



Free Flight

official publication of
THE SOARING ASSOCIATION OF CANADA

NOV / DEC 74

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Free Flight

THE NEWS LETTER OF THE SOARING ASSOCIATION OF CANADA

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NOVEMBER - DECEMBER 1974

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2nd Wave Site

In a letter to Bruce Hea, Chairman of SAC Airspace Committee, Maurice Laviolette of Quebec Soaring Club advised of successful negotiations with MOT.

"It is all good news - the proposal has been accepted and the details of the plan were finalized in a meeting held at MOT in Montreal," reported Laviolette.

He went on to thank the Airspace Committee for their help; "This is a beautiful example of a very valuable contribution to soaring by the SAC", said Mr. Laviolette.

"The procedure is very much like the one used at Cowley. We have a clearance to FL 230 without the use of radio over an area which is probably large enough for the present and future. FL 230 is all we need for "Diamond" climbs since we release in the wave at 4000 -5000 ft. AMSL. They have also pointed out that we may be able to expand our boundaries as we know more about this site."

AN ARTICLE ON THE BAIE ST. PAUL WAVE SITE APPEARED IN FREE FLIGHT IN THE JULY - AUGUST 1974 ISSUE.

Jonathan Livingston Seagull is going to have lots of company up there in the blue sky if Volmer Jensen has any say about it. Jensen, a household word among "skysurfers" in the U. S. and the inventor of the VJ 23 (1½ million plans sold) has come up with a new version of his aircraft. The VJ 24 is constructed of aluminum tubing "pop-riveted" together and covered with Dacron cloth. It can be built in 200 hours with ordinary household tools, gets airborne in a 10 - 15 mph breeze and is steered by means of ailerons and rudder. Although used mainly for ridge-soaring the gliders have reached altitudes of

over 5000 feet and are said to be among the safest in the field. Plans are available from Volmer Jensen, Box 5222, Glendale, California for \$55. With a little judicious scrounging, the VJ 24 reportedly can be built for less than \$500.

MOVING ?

Send your change of address to:

MRS. TERRY TUCKER,
786 CHAPMAN BLVD.,
OTTAWA, ONTARIO,
K1G 1T9.

WANTED

Schweizer 1-23, HP-11, HP-14 or sailplane of comparable performance. Send full details to:

A. Rokitnicki,
88 Park Home Dr.,
Willowdale, Ontario.

Tel. (416) 221-9068

MATERIAL FOR FUTURE ISSUES OF FREE FLIGHT SHOULD BE MAILED TO

BOB NANCARROW,
43 SEALCOVE DRIVE,
ETOBICOKE, ONTARIO,
M9C 2C7

TENTATIVE DEADLINES FOR FUTURE ISSUES ARE

ISSUE 1/75	JAN-FEB	DECEMBER 16/74
ISSUE 2/75	MAR-APR	FEBRUARY 21/75
ISSUE 3/75	MAY-JUN	APRIL 18/75

WEATHER FORECASTS

On October 16th, Niel Macdougall and Bob Nancarrow met with officials of the Ontario Region of the Atmospheric Environment Service in Toronto to discuss expanding the weather forecasting services for soaring pilots.

The Toronto Weather office has been providing a weekend telephone soaring bulletin which includes the maximum temperature for the day, triggering temperature for thermals, time of triggering temperature, vertical extent of thermals and duration of thermals.

This experimental project for soaring pilots will be extended during the 1975 season. Beginning in mid-April the present soaring bulletin will be available through six Ontario regional weather offices as well as the Toronto location. You may call any of these offices and request the "Soaring Bulletin". In addition, you may ask for any other information that the local forecaster may have available, i.e., wind velocity, cloud conditions, etc.

TORONTO	Area 416 676-3026 676-3085
LONDON	Area 519 451-3390
HAMILTON	Area 416 679-6065
PETERBOROUGH	Area 705 743-5852
KITCHENER-WATERLOO	Area 519 648-2571
WINDSOR	Area 519 969-2740
MOUNT FOREST	Area 519 323-2281

In discussion, Niel Macdougall outlined the requirements for weather information for the cross-country pilot who could be planning a flight of up to 300 km. Gordon Gee, the chief forecaster at Toronto pointed out that much of the present information available is general in nature due to the lack of data for more refined forecasts. Information on probable thermal strength is one item which could not be forecast well from a central point with the data available at present. The A.E.S. are quite prepared to assist us by continuing this experimental project and have asked that we supply them with

feed-back which will allow them to examine the accuracy of soaring forecasts. The information from flights would be analysed by A.E.S. and compared to their forecasts. The form on page 5 lists the information they need from us to develop a background for more accurate soaring weather forecasting.

It may take a year or more to develop a technique for such forecasts but they are willing to work on it and provide whatever additional weather forecasting information they can. If this project is successful, a similar service could be made available in other parts of Canada where soaring is active.

Next season, use the existing "soaring bulletin" provided through the seven stations listed above and co-operate with the A.E.S. by providing the data they need to compare their forecasting with actual weather conditions encountered in flight. Each club in the Southern Ontario region will be contacted and supplied with report forms similar to the sample on page 5. These will be collected on a monthly basis and submitted to A.E.S. for analysis.

If each club will have a "met" representative appointed to handle this chore, we will all benefit greatly by increased and more accurate forecasting for soaring throughout the season.



SOARING FLIGHT WEATHER REPORT

NAME OF CLUB _____

DATE OF FLIGHT _____

Complete as many of the following as available.

1. LOCATION OF FLIGHT _____
2. AVERAGE STRENGTH OF THERMALS _____
3. MAXIMUM TEMPERATURE _____
4. TIME OF ONSET OF THERMALS _____
5. TIME OF ENDING OF THERMALS _____
6. SURFACE WIND SPEED & DIRECTION _____
7. CLOUD CONDITIONS _____
8. MAXIMUM ALTITUDE OF THERMALS (CLOUD BASE) _____
9. SURFACE RELATIVE HUMIDITY _____
10. MAXIMUM THERMAL STRENGTH ENCOUNTERED _____

1976 WORLD GLIDING CHAMPIONSHIPS

CREW VOLUNTEERS WANTED

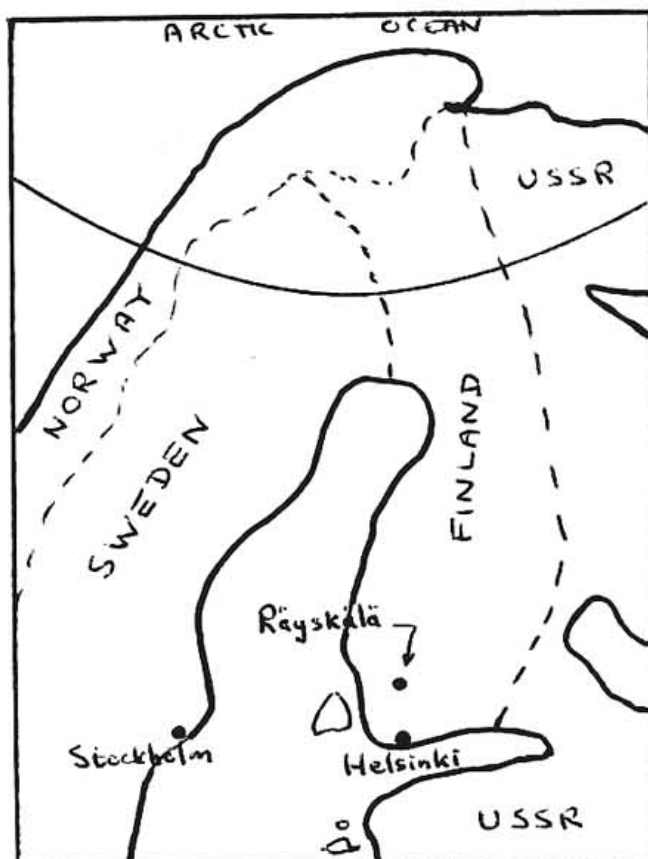
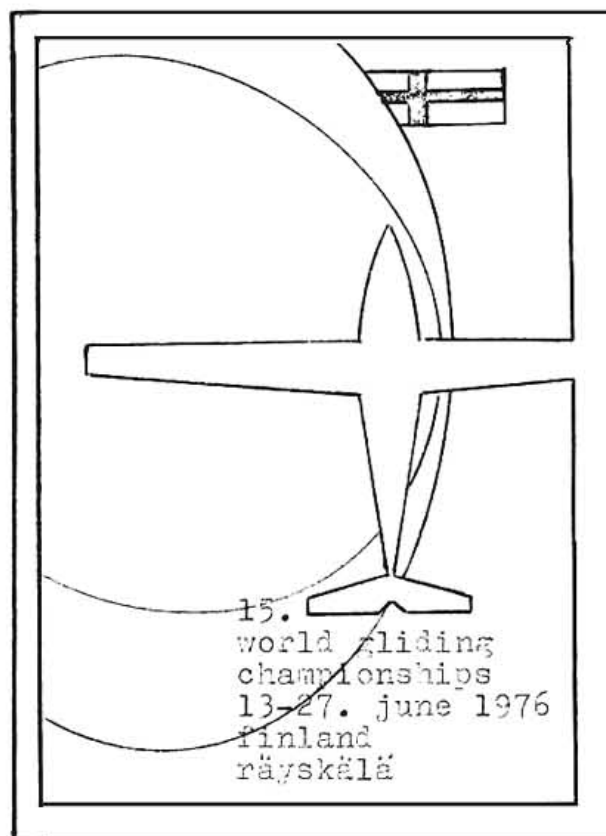
Place - Rayskala - Helsinki - Finland

Dates - 5 June to 27 June 1976

Practice Week - 5 - 12 June

Championships - 13 - 27 June

Crew volunteers are requested to write to Box 1173 for an application form. Early volunteers who help with the organization of our entry may be allocated some priority, subject to adequate experience requirements.



BUYING A GLIDER?

Anyone thinking of buying a new ship for 1976 delivery is requested to consider placing an order now and renting the new ship to our 1976 World's Team who would take delivery in Europe. This could result in considerable savings to the purchaser as shipping assistance may be available, plus the rental fee, plus reduced import tax as the glider will be imported as used. If qualified you also ensure your place on the Team as a crew man. The PlK-20 won the US Standard Class Nationals.

Please think about it. Write to Box 1173.

GLIDING

Giant, featherless bird, balder than the bald eagle - ready
 To defy gravity's law and be
 Airborne - to float, drift, soar
 By the mind's power -
 No need to envy the bird's
 Fantastic flight; he shares his blue
 Expanse, his unrestricted freedom - you
 Know his secrets.

To change perspective at will -
 Earth now diminishing, now
 Growing, again receding until imperfections
 Fade into smooth patches of greens,
 Browns, yellows - an endless varied quilt, edged
 With a ribbon of blue rivers, dotted
 With tiny sunbleached buildings
 And the glint of metallic cars crawling
 Like phosphorescent insects
 Along the grey seam of a highway.

To knife through the blueness and beyond
 Touching snow-edged clouds, lost
 For a moment in a world of white purity -
 To glide through valleys, scale mountains
 Without ropes, skim the cliff's edge, parting
 The clear, cold air as it yields
 To each swerve and turn.
 To move as one with the air, floating invisible
 Waves, borne upwards on winding, buoyant curves of air -
 Lifting, swerving, soaring -
 Riding the fine edge between controlling and controlled -
 Between you and the sky.

Sandra M. Tetu

Gatineau Gliding Club.

The Future of Competitive Gliding in Canada

A PROPOSAL FROM SOSA GLIDING CLUB TO THE FAI COMMITTEE

It will be no news to any pilot that in the last two or three years there has been a startling change in the cost of competition gliders and gliding.

Not too many years ago a Ka6 or Skylark 4 could and did win the World's Championships for a cost of less than \$5000. Now, in 1974 a reasonably equipped Open Class machine will be five times that. And these prices are still rising.

The immediate noticeable result in Canada is that very few Open Class machines are being imported in the competitive category.

We have all seen this happening, and at the same time the astonishing increase in the percentage of Standard Class machines in the clubs and in Canada.

What we now want to propose is the following change in the basis of Canadian competition flying to recognize this set of new circumstances, and to respond in such a way that our Nationals will become once again a representative and popular contest, and our World Team will represent the best of Canadian Gliding.

FIRST: Recognize that Standard Class is now and has been for some time the most popular and competitive class in Canada - in the last 3 Nationals 66.3% of the entries were Standard Class.

Action:- the Nationals Standard Class Champion to be the top Standard Class pilot.

SECOND: Recognize that Open Class ships are a different league and that there will always be those who can afford and prefer to compete in this class.

Action:- the Nationals Open Class Champion to be the top Open Class pilot.

THIRD: In seeding the World Team, recognize the special qualifications and techniques of the classes.

Action:- seed the Standard Class from the Standard Class Nationals pilots.

- seed the Open Class from the Open Class Nationals pilots.

As you know, this recognition of the separate and equal classes corresponds exactly to the World Contest classes and respective Champions.

We believe the above will help to put interest back into the Nationals where today the average pilot feels he doesn't really have much of a chance to compete, and that it will increase our competitive ability in the World Contest.

You will note that today's Open Class owners will not lose on their investment - we are not proposing to close out a Class, we are proposing (1) to recognize a Class that exists and (2) recognize that it is now and will be for the foreseeable future the Class of greatest participation.

* * * * *

The response to this proposal from the SAC Sporting Committee follows and is endorsed by all members of the committee; John Firth, Mike Stoten and Jim Carpenter.

Also following is a letter from Terry Beasley on the subject of Pilot Selection and the procedure for selection of the World Championships Team approved at the 1973 AGM in Kingston.

Competitive

Gliding

To one long interested in competitive gliding, the recent spate of letters on the subject is encouraging. The writers have raised so many issues that it is impossible to respond adequately to all of them, but I will treat each question briefly at least. The principal requests concern for:-

1. Increased incentives to enter various types and levels of competition.
2. The high cost of competition gliders.
3. Introduction of Regional and Local sanctioned contests.
4. Recognition for the Standard class.
5. Introduction of a Sports Class.
6. A new method of International Team selection to give separate status to the Standard Class.

1. There is no regulation which can help. It simply requires more effort from individuals and clubs to stimulate interest in contest flying.

2. One thing we can do to help the high cost of competitive gliding is to minimize the obsolescence rate. We must see that the large group of last generation 'Open' class gliders (Cirrus, SHK, etc.) which are now available for much less than the cost of a new or even second-hand Standard Class glider, do not get pushed into competitive oblivion. Handicapping could help, but this has been firmly rejected in the past. Completely separate status for the Standard Class will have a bad effect.

A RESPONSE FROM THE SAC SPORTING COMMITTEE

3. Regional contests are sanctioned by SAC every other year and these have been held east and west in 1974. Sanctions for local contests would be meaningless; this would simply introduce restrictions which would deter clubs from hosting informal contests.

4. In 1972, the Chairman of this Committee proposed recognizing a Standard Class champion and promised to donate a trophy. The motion carried and in 1972, Hal Werneburg was awarded the Mix Trophy (made and donated by Chris Firth). In 1973, Hal was third in the Nationals, and again won the Mix Trophy. Under the new rules (see 6.), the top three Standard Class pilots were on the seeding list and Hal was placed fifth by vote. In earlier years, Wolf Mix, by consistently good placings in a Standard Class ship, (Austria SH) was seeded second for 1970, and following a fourth place in the World Contest, was seeded top for 1972. Is this lack of recognition?

5. Both Eastern and Western Regionals and the 1973 Nationals have included a Sports Class with handicapping. Entries were few.

Thus you see that requests 1. to 5. are already satisfied.

6. Requires more discussion; I should point out that the Sporting Committee have no jurisdiction in this matter. However there does appear to be other widespread misconceptions about the team selection process.

In 1972, Dave Marsden appointed a committee, headed by C. Yeates, to examine the rules governing team selection. T. Beasley, many times past team captain, circulated a questionnaire to a dozen top pilots. Based on the results, C. Yeates came up with a set of recommendations which were adopted at the 1973 AGM. Among the notable results of the poll was the 9:1

support for the voting system for the team selection, and the rejection of handicapping, plus agreement that the team selection is the concern of contest pilots and not of the membership at large. Hence it was agreed that the rules could only be changed with majority approval of those on the current seeding list.

The principal rules adopted in 1973 are:-

- a. Selection is from a seeding list, by vote among those on the list.
- b. Eligibility - the first five pilots of the last two Canadian Nationals, plus the top three Standard Class pilots.
- c. Minimum list - ten names; if the above does not yield ten names, then the top 20% of the Eastern and Western Regionals are included.
- d. Each pilot then votes for order of merit, excluding himself.

The top four pilots normally constitute the team.

There seems to be confusion over the separate functions of the National Contest, and the method of choosing the team. The latter is explained above. The primary purpose of the Nationals is to determine the current National Soaring Champion, and since 1972, the Standard Class Champion. The contest also enables pilots to compare their ability with others including the Team pilots. There is a suggestion that Open and Standard classes should have separate contests, on the grounds that the standard class are facing unfair competition from Open Class ships, and perhaps that such pilots are gaining an unfair advantage for team selection. This is not so; let me explain.

1. In order to have reasonable statistics for applying the scoring rules, one needs at least ten entries. If the classes were separated, one would not be assured of ten entries.
2. Very few ships in the country are significantly better than the new Standard Class. We have a motley collection of ships entering contests, and experienced pilots will agree

that the following ships are very close in performance:- Phoebus 15,17,Austria SH, SHK, HP 11, 14, RS 15, Libelle Std. and 301, Cirrus and Std. Cirrus, Diamant 16 and LS 1. One can arrive at a pretty good idea of a pilot's ability among those flying together in these types. Certainly there are performance differences, but no more so than between good and bad examples of the same type, and vastly less than the spectrum of pilot ability in a National contest. Witness the results of the 1972 US 'Open' contest, won by Libelles (Soaring Nov. 1972) and the placings in this year's Eastern and Western Regionals.'

If one separates out the Standard Class then pilots of eight types above, are left in limbo. Since these types now undoubtedly represent the best value in performance, such a move will in fact further escalate the cost of competing. Furthermore, if the top pilots are seen to be concentrated in one class, competing for two team places, the affluent minority may simply go and buy the best ship in the other class, and might even arrive at the contest with two ships and make the decision on the spot. Another anomaly suggests itself; if the top pilot in the class is automatically on the team, he could have arrived at that position by sheer luck. One lucky break on a distance day can do this. In a four day contest this could give him a commanding lead. Thus a pilot could gain a team place largely as a result of one day's flying.

For these reasons and others, we must retain combined tasks and scores; the Standard Class will, of course, also be scored separately. It is extremely important, if we are to avoid precipitous and ill considered decisions, which influence expensive matters like purchase of new gliders, that we follow CIVV (FAI) practice of allowing sufficient lead time, after changes in the rules. This is considered to be four years for glider design; we suggest that it should be two years for the purchase of a new glider.

It seems highly improbable that any

changes in the form and purpose of the National competition will materially affect the entry. To do this, interest and exposure must be increased at the club level. Perhaps the writers themselves will do their bit to spark competitive interest in their own clubs.

We hope that this has explained most of the procedures, and the reasons for them, and that we do in fact have an equitable and well considered competitive structure.

* * * * *

SOARING ASSOCIATION OF CANADA

WORLD CHAMPIONSHIPS PILOT SELECTION PROCEDURE

1. Pilots will be selected from a seeding list.
2. Only pilots who are Canadian citizens and members of the Soaring Association of Canada can be eligible for inclusion on the seeding list.
3. The Seeding List will consist of the pilots who attained the first five places in the last two Canadian National contests, plus the pilots of the three highest placing Standard Class sailplanes in the same contests.
4. If the Seeding List prepared in accordance with paragraph 3 above does not include at least ten names, the list will be extended step by step as follows until the ten names are listed:
 - 4.1 Extend paragraph 3 to read the first six places and the first four places respectively.
 - 4.2 Add pilots who flew for Canada in the immediately preceding World Championships.
 - 4.3 Add the top 10% pilots from each of the immediately preceding Eastern and Western Regional contests.
5. Pilots who apply to or are recommended to the President of the S.A.C. may be included on the Seeding List, subject to majority agreement of pilots already on the list.
6. The S.A.C. Directors will appoint a team organizer at least twelve months before the World Championships.
7. The organizer will compile the Seeding List ten months before the World Championships and ask each pilot on it to fill out and submit a personal flying experience form.
8. The organizer will summarize the individual pilot information on a data sheet and send a copy of it to all pilots along with a preferential rating form.
9. Seeding List pilots will place all names except their own in the order they prefer, from highest to lowest, on the form provided and return it to the organizer.
10. The organizer will summarize the individual submissions to establish an overall preference or rating list and submit all data to the S.A.C. President.
11. Generally the top four pilots on the overall rating list will be named as the team for the next World Gliding Championships. However, it must be clearly understood that final approval of a team is the responsibility of the S.A.C. Directors. They may review and question any data submitted.
12. Pilots invited to join the team will have three months within which to make a definite commitment to go. This is to give them sufficient time to make equipment arrangements and, failing this, to give an alternate pilot a reasonable chance to prepare.
13. The above procedures can only be changed after written submissions have been agreed to by the S.A.C. Directors and ratified by the general membership at the next following AGM. The intent of this condition is to provide a formal route for making changes that will make it unnecessary to have lengthy discussion during our 1 day AGM.



SOARING ASSOCIATION OF CANADA
L'ASSOCIATION CANADIENNE de VOL A VOILE
Box 1173, Station B, Ottawa, Ontario K1P 5A0

To: Directors,
Editor, Free Flight

Subject: World Gliding Championships Pilot Selection

I am sorry to see that this hardy perennial is still with us, although pleased that there appears to be an increasing interest in competitive flying.

Most of the correspondence on this subject has been copied to me and it seems very obvious that many members are not aware of the present World Contest Pilot Selection Procedure.

It appears to be necessary to ask the question, "What are we looking for?" Some appear to believe that we are sending pilots in order to let them gain experience by flying against the world's best; some appear to believe that it is a reward for once winning the Canadian Nationals; and apparently there are some who still believe we must have equal Western and Eastern representation. There may be other ideas too, but to me there is only one valid one, we are trying to find the pilots with the maximum chance of winning the World Championships for Canada. There can be no justification for soliciting funds from either the public or the private sector unless we intend to send our best. (It is also doubtful whether we would be allocated public funds if we were not planning to send our best pilots.)

I note that some inputs to the discussion are sent on behalf of clubs. Where this claim is made I believe that the writer should clearly state "at a duly convened general meeting of the club (or of the directors)" so that readers know whether the statements have truly been submitted on behalf of a specific group or are the results of a small ad hoc discussion by a few members of a group. There really is a great deal of difference. It is also noted that some contributors to the discussion have quoted as facts vague mention of procedures used in other countries without providing substantiation. Such statements must be viewed with suspicion as they are so often based on hearsay.

...2

- 2 -

In my opinion the present seeding procedure is basically sound; the pilots are selected by their peers. Other countries have tried various other methods but most agree that formulae do not work and can even have disastrous results. For the record the SAC seeding results for the last five World Championships are shown in the Table. The class, final placing, and aircraft type flown are also shown. Does anyone believe that in any case we did not enter our best available pilots in the class where they would achieve the best result for Canada with the equipment available to them?

To suggest that the Standard Class entrants should only be pilots who normally fly Standard at home indicates a lack of complete analysis of the situation. The immediate corollary is that the Open Class entrants will be pilots who normally fly Open at home. With the increasing costs of top Open ships, as pointed out in John Firth's letter, the number of top class Open ships being flown by top class competitive pilots is rapidly diminishing. Does anyone really want us to send the two top placing Open pilots when everyone knows that they are not as good as those who ranked third and fourth in Standard? I am sure that this is no-one's intention and I submit that our well tried selection procedure puts the selection where it belongs - in the hands of the top pilots who are best able to assess each other.

One point in John's letter I would like to correct. It was not agreed that the seeding rules could only be changed after receiving the majority approval of those on the current seeding list. (See Rule # 13) I personally believe that this long time practice should have remained as a rule. I therefore suggest that we follow the practice and we should establish that:-

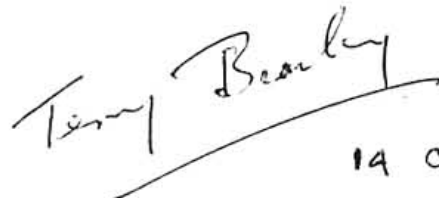
- i) Proposals for changes to the rules cannot be introduced at a meeting of the Association unless they have been submitted to the current seeding committee through the Directors. Any such proposals for change will not be accepted unless they provide complete details of the proposed seeding procedure and clearly identify the procedure they are intended to replace. A rationale explaining the reasons for the proposed changes must also be supplied.
- ii) The rules cannot be changed without a majority of assenting responses from those on the current seeding list (provided that they are SAC members).

- 3 -

- iii) After a proposed rule change has been submitted to the current seeding list members it shall be voted on by the Member Clubs of the Association, using the weighted voting procedure.
- iv) Any changes in the seeding procedure will not become effective until after the World Championships following the next Annual General Meeting of the Association (Except where it may become necessary to change the rules due to an FAI change in Rules).

May I quote the British Team Manager? (Sailplane & Gliding, April/May 1974, page 81). "The important thing now is to start thinking about 1976 straightaway. To my mind the procedure we adopt to select a team which usually causes so much controversy is of far less importance than doing all we can to ensure that our best pilots have every incentive to fly competitively against top class opposition for as long as possible prior to World events. Only if we do this shall we be able to maintain, let alone improve, our standing in World Championships." Amen to that.

One might add that thorough and early pre-contest planning and fund raising would do a great deal to improve our team's chances. If some of those who are so keen to devise new schemes to alter the selection procedure would devote some effort towards helping any team we would improve our chances.



14 Oct 1974

T.R. Beasley,
President.

Attachment: Table

Table 1SAC WORLD CHAMPIONSHIPS SEEDING RESULTS

PLACE	YEAR				
	1965	1968 *2	1970	1972	1974
1	WB-0-28-D	YS-0-9-C	YS *1	=(MX-S-39-SC	WB-S-18-SL
2	YS-0-9-S	WB-0-13-B	WB-0-28-K17	=(WB-S-10-SC	FH-S-38-SL
3	MX *1	MX-S-41-F	FH-0-30-HP	=(FH-0-25-K19	MI-0-23-K19
4	GY *1	FH	MX-S-4-SC	(YS *1	CR-0-21-C*3
5	MT-S-40-04	DT	DT-S-40-SL	MI-0-26-AS	WG
6	AS	HN	CK	MN	MN
7	AE	LD) =	TE	CK	HA
8	GD	SN)	MI	DT	NY

LEGEND

(In order of listing above)

PILOTS

WB	Webb	LD	Lockhard
YS	Yeates	SN	Stoten
MX	Mix	CK	Cook
GY	Gray	TE	Trounce
MT	Mortensen	MI	Mamini
AS	Ames	MN	Marsden
AE	Audette	CR	Carpenter
GD	Grady	WG	Werneberg
FH	Firth	HA	Hea
DT	Deleurant	NY	Nagy
HN	Henderson		

GLIDERS

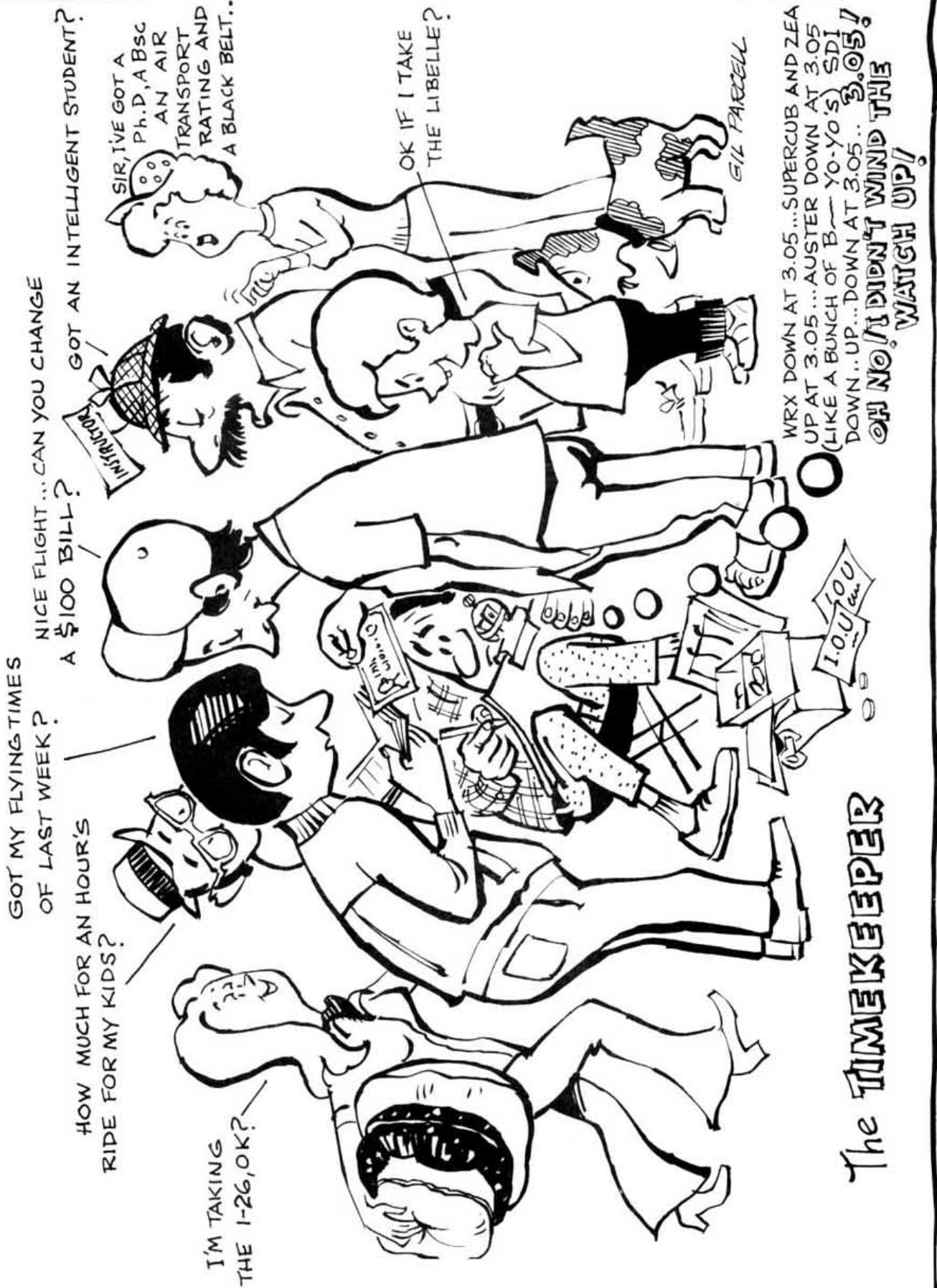
D	DART 17
S	SKYLARK 4
04	OLYMPIA 460
C	17 m CIRRUS
B	BS-1
F	FOKA 4
K17	17 m KESTREL
HP	HP 11
SC	STD CIRRUS
SL	STD LIBELLE
K19	19 m KESTREL
AS	ASW-12

CLASS & POSITION CODE

E.g. WB-0-28-D MX-S-4-SC

└─ Dart	└─ STD CIRRUS
└─ 28th Place	└─ 4th Place
└─ Open Class	└─ STD. Class
└─ Webb	└─ Mix

- NOTES: *1 Seeded pilot unable to enter contest.
- *2 SAC decided to send only 3 pilots.
- *3 It had been decided to enter only 3 pilots as a fourth glider had not been arranged. However, an Open Cirrus was made available when we got to Australia so we were able to enter 4 pilots.



The TIMEKEEPER

ANOXIA II

THIS IS THE SECOND ARTICLE ON THE SUBJECT OF ANOXIA BY DON CLARKE WHO IS PROFESSOR OF PHYSIOLOGY AT THE UNIVERSITY OF TORONTO.

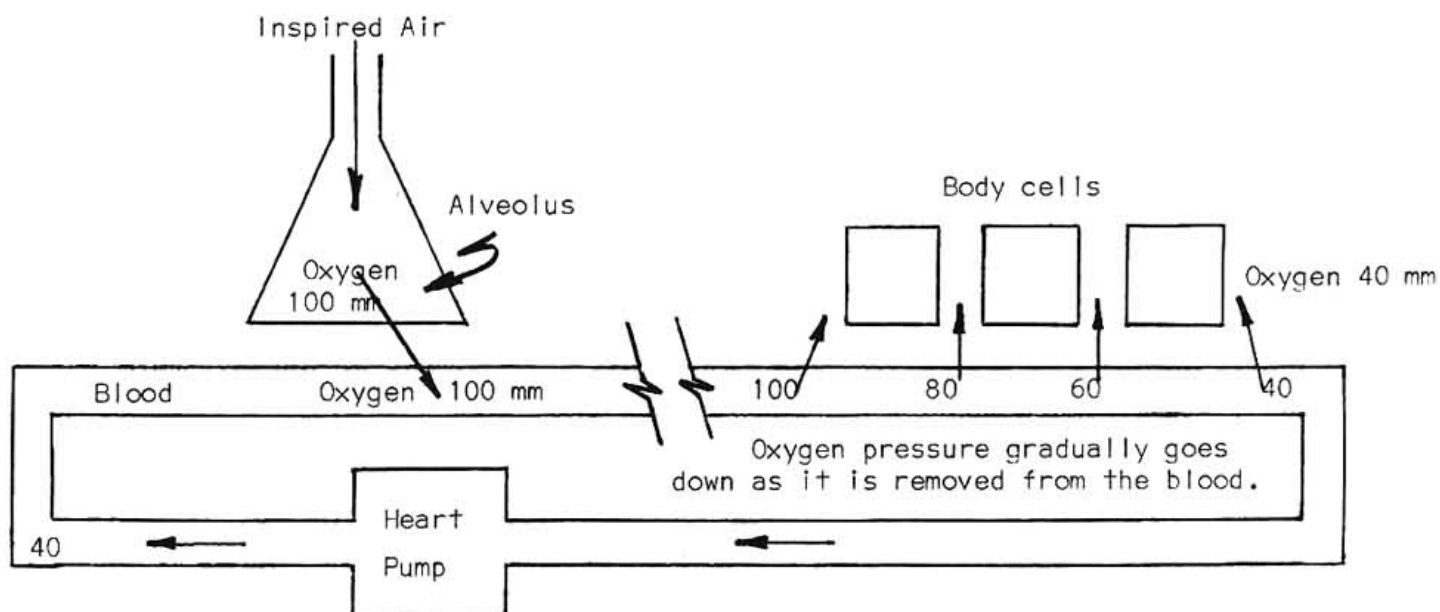
THE FIRST PART OF ANOXIA APPEARED IN THE JULY/AUGUST 1974 ISSUE OF FREE FLIGHT.

The previous article in this series had indicated that the first phase of respiration was to get oxygen into the alveoli, or little sacs, of the lung, ideally at a partial pressure of 100 mm of mercury. The next phase in the act of respiration is to get this oxygen to the cells of the body, and this is one of the functions of the blood.

The alveolar sacs are so constructed that normally the blood in the vessels is separated from the air by a very thin membrane, and thus oxygen can diffuse rapidly from the alveoli into the blood. Now a gas in solution in a liquid may be shown to have a partial pressure, just as if it were in a mixture of gases. This partial pressure may be looked upon as a measure of the tendency of the gas molecules to escape from the liquid. The oxygen in the alveoli diffuses into the blood arriving at the alveoli until

a near-equilibrium condition is reached i.e. the partial pressure of the oxygen in the blood leaving the lungs is about the same as that in the gas in the alveoli, or about 95 - 100 mm. As the blood circulates to the tissues which lack oxygen, the gas diffuses from the blood to the tissues, for they have a low partial pressure of oxygen in their vicinity. Thus in effect the oxygen moves from a region of high (partial) pressure (the blood) to a region of low (partial) pressure (the tissues), just as any gas goes from a high pressure region to a low pressure region.

A common example of the movement of a gas from a region of high pressure in a liquid to a region of lower pressure in a gas is seen when we open a bottle of a soft drink or beer. The carbon dioxide has a high partial pressure in the liquid, and as long as the bottle is capped, it has the same high pressure



in the gas space above the liquid. But when we open the bottle, the gas pressure in the space above the liquid drops to atmospheric, and there is now a tendency of the dissolved gases to escape from the liquid. We see this as bubbles of gas. Somewhat the same thing occurs in the tissues, insofar as the movement of oxygen molecules from the blood to the cells are concerned, except of course that the movement takes place entirely in a liquid medium, and there are no bubbles. But the idea of the movement of the molecules of the gas under some sort of pressure difference is the same in both cases. The gas moves from a region of high pressure to a region of lower pressure, and the tissues are regions of low oxygen pressure because they are using up the oxygen molecules, and thus reducing their concentration, or pressure.

However the movement of oxygen in and out of the blood is not a simple process of solution and escape of a gas. The presence of a red pigment, hemoglobin, in the red cells of the blood radically alters the oxygen carrying properties of the watery solution that is blood plasma. These small round cells with a thinned out part in the centre - kind of like a doughnut without a hole - exist only to carry hemoglobin and not allow it to escape into the blood stream. Hemoglobin combines very avidly with oxygen and is absolutely necessary in order that all of the oxygen which we need can be carried in the blood. We may show the extent of this combination or binding by a curve in which the extent of binding is plotted against the partial pressure of oxygen to which the cell is exposed. (See Graph) Obviously, the higher the partial pressure of oxygen, the greater the binding. With zero partial pressure, or no oxygen, there is no binding. Notice though that there is a

saturation - above a partial pressure of 100 mm of oxygen, there is a little additional binding of oxygen - for the hemoglobin is carrying just about all of the oxygen it can. As the partial pressure in the alveoli falls, the amount of oxygen which is carried by the hemoglobin also falls, but note that the reduction in carrying capacity is not proportional to the drop in oxygen partial pressure. At first, as the pressure is reduced, there is very little reduction in the carriage of oxygen, but then there is a rather abrupt drop. Translating this curve into terms which are of more immediate interest to us, we can say that at an altitude of about 10000', the hemoglobin is still about 95% saturated. Not too bad. At 20000' it can still carry about 80% of its normal capacity, but the curve is now shifting rapidly, for at 25000' the blood will only be carrying about 2/3 of its capacity. At 30000', the blood is only operating at about 50% of "full scale".

If we consider this binding curve only, it does seem as if we should be able to go to fairly high altitudes - e.g. 20000' without too many problems, for there would appear to be sufficient oxygen reserve in the hemoglobin to allow for our needs. In fact this is not so, for the partial pressure of oxygen rapidly decreases with altitude, and this reduction means that normal metabolic reactions cannot occur. Other changes, especially in the circulation, tend to increase the magnitude of the oxygen deficit. The brain is especially sensitive to these changes, and it is here that most of the trouble in anoxia occurs.

If we go to 10000' - 15000', compensating changes occur in respiration and circulation, so in most individuals little effect is noted. However, in the range from 15000' - 20000', compensatory reactions begin to be inadequate, and there is generally a de-

gradation of mental processes and loss of critical judgement, muscular control and finally of consciousness.

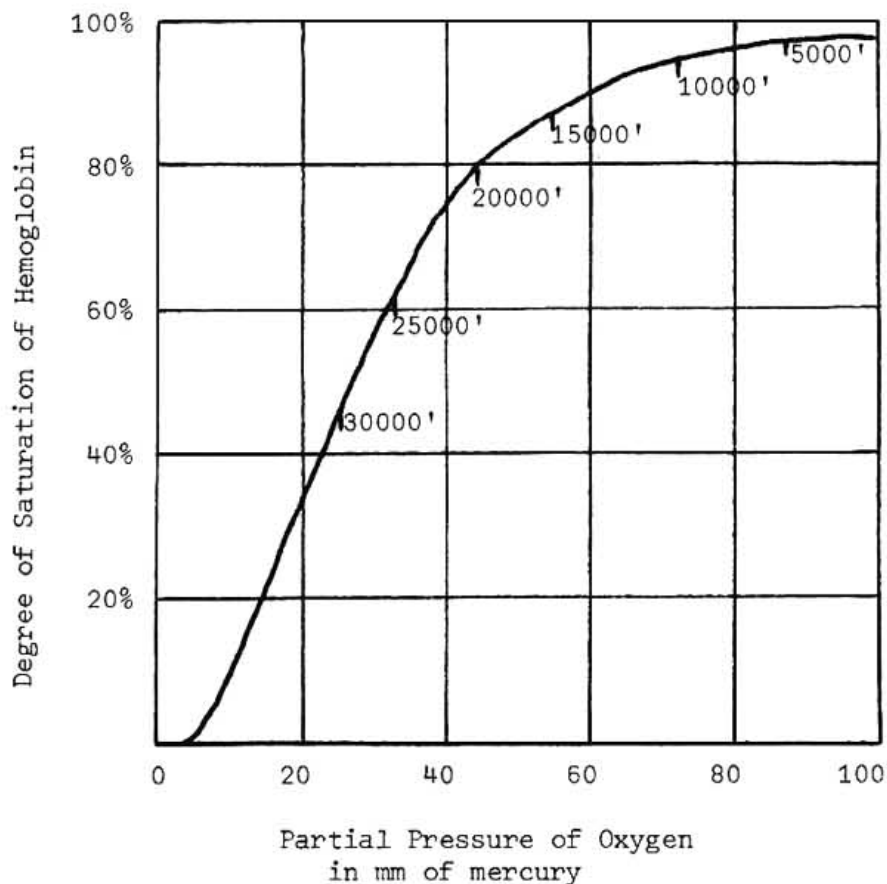
Note again that deep breathing will not markedly alter the partial pressure of oxygen in the lungs, so it does little to alleviate the anoxia at altitude. (I am disregarding some small compensatory changes which do take place.) The only way to carry more oxygen is to inhale oxygen at a higher partial pressure - ie. from a suitable system.

The main points I would like to make in this article are:

1. Oxygen is carried from the lungs to the body cells in combination with hemoglobin.
2. By virtue of the peculiar properties of this combination, we can carry sufficient oxygen to the tissues up to a certain altitude. After that, changes take place rapidly. Be warned!

3. Deep breathing of atmospheric air at high altitudes will not help, and may do harm through hyperventilation.

To round out the story, it perhaps should be noted that the effect of carbon monoxide - found in cigarette smoke as well as in engine exhaust - is to reduce the oxygen carrying capacity of the hemoglobin. It is a very powerful poison in this respect. Further, though the blood may carry adequate oxygen to the cells, there is no guarantee that the cells can use it. Some agents, notably cyanide, interfere with the ability of the tissues to use the oxygen transported to them, and anoxia ensues just as certainly as if oxygen had been cut off if tissues are exposed to even small quantities of this poison.



CLUB NEWS

There are 47 clubs listed in the S.A.C. List of Member Clubs on the inside back cover and so far this year we have only heard from 18 of them. We wonder what's going on with the Air Cadets; are they still gliding at Lahr; what's happening in Nova Scotia, New Brunswick, in Sherbrooke and North Bay and at the Lakehead. And how about Regina and Red Deer, Whitehorse and Kamloops. LET US HEAR FROM YOU!!!

Equipment changes this year at London Soaring Society include the purchase of a Skylark III, CF-ZCW by Ed Asche, Dave Little and Joe Thompson. This was followed by a Diamant 16.5, C-GORG (our first glass ship) owned by Ed Hollestelle; both nice additions to our growing fleet. The L-Spatz departed to the Chatham area; a little nostalgia being in order as this was our first single seater.

The Skylark II got back into operation in mid-August; the re-finished wings have drastically improved the handling at low speeds and everyone finds it a delight to fly.

Congratulations to John Gillespie, Chris Eaves and Ian Spence on their solos; and these three plus Fred Lukianow on earning their "C" badges. Incidentally, Chris, who is 17 years old, is already an experienced tow pilot who has taken up gliding and also flies a Pitts Special built by he and his father!

Mike Frijters and Kurt Hertwig have set a new standard for the club by earning their Diamond Goal on the 20th and 21st of July. Mike in his Austria and Kurt in his 1-23. Both did the Embro-Clifford-Hagersville triangle. This was a weekend on which we observed several SOSA aircraft passing by as well as one of their Silver C distance attempts culminating at our field; it's nice to have visitors drop in!

Wave in S. W. Ontario? Yes, indeed, it was weak but unmistakable. An inversion at 2000' and S.W. winds of about 40 knots at 3000' were the

conditions on Saturday, October 5th. Training flights were halted because of extreme turbulence, but a 3000' tow in the 1-23 to check out instrument modifications resulted in the wave discovery. In short order the Skylark II & III and Diamant were airborne to check this phenomenon (for us) out. Very interesting; especially being able to fly backwards! We'll be watching those windy days much more closely in future.

Joe Thompson,
LONDON SOARING SOCIETY.

Keith Duckham was killed in a tragic accident at Hope Airport on August 24th. Keith was a member of the Vancouver Soaring Association since 1969 and had served as club treasurer for several years as well as being on the Board of Directors. At the beginning of 1974, following a winter of preparation and trailer building with his partners, Keith finally achieved the joy of soaring in his own Standard Cirrus. It was in this aircraft on winch tow that the fatal accident occurred.

The Labour Day weekend was a good one for cross country out of Hope. On Saturday, after a high tow to get over an inversion, Joe Robertson made his way up the Fraser Canyon past Boston Bar and Lytton, landing at Ashcroft - a flight of 92 miles.

On Sunday, Rudy Aleman in his Libelle 301 headed east to Princeton, then wended his way to Oliver and down the Okanagan Valley to eventually land in

CLUB NEWS

Wenatchee, Eastern Washington. This was the longest glider flight out of Hope to date; a straight line gives him 142 miles but considering the terrain and somewhat circuitous route, a much longer flight was actually made.

Monday was another cross-country day and Bernie Brayshaw is to be congratulated on a successful flight across the mountains via Princeton to Penticton for some 86 miles. This is the second time a flight to Penticton from Hope has been made, the first being that made by Joe Robertson also in a Ka 6 in 1966.

from VANCOUVER SOARING SCENE

On Saturday, August 3rd, in spite of solid overcast; Dave Tustin organized his HP-14T and declared Watertown, South (yes South) Dakota as his goal (576 km). At 12:45 he took off into a now clear sky and eventually got up in weak lift sufficient to go. The strong wind made the thermals ragged so progress to Pembina was slow.

Around 15:30 Dave decided the deteriorating conditions just weren't good enough to press on; so he radioed Grand Forks tower and landed in front of it on the grass for 235 km.

Other notable flights on the August long weekend were:

Russ Flint	228 km.
Frits Stevens	Silver altitude
	& 5 hrs. 17 min.
Chris Pederson	Silver altitude
	& 5 hrs. 30 min.

Also Ian Oldaker, Tony Sawatzky, Fred Sharp and Glen Buhr all completed a 119 km triangle.

from SOCK TALK
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"D U S T E R"

AN INTERNATIONAL ONE-DESIGN CLASS

by JAMES H. MAUPIN

FOR THE OTHER 95%

Jim Maupin learned to fly on primaries in North Texas as a high school student in the 1930's. He soared the western spurs of the Himalayas as a DC-3 "Hump" pilot during World War II, and flew Grunau Babies in Java while a civilian technical advisor to the Indonesian Air Force. At present he is a history teacher in Los Angeles, and co-owner, with Norman F. Barnhart of D.S.K. Aviation.

While the debates rage all over the world about Standard Class sailplane rules, and the frontier continues to be pushed forward by expensive technology in construction and instrumentation in our sport, perhaps a quieter thing is starting at the other end of the cost spectrum. In the United States, at least, only 5% of soaring pilots appear to be seriously interested in competition; the other 95% in other aspects of soaring.

The "DUSTER" BJ 1B, is designed specifically for the other end, i.e. for the home builder. Simple, easy to build, compact and light, it is making inroads around the world.

Since its introduction by the international design team of H. Einar Thor of California, and Bengt Jansson of Sweden, the number of DUSTERS being built around the world has steadily grown. There are DUSTERS building in France, South Africa, Canada, Germany, Australia and New Zealand. Some 200 sets of plans have been sent out world-wide, and the DUSTERS are coming out of "factories" in garages, barns, basements and at least one out of an apartment in New York City.

D. S. K. Aviation, (formerly Duster

Sailplane Kits) has shipped complete woodworkers kits, partial kits and components all over the world. An interesting fact is that the ocean freight on a DUSTER kit from the Los Angeles area to Australia, for instance, is cheaper than land transportation to Chicago.

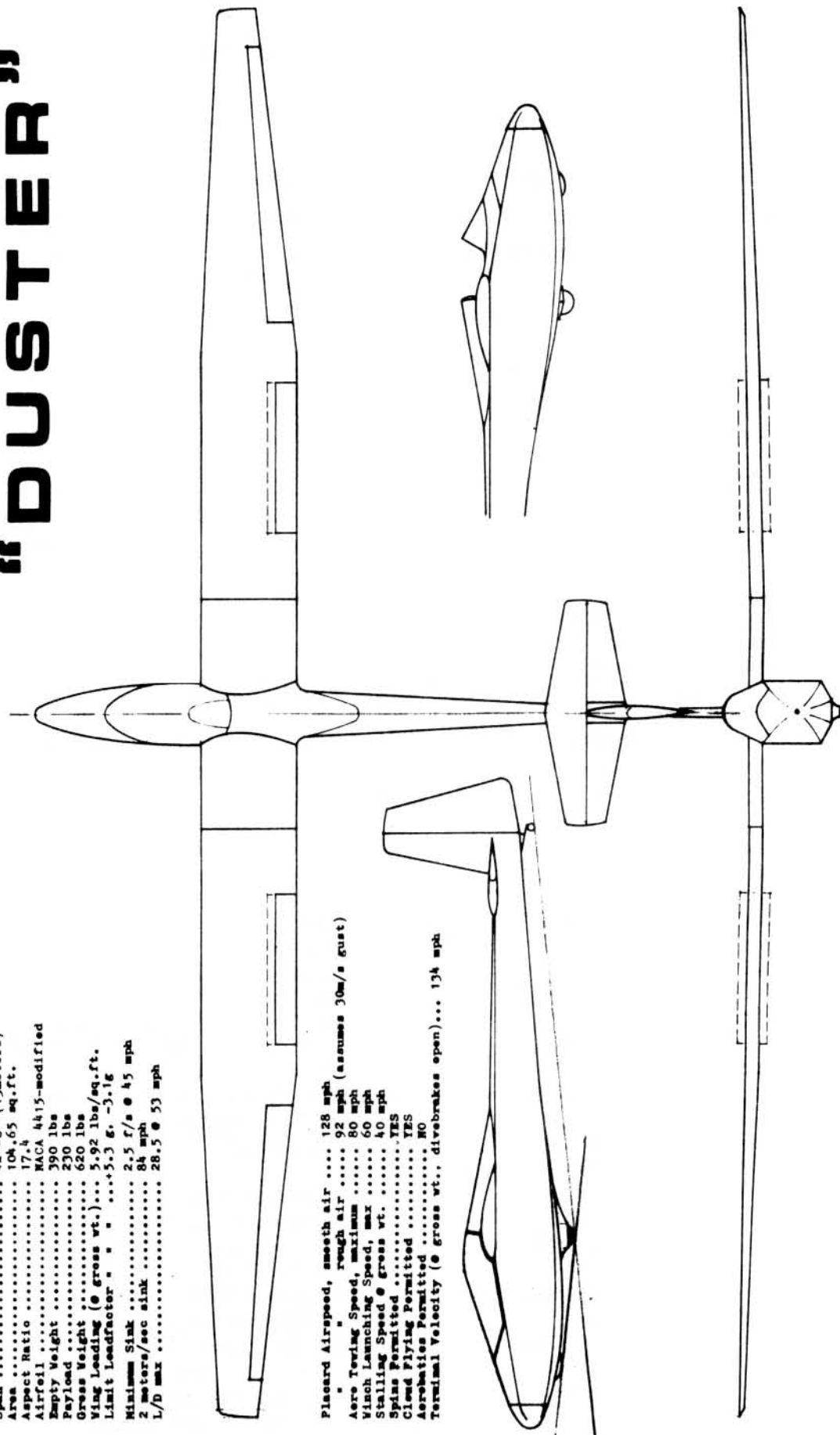
The reasons for the acceptance of the DUSTER are not hard to find. First, both Ben and Hank are long-time soaring enthusiasts, and both are aeronautical engineers. Ben's specialty is aerodynamics, and Hank ran all the stress analyses. The DUSTER meets OSTIV requirements for both aero tow and ground launch. Competent observers have expressed unqualified approval of the detail and completeness of the drawings. They come with a 40 page booklet on how to build the DUSTER.

Second, kits are available from a complete "Woodworkers" kit down to just the set of wing-attach hardware.

Third, construction is easy and simple. With the three-piece wing it can be built in a minimum space. John Sinclair built his in a room 8' x 20'. The only power tools necessary with the woodworkers kit are a 3/8" electric drill, a disc sander, and a sabre saw. The whole sailplane is built on a simple table made from a plank 2" x 12" x 18' long.

Span	421-8" (13meters)
Area	104.65 sq.ft.
Aspect Ratio	17.4
Airfoil	NACA 4415-modified
Empty Weight	390 lbs
Payload	230 lbs
Gross Weight	620 lbs
Ving Loading (@ gross wt.)...	5.92 lbs/sq.ft.
Lifting Leadfactor " "	+5.3 g. -3.1g
Minimum Sink	2.5 f/s @ 45 mph
2 meters/sec sink	84 mph
L/D max	28.5 @ 53 mph

"BEST" "DO"



Placeard Airspeed, smooth air	128 mph
" " rough air	92 mph (assumes 30m/s gust)
Aire Towing Speed, maximum	80 mph
Winch Launching Speed, max	60 mph
Stalling Speed @ gross wt.	40 mph
Spins Permitted	YES
Climb Flying Permitted	YES
Aerobatics Permitted	NO
Normal Velocity (@ gross wt., dives brakes open) ...	134 mph

CALIFORNIA SAILPLANES BOX 679 HUNTINGTON BEACH CALIF. 92648

Finally, the DUSTER is easy and fun to fly. As Ben Jannsen told me one day at El Mirage, the summer he captained the Swedish team at Marfa, "If you are willing to turn away from absolute maximum L over D, you can put a lot of fun things into a little sailplane!" Big control surfaces give beautiful response, like a roll rate of $2\frac{1}{2}$ seconds. You can slip the ship radically right down to the ground under full control.

It is a fine first solo sailplane, yet Walt Mooney, flying the second prototype at the Region 12 Championships at El Mirage, finished number 22 out of 34 sailplanes. He flew the only 13 meter sailplane and finished ahead of the twelve aluminum and glass machines, all 15 meter and up.

Let's encourage the top competitors, contribute to our world teams, crew for them, and applaud the progress on the frontier, (at whatever cost?) - but perhaps also we can build up something the other 95% of the soaring pilots can enjoy.

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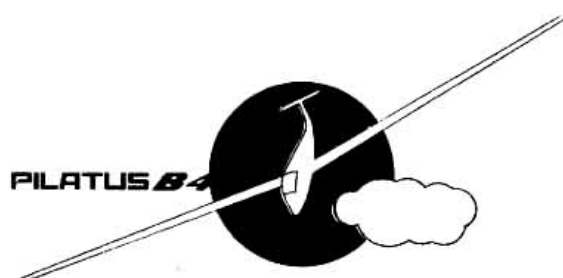
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Flying the Tern

at Claresholm

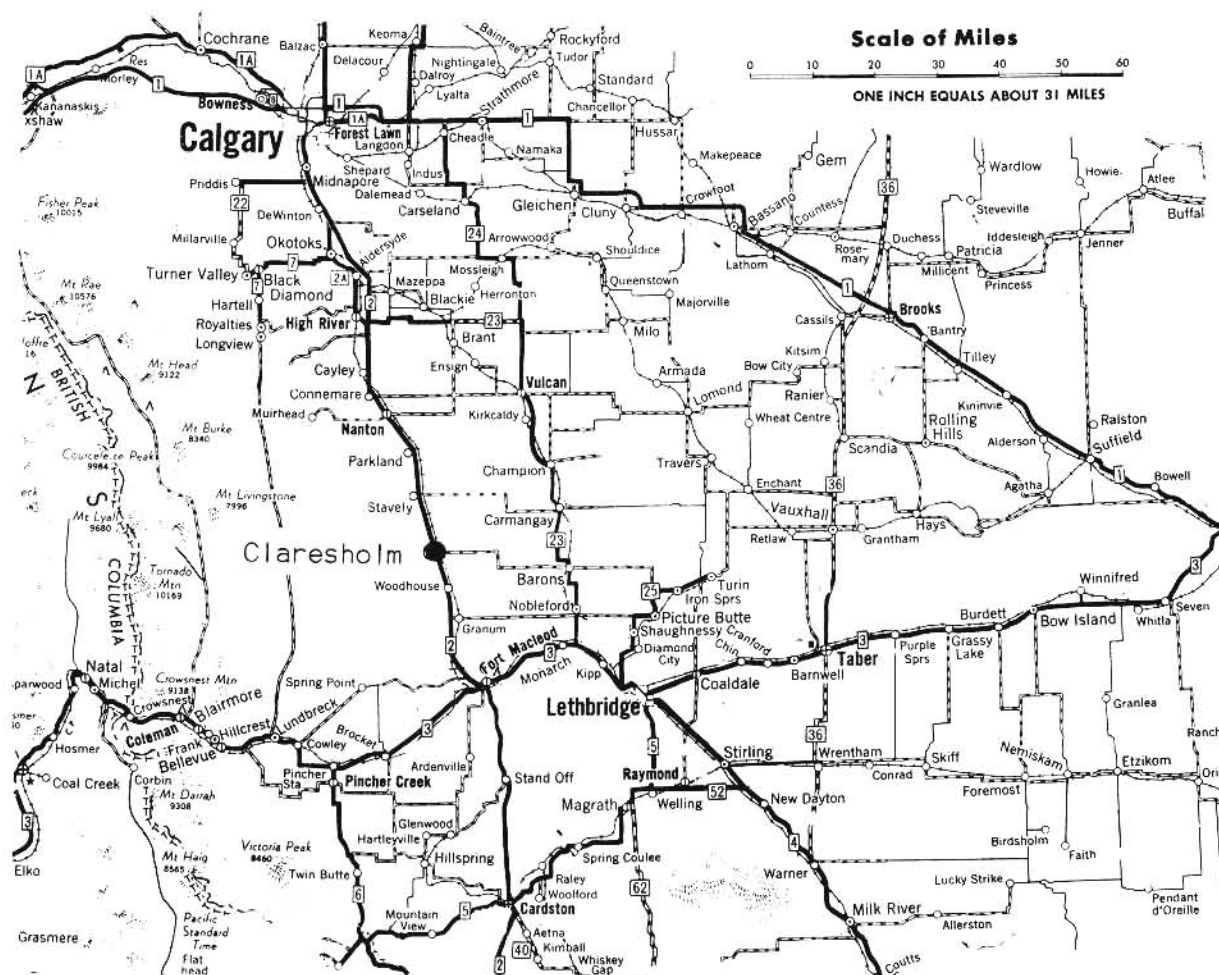
by IAN OLDAKER

The wind was a very strong westerly for several days after we arrived and Saturday 29 June was no exception. This was the practice day for the 1974 Western Canadian Regionals and proved very useful as the first contest day became even more windy.

Sunday dawned clear and cool, promising good flying. A modest task of 107 km was set for the eleven Sports Class entrants who were flying three BG-12s, two Bergfalques, an L-Spatz, 1-23, Ka-8, Zugvogel, a TG-1 and my Tern. At take-off the wind was 10-15 knots and the thermals were ragged but I quickly reached 7000 ft. (Heights are MSL, ground level 3300 ft., speeds all in knots.) I

elected to go for the start gate and was off towards the first turnpoint of the triangular course. Lift was 4 - 5 knots which meant cruising at 60 - 70. Halfway to the turnpoint I was caught between several lakes and low, however some weaker lift eventually gave 8 and then 10 knots.

Have you ever sat, not moving a muscle, going up for minutes on end? Beautiful!.... and quickly 11000 ft. was on the clock. (I suppose wave is even more exhilarating, but then I only fly thermals in Manitoba.) I hung on as I was going with the wind and wanted to get as high as possible before the second leg - now into an



estimated 20 - 25 knot wind. However the sink now had fun as at 6 - 8 knots and doing over 80, I lost 7000 ft. in 12 miles! I tried moving sideways, thinking I was in a sink street, but this didn't help, but at 4200 ft. I latched on to zero sink. It was very rough and at every circle I lost a quarter section and sank lower still. I tried moving towards a field in full sunshine and this paid off with, eventually 10 knots again and a climb to 8000 ft. When this began to ease off I left and climbed ahead to the second turnpoint. The last 20 miles across wind to Claresholm was a mad dash at 80 - 100. I was timed at 72 km/h. I remember laughing down the final leg as the Tern rode out the rough air very well - those solid wooden spars take much of the shock. My speed gave me first for the day. It might have been higher but for that low point.

The next day I guess the wind stopped and we had overcast - no contest.

July 2nd produced early Cu with bases at about 5500 - 6000 ft. and a light wind. It was interesting to see the effect of the Pocupine Hills about 5 - 10 miles west of the airfield. The hills (or was it in the valley between them and the Rockies?) were a constant source of Cu whereas the flat prairie-like area where we flew seemed to produce smaller and less cumulus. By the time I took off a huge cloud was creating a vast shadow which already covered the airfield and was beginning to encroach on the course. The task was an out and return to Blackie 67 km to the north. I released at the 2000 ft. AGL height and immediately aimed out of the shadow; I hit first lift at about 4000 ft. In about 15 minutes I had gained 300 feet but from then on things improved, if 2 knots lift can be called better! Progress was slow to begin with, and even though another monumental Cu was approaching from the west and threatened to put its shadow over the course, I felt I couldn't go faster to try and beat it.

I reached Blackie, the turnpoint, at about 5000 ft. in strong sun, but no lift. Unknown to me they had had a downpour the previous day. I searched vainly for lift but had to be content with a landing in a mud field for an average speed of 38 km/h. I asked my wife Yvonne to bring a tow rope to pull the Tern out of the field; luckily the farmyard was within range and reasonably dry. Half an hour after she arrived we had the plane in the trailer and were on our way back.

The day was no contest for the Sports Class as only two others headed out, the Ka-8 and Zugvogel, but as neither had gone the minimum distance of 50 km, it was not scored. One wonders if that rule might not be changed for this class as a shorter qualifying distance might encourage more pilots to go - and "that's what it's all about" as they say.

July 3rd was much like the 2nd for lift, with rain from the previous two days really affecting the course to the north and east. Down south it looked finer but alas we weren't sent there. Task was a 126 km triangle, NE to Champion then due south to Nobleford with the final leg almost due west to Claresholm. Wave was predicted, and though I reached 7000 several times, couldn't get up there. Lots of lenticulars out on course (I think I counted 13 lines of them after landing!) but I thermalled Manitoba style, frustrated! Ground winds picked up out on course making the thermals very ragged and requiring full aileron control quite often. As the Nobleford to Claresholm leg was into wind I figured I had to make as much distance into it without thermalling as I lost more than I gained when I tried. I landed in what must have been a 30, gusting to 40 mph wind. The 90 km I covered in 2½ hours was good only for third place, Don Bentley in the Zugvogel went 112 km and Lloyd Bungey (Ka-8) made ½ km more than me for second place.

We next flew on 6 July when the task was the same 126 km triangle back-wards, ie. to the east first, then north to Champion and finally S. W. back to Claresholm. The Porcupines (they are really beautiful, we had visited them the previous day en masse for a barbeque, don't know why I stick Manitoba with scenery like that) were again breeding Cu early in the day, and so much so that they produced an easterly wind at the field even though the general airflow was westerly.

Only one area had useful lift under the now rapidly approaching cloud cover. About a dozen sailplanes were in that thermal, from Libelles, HPs, a Dart to my Tern. Lift was about three knots and I rapidly got to about 6000 near cloud base from where I went through the start gate. I had been interested that the Tern outclimbed a number of the other ships and that out on course it climbed on a par with the Dart. We flew the first leg together and I reckoned I was gaining a bit overall as he tended to climb higher, whereas I felt I wanted to leave as the lift began to deteriorate. Clouds abounded but were all subsiding so we had to pick the newly forming wisps. On the final leg a cloud street beckoned but I had allowed myself to get too low and never did reach it, so scratched low down in the same area as on the first day. Again I was saved by looking for a field in full sunlight. Lloyd Bungey flew this leg at cloud base in 6 - 8 knots lift - oh well, I hope it is there next time I go! However, I nipped his time by a short bit, 48 km/h to his 45 km/h. Ron Stokes now in the Zugvogel managed 108 km to hold on to second place overall with Don Bentley, ahead of Bungey who had missed the first day. My 1000 points gave me the overall lead again.

The final day, 7 July saw very early Cu development over the Porcies and the low easterly wind with an upper westerly flow. Today I was the snifter and was launched into not much useable airspace - cloud base was 1800 feet above the ground with lift at 1 knot. Though some others launched and landed out, we

decided to pack up and then had a most enjoyable time in Calgary at the Stampede. A very pleasant week for 10 hours flying in six flights, 480 km cross country, lots of social events (we even had a soccer game with about 25 per side one evening and various pyrotechnics to light the game) and one rather nice trophy - I'll go again!

The TERN is a wood and fibreglass sailplane designed for homebuilders by Terry Miller of Furlong, Pennsylvania. Ian Oldaker built CF-QXI over a three year period working mostly in the winter months while flying in the summer in the Winnipeg Gliding Club's 1-26.

He first flew his TERN in 1972 and now has about 100 hours and about 2000 km in cross country flights behind him.

The TERN has a span of 51' with a rated L/D of 34 at 58 mph (93 km/h). The first TERN was flown ten years ago and since then about 25 to 30 have been completed with upward of 100 in various stages of construction.

75 NATIONALS

The 1975 CANADIAN NATIONAL CHAMPIONSHIPS will be held at Claresholm, Alberta. The contest will be directed by the Alberta Soaring Council whose bid for the contest was accepted unanimously by the Sporting Committee of the SAC.

Contest dates which have not yet been set will be announced later.

Air Cadet Scholarships

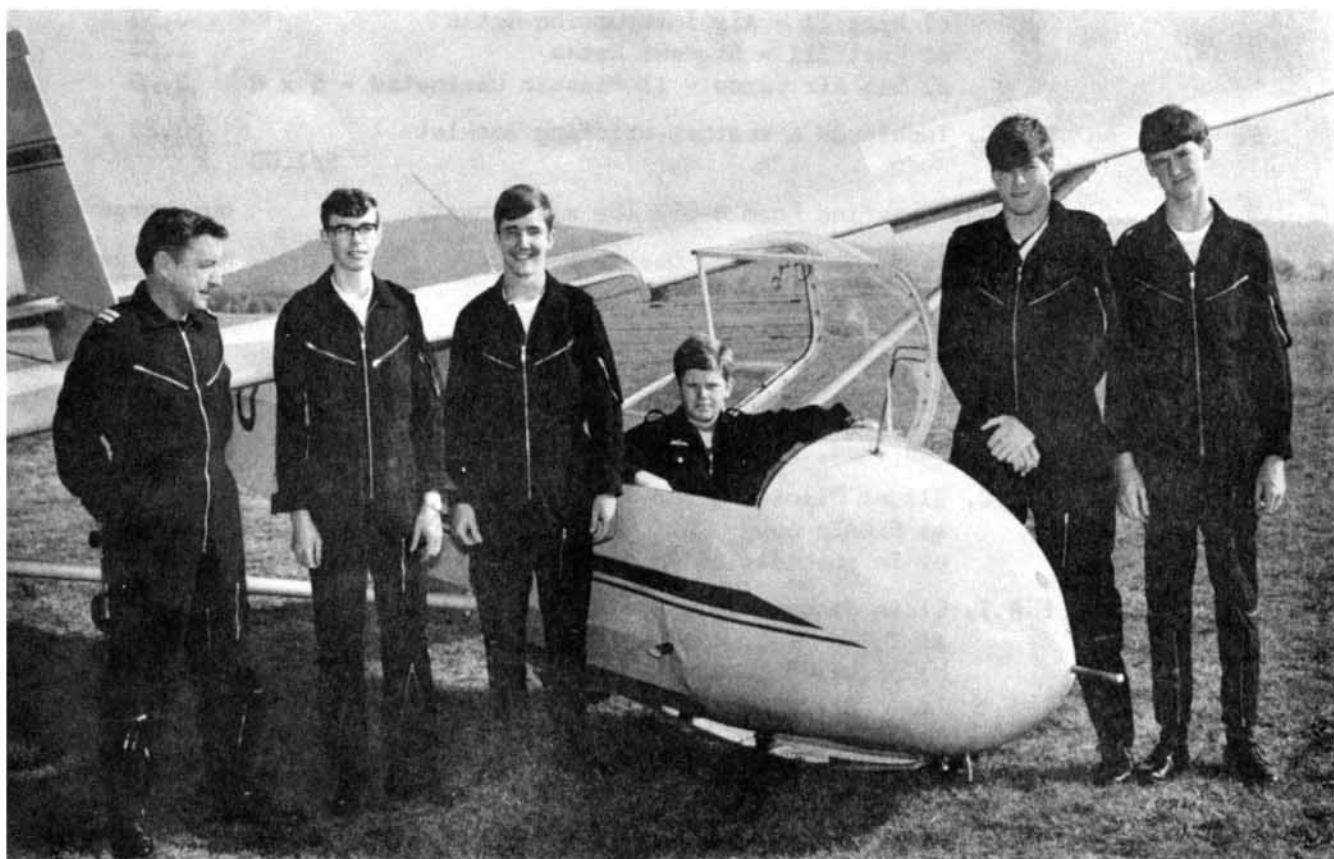
The five top Cadets from the Air Cadet League of Canada's soaring program attended the Schweizer Soaring School on scholarships by the Schweizer Aircraft Corp.

They are the outstanding Cadet of the five Air Cadet Glider Pilot Training units of Canada, and they were chosen for their rating on the Ministry of Transport examination -- flying ability -- and their potential as an instructor.

They were accompanied by Capt. J. B. McFarlane, who is co-ordinator of #1 Glider Unit at Mountain View, Ontario. He is an experienced sailplane pilot, as well as a rated power pilot.

The Air Cadet League of Canada is a National Youth Program supported by various public groups, service clubs, business and industry and administered with the assistance of the Canadian Military Forces. They are using sailplanes as a means of preparing the youth for a career in flying or related activity.

The Cadets are a typical cross-section of Canadian youth in the 16 to 17 year age bracket. Their training was completed August 23rd and the award for the outstanding Cadet was made to Bill Weston of Hamilton, Ontario.



Left to right: Capt. J. B. McFarlane, Trenton, Ont.; Sgt. Gordon Fraser, Nelson, B.C.; F/S Bill Weston, Hamilton, Ont.; F/S Peter Ord, Dartmouth, N.S.; Sgt. Tom Sweeney, Beaconsfield, P.Q.; Sgt. Barry Gagnon, Calgary, Alta.

15th World Championships

1976

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Decent fields for landing out? No problem either. Of course, huge forests and countless lakes may disturb you at first, but in the middle of all that you find lots of suitable fields to land your superships on. As one visiting pilot put it, "At first it seems really rough, but once you get above those forests you see that the fields are there anyhow".

Decent amount of airspace for glider operations? In that respect we are much better off than most other European countries. We have 337000 sq.kms. of land and the level of commercial and military traffic that leaves room to spare even for silent wings.

So we really believe in our glider pilot's northern paradise which should have proper qualifications to host the 15th World Gliding Championships to be flown at Rayskala airfield June 13 - 27 in 1976.

THE SITE

Rayskala is one of the busiest gliding centres in Finland. The field that is situated 100 road kilometres northwest from Helsinki was originally built by the army in 1940 for eventual wartime use. This never materialized, however, and the original inhabitants of the field, the pine trees, took over for 23 years.

In 1963 glider pilots came to Rayskala and started a massive effort to regain the runways for their proper use.

This effort has brought about considerable results. By the time the first World Championships launches will be made the site will have two runways, 1800 and 1700 m long, covered with grass and occasional gravel. The 80 pilots will be accommodated in double rooms either by the field or 6 kms off. The housing for crews and other personnel will be provided in a sufficient number of campers on the field. And there will, of course, be at least two original Finnish saunas to handle the ritual which is a must in Finnish way of life in general and a Finnish gliding community's way of life in particular.

THE ORGANIZERS

The 15th World Gliding Championships will be organized by the Finnish Aeronautical Association (Suomen Ilmailuliitto that is in Finnish) in co-operation with Rayskala-Foundation. The Finnish Aeronautical Assn. was founded in 1919. It is the Finnish member of FAI and its activities besides gliding comprise powered flying, parachuting and aeromodelling. At the end of 1972 the Association had 109 member clubs and 4634 members. Rayskala-Foundation, which is a member of the Finnish Aeronautical Assn. is in charge of the construction and upkeep of the field and its facilities. Its membership consists of gliding clubs operating at the field, nearby communities and businesses.

For further information about the 15th World Gliding Championships, write to the Finnish Aeronautical Assn., Malmi Airport, 00700 Helsinki 70, Finland or to S.A.C., Box 1173, Ottawa.

BRITAM AVIATION

CANADIAN SCHWEIZER DEALER
BOX 660 STATION 'Q' TORONTO, ONTARIO M4T 2N5
Telephone Day: 416-925-5571 Night 223-6487

November 18, 1974

Due to the unbelievable delays in the processing of "Free Flight" our warning about the substantial price increase due to inflation is arriving about 3 months late. Most of us still don't have the September issue.

These increases have now materialized and range from 13 to over 20% on some models. The factory has tried to keep them to a minimum but material costs alone have gone up 30% this year.

Listed below are the 1974/75 Winter prices, and we know that by March they will be increased by at least 3% again. They are ex-factory U.S. list, and at the present a 10% discount still applies if ordered through us. On orders filled before March a small additional discount may be available.

If you intend to add to your fleet this coming season, order now and save money.

1-35: I have just had a look at the latest production version of this marvel, and it looks beautiful. Preliminary flight test results seem to indicate that performance will at least equal the best European glass ships in its class, and the elevator assembly is now removeable for easier transport.

<u>MODEL</u>	<u>1975 PRICE</u> <u>NOV.-MARCH</u>
2-33	\$ 9,695.-
1-26 Std.	8,350.-
1-35 Primed	12,995.-
1-35 Std.	13,995.-
1-35 Deluxe	14,750.-
2-32	22,975.-
1-34 Std.	12,925.-

Walter F. Chmela

FIELD OFFICE AT ARTHUR GLIDER PORT. 18 MILES WEST OF
ORANGEVILLE ON SOUTHSIDE OF HWY No. 9

SOARING ASSOCIATION OF CANADA

List of Member Clubs

QUEBEC & MARITIMES ZONE :

Air Cadet League (Quebec), 5726 Sherbrooke St. W., Box 340, NDG, Montreal, P. O., H4A 3P6
Appalachian Soaring Club, Box 271, Sherbrooke, P. Q.
Buckingham Gliding Club, c/o P. Bisson, Greber, #305D, Pte. Gatineau, P. Q.
Champlain Soaring Association, 11655 Laforest, Montreal, P. Q., H3M 2W5
Lahr Gliding Club, Maj. D. F. McIntosh, 1CAG Hq., S. O. Air, CFPO 5000, Belleville, Ontario.
Montreal Soaring Council, Box 1082, St. Laurent, Montreal 379, P. Q.
New Brunswick Soaring Association, c/o Dr. A. Dobson, 521 Blythwood Ave., Riverview, N. B.
Quebec Soaring Club, Box 9276, Quebec, P. Q., G1V 4B1
Soaring Club of Nova Scotia, Box 513, Truro, N. S.
Valley Soaring Society, c/o Mr. E. S. Hansen, Acadia University, Wolfville, N. S.

ONTARIO ZONE:

Air Cadet League (Ontario), c/o J. Montle, 1107 Avenue Road, Toronto, Ontario.
Air Sailing Club, P. O. Box 2, Etobicoke, Ontario, M9C 4V2
Base Borden Soaring Club, c/o J. H. Spratley, 2 Walcheren Loop, CFB, Borden, Ontario, L0M 1C0
Belleville Flying Club (1960), c/o J. E. Marker, Box 322, Belleville, Ontario.
Bonnechere Soaring Inc., Box 1030, Deep River, Ontario, K0J 1P0
Caledon Gliding Club, R. R. 1, Erin, Ontario.
Central Ontario Soaring Association, Box 762, Peterborough, Ontario.
Chatham Air Cadet Gliding Club, 561 Lacroix Street, Chatham, Ontario, N7M 2X1
Erin Soaring Society, Box 523, Erin, Ontario.
Gatineau Gliding Club, Box 883, Station B, Ottawa, Ontario, K1P 5P9
Huronian Soaring Association, c/o M. Badior, 435 Hugel Ave., Midland, Ontario, L4R 1V4
Lakehead Gliding Club, Box 161, Station F, Thunder Bay, Ontario.
London Soaring Society, Box 773, Station B, London, Ontario.
North Bay Gliding Association, Box 1612, Hornell Heights, Ontario.
Provincial Motorgliding & Soaring Assc., R. R. No. 2, Blackstock, Ontario.
Rideau Gliding Club, c/o H. Janzen, 172 College St., Kingston, Ontario.
SOSA Gliding Club, Box 654, Station Q, Toronto, Ontario, M4T 2N5
Toronto Soaring Club, Box 856, Station F, Toronto, Ontario, M4Y 2N7
Windsor Gliding Club, c/o H. Preiss, 2058 St. Anne, Windsor 35, Ontario.
York Soaring Association, Box 660, Station Q, Toronto, Ontario, M4T 2N5

PRAIRIE ZONE:

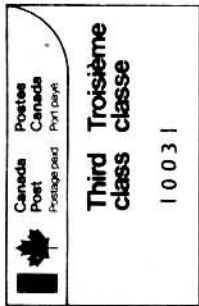
Air Cadet League (Manitoba), c/o Capt. G. Evans, 364 Duffield St., Winnipeg, Man., R3J 2K2
Air Cadet League (Saskatchewan), c/o P. Jmaeff, 20 Acadia Bay, Regina, Sask., S4S 4T6
Red River Soaring Association, Box 1074, Winnipeg, Manitoba.
Regina Gliding & Soaring Club, c/o Miss Audette, 10 Bole Place, Regina, Sask., S4S 3W7
Winnipeg Gliding Club, Box 1255, Winnipeg, Manitoba, R3C 2Y4

ALBERTA ZONE:

Cold Lake Soaring Club, Box 1714, Medley, Alberta.
Cu-Nim Gliding Club, Box 2275, Calgary, Alberta, T2P 2M6
Edmonton Soaring Club, Box 472, Edmonton, Alberta.
Red Deer Soaring Association, Box 963, Red Deer, Alberta.
Yukon Soaring Association, 508 Hanson Street, Whitehorse, Yukon Territory.

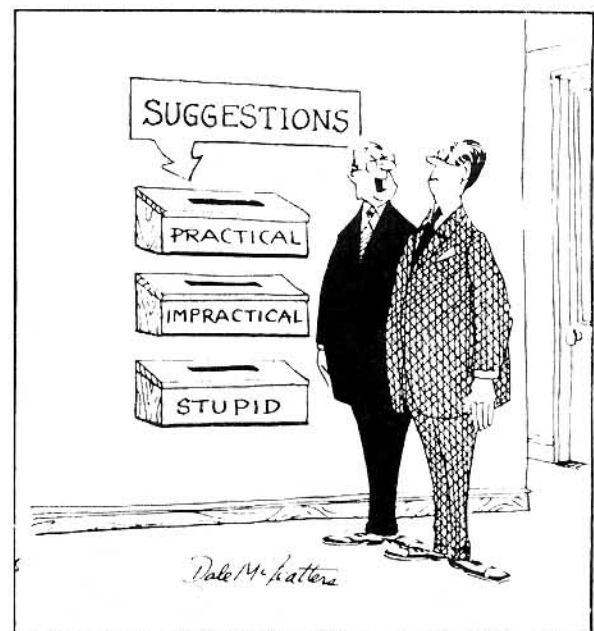
PACIFIC ZONE:

Air Cadet League (B. C.), c/o Capt. R. Lacerte, 8908 Glenwood St., Chilliwack, B. C.
Alberni Valley Soaring Association, Box 201, Port Alberni, B. C.
Comox Gliding Club, Box 238, Lazo, B. C., V0R 2K0
Kamloops Gliding Club, c/o D. Lurkins, 627 Alberni Street, Kamloops, B. C.
Vancouver Soaring Association, Box 3651, Vancouver, B. C., V6B 3Y8
Van Isle Gliding Association, c/o R. J. Hansen, R. R. 2, Courtney, B. C.
Wide Sky Flying Club, P. O. 6931, Fort St. John, B. C., V0C 2P0



This issue of FREE FLIGHT has been printed in Toronto by a commercial printer rather than by the Canadian Amateur Sports Federation. This is a trial project approved by the Directors to try to eliminate the long delays we have experienced by having FREE FLIGHT printed by CASF in Ottawa.

You will notice that we may now print photographs (see page 29). If you have interesting photographs to go along with an article for FREE FLIGHT be sure to send them along and supply full details with each photo. Black and white glossy prints are preferable; print your name and address on the back if they are to be returned.



"We welcome all kinds of suggestions."



SOARING ASSOCIATION OF CANADA
L'ASSOCIATION CANADIENNE de VOL A VOILE
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