

# FREE FLIGHT

ISSUE 2/77 MARCH/APRIL 1977





# FREE FLIGHT

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Official Publication of

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## Contents

### Why Grow?

*by Al Schreiter*

3

### Do You Know The Rules

*by T. R. Beasley*

4

### Overseas News

*edited by Lloyd Bungey*

5

### Helpful Hints - About FAI Badge Rules *by Antonia Williams*

6

### By Glider Across the Atlantic

*Second and final-part by W/C F. M. Gobeil*

10

### Club News

*edited by John Bachynski*

15

### Hangar Flying

17

### How I Beat The 280 Barrier

*by Ian Oldaker*

18

### Letters to the Editor

21

### Member Clubs

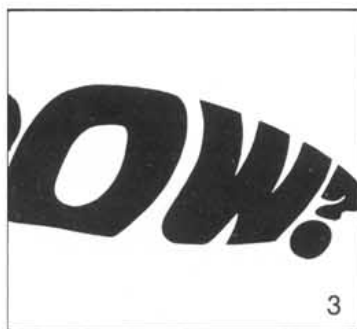
21

### S.A.C. 1977 Instructor Courses

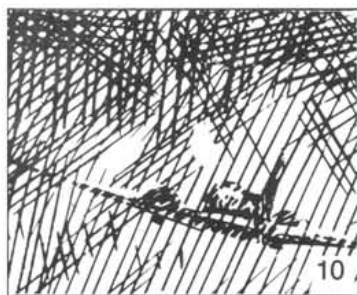
22

### Classified Advertising — Club Supplies

23



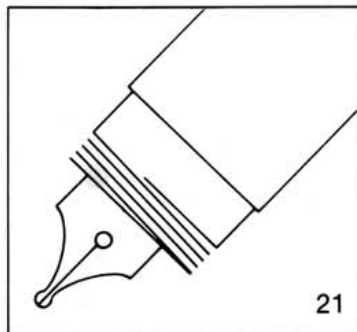
3



10



18



21

# WHY GROW?

by Al Schreiter

Most glider guiders are individualists. They enjoy soaring because of the "one-man-against-the-world" feeling involved in the sport. Or is it only because so many gliders are single seaters? All you need is a ship and some nice Cu's, right? Unfortunately, it's not that simple.

To enjoy soaring one needs a field to start from, a reliable means of getting into the air, and reasonably good equipment. A wing runner helps, too. That spells out to some type of organization, and money. It's a well known basic fact of economics that the unit cost of a product goes down as consumption increases. That's because the fixed basic costs do not increase in proportion to production volume. It does not matter much whether the product is a bar of soap or an hour of soaring time.

Yet SAC statistics show that out of a total of 42 active clubs 28 have a membership of less than 25, and only 7 clubs have more than 50 members. These seven clubs, incidentally, constitute one-half of the total SAC membership. It is not coincidence that the largest club offers the lowest flying costs and the best range of club equipment. Or that 10 of the small clubs are too small to afford a tow plane and must rely on winch tows.

If one makes some (admittedly rough) comparisons on the basis of membership and club equipment, one finds that in the average small club one member has to "carry" about \$1400 worth of club aircraft. In the larger clubs that load reduces to about \$800 per member. Because of the high cost of land and buildings small clubs are often forced to operate from someone else's field, with all the attendant problems of such

mixed use. If they do manage to buy their own field, the load per member gets very heavy indeed. Yet any reasonable glider field can just as easily accommodate 2 towplanes and 20 gliders as one winch and 3 gliders. Unit cost rears its head again.

Money, unit costs and other bothersome financial details aside, it is often more fun to belong to a larger club. There are more willing hands to share the load. Students can find an instructor, tow pilots can find a relief pilot, ground handling is easier when 4 people push one aircraft, and the beer bashes are larger. Old equipment can be replaced sooner; maintenance chores can be hired out and members can spend more time soaring and less time tinkering with club equipment.

There is a practical limit to growth, of course. It seems that a total of about 35 aircraft (both club and private) and 3 tow planes is somewhere close to the upper limit of the average field's capacity, and the airspace around the field gets quite crowded.

If we leave out highly specialized clubs, i.e. 10 millionaires starting their own exclusive club, it appears that the best service at the least cost can be provided by a club with approx. 80 to 120 members. If your own club has problems with high costs, old equipment and long waits at the start-line I suggest you make a real effort to attract new members and broaden your membership base.

Other items can either inhibit or further growth. Do you know where your club wants to go? Do you have a 5 year

development plan? Does your dues structure fit your financial needs? I suggest you adopt a basic principle in your cost structure to achieve two objectives:

a) all fixed costs of the club must be shared equally by all members

b) actual flying costs must be paid by the member who incurs them

In other words, the taxes, depreciation, insurance and other fixed costs have nothing to do with the hours flown or the number of pilots who actually fly. These costs would be payable if no one flew all year. If a member chooses to make only little use of the club's fixed cost equipment he should still share equally in that burden. On the other hand, the actual cost of flying, i.e. tow-plane gasoline, aircraft maintenance etc. should be born in direct relationship to use. That cost should not be averaged out equally over all members.

What does all this amount to? Like it or not, running a successful soaring club is a business proposition. It requires business-like cost analysis, proper accounting procedures and financial planning. That does not sound as exciting as a 300 km cross country flight, but it's as necessary to club operations as maps, weather information and relief tubes are to 300 km cross country flights.

SAC can help you. Your problem may not be as unique as you think. Other clubs have probably solved it already, and will be glad to share their experience. SAC will be glad to arrange exchange of information between clubs. If you let us know your problem we'll let you know where to find the answer.

The Sporting Code lays down the International Rules for Records and Badge awards. Some hypothetical badge flights are described in this article. If you are an Official Observer or a badge hunting pilot you should be able to spot the correct answers to the questions. When you have read the stories, turn to page 22 to see if you were correct.

1. A major Canadian gliding club was operating during the summer and was giving cross country instruction. The forecast was excellent for the following day and Joe Perch, the instructor, was organizing the day's program. "You three are ready for your Silver Badge cross country," he told three members. "John and Dick can take the club 1-26s and Harold is going to fly his own Ka-6. I will take Shirley along in the club Blanik and we will stay in radio contact and all make it to that abandoned wartime field 50 miles down the road from which we can be aerotowed back, O.K.?"

Everything went according to plan; the first 1-26 was towed off, released at 2000 feet and stayed around the field until all four ships were near 5000 feet in a good thermal. Joe came on the radio, "O.K., things look great, we will head upwind to make sure that the

thermals are not too far apart for the 1-26s, climb back up to 5000 and then head off downwind to our goal." Things were good; another thermal was found after only a couple of miles and the four ships climbed back to 5000 feet and then headed off on track. "Stay in line abreast about a half mile apart," said Joe, "and keep an eye on each other so that we can climb together when the first one gets a decent thermal."

They made their way together to the abandoned field, in constant radio contact and helping each other; two of them also getting Silver Badge height on the way. Joe radioed the club for the towplanes to come and collect his students, then he came on again; "Congratulations fellas, make sure you don't open those sealed barographs; the towplanes will soon be here; conditions are still good so we should make

didn't make my goal." "You don't even know the rules," said his partner. "You don't deserve your badge." Who was correct and why?

3. Another pilot decides Peter's triangle is a good one but conditions are slow building up over the field so he takes a tow to 5000 feet planning to release over the field and head straight out toward B where the sky looks better. It works and he arrives back six hours later very happy. His happiness evaporates when he is told by his O.O. that he doesn't get his Gold Distance nor Diamond Goal. Why not?
4. A converted power pilot turns out to be a natural. He has no badge legs at all but turns up one day with his newly purchased ship and declares a 300 km triangle. He completes it and says he made a 3000 m climb in wave during the trip, which took 5 1/2 hours. He asks in the bar which badges he can claim. Pete has learned the rules since his experience and says, "You can claim your Gold Badge with a Goal Diamond." "No he can't," says another, "He has to have his Silver first and he can't claim his Silver because you are not allowed to do it all on one flight, nor can you get Silver Distance from a triangle." He did carry a sealed barograph and all was in order. What badges did he get when it was sorted out?
5. John knows that for Gold Distance you have to make a flight of 300 km which may be straight, zig-zag (one turn point) or around a triangle. For the Goal Diamond he knows the requirement is for a 300 km triangle or out and return. He decides to declare a 502 km triangle as the forecast is good and he has had quite a bit of cross country experience this season, just missing his 300 km triangle three times. He chooses the first turn point 151 km out; so that if conditions do not develop well he can change his plan into an out and return and, if successful get his Gold Distance and Diamond Goal. If the wind turns unfavourable he can use the first T.P. as the T.P. for a zig-zag and head downwind after turning and should get Gold Distance. What is wrong with this ingenious plan?
6. Can you wear any Diamonds on a Silver Badge? If so, how many?

# DO YOU KNOW THE RULES?

it back in the Blanik," and off he went. Some modellers on the field signed the landing cards. The Silver Badge aspirants did not mind the wait for the towplanes as it was quite early and they could chat to each other. Later in the evening there was quite a celebration party going on in the clubhouse when the CFI came in; hoping for a Gold Distance the following day. He was quickly given the story on the day's events and asked to sign the badge application forms. The CFI asked for the story again and then said, "I'm sorry, but you cannot claim Silver Badge distance legs with those flights."

The CFI was correct. Why could the claims not be made?

2. Pete had dreamed of making his 300km Gold Distance for several years but had never been able to get a ship on a good day. He had just entered a partnership; so opportunities should be easier to come by; so he spent the winter study-

ing his maps. He decided on a 320 km triangle, ABCA, AB = 120 km, BC = 100 km, CA = 100 km. A good day came along and the flight went well until he was on the last leg. He finally landed after a total distance of 318 km and was very disappointed at failing to get his Gold Distance. His partner came to retrieve him and said, "Sorry about your not getting the Goal Diamond but congratulations on the Gold Distance." "But I didn't get it," said Pete. "I'm three miles off track, and



# OVERSEAS NEWS

## Australia

The 16th Australian National Championships were held over the new year holiday period at Renmark, South Australia. There were nearly 70 entries in 3 classes; Standard, 15 m unrestricted and Open.

Open class was won by Malcolm Jinks, his ninth championship in this class. The 15 m unrestricted class was won by Timm Knapstein.

The Standard Class was best represented with 45 entries whereas the 15 m unrestricted class, introduced for the first time, had only 7 entries. A shipment of PIK-20s arrived in the country just a few days before the contest ended; so there was quite a lot of teeth gnashing!

\*\*\*\*\*

During the New South Wales state championships a Pilatus B4 and a Salto flying in the Sports Class collided over the first turnpoint on one of the contest days. Both ships were abandoned and the pilots landed safely by parachute.

\*\*\*\*\*

On 18th January 1977, Hans Werner Grosse broke his own World triangle distance record flying from Waikerie, South Australia to Hay, New South Wales to Warracknabeal, Victoria and back for a distance of 1063 km. This is the third time this German pilot has set a new mark in this category and each one has been over 1000 km. The first was set in Finland in 1975, the second in Australia in 1976 and now again in Australia.

## England

Prince Andrew solos. Sixteen year old Prince Andrew received his training with the ATC in which he is a corporal with the Gordonstoun School corps. He soloed in 1976 in a Slingsby T21. Prince Andrew is now attending school at Lakefield, Ontario; COSA and Kawartha Soaring Club are close by, perhaps they will have a royal visitor this spring!

## Finland

The PIK-20E, which has been developed from the famous PIK-20 concept, flew its maiden flight on 2nd October, 1976 at Rayskala.

In two days the chief constructor of PIK-20E, Jukka Tervamaki (aeronautical engineer) flew a total of four hours, of which two hours was soaring with retracted engine. All the mechanisms worked well and the flying characteristics corresponded

to those of the PIK-20 sailplane.

The research and development work is continuing in order to get the ship ready for the serial production. The first series of the PIK-20E will probably get started this year. Already there seems to be much interest in the motorglider. Some hundred serious inquiries have been received up to now.



## Germany

ASW 20 to fly soon

Mr. Gerhard Waibel, designer and builder of the ASW series of sailplanes, announced recently some details of the new ASW20; Schleicher's entry into the unrestricted racing class. The new design will have interconnected flaps and ailerons plus Schempp-Hirth upper surface dive brakes. The latter will be activated by the flaps operating handle to keep the number of handles in the cockpit to a minimum. This, according to G. Waibel, is to cut down on cockpit confusion during critical flight situations.

Another feature will be the possible later addition of an automatic flap setting and trim mechanism which is being developed jointly at Schleicher's and the U.S.A.

The cockpit of the new sailplane resembles the ASW 19; quite roomy

and comfortable. Interest in the ship is already quite high as more than the first year's production has been sold out.

Translated from Nov. 76  
"Luftsport" by  
H. Werneburg

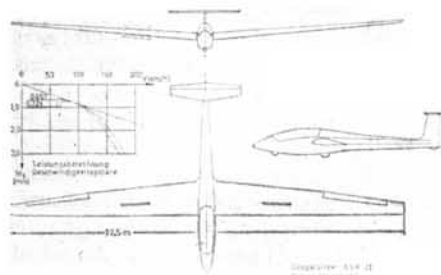
ASK 21; a new fibreglass two-seater for club use.

Rudolf Kaiser's design combines performance, ruggedness and ease of flying and should be available by late summer of 1977. It gives good performance with an L/D of 34:1 and due to its low stall speed of 62 km/h (38.5) and rugged steel tube fuselage, makes an excellent machine for hard training use.

The design has obvious similarities to the proven ASK 13, especially with regards to the fuselage; i.e. tandem seating, large canopy giving superb visibility, steel tube construction with fibreglass skin and low tail weight, making it easy to manoeuvre on the ground. The skid has been replaced by a small nose wheel.

The two piece wing has been built up using the now familiar GRP-Foam-Sandwich construction. Dive brakes extend on both upper and lower surfaces. Wings are joined together using the well proven fork system with two main pins. The ship has been designed to cover a wide range of possible uses; training, performance flying, aerobatics, instrument flight; and should be ideal for conversion training to high performance single seaters.

Translated from Dec. 76  
"Luftsport" by  
by H. Werneburg



# About F.A.I.

# FLIGHT DECLARATION

USE FELT TIP PEN AND WRITE — LARGE

HOLD DECLARATION 4 TO 5 FEET AWAY FROM CAMERA FOR PICTURE.

DATE \_\_\_\_\_

TIME \_\_\_\_\_

I HEREBY DEC \_\_\_\_\_

THE FOLLOWING FLIGHT ATTEMPT \_\_\_\_\_

Long. \_\_\_\_\_

## SPORTING CODE

1. Name of Pilot: \_\_\_\_\_  
 2. Name of Co-Pilot: \_\_\_\_\_  
 3. Name of Observer: \_\_\_\_\_  
 4. Name of Launching Officer: \_\_\_\_\_  
 5. Name of Landing Officer: \_\_\_\_\_  
 6. Name of Spotter: \_\_\_\_\_  
 7. Name of Photographer: \_\_\_\_\_  
 8. Name of Timekeeper: \_\_\_\_\_  
 9. Name of Recorder: \_\_\_\_\_  
 10. Name of Judge: \_\_\_\_\_  
 11. Name of Starter: \_\_\_\_\_  
 12. Name of Finisher: \_\_\_\_\_  
 13. Name of Referee: \_\_\_\_\_  
 14. Name of Marshal: \_\_\_\_\_  
 15. Name of Clerk: \_\_\_\_\_  
 16. Name of Secretary: \_\_\_\_\_  
 17. Name of Treasurer: \_\_\_\_\_  
 18. Name of Public Relations Officer: \_\_\_\_\_  
 19. Name of Medical Officer: \_\_\_\_\_  
 20. Name of Security Officer: \_\_\_\_\_  
 21. Name of Transport Officer: \_\_\_\_\_  
 22. Name of Accommodation Officer: \_\_\_\_\_  
 23. Name of Catering Officer: \_\_\_\_\_  
 24. Name of Entertainment Officer: \_\_\_\_\_  
 25. Name of Signage Officer: \_\_\_\_\_  
 26. Name of Merchandise Officer: \_\_\_\_\_  
 27. Name of Souvenir Officer: \_\_\_\_\_  
 28. Name of Book Officer: \_\_\_\_\_  
 29. Name of Ticket Officer: \_\_\_\_\_  
 30. Name of Admission Officer: \_\_\_\_\_  
 31. Name of Gate Officer: \_\_\_\_\_  
 32. Name of Baggage Officer: \_\_\_\_\_  
 33. Name of Customs Officer: \_\_\_\_\_  
 34. Name of Immigration Officer: \_\_\_\_\_  
 35. Name of Health Officer: \_\_\_\_\_  
 36. Name of Quarantine Officer: \_\_\_\_\_  
 37. Name of Veterinary Officer: \_\_\_\_\_  
 38. Name of Plant Officer: \_\_\_\_\_  
 39. Name of Animal Officer: \_\_\_\_\_  
 40. Name of Fisheries Officer: \_\_\_\_\_  
 41. Name of Forestry Officer: \_\_\_\_\_  
 42. Name of Agriculture Officer: \_\_\_\_\_  
 43. Name of Industry Officer: \_\_\_\_\_  
 44. Name of Commerce Officer: \_\_\_\_\_  
 45. Name of Finance Officer: \_\_\_\_\_  
 46. Name of Labour Officer: \_\_\_\_\_  
 47. Name of Social Services Officer: \_\_\_\_\_  
 48. Name of Education Officer: \_\_\_\_\_  
 49. Name of Culture Officer: \_\_\_\_\_  
 50. Name of Recreation Officer: \_\_\_\_\_  
 51. Name of Sports Officer: \_\_\_\_\_  
 52. Name of Leisure Officer: \_\_\_\_\_  
 53. Name of Youth Officer: \_\_\_\_\_  
 54. Name of Family Officer: \_\_\_\_\_  
 55. Name of Community Officer: \_\_\_\_\_  
 56. Name of Environment Officer: \_\_\_\_\_  
 57. Name of Planning Officer: \_\_\_\_\_  
 58. Name of Transport Officer: \_\_\_\_\_  
 59. Name of Communications Officer: \_\_\_\_\_  
 60. Name of Information Officer: \_\_\_\_\_  
 61. Name of Public Relations Officer: \_\_\_\_\_  
 62. Name of Media Officer: \_\_\_\_\_  
 63. Name of Press Officer: \_\_\_\_\_  
 64. Name of Radio Officer: \_\_\_\_\_  
 65. Name of Television Officer: \_\_\_\_\_  
 66. Name of Film Officer: \_\_\_\_\_  
 67. Name of Photography Officer: \_\_\_\_\_  
 68. Name of Videography Officer: \_\_\_\_\_  
 69. Name of Audio Officer: \_\_\_\_\_  
 70. Name of Visual Officer: \_\_\_\_\_  
 71. Name of Sound Officer: \_\_\_\_\_  
 72. Name of Music Officer: \_\_\_\_\_  
 73. Name of Dance Officer: \_\_\_\_\_  
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 94. Name of Variety Officer: \_\_\_\_\_  
 95. Name of Comedy Officer: \_\_\_\_\_  
 96. Name of Drama Officer: \_\_\_\_\_  
 97. Name of Opera Officer: \_\_\_\_\_  
 98. Name of Ballet Officer: \_\_\_\_\_  
 99. Name of Music Officer: \_\_\_\_\_  
 100. Name of Dance Officer: \_\_\_\_\_

FEDERATION AERONAUTIQUE  
 INTERNATIONALE  
 SPORTING CODE  
 Section 3 — CLASS D

GLIDERS

1975

6, Rue Galilée, PARIS (16<sup>e</sup>)

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SSA ITEM No. 80

STANDARD NOTIFICATION OF DAMAGE  
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# Badge Rules

Badge flying differs from the carefree pleasure flying of everyday, in many respects. It is an attempt by a pilot to compare his skills to a recognized set of international standards. It should be obvious then that the pilot must first be aware of what the standards are. This article attempts to induce the "cross-country pilot" to read the F.A.I. Sporting Code for gliders before planning badge flights.

It is a commonly held feeling that the rules in the Sporting Code are merely bothersome technicalities set out to trap the pilot. The feeling is that if a pilot flies 300 km around a triangular course, the paperwork and flight details are of no importance. But they are of importance! The pilot is trying to prove, not only that he can fly 300 km, but that he can fly 300 km under these particular conditions, the equivalent conditions to those of his predecessors. The rules have been changed over the years in order to still measure pilot skills equivalently. (50 km used to be a great accomplishment when the common glide ratio was 18:1.)

For the flight to be recognized by the F.A.I. as qualifying for award of a badge, particular evidence regarding the flight must be submitted. Application forms are available from S.A.C. and must be used. Every pilot must look after his own flight documentation. This documentation is then reviewed by the Official Observer for the flight who is to certify that the flight was carried out in accordance with the F.A.I. regulations, and ensured that the documentation is complete and correct. Note that the Official Observer is acting on behalf of the S.A.C., screening out obvious errors and pointing out omissions before submission to the S.A.C. F.A.I. Award Representative.

The following are some rules which are often overlooked:

## **Distance Penalty, (2.8.1)**

"The difference of altitude between starting altitude (commonly the release altitude) and the altitude of finish point (landing) must not exceed 1% of the dis-

tance flown for distances not greater than 100 km." This means:

Example 1. If the course planned is exactly 50 km, the release altitude can be at most 500 m above landing point elevation.

Example 2. If the pilot wishes to take a 2600 foot aerotow where the elevation of the take-off field is 2500 feet, and the elevation of the landing field is 2000 feet; how far should the pilot fly for Silver Distance? The distance flown must exceed 100 times the altitude loss. The altitude loss is  $2500' + 2600' - 2000' = 3100'$  or in metric units .95 km. Therefore the distance to be flown is 95 km. It pays to calculate the altitude loss and choose the release altitude to accommodate the 1% rule.

For flights over 100 km there is a distance penalty of 40:1 for altitude losses in excess of 1 km. If the intended landing field is at a lower elevation than the take-off field, then the departure point (release altitude or start line) should be set not higher than 1000 m above landing field elevation in order to avoid incurring the penalty.

The new rules include that the Silver Badge Distance flight should be flown " ... without navigational aid or other assistance given over the radio, or help or guidance from other aircraft" (5.1).

## **Closure of Triangle (1.5.8)**

Most badge triangles are flown without start or finish gate but rather from release to landing. If the declaration form lists the airport as the start and finish point, the release point must be within 1 km of the centre of the airport, and the landing must also be within 1 km of the centre of the airport. If the release was not over the airport, before the start of the tasks the pilot has to fly through a start gate not higher than 1 km. Unfinished triangles can be claimed as distance if landing is within 10 km of the course line (5.3). Application for distance flight claims must contain a sectional chart showing the flight route.

Take-off and landing field exact position must be described by latitude and longitude.

## **Evidence of Point of Release (2.4)**

If the towpilot is not an Official Observer, the Certificate of Point of Release must be countersigned by the Official Observer of the flight.

## **Notching the Barograph (2.9)**

Important for altitude claims. If the pilot does not want to risk losing the first thermal in which he released, he can first get established and centred, then make a barogram notch by descending 100 feet by opening the airbrakes/spoilers while continuing the circle. A similar technique is useful for wave flying. First establish the lift position and strength and then descend as low as is prudent using spoilers, while maintaining position in the best lift.

## **Declaration (2.2)**

The declaration made by the pilot before take-off is the proof that a predetermined flight is in progress. Therefore photographing more than one declaration and selecting the task after the flight is in progress violates the purpose of the declaration as it is defined in the Sporting Code. A pilot who wishes to have the option of abandoning his out and return declaration should declare a zig-zag. After the turn-point he may continue in any direction. Straight distance from departure point may be claimed at any time.

## **Film (2.7.1)**

The requirement to use a fresh film has been waived by S.A.C. Preprinted declaration forms can be purchased from S.A.C. for 10¢ each. They photograph well and are easy to carry. After the task is finished, use the remaining film to photograph the declaration sheet again with the addition of landing time and place. This is not necessary but completes the film.

## **Reaching the Turning Point (2.7)**

To photograph the turnpoint correctly requires knowledge and good tactics. In the next issue Jim Srong will give helpful hints on that topic.

# FAI Badges Earned by Canadian Pilots in 1976

## Completed Diamond Badge

No. 24 D. Tusin	(World No. 2010)
No. 25 F. Markut	(World No. pending)
No. 26 H. Rominger	(World No. pending)
L. Bungey	(World No. 2008) Certified in Canada, Registered in Australia

## Diamond Badge Legs

### Distance to Goal:

W. Krueger	Rockton	D. A. Tetu	Pendleton
E. Hollestelle	Embro	M. Aubut	Pendleton
K. H. Doetsch	Pendleton	T. A. Milc	Pendleton
R. C. Hyam	Julian	C. Bantin	Rockton
C. M. Wilson	Rockton	H. Konig	Pendleton
J. R. Henry	Rockton	I. Oldaker	Winnipeg
J. C. Knowles	Rockton	E. Dumka	Washington

### Altitude:

J. L. Chamberlin	New Hampshire	G. Adams	White Mountain
J. A. Dobson	Black Forest	J. R. Henry	White Mountain
G. C. R. Hendry	Black Forest	R. Patterson	White Mountain
R. O. Craven	Black Forest	R. C. Cairns	White Mountain
R. J. N. Craven	Black Forest	J. R. Matthews	Cowley
G. Geyer-Doersch	White Mountain		

## Completed Gold Badge

123 R. G. Hyam	127 W. Krueger
124 C. Grant	128 D. Tustin
125 W. Langelaan (Holland)	129 H. Rominger
126 J. R. Henry	

## Gold Badge Legs

### Distance:

E. Newsome

All others are listed above in Diamond Distance to Goal.

### Altitude:

P. J. Thompson	New Hampshire	J. A. Dobson	Black Forest
R. Thumm	Mt. Washington	G. E. Ingram	Black Forest
T. M. Knutt	Black Forest	C. Knowles	New Hampshire
P. C. Eastman	Black Forest	A. Mikelson	Mt. Washington
J. A. Ter Hart	Black Forest	A. F. Pratt	Hope
D. W. Timms	Black Forest	B. J. Decker	Black Forest



K. del Piero	New Hampshire	W. Gardiner	Black Forest
G. W. Ballantyne	Black Forest	R. O. Craven	Black Forest
R. G. Dennys	Black Forest	R. J. N. Craven	Black Forest
R. St. Laurent	Black Forest	J. R. Matthews	Cowley

### Completed Silver Badge

425 W. J. Oke	Lahr	437 J. A. Dobson	New Brunswick
426 C. C. Bantin	Gatineau	438 D. Harper	York
427 D. J. Little	London	439 B. Buttimore	York
428 M. Gaulin	Air Sailing	440 J. J. Kollar	York
428 F. W. Black	Gatineau	441 C. Knowles	SOSA
430 C. J. Powell	Erin	442 R. Gourdeau	Quebec
431 W. Langelaan	Holland	443 M. de Groot	Winnipeg
432 B. J. Decker	Toronto	444 D. Kramer	SOSA
433 A. Talevi	York	445 H. E. Ksander	Kawartha
434 R. J. N. Craven	Toronto	446 P. T. O'Donnell	SOSA
435 D. Miller	Winnipeg	447 P. Schwirtlich	SOSA
436 W. D. Morris	Erin	448 P. Larouche	Quebec

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# BY GLIDER ACROSS THE ATLANTIC



ILLUSTRATION BY W. WHEELER

## Part Two

*The completion of a two part story as told by Wing Commander Fowler M. Gobeil, D.F.C. in a speech to the Toronto Chapter of the Canadian Aviation Historical Society in January 1974. The text of the speech was subsequently printed in the CAHS Journal and is reprinted here with their kind permission.*

by W/C F. M. Gobeil



### LEG 3

The flight was resumed again on Wednesday, 30 June, with the entire glider train and equipment like new after a first-class check by the A.A.F. ground maintenance crews. We were a little worried about getting clear of Greenland on taking off for Iceland. The normal procedure in a powered aircraft is to roar down the steel-mat runway with the noise of the engines reverberating deafeningly from the mountains on either side. The plane became airborne at the water's edge just at the end of the runway and the icebergs in the bay are cleared by a few feet a moment after leaving the ground. Then a powered climb is carried out to some 12000 feet in order to clear the tops of the ice field which covers the major portion of Greenland amidst the mountain peaks. At the full load take-off weight of the glider train, it was nonsense to even consider reaching that height, so our only course was to stay low and to fly down the fjord to the open sea. No one had ever attempted this before. We had no knowledge of the wind currents, air conditions or turbulence we might encounter. Once we left the steel mat runway, there was no possible place to land except on the jagged rocks or in the freezing, iceberg-packed sea. If wind conditions proved beyond our capabilities, we in the glider would be forced to cut loose from the tug plane to avoid dragging the tug down with us in a crash. So it was with considerable misgivings that we lined up for take-off. At that moment we were thinking that maybe it might have been a better thing if we had just talked about the crossing and done nothing further about it! However, it was too late to turn back then, so we gave the signal for take-off.

The take-off of the glider was normal. The tug pilot held his aircraft on the ground as long as possible to gain the last mile per hour of speed before getting off. This resulted in the tug leaving the ground about two feet from the end of the runway - and the sea - which shook us considerably in the glider, perched as we were in the grandstand seat about fifteen feet above the tug throughout the whole procedure! Just after the tug got off, we turned left to head down Tunugdliarfik Fjord toward the sea. After proceeding down this fjord for some distance we crossed a low neck of land

and flew down Igaliko Fjord. The weather was very kind to us. Apart from several bumps of varying severity, no serious weather difficulties were encountered. It was not until some 30 minutes later when we reached 5000 feet altitude that we were able to relax our tension somewhat. We had successfully flown the first glider train out of Greenland.

As we could not gain sufficient altitude to proceed direct to Iceland over the 12000 foot Greenland icecap, a distance of some 850 miles, we were forced to circle Cape Farewell. This added some 200 miles to the direct distance. However, as we had already covered nearly 1200 miles non-stop in our preliminary test flights, the prospect of a thousand mile hop did not worry us unduly.

As arranged we met our Catalina flying boat over the sea at 5000 feet at the mouth of the Igaliko Fjord. Shortly after, we were forced to descend to some 2500 feet to avoid flying into the low solid cloud which always infests the area about Cape Farewell, due to the cold dry air sweeping down over the tremendous frozen ice plains and meeting the warm moist air over the sea. Thus is produced a perpetual fog-ridden area extending thousands of feet up from the sea, with heavy turbulence and heavy aircraft icing conditions. We therefore approached this area with some hesitancy. When we reached the edge of the low cloud area, we ran into intermittent rain squalls. The air conditions became very bumpy and we were resigning ourselves to a repetition of our very adverse flight across Labrador. As we flew on in the rough air, we passed Cape Farewell with its summit shrouded in clouds. Looking below us at the water, we could see a vast expanse of blue-green pack ice interspersed with large icebergs, from which low fog wisps were slowly rising to join with the solid fog already formed in the air. It was obvious that we were once again going to be forced to fly by instruments, a procedure extremely hazardous in these early days of tow glider flying. Our tug captain continued to descend slowly in an attempt to fly in the clear below the cloud, to escape the necessity for instrument flying. However, it could be seen that the fog straight ahead now extended right down to the sea. In addition to this, the

turbulence became so excessive that once again we were faced with the possibility of the tug and glider breaking apart. In view of this our tug captain began to climb into the fog and we went on instruments.

The next hour was to be one of the most trying periods of the entire flight. As we entered the cloud, the tug plane gradually disappeared ahead of us and we were left suspended in space, with no visible flying aids available. Only about 30 feet of the tow rope was visible ahead. We were able to position ourselves solely by the "angle of dangle" of the tow rope. It was a most trying and dangerous period and one demanding the utmost skill and concentration on the part of the glider captain. The violent bumps kept throwing the glider out of position and it was vital that the correct position be regained with the minimum of delay. To add to the already very adverse conditions, ice formations began to appear on the glider. It was essential that we climb out of the icing area as quickly as possible before too much ice was collected, which would force the entire train down into the sea below us. We could tell from our airspeed indicator, which was only showing 100 mph, that our tug captain was driving his aircraft to the limit to get us up from the icing area as quickly as he could. If the glider was allowed to get out of position below the tug, it would result in the tug being dragged down and the entire endeavour would end in tragedy.

However, fortunately, this did not occur. The captain of the glider did his part and we gradually struggled up out of the icing area. Each 1000 feet of altitude we gained seemed like a personal victory to us. As we climbed higher we could see that ice had ceased to form on the glider. Then we began to notice ice crystal blowing about in the cabin. Shortly after this, we saw that it was snowing outside. During the entire time, we had not seen the tug plane ahead of us, but had been flying entirely by that part of the white tow rope we could see. This only extended a short way ahead and then disappeared into the cloud. The bumps had become less violent but the strain had been terrific. We in the glider were becoming very tired and began to wonder how much longer we could carry on. Suddenly there was a succession of very violent bumps and immediately following this, we broke through the cloud top and the big tug plane became visible. It was only a matter of a moment to position ourselves correctly on the tug and the long crisis was over. We were then at 11500 feet, flying between two layers of solid cloud.

We had again proved another first in glider flying, namely that it was possible to take off with a fully loaded glider train and to climb safely through thousands of feet of cloud to a suitable cruising altitude. This fact, coupled with our night flying experiments, provided invaluable data for the subsequent glider invasion of Sicily and for the now-famous glider operations on D-Day, when the wresting of the continent from German control was initiated.

As we proceeded on, we gradually crossed over the edge of the bad weather area. The cloud below us disappeared and we now



had a view of the sea, thousands of feet below. The upper layer of cloud cleared away as well and the bright sun shone down from the clear blue sky. The air smoothed out and we all felt it was a recompense for our previous trying experience. We in the glider broke out our coffee and sandwiches. The Catalina was sailing along majestically to our left.

Some three hours out of Reykjavik, we saw the tug waggle its wings from side to side, which was the signal "Message for the glider". We turned on our walkie-talkie radio, which had been turned off to conserve batteries and we were advised that the Reykjavik weather was CAVU (ceiling and visibility unlimited) - in other words the weather was perfect for landing at our terminal in Iceland. A most desirable condition after the weather experienced at the start. Then a beautiful example of wishful thinking occurred. We suddenly saw the mountains of Iceland ahead! We heaved a sigh of relief at the prospect of an earlier arrival than expected. However, after flying on for some considerable length of time, we realized that it was a false alarm and that what we had taken for the mountains of Iceland were in reality massive cumulus clouds piled up on the horizon. This occurred twice again before we finally saw mountains that were truly no mirage.

Approximately three quarters of an hour out of Reykjavik we were met and escorted by three American fighter planes, which we had requested from Greenland before our departure in the morning. We were now in the area which German long-range planes, flying from bases in Norway, could reach. They frequently appeared over Reykjavik and the American fighter planes based in Iceland had already shot down some dozen enemy planes. These planes were sent out by the enemy to collect meteorological data for their bombing operations against the British Isles and to watch for our convoys along the northern routes to Russia, which passed to the Arctic waters between Iceland and the British Isles. As these enemy aircraft were heavily armed with cannon and machine guns, we had no

wish to be intercepted by one or more of them without a fighter escort of our own. We were flying without offensive weapons of any sort and would be the easiest of prey for an enemy plane armed with anything more lethal than a peashooter!

The fighters escorted us through a clear sky to Iceland, diving, zooming and circling about us with their terrifically superior speed. Soon the American airfields at Meeks and Patterson came into view. We commenced our letdown and shortly saw the English field at Reykjavik where we were to land. We crossed Faxaflói Bay and cut loose from the tug at 5000 feet. We glided down to a perfect landing, one minute after our faithful Catalina landed in the bay. We had only one more leg to go to successfully complete our task.

We had originally planned to push on to England immediately after refuelling at Reykjavik, but our departure had to be held up for repairs to the tow rope. After the glider cut loose our captain was forced to drop the tow rope on the hard surfaced runway owing to the many small Icelandic houses surrounding the airport. As a result, the two metal U-ends of the tow rope were badly damaged and these had to be removed, repaired and the rope respliced before we could proceed. We took advantage of this delay to have a meal and a drive through the quaint Danish city of Reykjavik, the capital of Iceland. We were truly in the land of the midnight sun. The summer daylight endures the entire twenty-four hour period. There is no night as we know it. We were much amused to see a number of airmen returning to camp at 2 AM in broad daylight, with the sun shining brilliantly out of the cloudless sky.

#### LEG 4

The fourth and final leg of the crossing was flown on Thursday, 1 July. The ground crews at Reykjavik had worked hard and long all night to repair the tow rope and to service our aircraft. As this leg carried us over the Russian convoy route where enemy air action was common, we had requested a fighter escort out of Reykjavik









halfway to the British Isles and then to be met and escorted from the halfway point to our destination by a fighter escort from the British Isles. As events transpired, neither of these escorts turned up and we completed the leg unescorted.

Immediately after becoming airborne at Reykjavik, we were forced into a steep, low right hand-turn at a few hundred feet altitude to avoid flying into low cloud over the hills at the end of the runway. This unpleasant incident safely negotiated, we passed the west side of Hafnarfjordur and started climbing away over Faxaflói Bay. The air was exceedingly turbulent and we were tossed from side to side like a leaf in the strong wind. It soon became apparent that at 5:30 AM we had just cleared Reykjavik in time to miss the early turbulence which, at its height might have proved more than we could cope with successfully. The severe turbulence continued up to 5000 feet, by which time we in the glider were resigned to a rough trip. Then the air became smooth and we leveled out for cruising at 6500 feet. For two hours we sailed along in the smooth air over solid cloud with a clear sky and a bright sun above. The upper high cloud began to form while the lower cloud broke up showing us a smooth calm sea. Shortly after, we flew through a number of very heavy rain squalls, with the usual accompanying bumps. We were continually on the watch for enemy aircraft, although in the event of enemy air attack our only possible action, as prearranged, would have been to cut loose from the tug plane to allow it freedom to escape and to dive the glider to a landing on the sea. As the limiting diving speed of the glider fully loaded was 150 mph, with a corresponding slow rate of descent, the time taken to dive off 6000 at this speed would have made it extremely doubtful whether we could reach the sea before being shot down. In addition, the many stories of rubber dingies being machine-gunned on the sea crossed our minds. However, fortunately neither contingency arose.

Some four hours out of Reykjavik, we were flying in magnificently clear weather. An hour later we sighted our first land in the British Isles, a rock in the sea off The Hebrides, near the Boreray and St. Kilda Islands. It was a beautiful sight! The weather was still perfect as we passed over the Sound of Barra. On approaching the mainland in very thick haze, we flew into a heavy balloon barrage whose location had not been told to our tug captain during his pre-flight briefing at Reykjavik. This necessitated a very sudden, steep climbing turn to avoid colliding with one of the many balloons stepped at varying heights and resulted in the most unusual and extremely terrifying procedure of the tug passing directly over the glider, while both were going in the opposite directions! However, by this time nothing worried us and this minor crisis passed without further incident, although the sight of barrage balloons apparently flying past on either side was a trifle shaking at the time.

At 12:55 noon, we were circling Prestwick Aerodrome waiting for a newsreel camera plane to appear for press photographs. As we circled, the broken cloud below us began to fill in and eventually did so

leaving us flying over unbroken cloud. The last landfall seen before the cloud became solid was the airport at Ayr a few miles from Prestwick. As we had no suitable radio in the glider, we could not ride the radio range into Prestwick airport. We could not risk waiting any longer for the photographic plane, with the possible consequence of being forced to land ignominiously in a common field if we missed the airport at Prestwick. We had previously seen the welcoming party of High Officialdom moving out toward the landing runway. We accordingly cut loose from the tug at 5500 feet and dove through the cloud, emerging forth into good weather below at about 3200 feet, with the airport a few miles away on our left. The approach and landing at Prestwick were normal and we touched down at eleven minutes past 1 PM, having successfully completed our allotted task of delivering by air the first glider from the North American continent to the British Isles over the North Atlantic ocean.

Following the successful completion of the flight, a conference was held with the Commander-in-Chief. It was agreed by the flight personnel concerned in the crossing that, with the present equipment available, the setting up of a regular transatlantic glider service was not feasible. This conclusion was based on the following adverse factors experienced during the flight itself:-

(1) Extreme turbulence effect.

Turbulence, next to wing icing, is the most dangerous single factor that may be encountered in towed glider flying. Apart from the possibility that the glider may break away from the tug through failure of the tow rope, there is always the possibility that the glider itself may suffer structural failure due to the forced imposition of loads greater than the airframe is designed to withstand.

In this connection it might be pointed out that this extreme turbulence is not always experienced while flying in adverse weather conditions. When proceeding from Nassau to Montreal on the practice flight, a take-off was effected from Richmond for Washington. The weather conditions were apparently ideal at 5:30 AM - clear sky and early morning sun. While climbing away steadily at 2500 feet, the tug was seen to commence rising steadily in an upward current of air. This was sufficient warning to the glider captain who was prepared for mild turbulence. Just as the glider approached the area where the tug had started upwards, the tug was seen to start suddenly down. Despite the visual warning, application of full forward elevator control failed to prevent a most violent upward and downward snatch of the glider, which almost resulted in the wings being lost. At this time, the glider was being flown empty, with the prescribed ballast only, in this case consisting of lumps of coral rock secured by ropes. During the turbulence this ballast broke loose, some of it being lost through the roof and the floor of the glider. A passenger sitting on the floor of the glider was thrown against the upper cross-members of the fuselage and was stunned. Safety belts which we invariably kept fastened, retained the glider crew. It was considered that had the glider been fully loaded, a major structural failure



W/C Seyes and S/L Gobeil examine the tow rope which joined the two aircraft.



For cargo handling or loading of troops, the nose of the Waco including the cockpit could be raised.



W/C Seyes poses at the controls of the Waco at Dorval prior to the trip.



The RAF crew of the Dakota which towed the "Voo Doo". L to R P/O R.H. Wormington, engineer; F/L W.S. Longhurst, pilot; F/L C.W.H. Thompson, co-pilot/navigator.

would have undoubtedly occurred. Following a visual inspection of the glider, it was decided to continue with the flight and the tug captain was so advised by radio. The ballast was replaced and secured as well as possible and the climb was continued to 10000 feet, where turbulence is not normally expected under the weather conditions then prevailing. The weather was still cloudless and sunny. Shortly after levelling out for cruising, a repetition of the previous snatching was experienced, fortunately to a slightly lesser degree, although once again the ballast broke loose and our passenger was severely tossed about.

At this point the disparity between the wing loadings of the glider and the tug might well be considered, a factor which without doubt was largely responsible for the violence of the snatching, owing to the marked difference between the reaction to rough weather of the glider and the tug, which in turn was due in part to the difference in wing loadings. Here an interesting line of thought is provoked regarding the designing of a simple aircraft for the sole

purpose of glider towing.

(2) Inability of the train to top the weather. A fully loaded glider train should have the power to climb above any normal weather usually prevailing over a proposed regular route. A specially designed tug, similar wing loadings and a glider designed for relatively high towing speeds should make this possible.

(3) Lack of radio range receiver, gyro panel, wing deicers, cabin heater and sunshades in the glider.

A range receiver should make it possible for a glider to descend through cloud and emerge under a reasonable ceiling if the cut-loose from the tug was effected over the cone of silence. This would avoid any turbulence effect attendant upon letting down under tow.

(4) No "angle of dangle" indicator in the glider.

(5) No auto pilot in the glider to reduce pilot fatigue on long tows.

(6) No position indicator lights. No system of indicator lights on the tug

plane to assist the glider captain to position himself during instrument or night flying.

#### TIME AND DISTANCE TABLE

Leg	Route	Distance	Time
1	Montreal - Labrador	850	6:47
2	Labrador - Greenland	785	6:13
3	Greenland - Iceland	1000	7:20
4	Iceland - British Isles	865	7:43

In conclusion, the sad fate of our glider FR579 "VooDoo" may be of interest. It was decided after her epic crossing that she should hang in the British National Museum for future generations to exclaim over. A few days after arriving at Prestwick, she was collected by an English ferry team for delivery to a southern aerodrome. On landing, she crashed and was reduced to a miscellany of tattered fabric, plywood and bent steel tubing from which, fortunately the pilot stepped unhurt. However, "VooDoo", instead of being suspended nobly from the ceiling of the British National Museum, was relegated instead to the scrap heap. A most unworthy finish to a very gallant lady!



# CLUB NEWS

*I would like to thank the Clubs who have so kindly responded to my introductory letter of December. I am sure most of our Club Members are interested in knowing what is happening in other parts of our country, and I would suggest a person be delegated in your Club to keep in contact with "Club News". A short letter with photographs would be appreciated at least twice a year for publication.*

## ALSASK SOARING CLUB

Canadian Forces Station Alsask is located near the town of Alsask, Saskatchewan, a small prairie town on Highway No. 7, which is the main highway linking Calgary and Saskatoon. The Station's role is radar surveillance as part of the NORAD system and so we do not have the licenced airport. What we lack in facilities is more than made up by the enthusiasm of the members of the Station, the town of Alsask, certain members of the Oyen Flying Club just twenty miles west and the Commanding Officers of the Cadet organizations which CFS Alsask support.

Alsask Soaring Club became a SAC member club this year. It has been a difficult first year but through a solid team effort by the 20 members of our Club, we were able to overcome the unfortunate loss of CF-PPG which we bought from the Winnipeg Gliding Club this past spring. We have completed 100 launches with our replacement glider Sweizer 2-22C, C-FOZS. We obtained FOZS from the Ontario Committee of the Air Cadet League. Those small spoilers help keep our pilots alert but other than that, it is a beautiful bird, exactly what our Club needs in its formative state. For the WGC members who felt as badly about PPG biting the dust as we did, we are working on a plan to restore "her" to flying condition.

Our Club is loosely affiliated with the air cadets in the province of Saskatchewan. They have assisted us both financially and with "know-how". In exchange for this assistance ASC has promised fam rides for those air cadet squadrons in the Alsask areas who wish to join our programme. Presently four cadet squadrons have opted in and all have been offered a day of fam flying.

At the present time we own only a glider and a winch. However, several local power pilots are interested in towing and one has already attached a tow hook to his plane, so hopefully next summer will see some aero-towing as well as winch launching.

The weather has stayed good up until 16 November 1976, and there are indications that we will be gliding beyond this. Later this winter, we will be running a ground school at Canadian Forces Station Alsask. That's all from Alsask for now.



## BONNECHERE SOARING INC

Bonnechere Soaring Inc. has been operating since its inception in 1969 from a large airfield at Round Lake, near Pembroke. Since most club members live 50 miles away in Deep River, on the Ottawa River, a major obstacle to expansion of membership and facilities has been the hour's drive each way. This year we solved that problem.

The construction of the Deep River Gliderport began in late October, 1975, and involved almost all members in many hours of hard (but enthusiastic) labour. It is situated on an esker, a very flat glacial deposit, which is graciously leased to us by the Provincial Government, at a mere 2 miles from Town. From the initial surveying through cutting and clearing, to the finishing touch of sowing oats and timothy as a ground cover, it all took only 10 months; total cost when finished, including hangars, will be about \$6,000, mostly covered by a Wintario Grant. The east-west runway is a mile long, 200 feet wide and widened at the ends to provide landing areas. Closely guarded by thick stands at the ends to provide landing areas. Closely guarded by thick stands of spruce and pine, it presents much more of a challenge to our pilots than the old field, but of course it's all well worth it. Our gliderport opened September 2, and so far we've had about 60 hours out of it in about 350 launches. Soaring conditions seem better, but then we're riding high anyway. Also, it's much nicer to look down on a familiar landscape. Best of all, our membership has jumped 50%, so we can start to think about more facilities too.

We are presently operating with a double-drum winch on 5000 feet of wire, with no serious retrieval problems in spite of the narrow strip. We consistently launch at 2000 feet, and even got up to 2600 feet once. At \$3.00 per launch, who needs a tow-plane?

Several members have been inspired enough to buy new ships this season, so next year our Club should really begin to take off. Much remains to be done, but much has been achieved already. Of course, we can hardly wait for next May.

I am enclosing a picture of our strip taken from our Blanik on final. Formidable, n'est-ce pas?

*Co-Editor's Note: I'm glad that I fly the prairies; even in my 1-35 I wouldn't get*

*out of gliding range from your "Oasis" in the forest.*

## SASKATOON SOARING CLUB

The big news about our club is its very existence. The current Saskatoon Soaring Club is a reactivated version of the old Saskatoon Club which was active in the sixties. The old club ground to a halt in 1969, leaving behind only a small bank balance and a few fond memories. In February 1976, four members of the original club met to discuss its reactivation. They advertised and held public meetings which initially drew the attendance of about 200 people. The economic realities of soaring quickly reduced this initial response down to about 20 keen and solvent potential soaring pilots. The large public meetings did reveal the presence in the community of a large number of young people with interest and training in soaring (largely a result of the Air Cadet Program) but without the finances to soar as part of a new private club.

The newly activated club then arranged purchase of an L 13 Blanik, C-GSDU, which arrived in time for the first club flights to take place on May 22, 1976. Since then the Blanik has been used for 482 flights totalling 160 hours, all utilizing aerotow. Four new members of the club have reached solo status and several others are almost ready to solo. We have flown from several locations within about 15 miles of Saskatoon.

The club functioned well considering the inexperience of most of the members. The main problems were equitable scheduling of flying time and minor layoffs when the tow plane or Blanik needed adjustments. Virtually all our flying time was devoted to training as only two of our members were qualified glider pilots at the beginning of the summer.

Our plans for the future include a modest expansion, addition of a single seat sailplane and a few more members.

## LAKEHEAD GLIDING CLUB

Our Club consists of 18 members, five of which are tow pilots. The Club owns a Schweizer 2-22C, a Stinson L-5 tow-plane, and a hangar. Two of our members co-own a Schweizer 1-26 sailplane and one of the co-owners is in the process of buying an Astir CS.

Over the past season the L-5 and the 2-22 have flown about 100 hours each, the L-5 only being used for tow.

There were three new trainee glider pilots this year. One was previously a power plane pilot, recently qualified for his glider licence, and was tow pilot for his son on his first glider solo this year. The other two had no previous experience and both have made their first solos. The longest flight record for our Club was set this year by one of the owners of the 1-26: Vern Ennis - his time was five hours and forty minutes in his 1-26 sailplane.

Co-Editor's Note: Special thanks to reporter Clay Williams.

## KAWARTHA SOARING CLUB

On a Monday morning last summer, I was telling the office staff, with a beaming smile, about my first ever cross country flight (and the first in my new Pilatus B-4) from the day before and also about the towing back to the gliderport behind our L-19.

At that point my partner Tom, stepped out of his office and remarked, "So that was you we saw last evening going over our house."

When I inquired how he noticed us, he said, "That was easy."

His young son Ian, was playing outside when he suddenly shouted, "Dad, come out quick!"

So Tom ran outside and there was little Ian pointing his finger to the sky and still shouting, "Look Dad, there is a jet pushing an airplane!"

H. E. Ksander

## RIDEAU GLIDING CLUB

Despite 1976 weather conditions not being the best, we were able to get in 916 flights. Our fleet remained unchanged from the previous year with a 1-23 doing most of the work, the new 1-26 for solo and the newly reconditioned L-10 taking the overflow. Private ships; Cherokee, L-Spatz, and KA-6 were joined by an HP-11 previously owned by John Firth.

Five new solo pilots received their "A" badges: K. Fox, Dave Robertson, Reg Lukasik, G. VanDrei and Dick Bayly. Three pilots were licenced: Mike Darling, Susan Murphy and Lindsay Gorrell. "B" badges were earned by: Reg Lukasik, Bob Leggett, Lindsay Gorrell and Dick Bayly. "C" badges were earned by: Mike Darling, Susan Murphy, Brock Gorrell and G. VanDrei.

No silver badges (or greater) were completed during the year, but three (3) five-hour durations were sat out by Paul Mornault, Ray Wilson and Brock Gorrell. As always, great plans and schemes are being prepared for next season; with the new 1-26 trailer near completion and several pilots ready for cross country, we are laying in a supply of champagne for the Spring.

Speaking of Spring, because we are in southern Ontario and flying off asphalt at an old Commonwealth training field, we often start flying much earlier (March 22nd last year) than many of our nearby counterparts. If you just can't wait that couple of extra weeks for your field to dry out, come visit us -- we'll be glad to see you.

## VANCOUVER SOARING ASSOCIATION

On Sunday, November 28th, the V.S.A. finished its' flying for the season, a full month later than is usual. The main factor responsible for this was the unusually dry Fall experienced this year. Although some days were lost to rain in August and September, they were more than compen-

sated for by the relatively dry October and November.

For our first season of all aerotow operation, it has been highly successful. The total number of launches was only 40 less than last year (when the operation was all winch) and the hours flown by the club ships was up by 28%.

As mentioned in earlier reports, it has been a good year for wave with 4 gold C heights being obtained at Hope. Only one cross-country was made from Hope this year; Mike Apps flying his H.P. 14 to Pitt Meadow Airport in mid-July. With the countryside being more favourable for cross-country flights in the Columbia Basin, several members spent part of their vacations at Ephrata, the home of the Seattle Glider Council. Although several 500 and 300 Km attempts were made, only two pilots were successful, Lloyd Bungey on a 500 and Ernie Dumka on a 300. (Lloyd is the correspondent from V.S.A.)

During the season we saw several faces from other clubs and soaring pilots passing through Vancouver during the soaring season (March to November). In July the Western Instructors Course was transferred to Hope at very short notice, but it worked out very well and we would be willing to have such courses at Hope again. We consider our site with its' ridges and mountains offers something very different to flatland soarers and feel that exposure to such conditions can only be beneficial to all flyers.

# A Great Ship and a Delight to Fly



**Available now for 1977 season**

PIK-20B 90° flaps - USA allows timer on flaps for use in restricted 15 m class.

PIK-20D Flaps and spoilers - lock flaps for use in restricted 15 m class. Elevator trim interconnected with flap setting.

**Watch For**

PIK-20E Motor Glider - retractable, electric start engine.

Technical Data PIK-20D	
Span	15.0 m
Aspect Ratio	22.5
Empty Weight	220.0 kg
Max. Weight	450.0 kg
Water Ballast	140.0 kg max.
Wing Loading	30 - 45 kg/m <sup>2</sup>
Load Factor	+7.1 to -5.1
Best L/D	42 @ 108 km/h
Min. Sink	63 m/s @ 85 km/h
Stall Speed	60 km/h @ 300 kg
Max. Speed	262 km/h

For further information please contact:

**George Couser,**  
735 Riviere aux Pins,  
Boucherville, Quebec, J4B 3A8  
(514) 655-1801



# Hangar Flying

## INSURANCE

The SAC insurance scheme for the period April 1, 1977 to March 31, 1978 will have a lower premium cost than last year. The premium cost per pilot will drop to \$37. from \$45. and the hull coverage will be reduced from 1.75% to 1.65%. The deductible amount will be reduced from \$1000. to \$500. but the insurers reserve the right to review this at July 15, 1977 and increase the deductible amount to \$1000. again if there is a rash of accident claims.

There will be rebates made by SAC due to the low claims this past flying season. The actual claims were:

York	\$2847.54
Bonnechere	2220.00
Air Sailing	1146.12
Cu-Nim	509.00
Total	\$6722.66

Rebates will be 20% on the Public Liability portion because there were no claims and 15% on the Hull Premium. The rebates will be made to the clubs on a proportional basis.

Rebates in the coming year will again apply if claims are low. If there are any questions about the new insurance program please contact Al Schreiter.

## FAI AWARDS

Ray Wilson, Chairman of FAI Awards, points out that there has been a recent substantial increase in the cost of the Silver C badge. It is now \$11. Check the list of Club Supplies for current prices of Badges and Gliding Certificates and send the correct amount to Ray when ordering these items.

## CONTEST NUMBERS

As announced in an earlier FREE FLIGHT, a register of Contest Numbers is being prepared. If your ship has Contest Numbers painted on it you must register the number or you may find it has been allocated to someone else. Bob Barry of RLB Soaring, 524 Rouge Road, Winnipeg, R3K 1K4 has

kindly offered to handle the register for SAC, so write to him now. Please do not send correspondence on this subject to Terry Tucker or anyone else; it will only result in delay.

T. R. Beasley

## TWO-SEATER POWER GLIDER

Messrs. ALPHA-WERKE in the province of Vorarlberg, Austria have developed a new two-seater aircraft, a combined engine-powered and glidercraft, the "AVO-Samburo". New features include weight-supporting strips on the wings for easy access to the cockpits, wings that fold from a span of 16.7 m to 10 m, a full vision hood, and a large capacity luggage compartment. The aircraft is designed for 170-190 km/h depending on the engine (available with 60 or 68 hp). The fuel tank of 32 or 42 litres permits a range of 600-700 km. Runway required is 180 m, the net weight is 650 kg.

## PHOTOS

Wanted: Photographs suitable for the cover of FREE FLIGHT.

Come on all you photographers; there must be hundreds of photographs of gliders, people gliding, people watching people glide or whatever! Send in black and white prints, colour prints or slides of your favourite gliding photo. We guarantee that your pictures will be returned as long as you have your name and address on the back or on the slide frame. Be sure to send details such as type of aircraft, location and names of people for proper identification.

## RECENT FILM RELEASES

"FLIGHT" a National Film Board film about the sport of gliding which creates the feeling of what it is like to soar as silently and effortlessly as a gull. This is a captivating journey into nearer space where all the beauty of earth and heaven seems to meet at the wide-winged engineless craft that poises between them. It will

appeal to the young and adventuresome whose dream goes up, but every audience will enjoy these unusual views of Canada's Laurentians and Rockies. 7 min. 46 sec. 16 and 35 mm colour.

Film Library,  
National Film Board,  
150 Kent Street,  
Ottawa, Ontario, K1A 0M9

"DAWN FLIGHT", an exciting entertainment story (particularly for soaring pilots) of a young glider pilot's achievement of self-confidence and self-awareness in his mastery of glider control. Some aerobatic manoeuvres such as tree-top chases and passes through narrow canyons make the film worthwhile. 22 min. 16 mm colour.

"JOY OF SOARING" is an excellent introductory film produced by the Soaring Society of America. It gives a taste of training and high performance soaring. 16 min. 16 mm colour.

Film Library,  
National Soaring Museum,  
R. D. No. 1, Harris Hill,  
Elmira, N. Y. 14903, U. S. A.

## RECREATIONAL CHARGES

The following item is from the COPA Newsletter of December 1, 1976.

RECREATIONAL CHARGES — Some well-meaning parachute clubs and soaring groups often accept remuneration from members of the public who pay expense money for a familiarization flight. Such action is certainly innocent enough and we can easily rationalize, "How can a private club (not licensed by the ATC or MOT) expect to show prospective members what parachuting or soaring is all about without a demonstration?" Next question: "How can a club operate soundly if they can't recover expenses?" Nevertheless, an RCMP plain clothesman recently put a stop to a club obtaining token remuneration because, according to the law, obtaining remuneration or reward, little though it may be, does in fact constitute a commercial air operation and must be licensed accordingly.

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Ottawa (613) 731-6997**

# HOW I BEAT THE



There are quite a few 280 km entries in my log book and one of 295 back in 1972, but on 14 August last year the magic number rose to 314 km when I made it, finally. Here are a few things I remember of the day.

Early morning towering cu which dissipated by 9:30 a.m. promised a good day. Following a good breakfast and rigging my Tern, QXI, I discussed the weather with Russ Flint. Forecast winds at 6000 feet were a very light SE all day with stronger winds at lower levels. We expected cloud base at about that level. There was no high cloud to worry about. After much deliberation, I chose a triangle via Cypress River to the south-west, then a long into-wind leg to Morris on the Red River, so that on the final leg home what wind there was would assist me (too often I have been on final glide with a cross wind or head wind — not today).

Low cu was developing by about 10:30 I think and by shortly after 11:30 I was at the flight line. Other pilots reported weakish lift, so shortly after noon I followed Dave Tustin up. He was climbing at about 4000 feet (asl) at about 5 knots but I found nothing.



Then just east of the field at about 2000 feet I found 3 knots and slowly worked up, but could hardly reach 3500. I started out though, looking for more lift.

The sky by now was beginning to look very full of clouds so I thought I would have no problem finding lift. However, it was not under any cloud as they all dissipated soon after forming so I had to aim for ploughed fields, and one just west of Elie saved me. Things have got to improve I thought; so I radioed Yvonne that I was definitely on my way to which she wished me good luck.

The going was slow for the first 1 1/2 hours as I never managed to get above 4000 feet. When south of Portage I had to detour to a sunlit area to get high enough to cross the rougher country there, en route to Haywood and the higher ground to the west. The clouds were still not very reliable and though I had once reached 5000 FEET, I was at about 2500 feet (900 agl) at a point east of Treherne. Again flying over the



ground with an eye open for hot areas, I was rewarded with 7 knots to over 6000 feet. I reset my McCready ring to the higher climb rate as I increasingly flew into 5 and up to 10 knots. My photo of Cypress River was taken from 6000 feet after 2 hours 20 minutes. Not fast, but soon I was at over 7000 feet under a huge cloud going up at over 10 knots. I pushed the nose down to 70 - 75 knots. Looking at the cloud shadows I saw my headwind was quite weak, as predicted, so my groundspeed was very good.

The clouds seemed to be streeting a bit and were now producing wide areas of lift at up to 10 knots. I flew straight under the darker areas and was able to climb slowly straight ahead while doing 60 or so. I flew through 5 knots but at 7 knots I circled and for some time now I maintained over 6000 feet.

Carmen hove into view but soon I could read the names on Notre Dame des Lourdes' buildings, or so it seemed. However, I reckoned I should be OK at the same airspeed as I felt strong lift would be around. Sure enough, when I was about ready to slow down and think of looking for a field, I got lurched up by 7 - 10 knots, so in a wink I had 7000 feet again. Two long wide areas of cloud now covered my track and I debated whether to go for the gap in the mid-

▲  
Getting ready to fly.

▲  
Yvonne Oldaker, QXI crew

▲  
Ian Oldaker

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# BARRIER

by Ian Oldaker



dle (sink?) where the sun did light some dark fields, or risk getting low in shadow under the clouds, which were not lifting well where I was.

Having found really strong thermals before low down, I headed for the sun. It worked! Back near cloud base again, I never really got low for the rest of the flight. The lift was between 5 and 10 knots under most clouds now and by hour 4 I was due south of Pigeon Lake en route to Morris. Leaving one cloud at 7300 feet I flew over the race track, and from about 4500 feet took my photos. I turned for home and now felt that barring any silly mistakes I had that diamond in the bag.

I couldn't share my elation as I had been unable to contact Yvonne at 4 o'clock, however I had spoken to Dave who was near McDonald on his way home. He was obviously not enjoying my weather.

I entered the TRSA at 6000 feet



under a beautiful street and aimed right for our field doing 65 knots. ATC kept asking for my height and I kept saying 6000 but when I realized I would have to land I pushed it to 80 and slowly started to descend. Clearing the Terminal frequency, I tried to contact Yvonne who apparently said it couldn't be me — it was not yet the time for my call! When she did reply she asked if I had flown the whole course. Now I ask you! On my previous attempt I had landed out at Oak Bluff and had been greeted with a Harvey Wallbanger — I wasn't going to pass up that chance again. However, on that flight (31 July) I had spent 50 minutes in my last thermal climbing to 7500 feet, whereas today I had flown out of lift in order to get home! What a difference!

And now, the paperwork. I have to chase the tow pilot for my aerotow certificate, ask my kind Official Observer Hazel, to have the film developed and left uncut and I luckily managed to fit the barograph into a large instrument case to have it calibrated within the two weeks specified by the F.A.I.

Thinking back, I feel the flight could have been completed had I started as much as 1 1/2 hours later, and over the same route. However, I am sure there is a psychological advantage to starting as early as possible, and I plan to do so again for such flights.



Tern CF-QXI



Sunshine and shadow on Southern Manitoba fields.



# When will you get a round tuit?

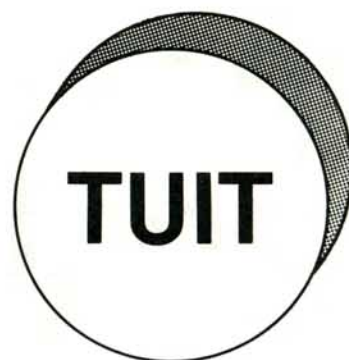
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For years you've been saying: "I'll do it as soon as I get a 'round tuit'."

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Have any good humorous stories? Send them in!



## The Pilatus B-4

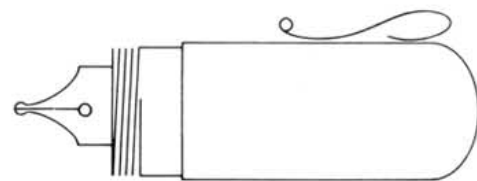
- Sailplane single seater
- All metal standard class (15 meters)
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- Aerobatic
- A pleasure to fly
- Ideal for club and private use
- Competitive price
- Short delivery (monthly production: 12 units)
- Canadian type cert. No. G-96
- Demonstrator available for test flight (mid April / mid Nov.)

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# Letters to the Editor



Dear Bob,

With reference to a letter by Mr. A. Fletcher in Letter to the Editor section Jan/Feb 1977 issue, I make no judgement on the excellent efforts being made to further our technical understanding of the effect on thermals of the Coriolis or Geostrophic forces if any, being worth careful analysis with comparisons being made between the two hemispheres.

However, at the risk of upsetting the scientific community, I add my thoughts. I'm an average club pilot, a New Zealander, gained my Gold Badge in New Zealand and have been gliding in the Northern Hemisphere for four seasons. If the Coriolis effect plays a noticeable role in working a thermal, I haven't noticed the changeover or difference. There doesn't seem to be any rationale to consider Coriolis effect influencing the way to fly. I haven't found a reverse thermal and its the same rules: best centreing and best flying equals fastest climb. Personally I work thermals circling both ways happily, often change direction midway up a thermal with no noticeable difference on rates of climb and just to confuse things; I'm left handed.

Ingo Renners win at Rayskala was not amazing and definitely not due to reversed Coriolis effects. Being a good keen lad from down under and hearing all this about water down the bath tub plug and toilet and such; he probably thought to himself, "Mate, if those northern jokers believe that, wait 'til I tell them it works like a charm in a sink as well!"

Stephen Newfield

Dear Editor:

I was most disappointed in the lack of homework and cavalier attitude in your reply in FREE FLIGHT 1/77 to my letter concerning the deductibility from income tax of tuition fees for instruction towards a glider pilot licence. I suspect that the worst the tax department can do is not just say "no".

Your reference to Section 32 of the 1975 Tax Guide makes the naive, in this world of government regulation, and false assumption that since glider clubs offer "instruction" they are therefore educational institutions in the law. To quote Income Tax Act Interpretation Bulletin IT-25 (1971) "the types of educational institutions in Canada whose fees may qualify for deduction are defined in subparagraph (i) to (iv) of Section II (i) (9c) of the Income Tax Act". Subparagraph (iv) appears to be the relevant one and refers to an educational institution "that is certified by the Minister of Labour to be an educational institution by which courses are conducted that provide or improve the qualifications of a person for employment or for the carrying on of a business or profession". Since the tax laws were revised a few years ago, the relevant paragraph is now 60 (f)(iv) of the Income Tax Act.

You are no doubt aware that R.C.F.C.A. clubs and commercial flying schools provide their students with a form certifying their enrolment, type of course and instruction fees so that students may claim a deduction from taxable income. These organizations can do this because they are certified educational institutions and are so registered with Revenue Canada. Apparently many soaring clubs issue their students with similar forms. This is not legal since these clubs are not certified educational institutions. Only one soaring club is registered with Revenue

Canada Taxation. I suggest that, to quote your reply, "some have had the deduction accepted and others have not" only because Revenue Canada Taxation cannot fully check every income tax return for compliance with the law and that those rejected had been checked.

The requirement that clubs conduct courses that provide or improve the flying skills of the students as a prerequisite for employment may be met, for example, by training of individuals for employment as soaring instructors or the application by students of soaring training towards flight training required for commercial purposes in flying power operated aircraft.

Students who claim tuition fees as an income tax deduction should be prepared to prove to Revenue Canada Taxation that the training was instrumental in securing employment. I believe that this requirement is rather broadly interpreted in the case of student power pilots and perhaps would also be for student glider pilots.

It should be noted that allowable fees of students enrolled at flying training schools or clubs includes tuition fees for ground school training and flying training (dual and solo or pilot-in-

command). "The costs of flying while the student is not under instruction but merely gaining experience and complying with the 'flying hours' requirements for his particular course cannot be regarded as tuition fees." Proper interpretation of these points, of course, rests solely with Revenue Canada Taxation.

Since one soaring club is now certified as an educational institution for purposes of the Income Tax Act, it should not be difficult for other soaring clubs to be so certified. Clubs should complete and submit with appropriate documentation an "Application for certification as an educational institution for purposes of Section II (i) QCIV of the Income Tax Act". Details of the procedure can be obtained from the Manpower Training Branch, Department of Manpower and Immigration, 222 Nepean Street, Ottawa, Ontario, K1A 0J5.

I trust that I have adequately explained the basics of instructional fee deductibility from income tax re gliding clubs and in turn, answered my previous letter.

B. M. Jessop

## Member Clubs

### Quebec & Maritime Zone.

Appalachien Soaring Club, Box 271, Sherbrooke, P.Q.G1H 4G8  
Ariadne Soaring Inc., 735 Riviere aux Pins, Boucherville, P.Q.J4B 3A8  
Bluenose Soaring Club, 6360 Summit St., Halifax, N.S.  
Buckingham Gliding Club, % D.Finn, 573 Riverdale Ave., Ottawa, Ont.K1S 1S3  
Champlain Soaring Association, 111 Mgr.Tache, Boucherville, P.Q.J4B 2K2  
Lahr Gliding Club, % Capt.W.J.Oke, 489 Sqdn., CFPO 5056, Belleville, Ont.K0K 3R0  
Montreal Soaring Council, Box 1082, Montreal, P.Q.H4L 4W6  
Missisquoi Soaring Association, Box 189, Mansonville, P.Q.J0E 1X0  
New Brunswick Soaring Association, 521 Blythwood Ave., Riverview, N.B.E1B 2H3  
Newfoundland Soaring Society, %Mr.J.J.Williams, 11 Nungesser Ave., Gander, Nfld.A1V 1M1  
Quebec Soaring Club, Box 9276, Ste.Foy, P.Q.G1V 4B1

### Ontario Zone

Air Cadet League (Ont), Mr. H. Bruhlman, 1107 Avenue Rd., Toronto, Ont. M5N 2E4  
Air Sailing Club, Box 2, Etobicoke, Ont. M9C 4V2  
Base Borden Soaring Group, Box 247, Borden, Ont. L0M 7C0  
Bonnehore Soaring Inc., Box 1081, Deep River, Ont. K0J 1P0  
Central Ontario Soaring Association, Box 762, Peterborough, Ont.  
Chatham Air Cadet Gliding Club, 561 Lacroix St., Chatham, Ont. N7M 2X1  
Erin Soaring Society, Box 523, Erin, Ont. N0B 1T0  
Gatineau Gliding Club, Box 883, Station B, Ottawa, Ont. K1P 5P9  
Huronia Soaring Association, c/o M. Badior, 435 Hugel Ave., Midland, Ont. L4R 1V4  
Kawartha Soaring Club, Inc., c/o G. Ordway, 233 Lake St., Peterborough, Ont.  
Lakehead Gliding Club, Box 161, Station F, Thunder Bay, Ont.  
London Soaring Society, Box 773, Station B, London, Ont. N6A 4Y8  
Rideau Gliding Club, c/o H. Janzen, 172 College St., Kingston, Ont. K7L 4L8  
Rideau Valley Soaring School, Box 93, R.R. No. 1, Kars, Ont. K0A 2E0  
SOSA Gliding Club, Box 654, Station Q, Toronto, Ont. M4T 2N5  
Toronto Soaring Club, Box 856, Station F, Toronto, Ont. M4Y 2N7  
Windsor Gliding Club, 2050 St. Anne St., Windsor, Ont. N8N 1V7  
York Soaring Association, Box 660, Station Q, Toronto, Ont. M4T 2N5

### Prairie Zone

Alsask Soaring Club, CFS Alsask, Alsask, Saskatchewan, S0L 0A0  
Red River Soaring Association, Box 1074, Winnipeg, Man. R3C 2X4  
Saskatoon Soaring Club, 2 Sullivan Street, Saskatoon, Saskatchewan, S7H 3G8  
Winnipeg Gliding Club, Box 1255, Winnipeg, Man. R3C 2Y4

Cold Lake Soaring Club, Box 1714, Medley, Alta. T0A 2M0  
Cu-Nim Gliding Club, Box 2275, M.P.O., Calgary, Alta. T2P 2M6  
Edmonton Soaring Club, Box 472, Edmonton, Alta. T5J 2K1  
Red Deer Soaring Association, Box 873, Red Deer, Alta.  
Regina Gliding & Soaring Club, % 7215 Bowman Ave., Regina, Sask.

### Pacific Zone

Alberni Valley Soaring Association, Box 201, Port Alberni, B.C. V9Y 7M7  
Okanagan Soaring Association, Box 1135, Kelowna, B.C. V1Y 7P8  
Vancouver Soaring Association, Box 3651, Vancouver, B.C. V6B 1Z1  
Wide Sky Flying Club, Box 6931, Fort St. John, B.C. V1J 4J3

# Answers

Will all candidates wishing to attend this year's Eastern Course, and anyone else interested in becoming future Eastern Course Director, please contact: Walter J. Piercy, 184 Churchill Crescent, Kingston, Ont., K7L 4N2. Those wishing to attend the Western Course Please contact: Ian Oldaker, 30 Prescott Crescent, Pinawa, Man., R0E 1L0.

## DO YOU KNOW THE RULES?

The City was certainly right about the courts not to be made?

Rita had thought of making it difficult for her to get away from him. She had been keen to do it at a party one day. He had got around a partnership agreement which would be seen to come by, so she spent the afternoon

[illegible]

4. Pete was correct, he got his Gold Badge with a Goal Diamond. Para. 5.3. "A flight may count towards any

6. Yes, Para 5.2.3. "Diamond may be worn only on a Silver or Gold Badge." Maximum on a Silver Badge must be two. The only way you could have two would be the Goal and distance without having recorded a climb of 3000 m. If you happen to get the height Diamond first, then you will never wear two Diamond on your Silver Badge!

If you did not answer all these questions correctly, you don't know the rules!. The latest issue of the Sporting Code, Section 3, Class D, is dated 1975. Buy a copy from S.A.C. and don't sign any O.O. forms until you know the rules.

# CLASS ADS

## NOTICE TO SAC MEMBERS PLACING CLASSIFIED ADS

Classified ads for personal equipment are printed in FREE FLIGHT at no charge. Please limit the descriptions of items wanted or for sale to the essentials and let us know the number of issues you wish the ad to appear. Make sure you send your complete address and telephone numbers where you may be reached during the day or in the evening. Classified ads are for members PERSONAL equipment ONLY; commercial advertising is placed at a rate of \$50. per page.

### FOR SALE

Kestrel 19 with full instruments, radio and low profile fibreglass trailer. Contest ready, offers unlimited class performance at standard class price. Cool tinted canopy and excellent ventilation; large cockpit, in-flight adjustable seat and pedals for comfort; flaps, brakes and chute provide short landings for safety.

John Firth,  
542 Coronation Ave.,  
Ottawa, Ontario.  
(613) 731-6997

### FOR SALE

Vancouver based Schempp-Hirth SHK in excellent condition, fresh C of A. Wings were refinished in the spring of 1976. Ship comes complete with enclosed trailer, oxygen equipment, radio & instruments including turn & bank and Winter airspeed/vario combination. Stands and dollies enable easy rigging by 2 persons with no heavy lifting. This ship is a real performer in weak conditions yet penetrates like the glass birds (it completed a 500 km last June on a day when the glass birds fell short). Price \$9000.

Lloyd Bungey,  
General Delivery,  
Port Mellon, B.C. VON 2S0

### WANTED

2-33 and single seater suitable for club use.  
Central Ontario Soaring Assn.,  
P.O. Box 762, Peterborough, Ontario

### WANTED

1-26 B, C, D fuselage (undamaged aft of cockpit and tail surfaces).  
Kevin Cooper,  
1304 Rainbow Crescent,  
Ottawa, Ontario K1J 8E2  
(613) 745-8847 evenings.

### FOR SALE

1976 BLANIK, S/N 026602, brand new 2 altimeters, 2 ASIs, 2 COMPASSES, 2 T & B battery operated, toolkit, cockpit cover, manuals, factory kit of spares plus Merlin enclosed trailer. \$12800. F.O.B. St. John's, Nfld. Price does not include 12% F.S.T. on glider or 10% duty and 12% tax on trailer or provincial taxes.

Peter R. Myers,  
Bldg. 1, Apt. 5,  
5846 South St.,  
Halifax, N.S.  
(902) 429-1095 evenings and weekends.

### FOR SALE

Two 2-22s, CF-BJG and CF-UOD, complete with Schweizer trailers. Both are damaged but I have drawings and almost all new parts to fix. Price for the pair, \$3000. F.O.B. Halifax. Will not split the two!

Peter R. Myers,  
Bldg. 1, Apt. 5,  
5846 South St.,  
Halifax, N.S.  
(902) 429-1095 evenings and weekends.

### FOR SALE

Winnipeg Gliding Club offers Schweizer 2-22, Ceconite cover, 2-33 canopy, basic instruments, in excellent condition, current C of A, asking price \$4000. Trailer available.

John Bandorf,  
18 Emerald Grove Drive,  
Winnipeg, Manitoba R3J 1H2  
(204) 889-6343 (H)  
(204) 775-1071 (O)

### FOR SALE

1975 Blanik L-13 Two place all metal sailplane. 100 TT. Standard instrumentation, both cockpits; plus G meters; electric turn and bank; radio; dual oxygen built in; 20 amp dry gel battery; tail wheel. Purchased new and in Canada since day one. \$12,950.00. Custom built trailer \$995.00.

Contact: Cecil Sorensen,  
3931 - 35a Avenue,  
Red Deer, Alberta (403) 886-4928  
T4N 5H3

### FOR SALE

Ka-6CR in excellent condition, fresh C of A. Two varicos (one Moore electric with audio), ASI, Altimeter, Mentor Radio, Oxygen, Trailer, factory made wing, tail and fuselage covers, Tail dolly, Tools, etc.

A. Heinemann  
R.R. 1,  
Gormley, Ontario. (416) 727-9566

### FOR SALE

PIK-20B and factory trailer. Water ballast, carbon spar, Instruments, radio, oxygen, Braunschweig tube, C of A until Sept. 18/77. Below factory price.

A. Heinemann  
(416) 727-9566

### FOR SALE

Bergfalke 11/55 CF-IHC, 740 hours total time, 100 hours since factory overhaul and restoration in 1971. New modern canopy, all epoxy finish, basic instruments front and rear, open trailer, always hangared. Blanik performance at less than half the price.

Walter Weir,  
11 Valley Court, (416) 668-6790 (H)  
Whitby, Ontario. (416) 364-4336 (O)

### FOR SALE

Ka-6C4, full instruments, radio, oxygen, parachute, covered trailer, August 1977 C of A, very good condition. Offers to \$6000.

Ron Bell, Vancouver, B.C.  
7921 Selkirk St., (604) 263-7756

### FOR SALE

If you want your Diamonds in a hurry or fly contests; here is your chance! 42:1 17 m Phoebus C, drag chute for steep safe landing, basic instruments and trailer \$12000. No instruments, \$11500.

Winner of 1975 BAIC Trophy for best flight of the year in Canada; 625 km in 6 1/2 hours. Must sell, Mini-Nimbus on order.

Klaue Stachow,  
11 Coleridge Crescent N.W., (403) 269-3807 (O)  
Calgary, Alberta. (403) 284-1777 (H)

### FOR SALE

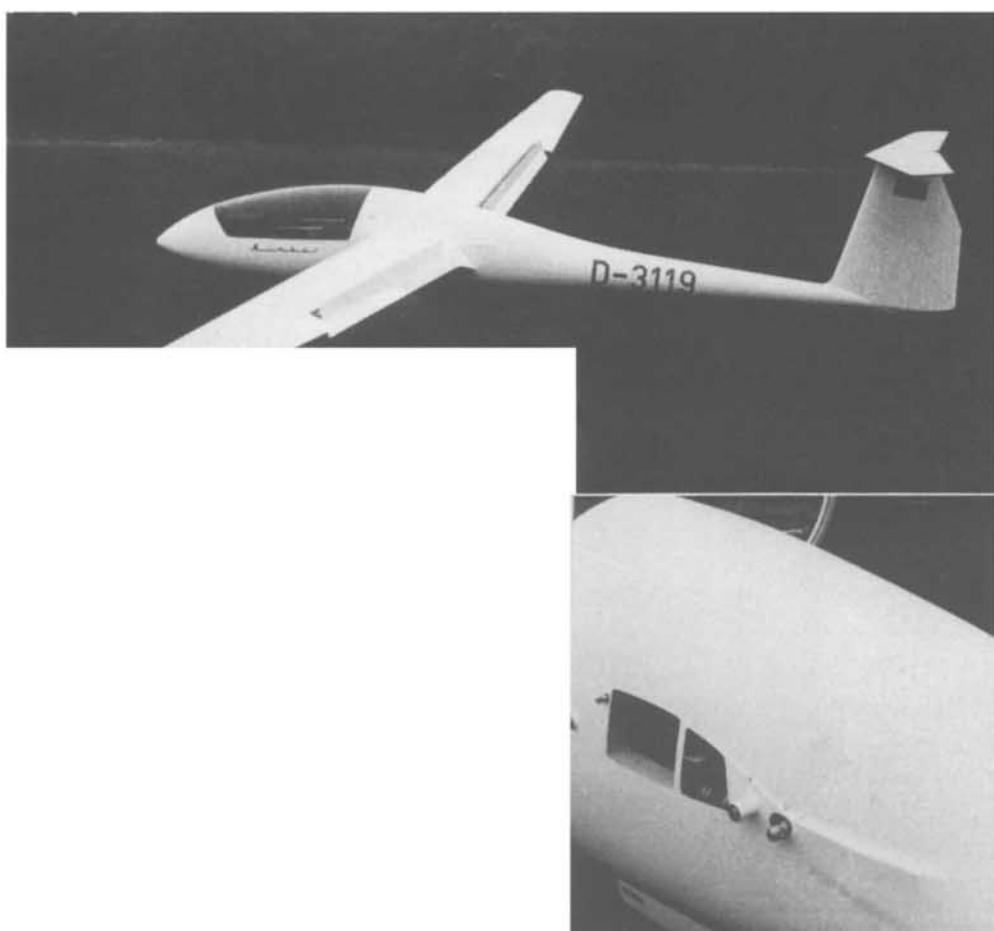
Pirat SZD30, 33:1, large cockpit, aerobatic (Negative manoeuvres), excellent condition, painted in '76, fully instrumented, electric T & B, Oxygen, enclosed trailer, \$8900.

Paul Thompson,  
25 Robinhood Drive,  
Dundas, Ontario L9H 4G2  
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## Good news from Schempp-Hirth The MINI-NIMBUS is flying!

The Mini-Nimbus combines all the advantages of an advanced new wing design (that it shares with the Glasflügel Mosquito) with the well-proven Standard Cirrus fuselage and tail. As with the Mosquito, the camber-changing flaps are interconnected with the ailerons for optimum wing geometry throughout the speed range, and the dive brakes are coupled with the flaps for light control forces and slow safe landings. All controls connect automatically, including the water ballast, and the cockpit has been enlarged to provide relaxed comfort for the tallest pilots.

The prototype Mini-Nimbus (Nimbus 15) made its first flight on September 18, 1976. Klaus Holighaus reports that it "flew right out of the box, just like a production ship," and that the handling qualities are exceptionally docile. The low speed circling performance is excellent, and it has an absolutely forgiving stall. High speed stability is even better than expected. Tests have confirmed that the maximum glide ratio is 42 to 1, and the roll time is a very brisk 3 seconds. The Mini-Nimbus outperforms the Standard Cirrus at all speeds, while being easier to fly!



» about the remarkable new Mini-Nimbus.  
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