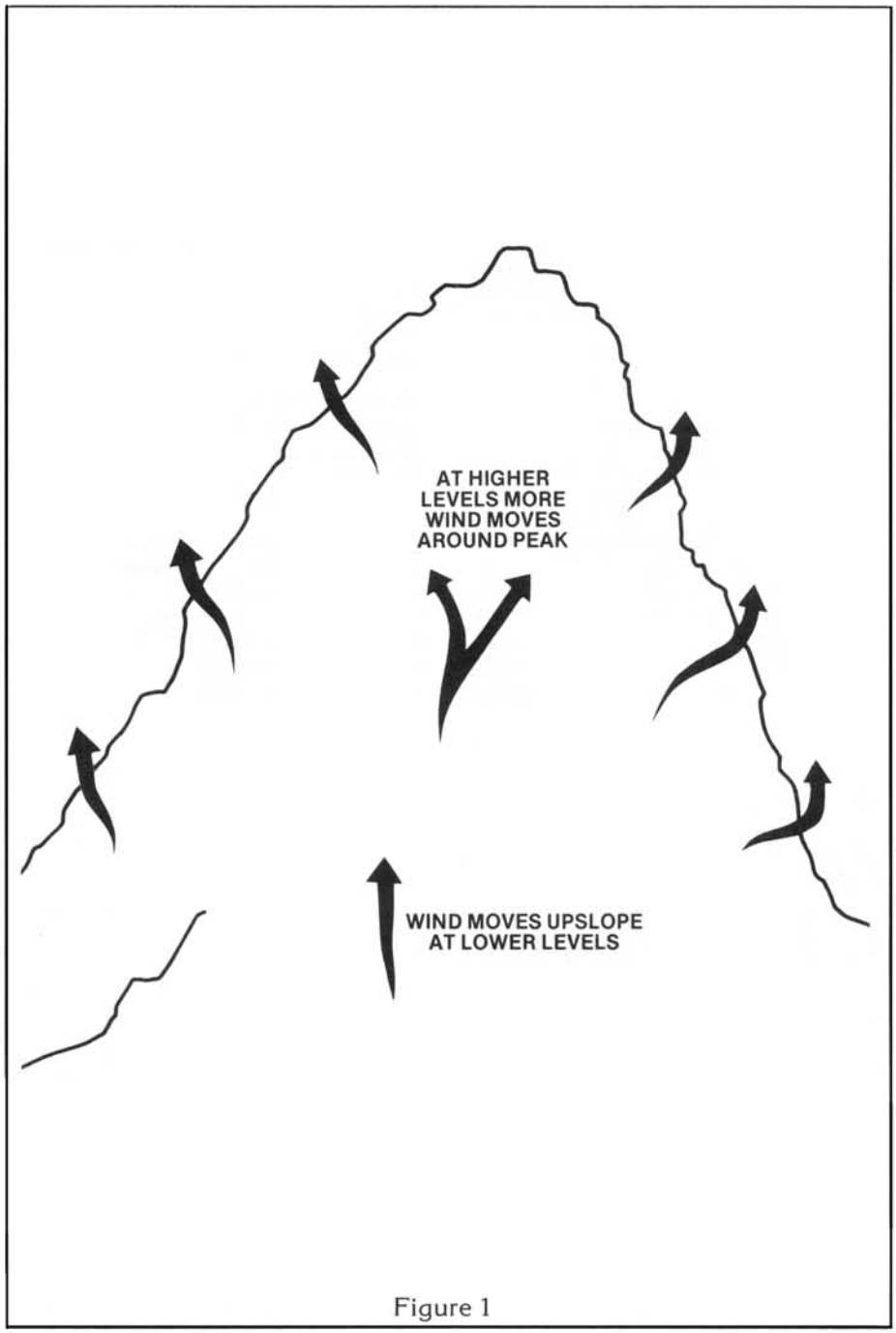
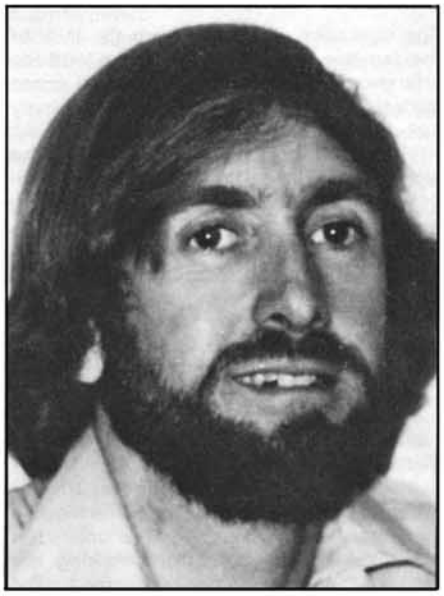


Figure 1



Lloyd Bungey started flying in 1965 in his native Australia. He was a Silver C pilot when he moved to Canada in 1969, flying with SOSA during that season. Following a move to the Maritimes, he was comparatively inactive in soaring for four years, but with a move to B.C., he again started soaring seriously in 1974. Since that time he has been part of Ka8b and SHK syndicates and currently owns a PIK-20B. Lloyd has been active in the Vancouver Soaring Association, editor of the Vancouver Soaring Scene and a regular contributor to free flight as editor of the Overseas News.

Part 1

A soaring pilot, exploring mountainous areas for the first time, is likely to be exhilarated yet simultaneously confused and intimidated, especially if the flying involved requires working close to the ridges. The exhilaration will come partly from the sheer beauty of the mountains but mostly from the experience of having a visual reference of progress as trees, seemingly just ahead on the steep slope, appear to fall away beneath him as he skims upward along the slope.

Mountain Soaring Techniques

The confusion will come from the lack of the familiar horizon to use as an attitude reference, and the intimidation will come from the proximity of the ground, seemingly just a few feet off his wingtip.

The experienced mountain soarer, on the other hand, is neither confused nor intimidated by his environment, having acquired the necessary skills to cope with the lack of horizon and the judgement to assess the conditions and fly at a speed which will keep him from stalling into the slope. He may still be exhilarated by his soaring but he treats the slopes with respect. His flying technique will vary from day to day, and often from hour to hour, to make the most of the existing conditions. Included in his repertoire of skills will be thermalling, ridge soaring, wave flying, rotor flying, and shear line techniques. His exhilaration will rarely be of the same kind he had when first introduced to the slopes but his satisfactions come from making the most of the opportunities presented by the day.

The key to fully utilising the opportunities presented by the mountains is the ability to work the lift to be found close in to the slopes, notably ridge lift and wind shadow thermals. Without this ability, the pilot is forced to rely on high tows to contact the mountain-top thermals or high altitude lee waves, and is fated to land once he drops much below the mountain top level since, lower down, the lift is rarely to be found away from the slopes.

Around the mountains on the western side of the American continent, the slope lift rarely continues to the top of the slope as it does on the smoother, more eroded slopes of the east. The craggier, more broken mountain ranges of the west offer too much opportunity for the wind to pass around the peak (see figure 1) and hence at the higher levels the lift tends to peter out and the soaring pilot must forsake his ridge and seek out thermal or wave lift to take him higher. Also, the more broken ridges are rarely aligned into the wind so the areas of lift are likely to consist of small sections which must be worked in short beats.

The basics of ridge soaring are quite simple, as are the basics of soaring, simply put - find an area of lift and fly in it so that you stay in it. In some ways, ridge soaring is easier than thermal soaring because you have a visual reference to the lift. However, overall, working a small area of ridge lift is much more fatiguing than thermalling, since a thermal may be worked by flying a continuous spiral whereas the ridge must be worked by making a large number of turns interspersed with short periods of flying straight. All this, plus the psychological stress of having the ground nearby, can lead to rapid fatigue, especially on a day of weak conditions. Such a day's flying can perhaps be compared to a day of continually circling in no sink at 300', at least as far as the stress involved is concerned.

Problems of Speed Control

For the effective utilisation of weak ridge lift speed control is very important. The sloppier your speed control, the greater must be your speed allowance for safety. In strong conditions, a large margin does not affect the overall lift much but in weak conditions an extra few feet per minute sink rate due to the sailplane's flying speed can mean the difference between staying up or coming down. However, regardless of the conditions, it does not pay to shave the

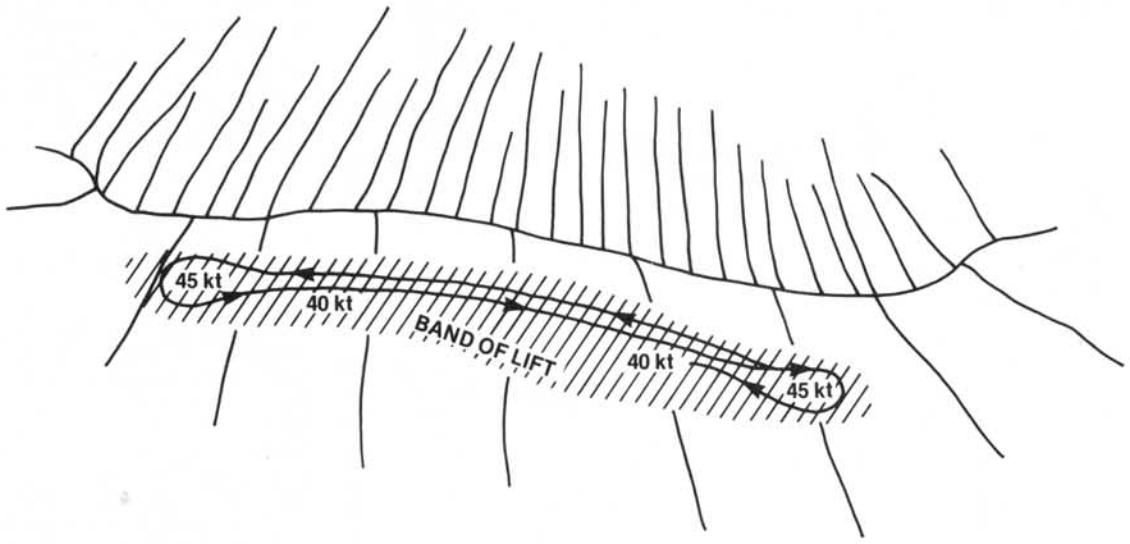


Figure 2

safety margin too close since a stall in a sudden gust along a ridge is a lot different to a stall in a thermal. Along the ridge one stall may result in you becoming a permanent part of the scenery.

Without a horizon, however, speed control is not as simple as in flat areas. There are no easy visual references to go by and airspeed indicators always lag. With practice, though, it is possible to obtain just as good speed control as in a flatland environment. It just requires further refinement of your flying techniques. A good set of ears is always a useful asset in speed control and in the mountains more so. By listening to your glider very carefully small speed changes can be detected and corrected. In addition, in an aircraft with which you are familiar, the changes in feel of the aircraft with speed can be a help to controlling the speed. Finally, although you have no horizon as such, it is possible, with practice to visualise an horizon and use attitude changes in relation to this. If the nose of the glider moves up or down in relation to a given set of trees, you have picked as being on your imaginary horizon, then you have had a change in pitch. With practice, you can pick up your imaginary horizon with amazing accuracy.

What is a Safe Speed to Fly?

The speed to fly along a ridge requires consideration of several factors. How good is your speed control?, how gusty is the wind along the slope?, how much turbulence is going to be encountered due to spines and saddles?, and what sort of manoeuvres will you be carrying out?

As the conditions become gustier and more demanding, the greater is the minimum safe speed to fly. However, ridge flying does not normally require the use of small radius turns as does thermal flying therefore it is not necessary to fly slowly. Most of the climb along a ridge will be made while flying straight therefore the slowest one should fly at any time is at the speed for minimum sink. However, flying even 15 mph faster than this does not cost very much in terms of rate of climb but it will add a great deal of safety. Generally speaking, unless the lift is very weak, there will be very little to be gained by flying at the minimum sink speed, and below this speed you will be losing effectiveness while also jeopardising safety. As the conditions get stronger faster speed than the minimum sink speed will give a great deal more safety while sacrificing little in terms of climb.

When working a section of weak lift it may prove to be advantageous to fly fairly slowly, at or around the minimum sink speed, while flying the straight sections of the beat, but to increase the speed for the turns to compensate for the higher stall speed in the turns. Such a pattern is shown in figure 2. The aircraft depicted is of Ka6 performance. In weak conditions the air is generally fairly smooth so the 40 knot speed indicated for the straight portions of the beat offers a fairly good (8 knot) margin of safety with a low sink rate. By speeding up to 45 knots for the turns, they may be made moderately steeply with a similar margin of safety yet cost practically nothing since the height used to increase the speed may be regained by pulling up to reduce the speed again after the turn is completed.

Ridge Soaring Patterns - poor ones and good ones.

When flying in an area of lift along a

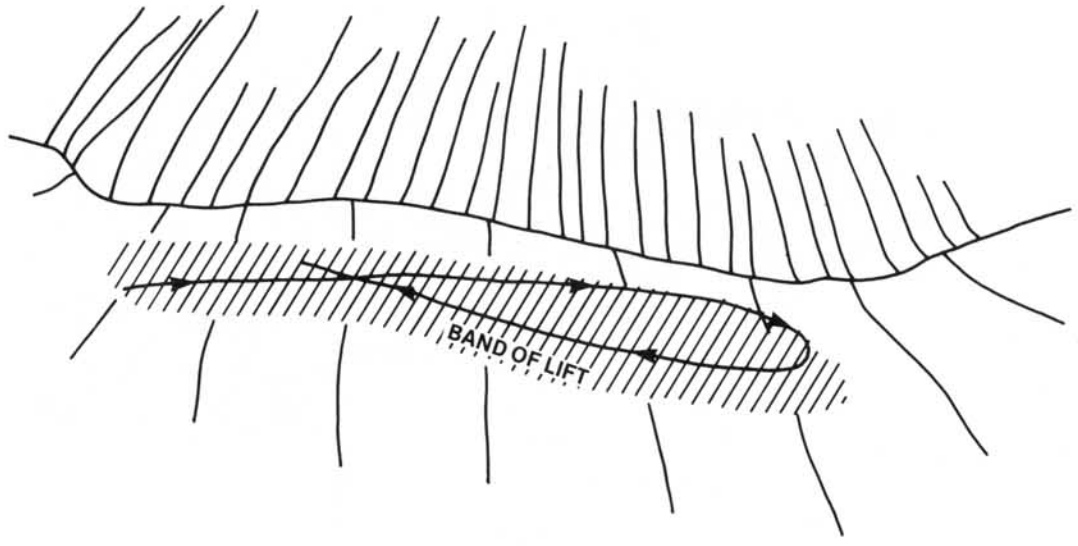


Figure 3

Mountain Soaring Techniques

mountain slope the rate of climb achieved and often the height that is ultimately to be gained depends very greatly on the pattern used to stay in the lift. An efficient pattern is one that keeps the sailplane in the best lift for the greatest amount of time.

Before considering the more efficient ways to fly along a ridge, some of the most common mistakes should be pointed out. All too often the novice ridge pilot tries to fly a pattern like that shown in figure 3. Here the pilot has not compensated for the crosswind component of the wind and while he starts his beat a little further out from the ridge than a more experienced pilot would, by lining his plane up parallel to the ridge he drifts through the area of best lift and finishes up out of the lift and too close in to the ridge. It should be remembered when flying a ridge that the wind is attempting to blow you onto the ridge and that your course, not your fuselage, should be parallel to the ridge; that is, you should maintain your separation from the slope by crabbing into the wind. Some pilots line the fuselage up parallel to the slope then maintain their separation from it by slipping away from it. In light winds it does work but it's hardly very efficient.

A further series of errors is shown in figure 4. Here the pilot has committed two fundamental mistakes. Firstly, he waited too long before turning back to reverse his beat at turn 1, secondly when he did reverse his beat he only turned through 180° and finished up the diameter of his turn further out from the ridge than when he started. The first error results only in a slower achieved climb than possible but the second, if continued, will result in his quite rapidly losing the lift, as is shown by turn 2.

Much superior to the flying shown in figure 4 are the two styles depicted in figure 5.

In this case, as the pilot flew from point A to point B he was observing his lift. At point B, he realised the lift was weakening so initiated a turn before it disappeared completely. His turn was thus initiated in lift. This lift may extend out far enough that the whole turn can be made in lift or a portion of the turn may be in sink but in any case most of the turn is made in rising air to his advantage. At point C, when he was parallel to the ridge he did not straighten out, as did the pilot in figure 4, but continued the turn to angle in towards the ridge. He then straightened up briefly, before making a slight turn in the opposite direction to complete his reversal of the beat flying along the ridge in the opposite direction at the same distance out from the ridge as before. Another method of making such a reversal is shown at turn 2. Here the pilot edges in toward the ridge just before initiating the reversal in order to make the whole of the turn in lift. Both turns 1 and 2 are shown as being made before the end of the lift is reached; they could have been left later without any difference to the overall rate of climb but it is better to make a turn too soon than to wait too long and finish it up making it in sink.

Often the lift may have strong areas and weak areas similar to that illustrated in figure 6. Here it is greatly to the advantage of the pilot to make his turns in the areas of stronger lift since these are wider and he can make the whole turn in lift, and in addition the curved flight path of his turns gives him more time in the strong lift and hence an enhanced rate of climb overall.

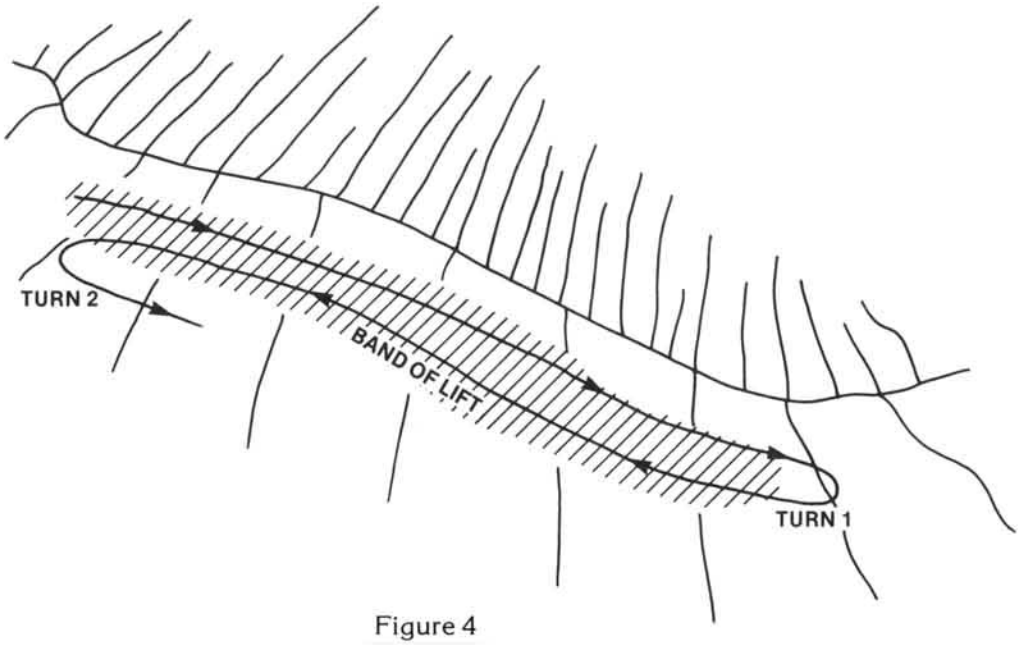


Figure 4

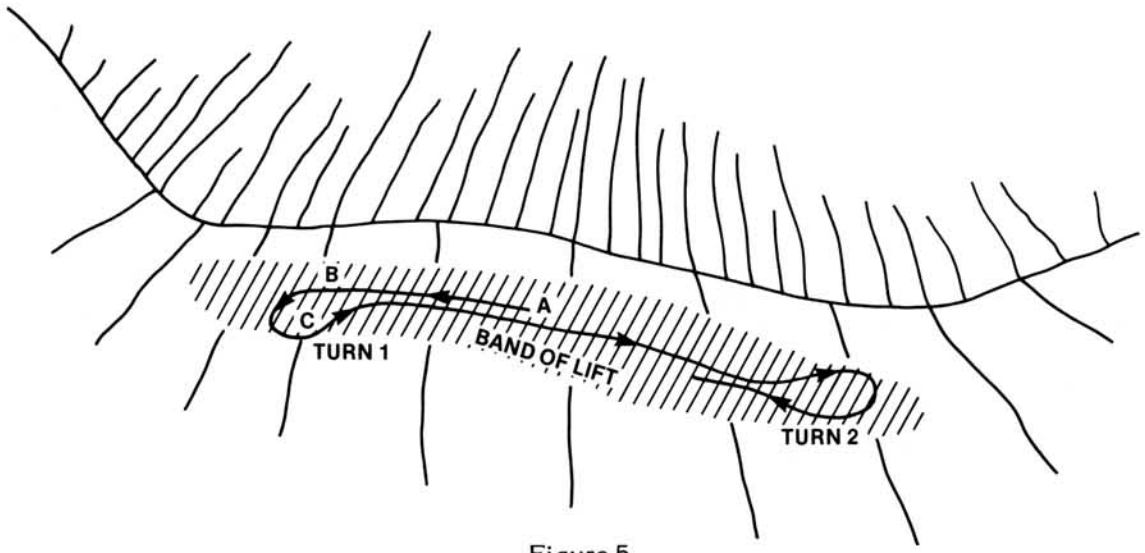


Figure 5

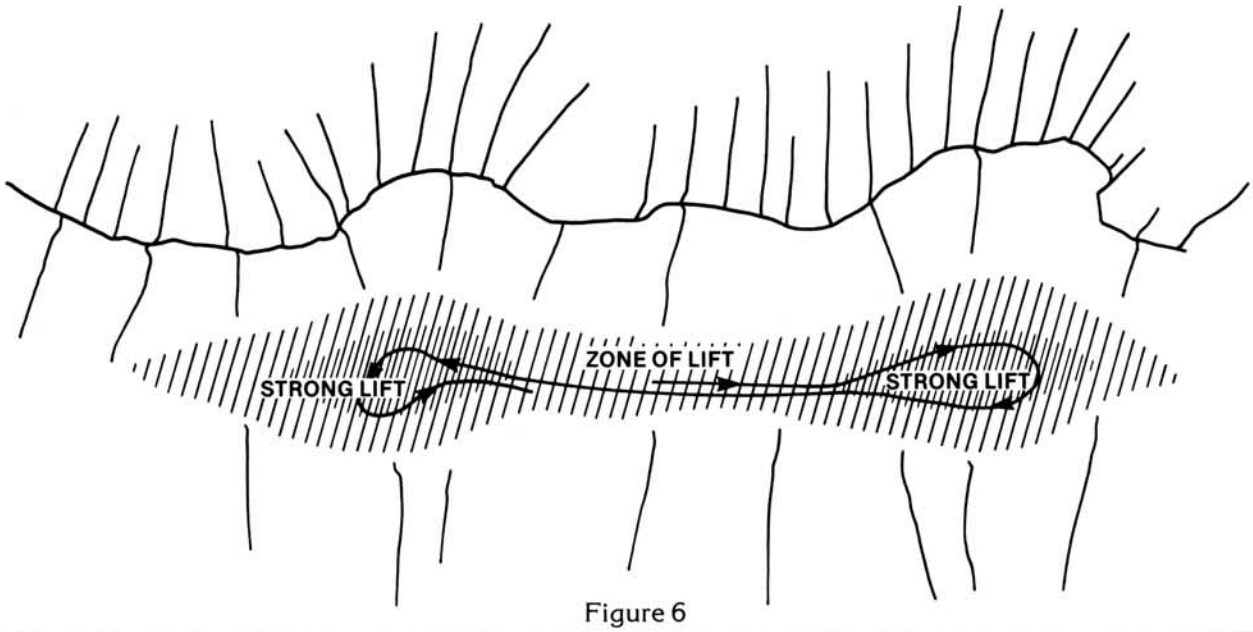


Figure 6

That's Some Kind

For the past 20 years the U.S. has launched its space craft on expendable rockets like the Titans, the Atlas-Centaurs and the Saturn 5's. But the key to space in the next 20 years will be the Shuttle; a reusable space craft that is launched like a rocket and lands like a glider.

During 1977, test flights of the U.S. Space Shuttle were begun - you may have seen some of the early approach and landing tests on TV; these tests are still going on and are concerned with gathering data to verify safe subsonic aerodynamic flight and landing of the orbiter. NASA is conducting the program at their Dryden Flight Research Centre, Edwards Air Force Base near Los Angeles, California. More than 20 atmospheric flight tests have been scheduled; all of them involve mounting the Orbiter atop a modified Boeing 747. On some of the tests the two vehicles will remain mated; on others they will separate and the Orbiter will be flown (unpowered) to a landing on a dry lake bed or an Edward AFB runway.

Mated tests without crew aboard the Orbiter were begun in February 1977. Subsequent test flights with crew aboard were to verify systems operation and crew procedures. Free flights with NASA astronauts at the controls were designed to determine the Orbiter's subsonic airworthiness, systems operations and pilot guided and automatic approach and landing capabilities.

All free flights of the Orbiter are unpowered, the same as on return from space. The first free flight was successfully completed on August 12, 1977. The Orbiter was carried to altitudes between 21000 and 26000 feet AGL, released from the 747 between 17000 and 22000 at a speed of about 270 knots and flown to a landing about five minutes later on Rogers Dry Lake.

The Orbiter is the workhorse of the Space Shuttle program. It is designed to be used a minimum of 100 times. It is as big as a DC-9 with an empty weight of 68000 kg (150000 lbs.); it is 37.2 m (122 ft.) in length and has a wingspan of 23.8 m (78 ft.). The Orbiter will be launched into low earth orbit in 1979, with its three main engines being augmented by a pair of solid rocket boosters.

The Space Shuttle is composed of the Orbiter, the two solid rocket boosters and an external fuel tank which feed the Orbiter's three engines. The orbiter will be attached to the back of the fuel tank and the solid boosters will be attached to each side of the external tank. The solid boosters will be recovered, refurbished and reused. The external tank will be jettisoned but not recovered. The orbital flight tests are scheduled to begin in mid 1979; until then the Orbiter will continue to be launched for test flights from the back of the 747.

Early flights will have the Orbiter tailcone attached but some will be with the tailcone

# of Glider!

off. The tailcone is an aerodynamic fairing to reduce buffeting on the 747 tail surfaces. Its use permits higher altitudes. It will be used on all later 747-Orbiter ferry flights when the Orbiter will be transported to the Huntsville, Alabama NASA centre for ground vibration tests and even later when it will be flown to the kennedy Space Centre for orbital flights.

The flights with the tailcone on generally follow a racetrack pattern with separation occuring when the vehicles are about 13 km (8 miles) to the right and flying parallel to the landing runway. From the separation point, the Orbiter will fly a U-shaped ground track to the runway.

To perform the separation manoeuvre, the 747 pitches down to -6 degrees and accelerates to establish equalibrium glide conditions of 270 knots equivalent air speed (KEAS) and -9.2 degrees flight path angle. At this point the Orbiter pilot initiates separation by firing a series of explosive bolts at an altitude of about 6700 m (22000 ft.) above runway level.

At separation the Orbiter pilot performs a pitch up manoeuvre which provides a vertical separation of more than 60 m (200 ft.) in about five seconds. The 747 turns left while the Orbiter turns right to provide horizontal separation. On the first flight, the Orbiter pitched down, accelerated to 270 KEAS and then performed a practice landing (at 18000 ft.) allowing the airspeed to drop to 185 KEAS while evaluating the ship's flying qualities.

The Orbiter pilot then pitched down to accelerate and at the same time initiated the first of two 90 degree turns to the left which aligned it with the lakebed runway. At the completion of the second turn, the Orbiter was aligned with the runway at an altitude of 1980 m (6500 ft.) and about 14 km (9 miles) from touchdown; speed was 270 KEAS and the flight path was -9 degrees.

First flare (preflare) starts at an altitude of 270 m (900 ft.) and transfers the Orbiter from -9 degrees glide slope to -1.5 degrees. The landing gear is deployed at about 105 m (350 ft.) and the landing flare (final flare) is initiated at slightly less than 30 m (100 ft.). The final flare establishes a sink rate of about three feet per second which is held to touchdown. Touchdown airspeed is about 180 KEAS and elapsed time from separation to touchdown is about five minutes and fifteen seconds.

The aerodynamic control surfaces to provide control during the atmospheric portion of flight are the body flap at the end of the Orbiter's fuselage, the wing elevons and the rudder/speed brake.

Because of the increased drag when the streamlined tailcone is removed, the maximum altitude the 747 can achieve, and the distance the Orbiter can glide after release, are reduced. Thus, for tailcone off flights, the Orbiter is launched at an altitude of 5400 to 5600 m (17700 to 18300 ft.) above runway level and 19.3 km (12 miles) from the end of the runway. Launch and separation procedures will be the same as for the tailcone on flights but the Orbiter will fly a "straight-in" approach to the runway instead of the U-shaped ground track with tailcone on.

Approach speed is 290 KEAS, flight path -24 degrees and preflare starts at 600 m (2000 ft.). Landing gear deployment, final flare and landing will be similar to tailcone on flights. Flight time from release to landing is no more than two and a half minutes.

Orbiter is designed to carry a payload of up to 30000 kg (65000 lbs.) and while some missions in space will last only a few days, some could run as long as a month. Orbiter will usually operate in an orbit from 100 to 250 miles high but could make short flights as high as 800 miles. Its primary mission will be to insert satellites into earth orbit. Those that must be stationed far above the Orbiter's operational altitude will be boosted into their proper orbits by rockets carried aloft in Orbiter.

Satellites can be serviced, recalibrated and repaired in space and even retrieved and returned to earth. New instruments can be installed to replace those that fail or become obsolete. No longer do satellites need to be small and simple; structures of enormous size can be constructed in space from materials ferried aboard the shuttle.

The Space Lab will be built and manned using Orbiter and many other space ventures will depend on this new space craft. In spite of the spectacular take-offs and the glamour or orbital journeys, every trip will end with an approach and landing just like a glider.....some kind of glider!

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