

free flight

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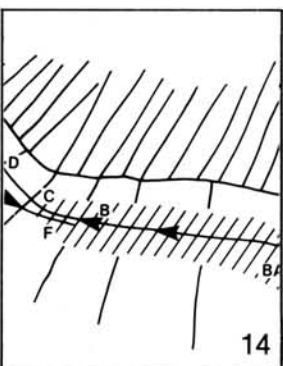
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Cover Photo

"York Soaring's 1-35 over the
club field, taken from the
Club's 2-32 at about 4500' asl.
Photographer Dick Pearl reports
the cloud streets that day were
about the best all summer."

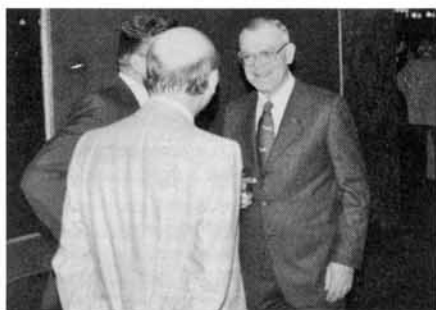


Soaring Association of Canada Annual General Meeting 1979

by Emilis Prelgauskas



Conversation at Friday night reception.



Paul Schweizer.



Walter Chmela, President of York Soaring Assn., passes on Roden Trophy to Gordon Bruce for Montreal Soaring Council.



Secretary-Treasurer Terry Tucker soldiers on with injured leg: in conversation with J.J. Williams of St. John's, Nfld., Maritime Zone Director.

The SAC AGM was held in Toronto this year, March 23, 24 and 25th at the Constellation Hotel, with York Soaring the host club.

There was a Friday night reception, drinks and conversation, but it was down to business the next morning. About 75 attended the meeting during the day, representing SAC clubs across the country. Also attending were Ken Smith, of the National Sport and Recreation Centre, and Paul Schweizer (representing SSA) with Mrs. Ginny Schweizer.

As the reports of the committees were presented for acceptance, a number of items were discussed in relation to them: the new membership forms, the instructors' manual, and instruction standards.

Another item that provoked further discussion was government roles, particularly in licencing requirements and Air Regulations.

Insurance, often a contentious topic was the source of pointed questions from some delegates to the meeting. Opinions were expressed that the SAC plan is expensive, and inequitable, favouring individuals rather than clubs in its coverage. SAC President, and chairman of the Insurance Committee, Al Schreiter, responded to the questions about the SAC plan.

Problems with the MOT, in the area of certification were also raised as a point of issue by delegates.

The afternoon portion of the meeting was concerned with motions to amend the SAC by-laws, and new business. This portion of the meeting proceeded smoothly, for the most part, and the directors seemed pleased they had been able to keep to the agenda schedule. For changes in directors see the new list in this issue.

At a "Get Together Lunch" on Saturday those members who attended (some thought the price tag for the cold buffet a little steep) heard Paul Schweizer speak briefly on current Soaring Society of America activities and developments as Schweizer Aircraft.

He talked about how the SSA is facing increased and impending airspace restrictions affecting soaring in the United States and commented on similar problems in Canada. SSA is currently advocating a write-in campaign to elected representatives about FAA plans for greater numbers of TRSA's.

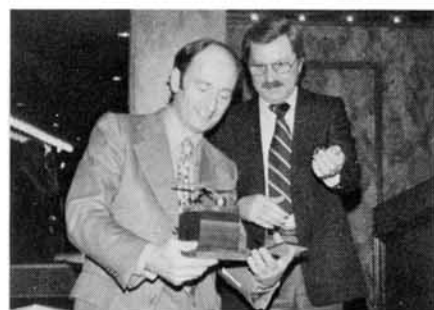
Schweizer also talked about how rising costs are affecting activity in soaring in general and product development plans at Schweizer Aircraft. He discussed a current prototype "reluctantly referred to as 1-26 replacement" they hope they can develop to reach a market for an economical, "standard class"-type sailplane, for club and personal use.

The address was warmly received; Paul Schweizer is an old friend of SAC, having attended AGM's going back to the early 50's.

At the awards dinner that evening, hardy



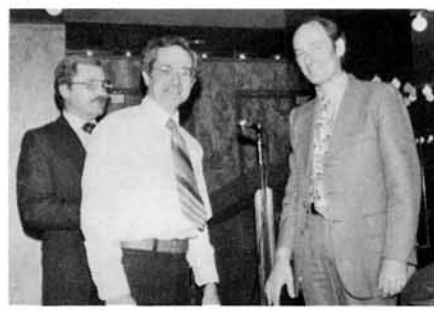
W. Sikma readies his projector battery for the next multi-screen showing.



Ian Oldaker feels the weight of the Ball and Chain Trophy, presented by Al Schreiter.



John Agnew presides over awards presentations as Rick Matthews accepts Canadair Trophy on behalf of winner Dick Mamini.



Al Schreiter, behind, names recipients of special recognition certificates, Bob Nancarrow, former Free Flight editor, left, and Ian Oldaker, Chairman of SAC Instructor's Committee.

perennial John Agnew presided with characteristic style and aplomb over the presentation of trophies, many of which, he remarked "were in Bob Gairns' living room" to account for their absence on the trophy table. Many of the recipients were also unfortunately not present to receive their trophies. The BAIC trophy went to Dick Mamimi; it was accepted by Rick Matthews. The "200" Trophy was won by John Bachynski (familiar to FF readers as "Colonel" of the U.A.F.), Mike Apps of E.S.C. accepted. The Instructor of the Year Award went to Doug Carson of Bulkley Valley SC; Christine Timm accepted it for him from Walter Piercy, the incumbent. The Roden Trophy went from York Soaring to Montreal Soaring Council this year. Walter Chmela of YSA passed the efficiency award along to Gordon Bruce.

Ian Oldaker, SAC Instructor's Committee chairman and CFI at Winnipeg won the Ball and Chain Trophy, awarded to the most accomplished married pilot each year.

Following the awards, the company was treated to three triple-screen, multi-projector slide programs by Bill Sikma of YSA. The first

was a "super" record of the Canadian Team at the World Championships at Chateauroux, the second a day in the life of York Soaring, and third was a visit to Colorado and "Mining for Diamonds on the Pike's Peak Wave." Complete with recorded music and narration each was a dramatic montage of panoramic and sequential shots, nearly approaching motion pictures in effect. The show as loudly applauded by everyone.

A seminar on club operation, and a directors meeting were scheduled for Sunday to complete the AGM program.

The 1979 AGM was successful - the complete and official record is available with committee reports, distributed to all SAC members. Club delegates and others who were there were able to meet, talk, exchange ideas and opinions with others from across the country, always a fruitful opportunity. Despite the distraction provided by the dancing girls of the German Mardi Gras (What? You didn't notice?) delegates were able to tackle the agenda, discuss, recommend and keep SAC working for Canadian soaring pilots.



President Karl Doetsch addresses the room, to recognize Al Schreiter's contribution.



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S.A.C. Directors' Meeting

This is a short report of the business covered by the directors at their January meeting which started at 9 a.m. on Saturday morning with SAC President Al Schreiter in the chair and all the directors present except John Williams (maritime Zone) who was delayed by bad weather.

Having approved the revival of "Special Recognition Award Certificates" at the October meeting, the directors approved three nominations for certificates to be awarded at the AGM (See AGM report this issue).

The SAC Technical Committee is still experiencing difficulty with the Ministry of Transport over the regulations for issuing type approvals for gliders. The President and Vice-President (Dr. K. Doetsch) will continue their efforts to persuade the MOT to allow the flight testing to be done in Canada (instead of the country of origin or manufacture as is now being specified.) All SAC members who are considering importing gliders should contact the chairman of the Technical Committee (Jim Henry) for advice before starting negotiations.

Another aspect of importing gliders is that several clubs have reported that Revenue Canada is reviewing the use of Tariff Item 69605-1, "Mechanical Equipment...of a class or kind not made in Canada...for the use of any society...established solely for...educational...purposes." Directors will be getting in touch with the directors in their zones.

Once again the SAC by-laws were on the agenda. Certain (house-keeping) changes were submitted as motions for approval at the AGM. Future amendments were discussed, on legal advice, concerning such things as the rights and responsibilities of members and directors. Some of these points were too complex for immediate adoption and the directors will be doing more homework on the matter.

The relationship of SAC with the international body, FAI, follows certain protocol. One feature is that SAC must belong to and communicate through the Royal Canadian Flying Clubs Association. We have therefore agreed to retain our membership in the RCFA even though the subscription has increased dramatically this year. The memorandum of agreement which had been submitted by the RCFA did not meet with the directors' approval and will be redrafted.

The "Sporting Code" of the FAI is very

terse. The interpretation of the rules will be helped by the new version of the booklet entitled "FAI Soaring Awards and Records - Rules and Procedures" prepared by the SAC FAI Committee, which is now available to members. This should make the Official Observer's job clearer. In case there was doubt in the mind of any OO about Air Regulations and how they affected FAI Badge or Record flights, the directors passed the motion "that the SAC position be reaffirmed that no flight in contravention of governing Air Regulations will be recognized by SAC, and an Official Observer will not knowingly sign any document in respect of a flight involving a breach of the governing Air Regulations."

SAC has had non-residential status for many years at the National Sport and Recreation Centre and has been trying to decide each year whether it should take the plunge and apply for residential status. Karl Doetsch reported his investigation into the situation and was able to reassure the directors that it would be a beneficial move. Therefore SAC is applying now for residential status in 1980. If this is accepted it will mean some significant changes. We will have to appoint a full-time resident director: there is a grant for salary, but this may require supplementation. The new status would make us eligible for additional project funds, and open up administrative assistance.

At last, Bob Nancarrow has passed his editorial duties to a successor. The directors unanimously approved the appointment of Mark Perry (Winnipeg Gliding Club) as editor of Free Flight.

Clubs will be pleased that the directors have relented so that SAC will be supplying the new forms for Membership Application without charge this year.

Three substantial insurance claims arising from glider damage occurring in October and November helped establish last year as another bad year. This experience forced another increase in premiums - \$39.00 per solo pilot, 2.84% for hull. Policy changes for 1979 include the following:

Collision between two insured aircraft - both will be treated under the hull coverage clause.

Deductible - \$1000. for claims up to \$1000; \$500 for claims over \$1000.

Rebate - scale from 25% rebate if the

claims are less than 5% of premiums to 0% if claims are more than 40% of premiums.

The "due dates for premiums" will be enforced this year.

After Saturday's business session, the directors were pleased to meet many members from clubs near Montreal during the social evening. This contact was mutually gratifying.

Business resumed on Sunday morning with all directors present.

Future enquirers to SAC will receive a new, informative letter about soaring and the location of activities in Canada. Additional material is planned for the future.

Terry Beasley is preparing a kit for the guidance of competition organizers. When this is ready, the experience of previous organizers will be available directly and should encourage new hosts for contests and reduce the number of items overlooked. The directors agreed that the 1980 Nationals should be held in Western Canada provided an acceptable bid is received by October 31, 1979.

Discussion about splinter groups forming new clubs for possible tax or insurance benefits showed that the directors were concerned that the motives of these groups were not in the best interests of the gliding movement. On the other hand, an attempt is to be made to draft guidelines to help bona fide groups to form clubs.

Unfortunately fewer grants were available for club delegates to the AGM this year. Those able to attend the dinner were treated to a special slide show instead of a speech.

The meeting ended at 1:00 p.m. but the development of a Montreal storm of freezing rain and blowing snow closed the airport and ensured that those who had planned on flying home would have to stay together for the rest of the day. We had an informal exchange of information about club fee standards and business meetings. The consensus was that the membership and flying fees should cover the club's fixed and operating costs respectively and that the club's affairs were probably best handled by an elected executive group who were accountable to the members at one or two general meetings per year.

Prepared by Jeff Tinkler, Prairie Zone Director.

President's Notes

It is an honour for me to have been elected as President of the SAC and, in the traditions of the Past President, Al Schreiter, who deserves our thanks for his significant contribution, and of his predecessors, I shall endeavour to serve the membership effectively during my term of office. We are fortunate in having available a skilled and dedicated Board of Directors as well as committee members who have volunteered to be the focal points of the various activities with which the SAC, as the national association, needs to be concerned.

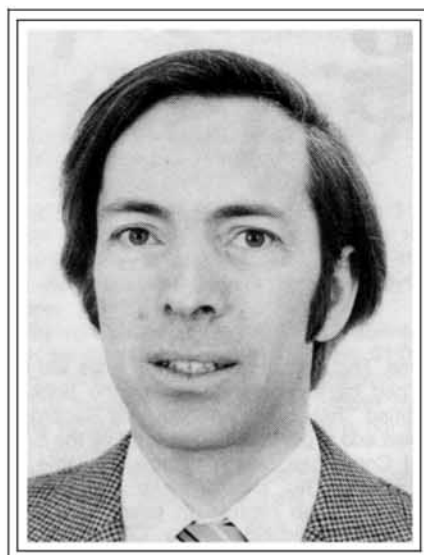
It is perhaps appropriate to review briefly some of the areas of activity we will be emphasizing in the coming year.

The SAC Structure

The Board of Directors has applied for resident-sport status in the National Sport and Recreation Centre. If the SAC were accepted - and this is unlikely before April 1980 - it would be eligible for a substantial grant towards the salary of a full-time Executive Director as well as for office space, administrative services and secretarial support. The Board believes that such a move would contribute greatly to the ability of the SAC, which is presently limited by the available time of volunteers, to provide such services for its members as are enjoyed by many other national sports bodies with full-time management. The Board believes that an expansion of the association would result over a number of years and that such expansion could ultimately allow us to become less dependent on financial support from the Government for undertaking projects of importance to the association.

Free Flight

The editorship of Free Flight has been passed from Bob Nancarrow, whose outstanding efforts over the past years are well known, to Mark Perry. The Board will continue to support the magazine fully in its present form as the major vehicle of communication amongst the members. Your help is needed through the contribution of articles, or, per-



haps, as a regular feature writer.

Committees and Services

On the flying side, we will continue to disseminate information or run courses pertaining to safety, flight instruction and club and contest organization through the various committees. The interests of the competition pilots, FAI award winners and record breakers will continue to be served through the Sporting Committee and its subcommittees under the new chairman, Dave Marsden. Dave succeeds John Firth who served the committee conscientiously and well for several years until his recent resignation. The Board is actively pursuing the acquisition of a contest kit for loan to member clubs. One of the most important committees for our continued growth, the Technical Committee, provides service not only to the SAC but also to Transport Canada through the background work leading to the Type Approval of new glider types imported into Canada. This effort helps reduce costs to our membership sig-

nificantly.

As a complement to our flying activities, the SAC continues to offer the group insurance scheme to members. It is the aim of the Insurance Committee to ensure that the premium remains as low as possible. Help the committee by flying safely!

Government Liaison

Our dealings with government regulatory agencies presently centre on Transport Canada and Revenue Canada. Transport Canada is currently reviewing much of its operations pertaining to General Aviation, and the effects of any ensuing change proposals will obviously need to be reviewed carefully by the SAC. By the same token, we have the opportunity to review our own operations within the framework of General Aviation and to voice any concerns which we may have with Air Regulations and general operations. I would encourage members strongly to let me know as soon as possible of any quantifiable inequities which you would like the SAC to attempt to resolve with Transport Canada. One area which is already being pursued actively by the Board in conjunction with the Technical Committee is the issue between the SAC and the Ministry regarding the new proposed requirements for the issue of Glider Type Approvals. If implemented, these requirements would result in a considerable increase in both the cost and the time taken to obtain such type approval.

Many clubs will have been served notice by Revenue Canada that they are no longer considered to be exempt from federal sales tax on the purchase of equipment for educational purposes. This has resulted from a new interpretation of the governing tariff regulations by the Ministry and has been appealed by the SAC on your behalf.

The Directors hope that you will not hesitate to contact them on these or on any other matters of concern to you and wish you a successful, safe flying season.

Karl Doetsch

A Great Ship and a Delight to Fly



For further information please contact:

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

Technical Data

	PIK-20D	PIK-20E
Span	15.0 m	15.0 m
Aspect ratio	22.5	22.5
Empty weight	220.0 kg	290.0 kg
Max. weight	450.0 kg	470.0 kg
Water ballast	140.0 kg	120.0 kg
Wing loading	29-45 kg/m ²	36-47 kg/m ²
Best L/D (max. wt.)	42 @ 117 km/h	41 @ 117 km/h
Min. sink (min. wt.)	.56 m/s @ 73 km/h	.61 m/s @ 77 km/h
Stall speed (min. wt.)	60.0 km/h	66.0 km/h
Rate of climb		4.0 m/s
Take-off to 15 m height		300.0 m max.
Cruise		135.0 km/h
Fuel consumption		16.5 l/h

CLUB NEWS



"Fly-by-wire" - George Warren, treasurer of Bluenose Soaring, starts the Ka-7 up the launch on his third solo flight.
Photo by Amédée Aucoin: Minolta SRT 200 with zoom at 170 mm, Kodacolor 400.

BLUENOSE SOARING

Bluenose Soaring had its AGM on January 17, 1979. Treasurer George Warren reported, a bit astonished, that BSC made money, enough to pay of \$1000 on the principal of the Ka-7 and to commit another \$1000 for construction of a hangar in '79. George reported that we over-flew his objective of 600 flights by 44.

The winch worked reliably but the tow target cable is worn out and needs replacement. We are investigating the music spring steel wire (monofilament) used by Bonnechere and Windsor Soaring and will very likely

use this in '79 unless a supply of tow target cable can be located.

Our executive for 1979 is: President, Daniel Morrison; Vice-President, Doug Girard; Treasurer, Ralph Olive and Secretary, Shirley Mercer.

Our "be ready" date for the 1979 season was April 1st. By that time we planned to have the following winter projects finished:

1. Ailerons re-covered on the Ka-7
2. Skid fixed for Ka-7
3. Winch roller re-surfaced.
4. Winch mounted on GMC 3-ton truck.

Jack Dodds conducted a Ground School

via the Dartmouth Board of Education's Adult Training Program. He reported a roll of 28 students, most of whom were looking forward to a flight come spring.

We have finally got our leasing problems solved, so we can start on our hangar this year. We hope to have it completed by July.

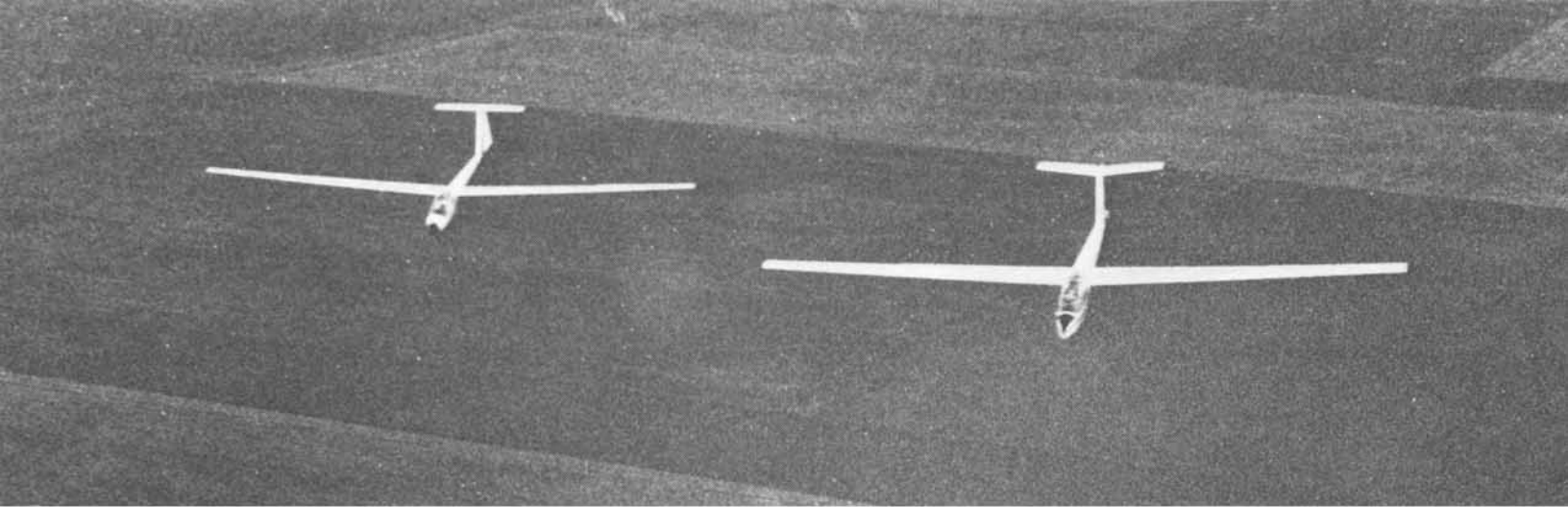
Three members of the club have formed a syndicate and bought Mike Frijters' SH-1 so this should bring about an increase in X-C soaring out of Stanley. Other members of the club are also actively seeking a single-seater so the SH-1 owners had better install a rear-view mirror with an eye out for fast-coming competition.

CLUB SUPPLIES

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

NOTE:

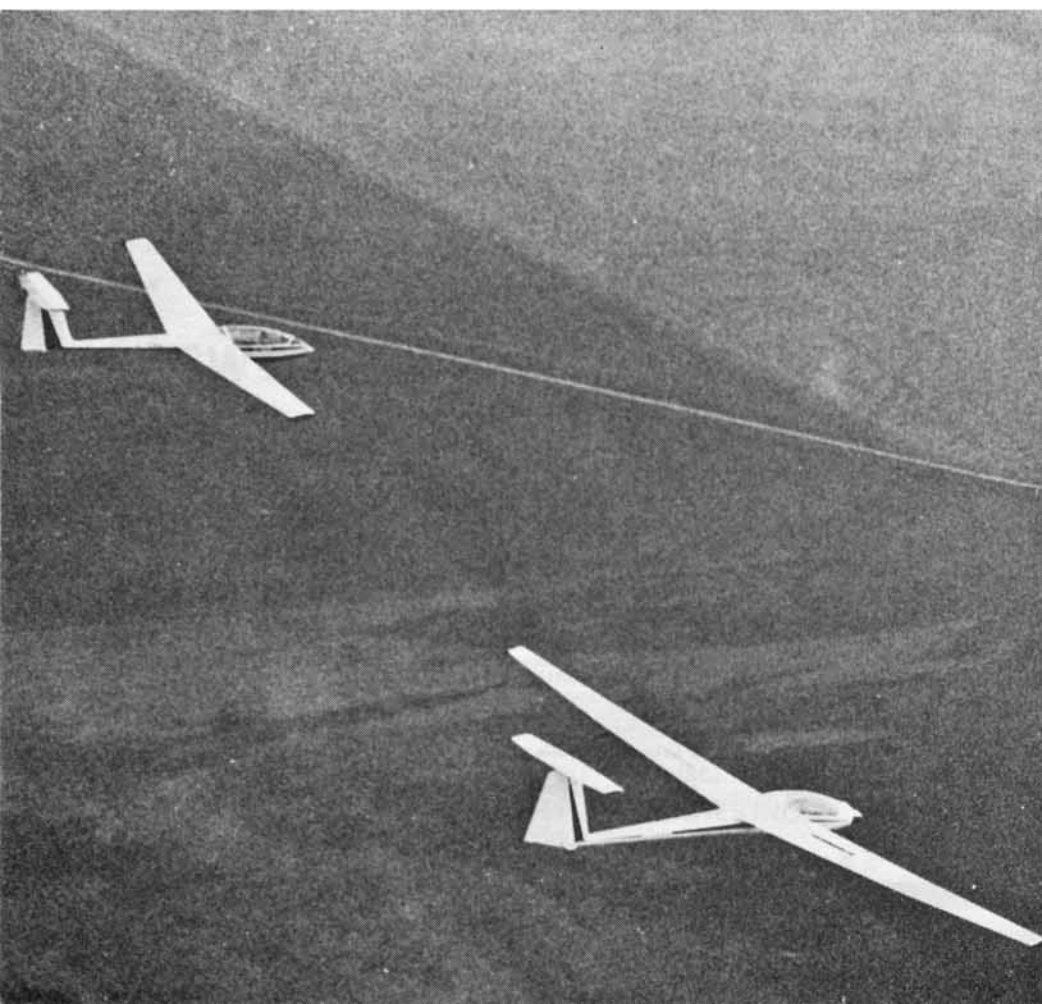
1. Item 2 and 3 available from Mr. A.W. Burton
611-860 Blackthorne Avenue, Ottawa, Ont. K1K 3Y7
\$5.00 processing fee.
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4. Non Member Clubs: add 25% plus postage.



IS29D2, left and IS28B2 in formation near Pigeon Lake, Manitoba.
Photo: M. Hoban

Flying the Larks

WGC's IS38B2, upper, flown by Chuck Fisher, and Ian Oldaker's IS-29D2 over Manitoba prairie.
Photo: M. Hoban



by Ian Oldaker CFI-WGC

Do they climb? Wow! - both the two-seater IS-28B2 and the single seat IS-29D2 are great machines, whether in weak, almost non-existent thermals, or booming rough ones - we tried them all.

Last May/June these two aircraft arrived in Winnipeg* and immediately impressed with their sleek lines and at the same time solid appearance. The large single-piece canopies of both machines afford excellent visibility. There is ample room for instruments in their panels - basic instruments are recommended for the IS-28's rear cockpit. All have good ventilation via scoops in the nose, plus slider panels in the canopies.

Both Larks are all-metal, flush rivetted and painted, with fabric-covered elevator, rudder, and, on the two-seater only, ailerons. Flaps (-5°, 0, 5, 10 and 15°) are all-metal. Controls are easily operated with convenient thumb releases in the tops of the IS-28's flaps and undercarriage handles. The tail pilot's only real problem in this aircraft occurs when wearing a thickish 'chute in the rear seat; selecting 15° flap is awkward. The single-seater IS-29's flaps operate through the same range via a knob that is pushed down to disengage a catch, then slid fore or aft to pick up the next detent. It is not as smooth as it could be though it is robust and simple. In both aircraft the dive brakes are operated via an over-centre locked, control handle (2-33 pilots to note!) On the ground the IS-28's tend to feel heavy as they are on the top wing surfaces only, but in flight they are nicely balanced.

The IS-28's wheel is semi-retracting, operated by a sliding handle on the right (wheel-up landings can be done with no harm!) The IS-29 has a fully retractable wheel operated by a rotating handle on the right. Landing wheel-up should not damage anything but the paint on the small skid which runs in front of the c.g. hook; the rakish lines of the fuselage

* (See "Winnipeg Loves the Lark" Nov./Dec. '78.

would keep the gear doors off the ground.

Both aircraft have in-flight rudder pedal adjustment, and seat back adjustment. Even tall pilots of over 6 ft. can fit comfortably in the rear seat of the IS-28.

The IS-28 has both a c.g. and a nose hook, but no skid under the nose. Both aircraft use tail wheels nicely faired in, so directional control even in moderate cross winds is no problem.

The Larks ride well on rough ground, the two-seater uses a compressed nitrogen or air oleo, the single-seater a rubber disc sprung system (an oleo can be fitted).

In flight, the first impression of the IS-28 is one of solidity - you know you have an aircraft in your hands! The trim tabs work well over the whole speed range except in thermalling, when you could run out of trim. The stick force then gives a useful feel during the more steeply banked turns. Roll-rate is acceptable for the 17m wing span - in fact thermalling in a rough, stubble-fire thermal using 5° and 10° flap posed no problems, and very tight turns could be flown with ease. In weak lift the two-seater performs equally well. I suspect sealing of the flaps would improve its minimum sink rate usefully - the noise generated at the wing/fuselage junction can be nearly eliminated by careful sealing - eliminate noise, decrease drag!

We started fairly low-time pilots on this aircraft - those who had previous 2-33 and 1-26 experience only - and were pleased with the response; some pilots had trouble holding off well at first, but by season's end all landings were well controlled.

The area where the machine really shines is at 70-80-90 knots - its penetration is terrific, certainly streaks ahead of the competition at these speeds - unless you want to pay much more by investing in fibreglass. At these speeds the IS-28 rides very well and when manoeuvred there is no oil-canning. Stick force per "g" is usefully moderate so that there is a good feel to the controls. Approach control is good, the top surface dive brakes give a good descent rate to get you into those small fields on cross countries. Side slipping is not easy unless you put on a good amount of yaw before applying bank - watch the ASI, it won't read well when slipping due to the pot-pitot. The stall is straight-forward, with a definite warning buffet and good nose drop. Unless the wings are absolutely level at the stall one wing will fall off (not literally I hasten to add), with a tendency to start rotating unless correct recovery actions are taken. (The aircraft at the time of writing did not have C's of A but have since been issued with them, now allowing spin training to be done).

All in all the Lark is a delight to fly and it has proven very popular in our club. Now that we have modified our 2-33 trailer to take the IS-28 we plan to improve our cross-country mileage and hopefully to instill the joy of our sport into more people by showing them what "performance" really is.

The single-seat IS-29D2 is an easy to fly delight. Controls are well arranged for my six foot frame even when wearing a regular 'chute. The single piece canopy is hinged on the right side on hinges that stick into the airflow (purists would object). The frame is remarkably well finished for a metal ship,

resulting in no leaks and/or noise in factory finished condition. Visibility is very good, and when flaps are at 15° the noticeable nose down attitude gives more than an adequate view of the runway when approaching to land.

The aircraft is easy to rig and derig (three greenhorns did it at midnight in a raging thunderstorm when it was first derigged!); rigging requires careful alignment of locating pins and flap control, and tightening of one expanding taper pin. Aileron and dive brakes are quick disconnect, ball-and-socket joints. A fibreglass deck to cover the centre section and smaller underwing fairings are then added.

The low fuselage and small chord wings allow an HP-18 trailer to be used, and I am currently building one from locally bought materials, having purchased the hoops and axle from Bryan Aircraft.

In climb, the IS-29 (again as delivered) is just outclimbed by an unballasted Cirrus 75, and it seems better than the Tern (an excellent climber). In cruise it shines, keeping well up with an HP-14 and the Cirrus at around

80 knots. I took one high tow to obtain points for a polar plot, and this confirms a better than claimed L/D at high speed by quite a margin. At the slower speeds the sink rate is higher than in the brochure but this was measured in the unsealed aircraft. The flaps and flap/fuselage junction are amenable to sealing, and further high tows were done this spring when I sealed the wing/fuselage area, tail and rudder, and the flaps, gear doors and dive brakes. The comparison should be interesting.

In a number of cross-countries, I flew the aircraft under a variety of conditions and can report that I have been more than pleased with the investment. It scratches very well and can be manoeuvred quickly in small elusive thermals, or it can be left to do its own thing in the larger thermals. In cruise it really goes well up to 80 knots. Water ballast would help beyond this.

The aircraft showed no surprises or vices, and I believe would be an excellent club single-seat machine for 1-26 pilots to convert to.

HANGAR FLYING

NOTE TO CONTRIBUTORS

Because of FREE FLIGHT's production time we need eight weeks lead time to the next issue date. If you have material you want to appear at a certain time or by a specific date, please bear this in mind. Deadlines for future issues are in the Contents page.

Ideally, manuscripts should be typed and double-spaced, but legible handwriting is acceptable.

As for photographs, B & W prints are ideal, colour prints and transparencies are good, but not negatives, as they are the least suitable for the reproduction process. All photos are returned to the owners unless otherwise advised.

Any and all contributions are welcome and will be acknowledged. Following these guidelines will help your contribution to be seen.

Get Yours

The Association's FAI Awards and Records Procedures Booklet by Tony Burton, SAC Awards Chairman, with Russ Flint, SAC Records Chairman is now available for \$1.50 - (See Club Supplies List).

It is 36 pages of comprehensive information for any pilot concerned with badge and record claims, illustrated by Gil Parcell, and including five appendices of tables and charts - a must.

Canadian Sailplane - A new type of sailplane, the Sparrow, was test-flown recently from a Toronto air field. Built by employees of the Canadian De Havilland Aircraft Company, the craft was designed by W.J. Jakimiuk and Wacław Czerwinski, Polish refugees employed by the aircraft company. Czerwinski was assistant professor of aircraft design and aerodynamics at Poland's University of Lwów.

The motorless craft lands at 23 to 25 mph and has a minimum sinking speed of 2.8 feet per second, with a pilot of average weight, at 30 mph. Its total length is 22 ft. 6 in.; span 38 ft. 4 in., and its total weight is 449 pounds.

Considerable wing wash-out has eliminated spin characteristics if the plane is stalled. Tested by Tadeusz Tarczynski, test pilot with DeHavilland and former long distance glider champion of Poland, the novel sailplane has been soared for 2 hr. 15 min. on one flight.

from Edmonton Soaring Club
TOWLINE March 1979

Revision to Aerodrome Standards

The March 1979 Canadian General Aviation News, published by COPA (Canadian Owners and Pilots Association) reports on draft proposals by MOT for revision of aerodrome standards (ANO Series III No. 5) that have implications for the gliding movement.

A draft proposal presented by Transport Canada to COPA said in part:

A. Siting

No person proposing to develop an aerodrome shall locate an aerodrome:

- (i) within 18 kilometers of a nuclear power plant or near the nearest boundary of an airport or military aerodrome; or
- (ii) within the boundaries of any city, town or other settlement; without prior approval of the Minister.

B. Environment and Community Considerations

Any person or persons proposing to develop, modify or expand an aerodrome shall submit to the municipal or other land use authority:

- (i) a plan indicating the aerodrome lands and the proposed developments;
- (ii) a statement describing the operations to be conducted from the aerodrome and the effects of these operations and developments on the surrounding area with respect to noise, services, access, etc., and if it is decided the proposed development is acceptable to Transport Canada after reviewing the municipal comments, shall obtain such permits as are required by established municipal bylaws, codes, orders and standards.

Report on the C.I.V.V. Meeting of the 23rd and 24th March, 1979.

Choice of World Contest Site for 1981

Three excellent sites for the 1981 World Contest were offered by West Germany, the U.S.A. and the U.K. delegations. These were:

West Germany - a club airfield at Paderborn with the contest to be held in May or June.

United States - Stead Airport at Reno, Nevada, with the contest to be in June or July.

United Kingdom - Cranfield Airport in Bedfordshire.

The initial vote produced a tie for Germany and the U.S.A. and a second vote gave the contest to Germany.

The Paderborn airfield is all grass and the entire field surface of approximately 1250 m long by 250 m wide is useable. The airfield itself is only 2 km from the Paderborn town centre. Large triangles are possible from this site. For example, in a recent German Nationals all 20 open class competitors completed a 752 km. triangle. One advantage of holding a contest in Germany is the ready availability of suitable competition sailplanes. Up to 40 Foreign entries will be accepted for the 1980 German Nationals.

1983 World Contest

The C.I.V.V. had asked for preliminary bids

for the 1983 contest. Australia has indicated that they will make an offer to hold the 1983 contest in January or February of 1983 at one of 4 sites in Southern Australia. These were at Waikrie and three more to the east of Waikerie. The U.K. delegation will again offer to hold the contest at Cranfield in 1983. Unfortunately the Reno site will not be available in 1983 because of airspace restrictions, but there is a possibility that the U.S. could offer to hold a contest at another site such as Hobbs or Ephrata.

Lilienthal Medal for 1978

The Lilienthal Medal for 1978 was won by Helmut Reichmann who was nominated by both the Deutscher Aero Club and the U.S. National Aero Club. Other nominations for the Lilienthal medal were:

Dick Georgeson, New Zealand

Derek Piggot, U.K.

Hans Wolf, Austria

C.E. Wallington, Australia

Hans-Ulrich Farney, Switzerland

Sporting Code

Considerable time was spent discussing the 4th draft of a revision of the sporting code. A new badge for flights of over 100 km will be introduced. This will take the form of an addition to the Gold Badge.

A type of triangle flight was proposed whereby three turnpoints are declared and the start-finish line does not have to be one of the turn points. This would provide more flexibility in choice of triangles, particularly useful for countries like Britain for example. Similarly, use of a second turn point for Zig-Zag distance flights was proposed to allow more flexibility in choice of flights.

Perhaps the most interesting discussion was on the technique to be used for turn-point photos in world contests. Four alternatives were presented, including the 90° observation zone now used for Badge and Record Flying. No decision was reached, however opinion seemed to favour a technique used for the past 8 or 9 years in National contests in the United States. A photo target is identified for each turn point in such a way that it can be easily photographed from directly over the turn point. A tolerance zone of only 500 m radius is allowed, but since the photo target can be in any direction from the turn point, it can be chosen to give a good picture for analysis of the gliders position. Although 500 m seems to be a very small tolerance, the technique is said to be quite reliable.

The weight limitation for passengers in two place records is to be replaced by an age requirement that the passenger be at least 14 years of age. This is a more rational requirement for modern sailplanes where extra weight is likely to be an advantage.

I would like to emphasize that these are only proposed changes for 1980 and current Sporting Code still governs.

D.J. Marsden, Chairman,
S.A.C. Sporting Committee

The Minimum Viable Soaring Club

by Emilis Prelgauskas

No theories exist to tell us, what is the minimum size of gliding club which can economically survive; what number of pilots can justify a club sailplane in \$\$ terms; what could happen in the sport by the Year 2000.

I don't know, but I'd like to exploit it. Much of this will be based on existing information, some informed guesswork, and mostly postulation.

The definition of club viability is difficult in physical terms. Not only do its resources contribute to its survival, but the enthusiasm and initiative of its pilots contribute. This is exemplified by the Kimba Soaring Club Inc., where a membership varying between 8 and 14 supports a continuing viable club.

It is in fact common for clubs to form and establish with less resources than would be normally considered the minimum. Once the initial blush of enthusiasm has worn off the minimum level of resources suggested here should be met.

Experience indicates that clubs not meeting these standards, have in the past ceased to exist within 5 years of formation.

Resources

The physical resources which are required by a viable gliding club can be summarised as -

- a. tenure of an operating site
- b. a number of active members
- c. suitable population catchment area to service the above
- d. launching capability
- e. sailplanes
- f. back up

Site Tenure

The site should at a minimum be leased, although purchase is the ultimate guarantee of club stability as it provides collateral and a physical reminder of the club's existence.

The operating site should be accessible from a public road, in an area with suitable emergency landing areas conforming to the minimum landing areas requirements set out below.

If a soaring ridge is to be used, the site should be located upwind of the working face of the hill line, and within easy reach of the hill.

The nearest runway 'threshold' should not be more than 10 times the clear elevation of the hill away from the slope face.

The closest runway 'threshold' to the hill should not be closer than 1.5 times the slope height to avoid curl over wind gusts in winds from the lee of the hill.

Other considerations include:

Launch method:

- * if by aerotow or autotow, the field should have runways of suitable surface along the whole length.
- * if by winch, the smooth surface can be confined to landing areas at the runway ends. The intermediate length may be undulating, providing emergency landing areas exist in the vicinity.

Alignment:

One runway at a minimum, preferably two in cross or 'L' pattern, or three in a triangle or star pattern. Runways should be aligned to prevalent wind directions.

Width:

Each runway should be a minimum of 30m wide for up to 3 sailplane operations, and an additional 15m width for each additional 3 sailplanes or part thereof.

Slope:

Landing areas should not have more than 3° gradient along their length.

Length:

The landing areas shall be minimum 300m long, from the runway 'threshold', with the suitable surface extending back to the takeoff point.

Runways should be laid out for maximum length, or have emergency landing areas outside the site close by if runways are of marginal length.

For aerotow launching, minimum 1000m long, extra for low powered tug/glider combinations (see aircraft towing charts). For winch/autotow launching, minimum 1500m long. For winch, the length may be 1000 - 1500m if suitable from fence to fence.

Surface:

The surface should be prepared by cutting down long grass, removing rocks and larger obstacles and filling or rolling if necessary to give a surface which can be traversed by a vehicle at 65kph, if with autotow 90kph. With wind launch, the intermediate surface may be sufficient for vehicle speeds down to 25 kph.

Runway 'threshold'

The runway should be marked as the landing area, edge distance from its closest point to a high obstacle, 15 times the obstacle height.

The surface may be extended back from the threshold to the field boundary for winch launch.

Membership

Assuming the club's viability is indicated by present club standards, and that saturation allows for growth above the minimum viable level.

Average member's attendance - 1 day per fortnight.

Minimum pilots for flying - 5 per day/sailplane.

Minimum club size - 20 pilots

It should be noted however that this does not indicate a viable operation, as membership is dependant on enthusiasm as previously indicated.

The club 'envelope' indicates that clubs below 30 members have potential survival problems. This paper postulates that.

Minimum viable club membership 30 pilots.

This is supported by the aircraft utilisation figures later, and accommodates initial 'drop

outs' without leading to cessation of flying activity.

Catchment Population

Present participation rates in the sport are 1 pilot per 1000 population (G.F.A. statistics).

To begin a club, 20,000 population is indicated.

Minimum catchment population 20,000.

Launching

The experience of clubs has been that club viability is affected by choice of launch method in terms of earning and site suitability. The following attributes are rated to launch method -

aerotow

- high launch rate
- normally reliable
- low member effort
- viable only for more than 4 sailplane operations
- costs rise rapidly, and charges must be adjusted to maintain 'break-even'.

autotow

- minimum complexity and initial setting up
- high demands on site
- erosion/bogging on natural surface
- runway
- limited launch height to runway length
- high wear on components

winch

- intermediate setting up cost
- high running costs, economies possible with own labour
- labour intensive
- intermediate launching rate 12 planes/hour
- profitable operation norm.

Sailplanes

Experience with the Adelaide University Gliding Club indicates that maximum 8 pilots per day can be accommodated per sailplane.

Average ratio pilots/sailplane in Australian clubs is 12:1 (G.F.A. statistics).

The normal minimum number of sailplanes acceptable is 2. A trainer and one single seat sailplane.

For minimum viable club of 30 pilots, a pilot/sailplane ratio of between 12 and 15:1 is indicated.

Minimum viable fleet 2 sailplanes

Back up

Every gliding club required back-up resources in terms of equipment, hangars and buildings, but these are impossible to quantify, as the minimum need varies by circumstance.

One back up, however is critical — experienced man power. Ultimately, this is the factor which causes a club's demise. For minimum viability, this paper postulates the need for —

- two full instructors
- one C of A ground engineer
- 2 experienced administrators, one finance, one purchasing.
- member enthusiasm (impossible to quantify).

Mountain Soaring Techniques

by Lloyd M. Bungey



Part 2

Part 1 of this guide served as an introduction to the methods of efficiently working ridge lift. yet to be considered are the visualisation of lift-producing areas along a mountain and hazards due to terrain.

Visualisation of Lift Areas Along a Slope and Errors Due to Faulty Visualisation.

Just as in thermal soaring where it pays to develop a good mental picture of where lift is to be found and the distribution of the lift within an area of lift; so too in ridge soaring it pays to have a good idea of these points.

Although figures 2 thru 6 (see Part 1, Free Flight Mar./Apr. '78) depict a band of lift a short distance out from a reasonably straight section of ridge this is a situation which rarely occurs in the mountains of the northwest of the North American continent. Figure 7 shows a more normal state of affairs. In this figure an irregularly shaped ridge lies in the path of a wind hitting it at an angle. The various sections of the ridge produce varying amounts of lift or sink depending on how the wind happens to hit them. To effectively use such a ridge the soaring pilot must use only the sections producing lift and, if possible, only the best of these.

When approaching a strange section of ridge, the pilot should consider the likely wind direction and its probable path around the various portions of the ridge. If the wind impinges on the ridge at right angles to the ridge then it can be practically guaranteed to produce lift unless it can flow around the side of the section. However, as the angle at which

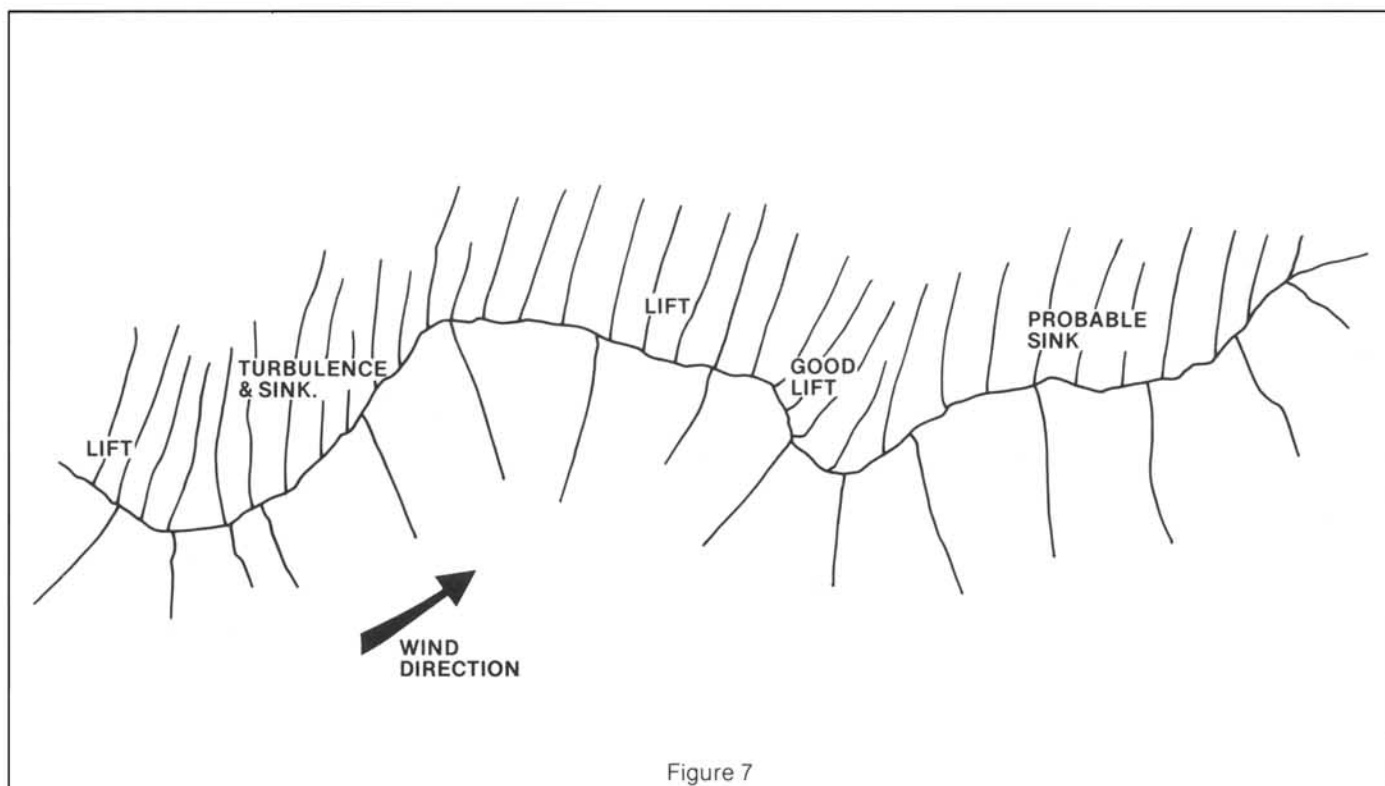


Figure 7

the wind approaches the ridge diminishes below about 45 degrees then so does its lift producing potential. In figure 7 the slope depicted has had the likely areas of lift and sink indicated. To be able to visualise such a picture as one approaches a ridge is an important asset in efficiently using ridges.

In the above paragraph, the phrase "likely wind direction" was used rather than "wind direction", since in the mountains the wind direction is rarely the same for any two slopes being influenced by obstacles ahead of the slope and the syphoning effect of heated air being drawn off heated areas of the slope. All neighboring valleys and ridges will have some effect on the local wind, tending to channel it one way or another. Thus while the lift on one slope may be on a corner facing to the north-west, a slope not far away may have its best lift on a section facing to the south.

A common mistake made by the pilot who does not place enough effort towards visualising the airflow around a ridge is shown in figure 8. In this case we have a ridge with a face which is producing lift under the influence of a wind which is blowing onto it at an angle. Further along this ridge takes a bend such that the wind now is at a much shallower angle to the ridge and in fact can

simply blow around it rather than rise up over it.

From A to B the glider is flying through the lift and the variometer will be showing a favourable reading. From B to C the glider is flying out of the zone of lift into the zone of sink but because of the lag in the instruments the variometer will probably still be showing lift although at C the reading will be dropping. At point D the vario finally shows the lift to have ceased although by this time the glider is actually in the sink. As the glider makes the turn to reverse the beat it will be flying through sinking air. Additionally, from B to E the glider has actually been flying downwind therefore to return to the zone of lift at point F the glider will have to fly upwind through sinking air, a slow process. The continuation of the beat from B to D does not apparently cost much height until the pilot turns back and finds himself bucking the headwind back to the lift from E to F.

When visualising the interaction between wind and terrain to produce lift, one should be particularly alert for certain features on the mountains which are particularly favoured lift generators. These are bowls (figure 9) and chimneys. Bowls are large areas which form concave depressions in the mountain face and as such act as wind traps. As figure 9 shows, the sides of the bowl tend to

deflect the airflow into the bowl producing a locally enhanced wind at the lift producing face. In a similar manner, chimneys which are cut into the mountain face by the action of waterfalls and streams tend to act as wind concentrators and will produce areas of strong lift just in front of them.

The Dangers of Areas of Locally Reduced Air Velocity.

Not only should one consider the effect of the terrain in terms of the airflow around the slopes but also in terms of the airflow up the slope. This latter is a most vital consideration for safety. A common trap which has caught many a pilot is the "dead" zone immediately above a terrace. Figure 10 illustrates this showing a ridge rising at (say) 40°. Midway up this slope there is a terrace with only a slight slope. The airflow up the slope cannot change direction rapidly enough to follow the floor of the terrace so for some distance above the terrace there is a zone of stagnant air. The wind flowing up the slope gradually gets closer to the slope above the terrace but it may be several hundred feet before it is as close to the slope as it was below the terrace.

The trap in the above situation lies in the zone of stagnant air. If a pilot tries to follow the contours too closely and flies over the

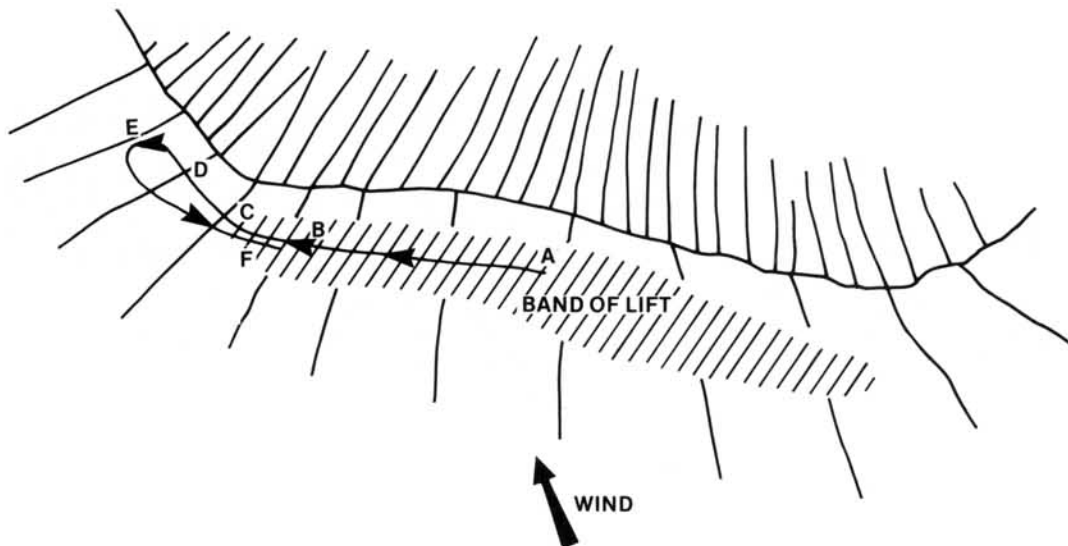


Figure 8

terrace at low altitude then he flies right into this pocket of stagnant air. If he has had a headwind component as he flew along the ridge (due to the crabbing necessary to avoid being blown onto the ridge or due to the wind not being 90° to the ridge) then as he flies into the stagnant zone he is effectively flying into a wind shear and will lose airspeed and altitude. Either of these could put him into the trees. Additionally, as one flies into the stagnant pocket one is flying out of the upward moving air. This also causes a pitching down of the glider and a loss of airspeed due to the Yates effect. The loss of airspeed under these conditions may lead to a stall with serious consequences or else the loss of height as one enters the stagnant zone and attempts to maintain airspeed may result in the pilot flying into the trees.

A similar danger exists if one attempts to fly too close to the ridge. Under any given set of conditions there is an optimum distance out from the ridge at which to fly. This optimum distance is determined by several factors, including the strength of the wind, the shape of the ridge, the ability of the pilot, and the gustiness of the wind. Generally, the stronger the conditions the further out one should need to fly. Close in to the ridge the lift will tend to taper off as frictional forces cause the airflow to slow down. As the wind strength

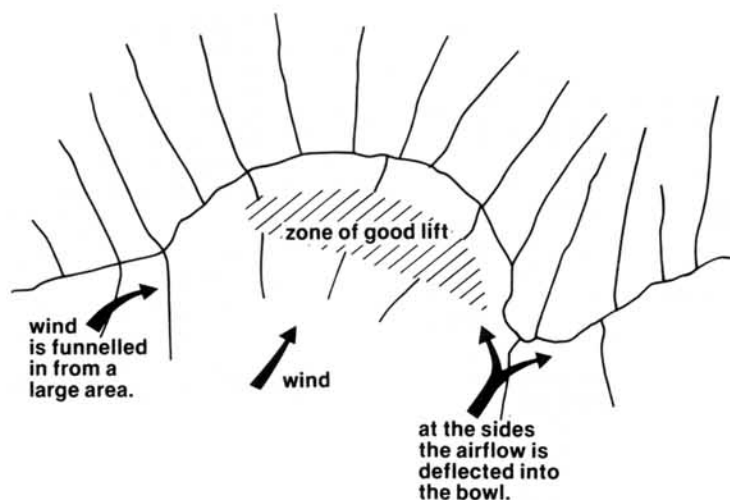


Figure 9

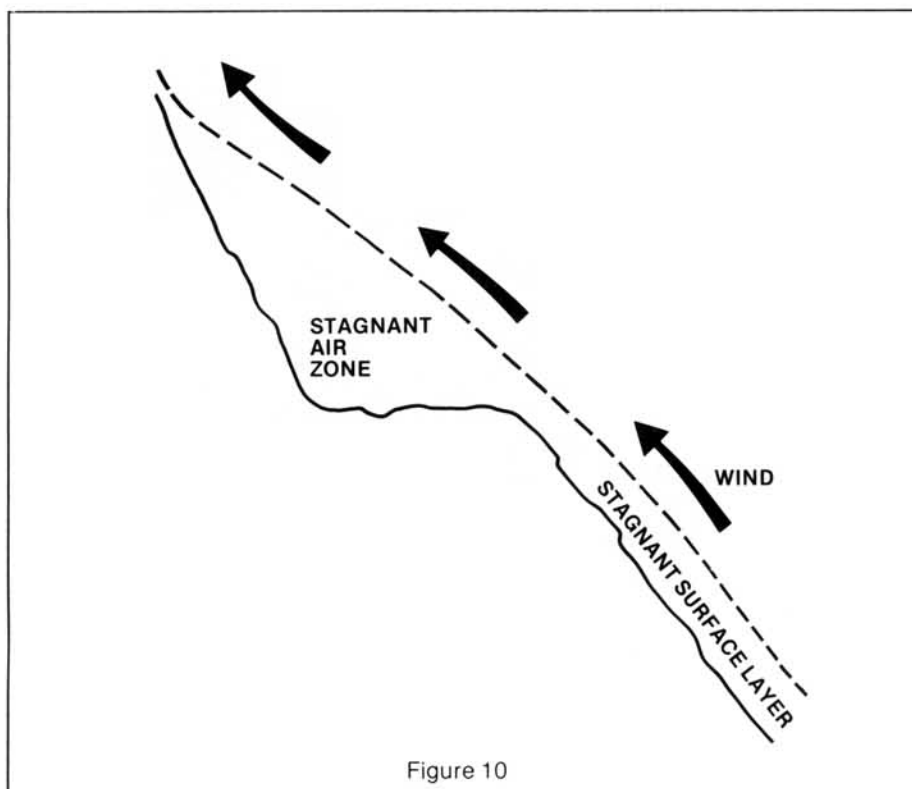


Figure 10

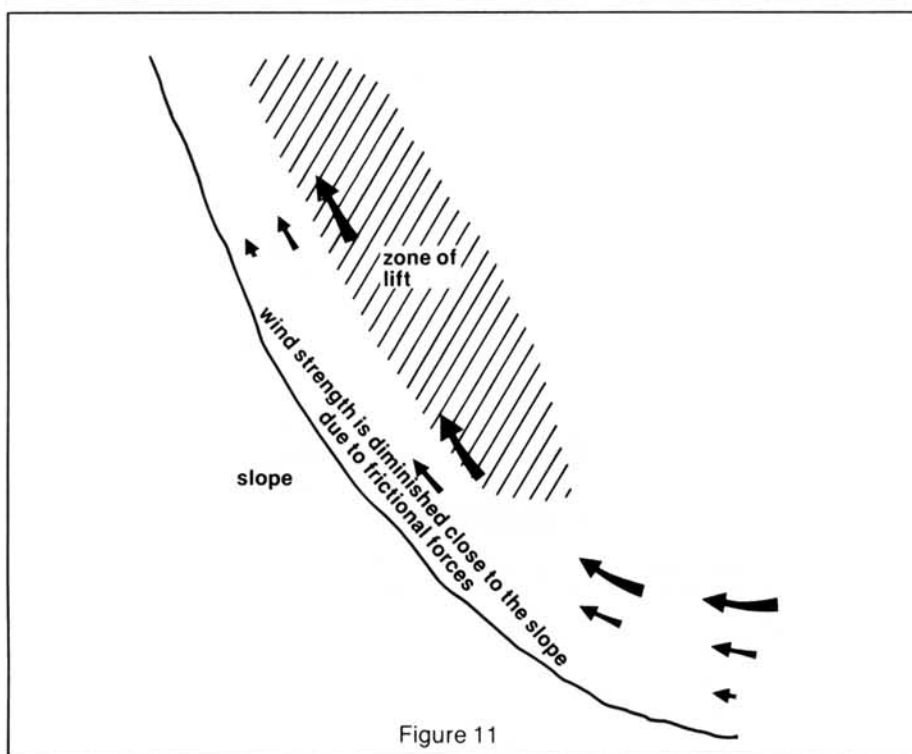


Figure 11

increases so do the frictional forces and the layer of air so affected extends further out from the slope. (see figure 11)

This slowed down layer of air close in to the slope has the same effect as a stagnant layer of air above a terrace. If one flies in too close to the slope and enters this layer then there will be the same loss of airspeed and decreased rate of ascent as discussed previously. Thus to avoid flying into the trees one should stay a reasonable distance away from them at all times. It also helps to have a little surplus airspeed which may be traded for height in emergency.

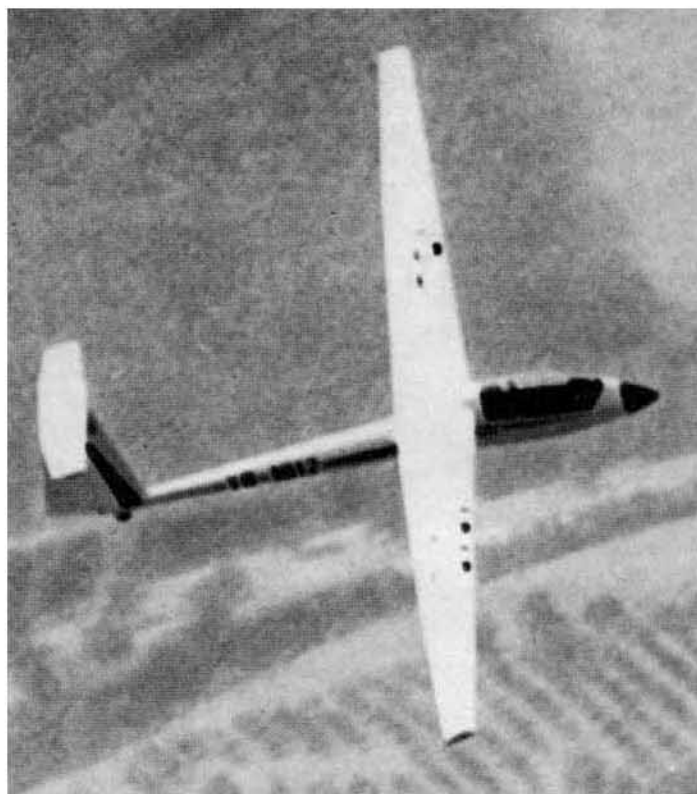
The existence of the stagnant layer of air close in to the ridge is part of the reason for the rule "always make your turns away from the mountain". As will be shown later, there are times when this rule may be broken but it is not good practice to do it if you are soaring in ridge lift (as opposed to thermal lift). A turn made in towards the slope can result in flying into the stagnant layer with serious consequences as described above. Additionally, a turn towards the slope is a downwind turn and will require a greater than normal separation to be accomplished in safety. Furthermore, when flying directly towards a mountain face, as you would be for part of the turn, it becomes extremely difficult to judge how far away from the mountain you really are.

For similar reasons it is always wise to approach a ridge at an angle of less than 45 degrees since the sharper the approach the sooner one flies through the lift and into the stagnant layer. A shallow approach will carry you through the area of lift slowly enough to evaluate where the strongest lift is and as the lift starts to weaken as the area of diminished wind strength is entered the flight path can be readily readjusted to place oneself back in the best of the lift.

Flying Along a Ridge with Other Gliders.

When flying along a ridge in company with other aircraft, the rules to follow are mostly common sense. Almost any elementary book on soaring will have a list of these rules, most of which have been in existence for many years. There are a few key ones, such as the glider with the ridge on its right has right of way but, no matter what the rules say, nothing beats the use of a little common sense. Do everything in plenty of time and if you are near other gliders make sure your intentions are clearly indicated. Also, never box yourself in. If you are following another glider and closing up on it, don't wait until the last minute to turn away as he may decide to turn at the same time; turn while there is still plenty of separation, even if it means shortening your beat. Under all circumstances avoid doing anything which will lead to confusion because confusion is just one short step away from an accident.

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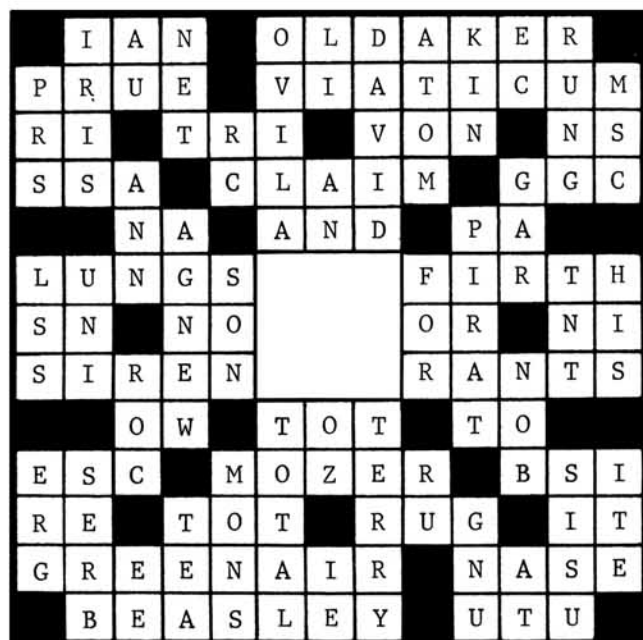
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Answer to Crossword

MARCH/APRIL ISSUE



F.A.I. Badges

Tony Burton 611-860 Blackthorne Ave. Ottawa, Ontario K1K 3Y7 (613) 749-7618

The following FAI Badges and Badge Legs were issued Jan - Mar. '79

DIAMOND BADGES

Steve Simon No.29 (World 2528)
Jim Koehler No.30 (World No. pending)

GOLD BADGES

149 Kurt Hertwig London
150 Jim Joehler Saskatoon

SILVER BADGES

515 Joe Taushman York

DIAMOND ALTITUDE LEG

Jim Koehler	5300m	Black Forest	Saskatoon
Steve Simon	5340m	Black Forest	
Rudolf Mueller	5360m	Black Forest	York
Charles Fowler	5350m	Black Forest	Independent
Gary Kneier	6900m	Cowley	Cu-Nim
Joe Taushman	5060m	Black Forest	York
David Harper	5120m	Black Forest	York
Rudolf Mueller	5360m	Black Forest	York
Willem Sikma	5060m	Black Forest	York
L.R. MacDonald	6400m	Black Forest	York
John Kollar	5480m	Black Forest	York
Hans Stauffert	5090m	Black Forest	Kawartha
D.B. McNiven	6160m	Black Forest	

GOLD ALTITUDE LEG

Glen Lockhard	Sugarbush	Rideau Valley	
Donald Rowe		Cowley	Cu-Nim
Jane Williams		Black Forest	York
Stephen Williams		Black Forest	York
Rudolf Mueller		Black Forest	York
Joseph Blankier		Black Forest	SOSA
Carlo Bassi		Black Forest	
Hermann Ksander		Black Forest	Kawartha
R.C. McNee		Black Forest	York
Wolf Leers		Black Forest	SOSA
R.J.F. Smith		Black Forest	Saskatoon
Keith Williams		Black Forest	Saskatoon
J.M. Chudoblak		Black Forest	Saskatoon

SILVER ALTITUDE LEG

Jane Williams	Black Forest	York
Stephen Williams	Black Forest	York
Rudolf Mueller	Black Forest	York
Leslie C. Lee	Black Forest	York
Per Talgoy	Black Forest	Winnipeg
Joseph Blankier	Black Forest	SOSA
Carlo Bassi	Black Forest	
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Who says you have to be a Private

Who says you have to be a private owner to fly 100 hours per year? by "I'd Rather Remain Anonymous (Who'd ever want recognition for a bunch of dirty tricks)

Most private owners claim that the only way to fly 100 hours per year in Canada is to become a private owner. This is just a load of propaganda designed to get the novice into the used sailplane market so that the said private owner can unload his latest mistake and use the money so obtained to move up to his latest dream. Not that I am against privately owned ships. They have their place. But they are not the sole way of building

time rapidly. My timebuilders have been the club ships, but now that I have finally succumbed to the lure of an expensive toy, I can share some of my secrets. Prior to now I didn't dare; who wants to spoil things for themselves?

Timebuilding Method No. 1 Watch the skies and jump the list.

Most club operations have a list of one kind or another to determine flying order. Generally, it is based on the principal of first on the field first to fly. Ours worked on the principal that those with their name highest on the list had the first choice of whether to fly or not. Until the soaring started, anyone could

fly without losing his position on the list but once soaring started your name was crossed off the list when you flew and was added to the bottom of the list after you landed. Fair to all or so it was thought.

Shortly after I soloed I decided that there had to be some way to short circuit the list. After all I was generally number 3 or 4 on the list and, while that usually gave me a soaring flight, those in the number 1 position usually got two. Obviously I had to find a way to get the number 1 slot consistently.

Some of you will say I should have arrived on the field earlier. But why? There was another method which, incidentally, had a side benefit of making me a more observant pilot and didn't require such ridiculous exercises like getting up at 4 a.m.

I had noticed that one of the older members of the club was always first to soar. He would push his ship out to the line, then stand around chatting to the other private owners for quite a while, then without creating a stir, he would decide it was time to go. Quietly, he would move his ship to the take-off line and be gone. Usually, it would be half an hour later that the others would realize someone was soaring and then the mad rush would start.

I started using this old hand as my trigger. As soon as I saw him start moving towards his glider I would quickly ask all the guys above me on the list if they wanted to fly. Since nobody was staying up, there was little chance that any of them would want to waste money. Usually I got the go ahead to take the glider up and see for myself. I didn't waste the opportunity. Most times I would finish up getting the tow after my trigger, the old hand, and, with him to mark a thermal for me, I rarely failed. Anyway, if I did it obviously wasn't soarable so I was still number 3 or 4 on the list. If I soared, however, my name was crossed off, but then became the first on the list for the second round of soaring flights. I couldn't lose!!

Of course there was always the problem of the days when the old hand didn't come out. Initially, this caused problems. However, as time went by, I found myself developing a sixth sense about the start of lift. Obviously I was starting to recognise the small subtle changes that my old hand was sensing. Finally, I didn't need him at all.

Timebuilding Method No. 1a Jump the gun and let others jump the list.

After using my method No. 1 for a year or so I noticed a change in the attitude of some of my fellow pilots. When I came around asking if they wanted to fly, there was now the odd one who did. I started losing the advantage of the early flight. Obviously these pilots had come to the conclusion that I never flew if it wasn't soarable and were using me as their "trigger". If I was to regain the advantage of the first soaring flight I needed to modify method 1 to account for the behaviour of these one or two were spoiling it for me.

Very soon I came up with the "jump the gun" variation. For this to work I relied on

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FAI-15m—Class, glide ratio 42 (measured), safety cockpit, highly maneuverable, flap range up to + 55° down, aerobatics, cloud flying.
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ASW 20 L

FAI-Open Class, glide ratio 45, construction like the ASW 20, however, span 16,5 m with attached wing tips, low sink, cloud flying.

ASK 13

Two-seater, glide ratio 28, (composite construction), tandem seats, spring landing gear, aerobatics, cloud flying, span 16 m.

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Owner to fly 100 hours per year?

the "method 1 spoiler" using me as his trigger. Now I merely asked around an extra 20 minutes ahead of the time I normally would have (I was getting pretty good at estimating the time when lift would start). The spoiler would quickly jump in ahead, but since he was 10 minutes early, he would only get a circuit. When he landed, no one else waiting for the soaring ships would want to follow his example so it was free for me to go up and at what was in reality the time I really wanted.

It took only a few weeks use of method 1a and the "spoilers" confidence in my infallibility was shaken. They were no longer using me as their trigger and I could revert back to the standard method 1.

Method 1b. - The long delay

During the period I was forced into using method 1a. I had the good fortune to be able to use another variation. With only one towplane and this being hand refuelled from barrels, there is usually a 30 minute interruption when refuelling is necessary. A couple of times I knew the towplane would have to go for fuel before the soaring was due to start. By timing it right, I was able to ask for my ship at a time which was obviously way too early pull it up to the launching line behind a couple of trainers, get strapped in, only to have the towplane head off for fuel just as my launch came up. By the time refuelling was completed the cu's were starting to pop. I had asked for my aircraft almost an hour too early, yet the 2 trainers ahead of me and the 30 minute refuelling break meant that I got airborne just as the lift got going.

Method No. 1, in its 3 variations, does not lead to longer flights, but increases the chances of making more than one soaring flight on a given day. There are ways of getting longer flights than normal which may be used under favourable circumstances.

Method No. 2 - The five hour rule.

Most clubs have time limits of about an hour for flights in club equipment. Some, however, have arrangements whereby this rule is waived for bona fide 5 hour attempts provided they are pre-booked. Such was the rule where I flew. We had a list of those wishing to try for 5 hours and, each day, whoever had his name at the top of the list was permitted 3 launches in the solo ship of their choice before 1 p.m. If they were able to stay up then they could try for their 5 hours. After the third launch the ship reverted to normal (off the list) club flying. After an unsuccessful 5 hour attempt your name went to the bottom of the list again.

When I was really hungry for time (my first 2 seasons) I was fortunate that the 5 hour list was short. This made it very attractive not to get 5 hours but to use the list as a timebuilder. I must have made a dozen attempts of over 4 hours before other considerations made me decide to finally get it. Of course not all those dozen flights were cut short deliberately, in fact it was not until the first 3 had been cut short by natural shortage of lift that I realised that I had a

surefire timebuilder begging to be abused.

Method No. 3

Considering the club's finances.

This is a method that only works if your club has radio equipped ships. I was fortunate mine did.

Most clubs can use every cent they can earn but proceed to cut down their revenues unnecessarily. They have a one hour time limit (or some such) on the club ships which duly land after an hour regardless of the length of the line waiting for tows. They then sit on the ground for up to an hour waiting for a launch. My club was no different, then we got radio. Now things could be changed.

We did have a rule in the club that if the ship was not needed it could stay up with no penalty to the pilot. As soon as we got radios I started to use this rule to extend my flights. If I saw a fair line-up waiting for launch when it became time for me to land (a frequent occurrence when the lift has just started), I would radio in and ask for an extension of the flight until the line got shorter. Soon I was not the only one who did this, and sometimes we would practically have an airline type stack over the field with three or four ships flying around waiting to be called down.

It amazes me that clubs don't adopt this as a standard operating method. Once soaring starts all ships should be allowed to stay up until they are called in. There should be no long line-ups for take-off except at the start of the day. Staying up hurts no-one if the extra time is simply that which would have been spend on the ground waiting for a tow.

Well, there you have it, the basics of getting more hours on club ships. In addition to these methods there are other more specialised techniques like the "take a ship away for a week" method, and the "go fly a cross country" method or its cousin the "get a ship for a contest" method but these may not be possible in some clubs. Of course every club has possibilities for the "instruct a lot" method but usually by the time you reach the stage of being qualified to instruct you are not so keen to do simple timebuilding and, in any case, instructing is a chore.

The biggest advantage of timebuilding on the club ships, compared with getting sucked into the private owner routine, is that you get to fly but the club gets to do the maintenance. How many private owners have you seen busy with the maintenance chores on a superb soaring day? If you want to fly, join a club; if you want to maintain an aircraft become a private owner.

1979 INSTRUCTOR'S COURSES

The instructors Committee is pleased to announce courses as follows are being run this year: further details have already gone to all CFI's.

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Any pilots wishing to attend should see their CFI for further details. You should also note the following requirements.

All candidates to be recommended by their CFI.

FEES: For both courses \$30. payable to the Soaring Association of Canada; will cover course material but not flying or other costs. Flying costs to be shared by students.

First 20 candidates will secure places at each course (if demand is high we may be able to arrange a further course in the fall.)

Candidates must be SAC members

Candidates should have recently started instructing or be eligible to receive MOT instructors ratings following the course.

Ian Oldaker

Chairman, Instructors Committee

A sailplane of your own

the pleasures and the pitfalls

by Lloyd M. Bungey

To the keen enthusiastic soaring pilot a sailplane of his own would appear to offer the ultimate in freedom! No worries about when the club ship will be available for him to fly, no necessity for him to cut short a flight just because a time limit is up, he can fly when he wants to, stay up as long as he likes, in brief do just about whatever soaring he pleases. Freedom indeed.

After struggling to build up hours in a hardly-ever-available club glider, many a pilot decides to join the ranks of the private owners, but is this a wise course of action? For some, yes; for others, no. The advantages and disadvantages of having a ship of your own should be carefully considered before taking the plunge.

The Negative Side

Before buying a sailplane, the prospective purchaser should consider his needs and abilities. Those infrequent flights in the club sailplane may still offer the best deal. Even having partners may not reduce the costs enough to justify (economically) having a private sailplane and partnerships may bring other problems (more on this later).

Quite often, the purchase of a sailplane is largely an emotional rather than rational decision and in this it is very similar to acquiring a new mistress or a fancy sports car. In fact it may be a substitute for one or both of these. However, for the occasional flier, it is a rather expensive flutter, for the purchase usually involves several thousand dollars which could be better put to use earning more money to spend on flying. Also, once it has been purchased it will continue to cost money to maintain and insure.

In order to assess the cost of owning a sailplane I shall consider the costs for one costing \$9,000. If such a glider is fully paid for then the annual costs and loss of income attributable to the glider would be:

\$630 for lost interest on capital @ 7%

\$15 for annual inspection

\$225 for insurance (at S.A.C. 1979 rates)

This is a total of \$880 without considering extras like the trailer registration and insurance, cost of getting a parachute packed, buying towropes and the 101 other little things that are bound to be needed. If all this is considered then the cost is close to \$1,000 per year. In addition, if the money used to buy the glider is borrowed or could be used to pay off a loan then cost of the capital is much higher than the 7% used above.

Based on the above it can be seen that a private owner with a \$9,000 ship needs to fly about 100 hrs. per year to have any financial savings when compared with a club

pilot flying a club sailplane renting at \$10/hour. Of course, the chances of flying 100 hours per year are less with a club ship so either way the private owner is paying more.

By using similar figures to the above it can be demonstrated that for every \$1,000 invested in soaring equipment a pilot needs to fly 10 hours/year to have costs lower than if he rented at \$10/hour. But, this is not the full picture.

In a club, the maintenance load is usually spread over many individuals. The private owner, however, must look after his ship himself. If he is a busy person he may not have much time for this and it may be that several good flying days must be given over to maintenance, leading to the ironic situation where a glider bought to obtain more flying actually reduces the time available for it.

The Positive Side

All the above should be considered the drawbacks to private ownership. Now we shall look at some of the advantages.

As stated at the beginning, with a private sailplane you can (usually) fly when you want and as long as you want. To the enthusiast this is worth paying a lot to have.

Also, a large majority of the clubs have restrictive policies towards cross-country and competition flying. These policies are usually set to ensure that everyone gets his fair share of the flying, but if you are keen to fly cross-country it will appear restrictive. Once you have a glider of your own cross-country flying is at your choice. Similarly, contests are at your option, whereas the club flier may be forced to team up with another pilot or unable to get a ship at all.

If on a long weekend, you feel like visiting a distant soaring site, it is simply a matter of hitching up the trailer and going; whereas, the majority of clubs will only visit other sites as a large expedition which requires long term planning and organisation.

A further advantage of private ownership is that you may equip your pride and joy with all the best instruments without fear of someone messing them up. It is almost universally true that the club ship will have worse and less reliable instrumentation than a private ship.

In a nutshell, private ownership enables you to fly when you want, how you want, where you want and for as long as you want.

Partnerships

Interested in having a sailplane but considering reducing your costs by sharing it with others? Such an arrangement can result in benefits, both in economy and conven-

ience. With one or two partners the costs are shared, and if cross-country flying is your big thrill the problem of finding a crew is often less with partners around. But choose your partners carefully.

The ideal partnership is with someone who hates to fly but enjoys retrieving. Such partners are rare jewels and should be treated with care. With a partner like this, you should be able to do all the flying but pay only half the cost. If you hate to fly but get into a partnership of this nature then at least make sure the costs are split on an "hours flown" basis.

Ideal partners are hard to find. More usually partners want to fly also. If you get a partner of this type then select one whose flying will not interfere with yours. If you fly Sundays only, try to find a partner who flies on Saturdays. If you fly on every other weekend, then look around for someone who flies on the alternate weekend. Such arrangements usually produce the least friction. If you fly a lot look for someone who flies a little, occasionally you may have to give up some flying to let him fly but on the whole you will come out ahead.

One small point often overlooked in choosing partners is their reliability. It is not pleasant to rig the ship only to find that one of your partners put the main pin in his pocket last time it was taken apart and then forgot to take it out again. Make sure that your partners can be trusted to leave all the bits and pieces where they belong.

What is the ideal size of a partnership? This depends a lot on who flies when. If all the partners work shiftwork and fly on their days off it is quite feasible to get along with up to 10. Similarly, if there are persons in the group who only fly once a month then a group of 10 could work. Generally speaking, however, groups of 2 or 3 seem best since usually only 2 good soaring flights of 2 hours or more can be fitted into any one day and a flight of at least this long is needed to keep a private owner content. On most days a partnership involving 3 will not be represented by all 3 so the flights can be extended reasonably. On the odd occasion when all 3 turn up they can usually come to an acceptable arrangement. A partnership of 4 can work but only if no more than 2 are usually present on any one day.

When selecting partners, make sure they are compatible with you. You don't want tensions developing which cannot be resolved. Make sure they are financially reliable. The bills should be paid on time with each partner paying his share. Also, you

should consider their flying abilities. Can the prospective partner handle the ship or be expected to do so in a reasonable time? If not, then you are doing yourself and them a favour by not accepting them as partners. On the other hand, if he is an excellent pilot who loves aerobatics and you frown on such things, then perhaps he is not your best choice as a partner since you may find his continued aerobatics in "your" ship very aggravating. Partners should be able to get along with each other.

When forming a partnership an item that often gets overlooked is contests. This can lead to friction later on. It is best to have a policy on this from the start. If contest flying is going to be done and all partners want to take part then it must be either as a team or by alternating contests. Occasionally, a partner can be found who does not wish to take part in contests himself but is prepared to let his partner have all the contest flying. Usually in this situation, the non-contest pilot has priority on the ship except around the time of the contest.

The Ideal Sailplane

If after careful consideration, you decide to buy a sailplane either alone or with partners then you must determine how much you wish to spend and what type of performance you are looking for. Often the price is determined by the performance or vice versa.

In recent years, the more popular sailplanes have held value or appreciated. Therefore, you would be wise to select from among these popular types since you will have good resale value if you decide to sell later.

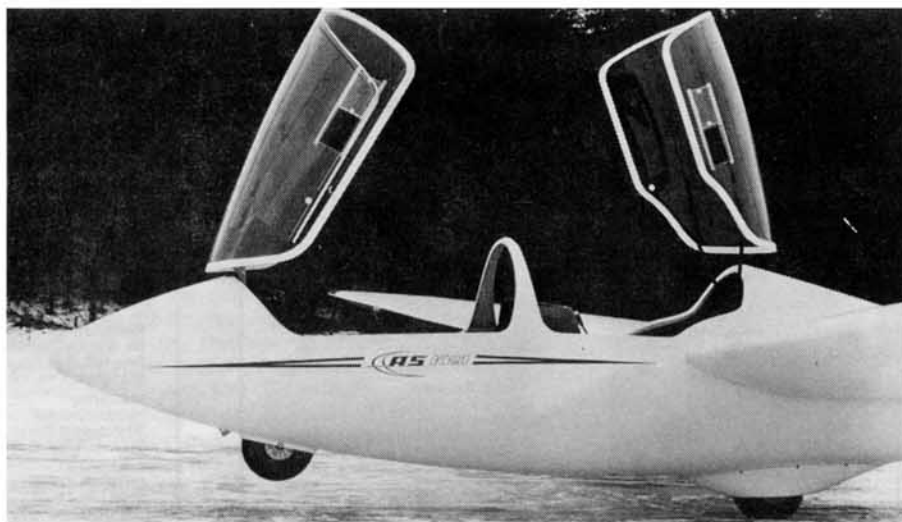
Don't buy the latest supership if you are not ready for it, since you will either get frustrated by the long wait until you are ready or you will try to fly it too soon and be a menace to yourself and others. If you want a supership, work up to it. Get into a partnership in something you can fly already and build up your skills in that, then sell out and get something better. Eventually you will have your supership and be qualified to fly it.

Of course if you are nearly ready for your supership then order it now as the delivery time will be 12-18 months and by the time it arrives you will be ready for it. Similarly, if a share in a ship is available now but will be sold by the time you are ready for it then snap it up, but don't be in too much of a hurry to start flying it. Develop your skills first.

One more point in the selection of a ship, don't buy more of a ship than you need. If you just want to putter around on a Sunday afternoon and never go more than 5 miles from the airport you would be wasting your money if you got a Nimbus, after all a 1-26 will fit your need very nicely. On the other hand don't buy less than you need if you can afford it. If you want to fly contests then try to get the best that is available. It will hold its value for a long time and you will also have competitive equipment.

In the final reckoning, however, the choice of whether to buy a glider and what kind will probably be made as a result of one part reasoning and three parts desire. May you be happy whether you decide to stick to the club ships or go out and get one of your own.

OVERSEAS NEWS



February 1979 marked the first flight of the new Schleicher ASK 21, a two-place high performance sailplane, which marks yet another design from Rudolf Kaiser's drawing board.

Notable features of the ASK 21 include the tandem landing wheels, like the Janus', where the forward wheel replaces a skid. With the pilot aboard the wheel rests on the ground, allowing for very solid tracking in cross-winds. The two-piece canopy is also striking, as the photo shows.

Schleicher claims safety combined with high-performance was the goal of the design and they feel it has been achieved and expect to start production this fall.



This photo shows the striking two-piece canopy and nose wheel.

Australia - Word of a new tailless sailplane comes from Melbourne. Aeronautical engineer John Buchanan has received a \$10,000 grant from the Australian Government to develop his new project, a simple pod design with very high aspect-ratio 15m swept wings.

Buchanan credits recent developments with enabling him to revive the swept-wing tailless concept that has been dormant since reflex-airfoil types such as the Pioneer II and Fauvel have come into being. The developments have been in computer-assisted design and new materials; glass and carbon-fibre.

The wings have no tip rudders, a characteristic of past swept tailless designs.

Buchanan, who finished 18th at Chateauroux last year in Standard Class flying an LS 3A, hopes to have his new ship ready to fly in the 1984 World Championships in Australia.

He estimates a selling price of \$A 17,000 would apply if the sailplane was manufactured.

Source: Canadian General Aviation News, March 1979.



World Standard Class Champion Baer Selen of the Netherlands is shown inspecting an ASW 19-B at the Alexander Schleicher Segelflugzeugbau at Poppenhausen/Wasserkuppe last December.

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BOOK REVIEW

GOING SOLO by Derek Piggott

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It's called "A Simple Guide to Soaring" but it contains all you would want to know before going solo and soon afterwards in a convenient paperback-size booklet. Always a practical man - Derek Piggott has even seen to it that the book has waterproof covers and an attractive picture on the front!

This book contains a wealth of clear diagrams and concise explanations that a student pilot would find valuable particularly if read during flying training. Some areas are clearly geared to the UK system; for example the cockpit check CB SIFT CB is now their standard. Piggott I know has a more relaxed attitude than many of our CFI's to rigid circuits, however his chapter on circuit planning is a must, and his aim of producing thinking pilots shows through (instructors please note!). His hints on things to practice are great.

If you have a few spare dollars the investment would be well worth it; even if you have flown for many years there are many useful reminders at the end of each chapter.

Ian Oldaker
Chairman, Instructors Committee

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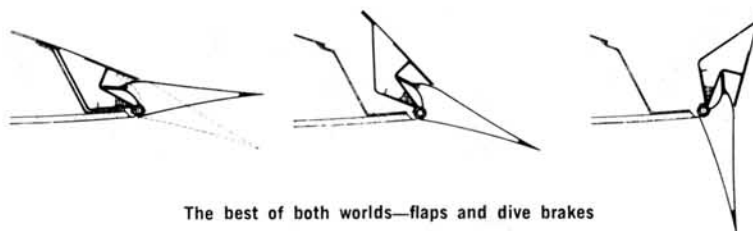
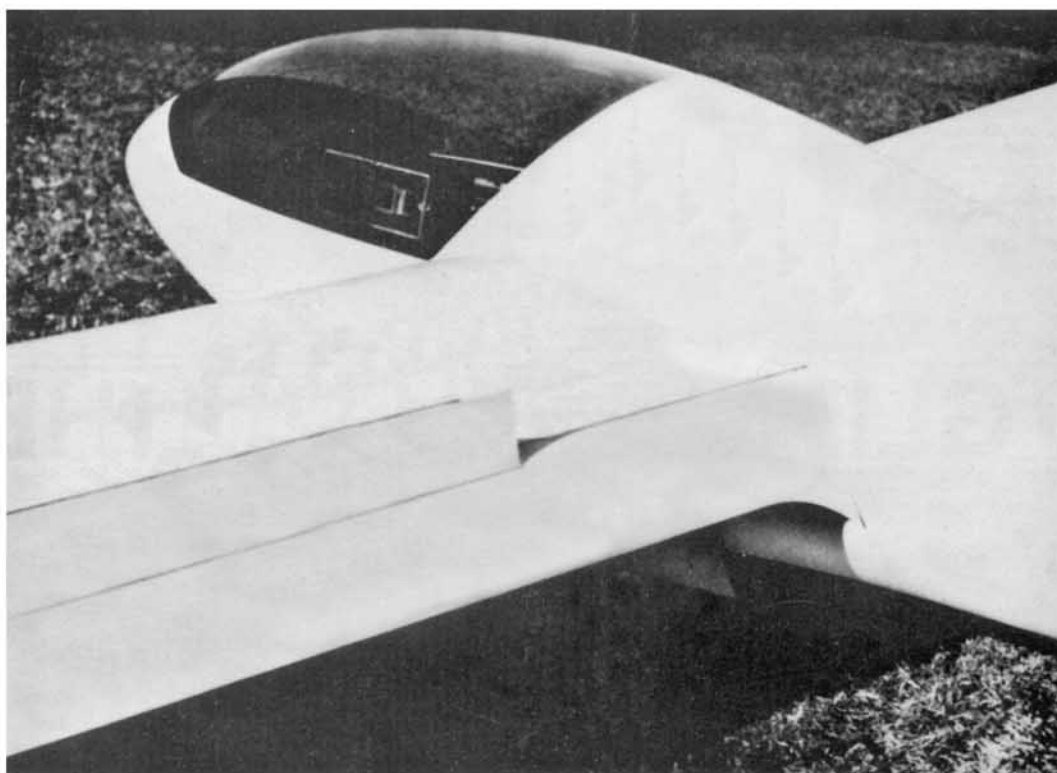
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