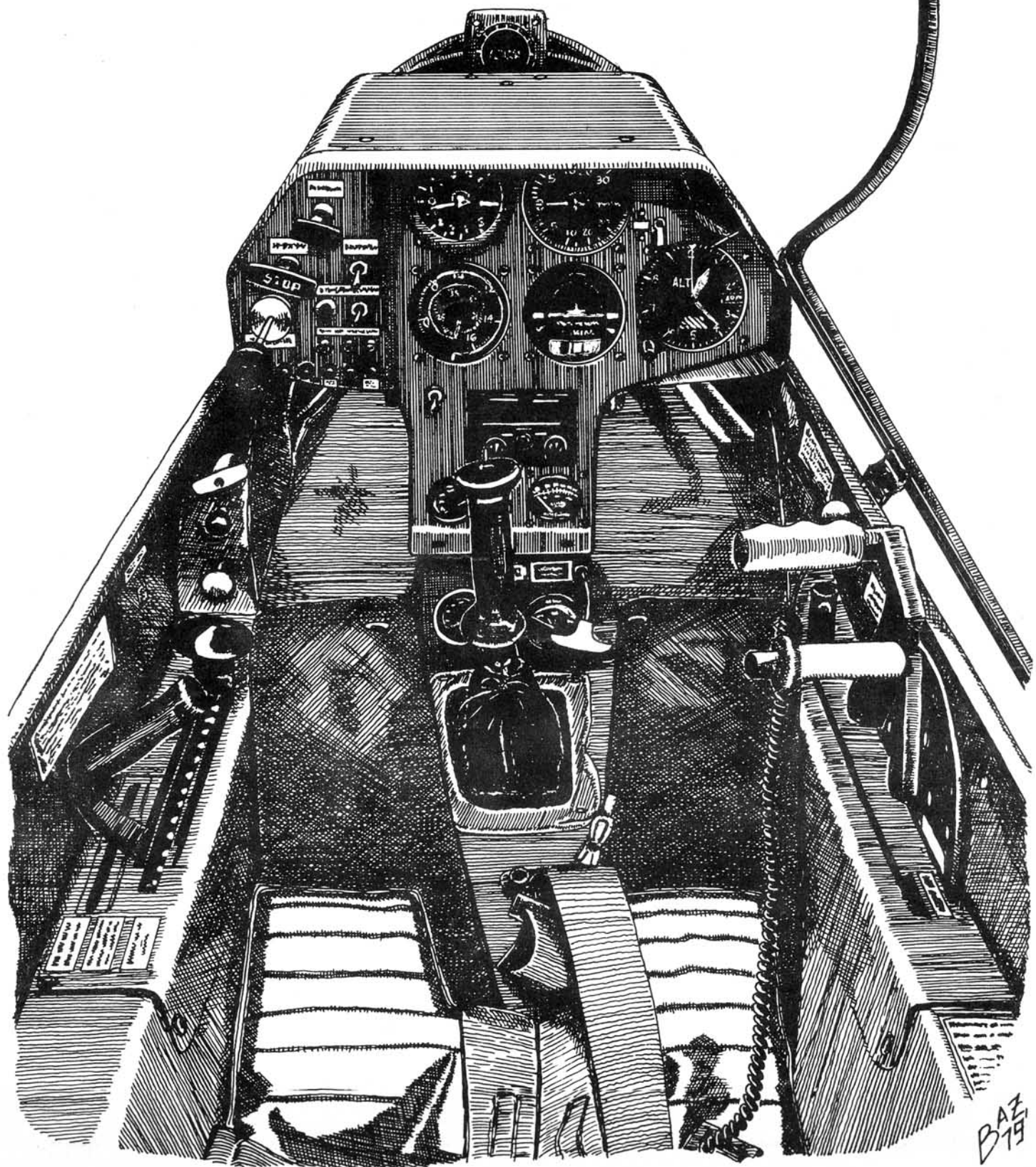


free flight

March/April, 1980





Official Publication of
Soaring Association of Canada
L'Association Canadienne de
Vol a Voile,
 Box 1173, Station B,
 Ottawa, Ontario, Canada K1P 5A0

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All material for future issues should
 be submitted to the editor at:
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Deadlines for future issues:

Deadline for the May/June issue is
April 1, 1980
Deadline for the July/August issue
is June 1, 1980
Deadline for the
September/October issue is
August 1, 1980
Deadline for the
November/December issue is
October 1, 1980

Address changes should be sent to:
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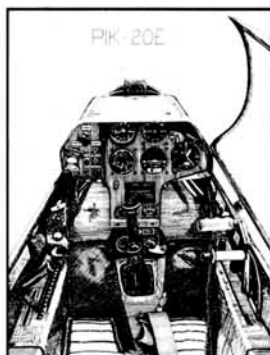
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 — The Editor

You will notice a change in the general appearance of FREE FLIGHT this issue. This is because the production of FREE FLIGHT is now being done entirely in Winnipeg by Sanford Evans Services, a diversified publishing organization. This has been done to shorten time in preparation of each issue of FREE FLIGHT, to get more timely items of interest to SAC members, when they are supposed to appear. While not promising overnight service the editor hopes SAC members and other FREE FLIGHT readers will begin to pay more attention to the articles and less to the postmarks on each issue. Past performance has been embarrassing at times, and this move is one way of showing FREE FLIGHT can be worth the expense of time and money that goes into it.

Regards, Mark Perry, Editor

COVER

The drawing of the PIK20E here is not, as one might think at first glance, yet another example of the celebrated Jean-Luc Beghin's work: it's by Dave Baziuk of Winnipeg, a young artist - draughtsman, who glides with the Air Cadets, and also does oil paintings of aircraft. If you think you'd like a portrait of your pride and joy sailplane you can contact "Baz" via the Editor.



IN MEMORIAM



SOARING ASSOCIATION OF CANADA B.A.I.C. TROPHY — Donated by British Aviation Insurance Company 1950 to be awarded for "Best Flight of the Year." With Trophy, Emmanuel Hahn, Canadian sculptor, designer of the award, and Mr. B.S. Shenstone, President of S.A.C.. A symbolic pinnacle of 'Achievement'.

Beverley S. Shenstone the second president of S.A.C. died at his retirement home in Cyprus the 9th of November 1979 aged 73 years. My association with Bev began only with the founding of S.A.C. but his illustrious career in aviation began years previously, when I believe, he graduated with the first group of aeronautical engineers from the University of Toronto.

Prior to the war he spent some time in England with Supermarine and had a role with W.O. Mitchell in the design of the Spitfire. It was during this time his interest in gliding began and he visited Germany and the Wasserkuppe. During the war he returned to Canada and worked directly with C.D. Howe becoming representative for the Dept. of Reconstruction and Supply at A.V. Roe (Canada) in Toronto. Here he helped to

start the De Havilland Gliding Club and knew many of the Polish engineers then working in the Toronto area.

After S.A.C. incorporation Bev was elected President following J.A. Simpson and during his two years of office was primarily responsible for putting S.A.C. into the black and laying the sound foundation on which the Association still runs. With W. Czerwinski and Dick Hiscocks he helped design the Harbinger for entry into the British competition for two seat gliders. He left Canada again for England to become Chief Engineer for British European Airways, a post he held until appointed Engineering Director for British Overseas Airways which position he held until his retirement in 1975.

He wrote many technical papers and was,

during his term as President of The Royal Aeronautical Society largely responsible for convincing Henry Kremer to establish the Kremer prizes for Manpowered Flight. His paper "The Ultra Light Highly Efficient Aeroplane" led the way for many efforts in this category. He also wrote the Early History of Canadian Gliding which was published in the only S.A.C. Yearbook, CIRCA 1949.

His quiet convincing voice will be sadly missed by all who knew him, S.A.C. should be proud to remember him as a sound administrator who helped set us firmly on the right track in our early years.

A.N. Le Cheminant
S.A.C. Historian



John Agnew presiding at the 1979 SAC-AGM.

JOHN AGNEW

John Agnew, holder of Canadian Glider Pilot Licence No. 1 and one of the founding members of the MSC, passed away November 22, 1979. The following are tributes to him by once-student and long time friend, Gordie Hicks, by Bob Gairns and by Gordon Bruce.

John introduced me to the MSC in May of '51. At that time we operated from St. Eugene, Ontario. One of the first things I observed was that John was into everything that involved the MSC. In the 50's John, likely instructed more than anyone else, was always a director and worked at everything except being tow pilot.

John founded the MSC in 1945 from the union of the Pratt-Read, McGill and Canadair Employees Gliding Clubs. Two Pratt-Reads and one Tiger Moth were brought to MSC by John's Pratt-Read group. In 1951 only the Pratt-Read and the Canadair Club had equipment, the McGill Club machine, a "Falcon" I believe, had long since gone from view. John did record some of the early history of Quebec gliding and hopefully it can be put together and published. Over countless hours of pleasant conversation, John and I discussed the early gliders, trailers and tow cars that dated back to the early 30's. John used to have a steel trunk in his basement that contained the tangible evidence of these early days — hundreds of beautiful old photographs showing winch, bungee and horse launch methods at Sherbrooke Street East locales.

In 1951 though the MSC was firmly established with a membership over seventy and growing, the emphasis was still on ab initio training. MSC cross country soaring had started but only by those trained elsewhere. It was John's ambition to be the first MSC member to earn the Silver C legs within the club, unfortunately the only machine at his disposal then was the Schweizer 1-19. This machine did on occasion stay up for two to three hours in the early spring, but had the penetration of a 2-33 with brakes partially open. The 1-19 was an open cockpit machine which became a deep freeze at over 4000 ft. On days suitable for distance, John put on a very heavy salt-and-pepper sweater that he hoped would see him to Cartierville Airport, just over 50 km. from St. Eugene. After many retrieves after 10 to 30 km. flights, everyone realized better equipment was required. I guess the possession of a fine "going to Montreal" sweater was not enough for the elusive 50 km. and 5-hour flights.

In 1952 the MSC finally completed rebuilding the MU 13, a beautiful slow speed sailplane with L/D of 27 and a circling speed under 50 km/hour. John managed to talk the Canadair Recreation Association into adding the Schweizer 1-23A to the fleet. This machine had a performance between the 1-26 and Blanik but had a twitchy elevator

and poor forward visibility. John was first to earn all Silver C legs in the MSC (by 17 May '53) and I the second (by 29 May '53) but due to the vagaries of Canada Post, I was assigned No. 12 and John No. 13. He said his consolation was that I received the majority of my training from him and that he had pushed me from the nest to go cross country. Looking back, I realize that John ran a very effective cross country scheme, one where the young student had every opportunity, certainly more than the few hard-working instructors, who were always needed on the field. In the 52 to 54 era, John was also president of the MSC and the SAC.

In 1955 lean hard years for the MSC began. Our site at St. Eugene which was leased from the Crown for \$1 a year plus insurance expenses was put up for auction. The MSC put in a bid but lost out to Autair Helicopters. A gliding club without a site of their own cannot have access to necessary amenities and so it was for the MSC. John managed to talk H. Boivin, the then-Mayor of Granby, into allowing the MSC the use of a small field at Angeleme as part of the Mayor's long range plan to develop interest in a future Granby airport. For various reasons another site was chosen for development and it was John's opinion that we should further tighten our belts and look for sites away from Granby for the '56 season. Hawkesbury field at that time was occupied by the Hawkesbury Flying Club, who sublet the field from the Town of Hawkesbury, who in turn had a lease from the Crown. John tried to negotiate with the Hawkesbury Flying Club but they were only interested if the MSC paid most of the expenses and we on the other hand would not have a clubhouse of our own nor could we establish flying procedures suitable for a gliding operation.

The 60's saw the arrival of new equipment and probably of equal importance, facilities for all to enjoy. John was unfailingly enthusiastic throughout these years in his support of the acquisitions that have made the MSC what it is today. As many of our readers are acquainted with MSC history after the mid-60's, I will pass over the account of John's contributions for this period except to recount John's last effort on behalf of gliding. The ASW-17 or for that matter any CERA owned glider was on the line with the CERA in the Fall of 79 due to the low numbers of Canadair employees in the MSC. The situation was made worse by unthinking remarks of a CERA Soaring Club official to persons in position who could force the sale of CERA Soaring Club equip-

ment. When John was informed of this situation, he initiated remedial actions at once. What impressed me was that John once again pulled irons from the fire even though he had very mixed feelings about the ASW-17 and its proposed use in the MSC performance scheme. John was a colorful controversial figure in gliding but his contribution to the MSC established the base from which the present organization evolved. As John's philosophy of life was similar to my own, I will not wish him the joy of good thermals but I will try to continue for as long and to the extent possible to continue what he set in motion in 45.

Gordie Hicks

I first met John Agnew in the fall of 1956 when I joined the Montreal Soaring Council, at that time flying with the Gatineau Club at Pendleton, as MSC did not have a permanent home.

In May or June 1957 the Hawkesbury field became available and MSC moved there. Membership was not more than 50 at that time.

John was assuredly the oldest member and the major decisions were made by him; it was a paternalistic society. However an influx of pilots from well-organized European clubs began to bring about changes. Though he complained about some of them, John accepted the change to a constitutional society and freely gave his support to those he felt were working unselfishly for the cause of gliding.

For the next 20 years he was a staunch member of the club and hardly missed a weekend at the field, doing more than his share of instructing, full of sound advice, and contributing to running the field operation in a disciplined and therefore safe manner.

On the wider Canadian scene he was a regular attendant at SAC annual meetings, and enlivened the proceedings at many banquets with his wit and repartee as master of ceremonies.

The present day procedures and spirit in MSC have evolved from the experience, sage advice, enthusiasm and hard work put in by people like John. He was a contributor, and we are grateful for having known him.

On behalf of MSC we wish to offer our sincere sympathy to "Pete" Agnew and to her daughters Judith and Mary Elizabeth.

Bob Gairns

In the December '78 MSC "Downwind", a pictorial article "Yester-Year" appeared written by John Agnew. Among the photos there was one of John taken in 1937 sitting in a open Mead Rhon Ranger glider; glide ratio 10:1. He last flew in September 1979 in our Twin Astir, which he flung about the sky with great aplomb; glide ratio 38:1. Between the two events he spent most of his leisure hours dedicated to soaring, forming the Montreal Soaring Council from his original Maisonneuve Glider Club and the McGill Gliding Club. He was active in many fields, but soaring was his abiding love and his contributions to the movement, MSC and to SAC in particular were immense. We still miss him very much.

Gordon Bruce

President's Notes

Federal Government Support

These notes are being written just after a meeting with the Honourable S. Paproski, Minister of State, Fitness and Amateur Sport, regarding the future financial support by his department to the S.A.C. A further review period culminating in a decision at the end of January 1980 was requested by the Minister. It was obvious that a significant impression had been made on the Minister by our collective briefs and appeals, and I thank the membership for taking the time to lobby on S.A.C.'s behalf. I hope that this effort will have borne fruit by publication time.

Executive Director

The Board of Directors has given active consideration to the desirability of hiring an executive director for the S.A.C. at this time and will have recommended to the membership at the Annual General Meeting that it adopt this recommendation with or without Federal Government support. The Association has grown to such a size that a full time director in addition to the secretary-treasurer is necessary to satisfy the aspirations of the membership-at-large. His expected duties were outlined in a bulletin mailed to all members in January and they

generally fall under the categories of implementing the S.A.C. policy established by the Board of Directors and of managing the administrative functions of the S.A.C. National Office. I hope that the membership accepts the Board's recommendation for this new and important position.

Budgets, Fees and World Contests

Also in the previously mentioned bulletin were a detailed budget and the new fee structure which would be necessary in the absence of Government support. The Board believed that the smallest possible compromise should be made to the general S.A.C. services provided to members even though our fees would need to increase markedly to achieve this in the absence of Government Funding. The Federal Government's support most difficult to replace and not obtained from membership fees is that given to competition, particularly international competition. Entering a team of four pilots costs at least \$40,000.00. If the membership wishes to send a team to Germany in 1981 (Canada has only missed one international competition since 1953) then extraordinary efforts will be required of each member to raise the necessary funds by the end of the year. The S.A.C. will not

register a team without sufficient committed funding existing.

I appeal to each member to support the World Contest Fund to allow Canada to continue to be represented at these contests. Our team's performance has been steadily improving in international competition and deserves further support from the membership. Also, without participation in international competition, all hope of Federal Government funding in the future dies, not only for contests but for all the other worthwhile projects for which it has received support in the past.

Publicity

The publicity brochures being prepared on behalf of the membership should be in their final stages of preparation. It is a fold-out brochure with coloured photographs of gliders which can be used by clubs for publicity. The brochures will be available from the S.A.C. office at a nominal charge.

Hopefully the snow is disappearing rapidly when you receive this issue of Free Flight and all thoughts can turn to an excellent, safe soaring season.

Karl Doetsch

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Highlights from S.A.C. Directo

January 12 and 13, 1980, Winnipeg, Manitoba

In attendance were Dr. K. Doetsch, Mrs. Terry Tucker, A. Schreiter, A. Krieger (in place of T. Beasley), R. Flint, J. Williams, R. Matthews, C. Timm, J. Tinkler. Having had an opportunity on Friday evening to catch up on individual question and answer business, the formal meeting commenced on Saturday morning with a review of the previous Directors Meeting Minutes. Actions had been initiated and or completed on most outstanding items. A **Safety Committee Chairman** is still being sought and any member interested and capable of serving in that capacity is encouraged to contact the Board. It was noted that **Christine Firth** had volunteered to be responsible for the Archives and be our Association's **Historian**.

Government Support

Karl Doetsch updated the Directors on most recent developments indicating that early in December it became apparent that the S.A.C. Members' lobby was beginning to take effect. M.I. Pelletier, M.P. and shadow Cabinet Minister contacted S.A.C. to acquire more information with the net result that just prior to the election call a question had been prepared for asking in the House. The Executive Assistant to Paproski was contacted and advised of this and coincidentally Karl also met Proproski the following day informally at a reception. At that time he secured promise of a formal meeting with him which took place just prior to a cabinet meeting later that week. Along with two other Associations S.A.C. was able to present its case, very briefly, to the Minister and pass more detailed documents to him. However, with the election call all negotiations have become stalled and in summing up our current situation it could be said we have been given cause for hope that some sort of funding might be continued, albeit of a short term nature, but no promises were given. It should be reiterated that the concerted effort of many S.A.C. members to lobby their government representative was highly commendable and acknowledged by the government people as having been so.

Annual General Meeting — Ottawa 1980

The order of business and program for the A.G.M. was reviewed. The formal business meeting is scheduled to commence on Saturday afternoon in order to leave Saturday morning available for Workshop discussions. Insurance Committee will lead off followed by our President's presentation of the Budget and Funding for General Revenue. Al Schreiter will discuss the World Contest Program for our National Team to participate in the 1981 Internationals in Germany. Saturday evening there will be a formal dinner and representatives of M O T and Government will be invited to participate along with other special guests. On Sunday the new Board of Directors will hold

their meeting while Club Delegates will be invited to participate in workshops on various topics until noon. There will be a panel on Safety and Instruction; A presentation by the Technical Committee is planned to follow. A third panel is being formed to cover Club Competitive Flying with the emphasis on CLUB level.

Motions and Resolutions were prepared for circulation to membership covering Couples voting privileges and affiliation of Provincial Associations.

Free Flight

Quotations for commercial printing of Free Flight were reviewed and the lowest bid accepted. This new method is expected to result in a 3-4 week turnaround, a great improvement over the current 2-3 months.

Membership Records and Printing

With the lack of government subsidies looming and resultant cut off from the printing and computer facilities the directors accepted a bid from an alternate source. For a charge of \$1000 per annum S.A.C. will receive: computerized membership lists containing all relevant information for S.A.C. purposes by club; membership cards in a form ready for immediate mailing; address labels; statistical data sheets and many other services.

New Member Clubs

A comprehensive package is being prepared which will include samples of all S.A.C. material; useful information lists etc. with the intent that upon registration as a New Member club this packaged kit will be mailed out. It is proposed that the Registration Fee (currently \$10) be raised to cover the expense.

Publicity

Information Brochures are in final stage of preparation and expected to be available for purchase at the A.G.M.

Calendars sales have been slower than anticipated and a variety of actions were decided upon to increase sales through wider distribution. It was also agreed that we should continue this project and authorize printing of a 12 photo 1981 calendar to be in the hands of member clubs by September 1980 and all clubs are encouraged to have their members submit photographs for inclusion.

The Calendar Centrefold for 1980 may have potential for outside sales in the form of a poster. Enquiries will be made at potential bulk purchasers offices in Canada and the U.S. and if a commitment to purchase is acquired this potential fund raising project will be considered.

Audio Visual Project — Details of this contest have now been circulated to appropriate colleges.

Nationals 1980 — Claresholm, Alberta
July 9 - 20

Administrative and operational points were reviewed and assurance was given that pilot packages would be ready for mailing to individuals in spring.

Regionals 1981

Bids for these contests would be entertained at the 1980 Annual General Meeting.

Nationals 1982

Deadline for submission of bids was set for October 1980 Directors Meeting.

World Contest 1981

The Fund Raising Program was discussed and Al Schreiter agreed to continue to chair this committee, having already set wheels in motion on a variety of projects. He emphasized in particular the FLY FOR CANADA program noting that size of individual pledges need not be large if sufficient pilots participate; details would be appearing in Free Flight. Also a reminder that all donations for S.A.C. are tax deductible.

Trophies

Presentation and Storage were discussed. Travelling cases to hold each group of trophies would be arranged so that they would be available at the appropriate event for presentation and then returned for safe keeping. Keeper plaques would be given to recipients. Following the 1980 AGM it is planned that a review of donated trophies will be made and additional funding sought to cover purchase of miniatures for presentation.

1981 Instructors Courses

EASTERN COURSE — Pendleton — Registration May 18, Course May 19 - 23.

WESTERN COURSE — Chipman, Alberta — Registration July 20, Course July 21 - 30. (This course is the week immediately following the Nationals).

Because of lack of government funding there will be no travel subsidy for participants by clubs and/or Provincial Associations are encouraged to apply to their Provincial Governments for "coaching" subsidies.

Manuals

The Soaring Instruction Manual (Revised) is in final stage prior to printing and should be available early in the Soaring Season. Ian Oldaker also advised the board he is preparing a new Ground School Manual and would appreciate input from club level.

Sailplane and Gliding

This British Gliding publication has approached us to submit an article to be called Gliding in Canada. John Firth has offered to compile a submission on our behalf.

Type Approvals

Latest information received from Jim Henry indicates:

Recently Completed: A.S.W. 20 and Mosquito B.

Submitted to M.O.T.: Twin Astir, ASW 17 and Nimbus 2C.

Still in Progress: ASW 19B Std. Jantar 2.

rs Meeting

New Member Club

The application for Sustaining Membership by Swansea Valley Club, Invermere, B.C. was reviewed and approved.

Provincial Associations

It was reported that Manitoba Soaring Council had applied for affiliation and a draft agreement was prepared for their consideration.

Insurance

Claims have now exceeded \$110,000 to date; a large jump since October. It is inevitable that the rates will increase for 1981, however Al Schreiter is working hard to keep it to a minimum. Firm information on new rates was expected to be available well in advance of the A.G.M.

At the conclusion of the meeting on Sunday at 3:00 p.m. the Directors moved a vote of thanks to Hazel and Russ Flint for their hospitality in hosting an evening reception on Saturday in their home for the Directors and members of the Winnipeg Gliding Club.

Christine M. Timm

DeHavilland Sparrow Pictures



Here are two more pictures of the DeHavilland Sparrow glider (FF Nov./Dec. 79) sent along by Dick Robinson, one a general arrangement drawing, and the other a good air-to-air shot of the glider with the pilot enjoying having his hair blow-dried.

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" (Screwback only) d) Badge - Silver "C" e) Gold - (Goldplate) Those desiring a 10K gold pin may require a letter of authorization to obtain the pin from manufacturer. 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 24.00 20.00	
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 25c 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:

- Item 2 and 3 available from Mr. Dave Belchamber 29E Varley Dr., Kanata, Ont. K2K 1G4 \$5.00 processing fee **per claim**.
- All other items available from Box 1173, Station B, Ottawa, Ont. K1P 5A0 or Mrs. T. Tucker, 786 Chapman Blvd., Ottawa, Ont. K1G 1T9
- All cheques payable to S.A.C.
- Non Member Clubs: add 25% plus postage.

SAC CALENDAR

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MAINTENANCE

by Toni Williams, V.S.A.

The reason for the daily inspection book is to keep a better record of the problems and to improve our maintenance. When you D.I. an aircraft, use the D.I. sheet as before but instead of tearing off the lower part, sign the book and enter ALL deficiencies in it. LEAVE THE DAILY INSPECTION BOOK IN THE AIRCRAFT.

Instructions for using the 'Daily Inspection Book':

- 1.) Write legibly.
- 2.) Do not postpone making entries in the book, do it straight away.
- 3.) Details of any work carried out must be described clearly in the "Work Done" column.
- 4.) Defects which will need subsequent rectification but which do not affect the serviceability of the aircraft should be described in the "Minor Defects Remaining" column. The person rectifying such a defect should make an entry in the "Work Done" column and also cross out and initial the original entry of the minor defect.
- 5.) Any pilot who makes or notices any fault in the aircraft which is of such a nature that it does not render the aircraft unserviceable must make an entry in the "Minor Defects Remaining" column, using a separate line for the purpose.
- 6.) Similarly any pilot who has reason to believe that the aircraft is unservice-

able must declare this in the book (in the "Reason For Unserviceability" column) again in using a separate line for the purpose. In this case the book should be left on the seat of the aircraft.

- 7.) The person responsible for the derigging of the aircraft must make a separate entry in the "Reason for Unserviceability" column.

The inspection of such a simple aircraft as a glider is a perfectly straightforward task, and one which does not require much skill. The qualities which are needed are care and honesty; if the job is to be done at all it must be done thoroughly and the aircraft should not be signed out as serviceable unless the person doing it is prepared to justify his reasons at an inquest.

The object of carrying out these inspections is to ensure that no defect has occurred which might render the aircraft unsafe. Such defects can arise in four ways:

- a.) Fair wear and tear.
- b.) Maladjustment.
- c.) Careless handling.
- d.) Severe flight and landing loads.

Of these the last is the least common, but potentially the most serious. The defects include:

- a.) Actual failure (cracked plywood, wood or metal, frayed cable, failure of glue, etc.)
- b.) Deterioration (rotten wood, brittle fabric, rusty steel, etc.)

- c.) Excessive wear, looseness or lack of lubrication.
- d.) Incorrect assembly, wrong adjustments, or actual loss of a particular part.
- e.) Presence of foreign bodies.

It is quite impractical to ensure that an aircraft is airworthy by merely insisting on the inspection of a number of listed items, since to include every conceivable eventual-ity would call for a fantastically lengthy list. All that can be done, therefore, is to call for the inspection of a limited number of items and to trust to the sharp eyes and imagination of the inspector to "smell out" trouble. Signs which often act as indicators of more serious trouble are cracks in the paint, distortion of fabric or plywood and the excessive flexibility of components.

Once a fault has been discovered it is necessary to find its cause and to ascertain the full extent of the trouble; in doing this it is important not to jump to conclusions. For example if a control cable is found to be unusually slack it is most unlikely that the cable has stretched, it is far more probable that a control horn has been bent, or a level pulley bracket has been strained.

The inspector should take nothing for granted and should devote his energies to actually inspecting the aircraft. Above all he should realize what he does not know, and if in the slightest doubt, should ask someone with more experience.

Powered Hang Gliders...

... need a wide berth. There's a new type of bird in the sky. It looks like a brightly colored kite with a wingspan of approximately 20 feet. The pilot "hangs" below the kite. Propulsion is provided by a small engine (often from a chain saw) with a propeller at the end of a long shaft.

Hang gliders fly only in relatively calm winds. Turbulence created by other aircraft and helicopters stays around a long time in these conditions and could destroy a hang glider. The hazard's an outgrowth of their power. Unlike the hill-hugging hang glider, they can navigate in the airspace as if they were "aircraft" ... If you see one and want to take a closer look — don't! Give these fragile creatures a wide berth.

From: Transport Canada Aviation Safety Letter 3/79:



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Armchair Comment

by E. Feather

The other day an associate complained that I had misled him about gliding. "Why?" I said, as I tried to think where my enthusiasm could have gone astray. It soon transpired that he was talking about an accident, so my concern mounted.

Apparently an inexperienced person was flying around in one of those new-fangled "powered" hang gliders. The machine is basically a hang glider but was designed to be powered by a small motor mounted above the wing. What a combination!?

Earlier in the year I had visited the site where these machines were built, and where instruction was given. The student occupies a sort of sitting hammock, suspended below the wing, and is surrounded by a framework upon which the wheels are mounted. Unlike true hang gliders this one runs on wheels and the pilot controls the machine by shifting his or her position inside the framework. The motor is well out of the way, above the wing.

Training includes a number of taxiing runs around, across and along the sides of the field so that the student gets the feel of changing the c.g. and direction, etc. just before lift off. The instructor meanwhile gives hand and arm signals from the side of the field.

Trying to explain to my friend that we have nothing to do with hang gliders and that our "types" of gliders are subject to MOT licensing regulations, etc., etc., did nothing to mollify him. "You all fly gliders" he insisted. The fact that the conversation started as a result of an engine failure on a hang glider seemed to carry no weight. "A glider is a glider, isn't it, and that guy got killed."

This got me to thinking. I had heard earlier rumors that Canada Customs were becoming increasingly interested in matters "gliding" and that this resulted from pressure from the hang gliding movement. MOT might be next to tighten the requirements for our gliding.

"—BUT WE DON'T GLIDE, WE SOAR—"

Yeah! Maybe this is the answer. We don't fly gliders any longer, we fly sailplanes — we teach soaring — for a long time the Americans have referred to the Joy of Soaring; why not us?

OK. From now on I am a soaring pilot — semantics it may be, but it could be increasingly important for our public image that we call ourselves by this type of name.

"Remind me to write to Glenda Stark, now in charge of our publicity" I asked my wife as the embers died in the fire.

NOTICES

1981 Canadian Regional Gliding Competitions

The directors of S.A.C. invite clubs to submit bids to host the 1981 Eastern and Western Regional Gliding Competitions in their respective regions.

Bids should be brought for submission to the Annual General Meeting in Ottawa on 15th March, 1980, by the club's delegate.

The bids will be considered by the directors at their meeting on 16th March, 1980.

1982 Canadian National Gliding Competition

The directors of S.A.C. invite clubs to submit bids to host the Canadian National Gliding Competition in 1982.

Bids should be received at the S.A.C. Office by 3rd October, 1980 so that they may be considered by the directors at their October meeting.

1980 Instructor Courses

Instructor courses are planned as follows:

19-23 May, 1980 Pendleton, Ontario
21-25 July, 1980 Chipman, Alberta

Details of costs are not yet available. For more information write to:

Ian Oldaker, Chairman,
SAC Instructors Committee,
C/O Mrs. T. Tucker,
Box 18, R.R. No. 1,
KARS, Ontario K0A 2E0

(See notice elsewhere in this issue)

OVERSEAS NEWS

Standard Isn't Standard Anymore

Schweizer is not the only aircraft factory working on new ships. Herr Lemke and Schneider have collaborated again at Roladen - Schneider to design a new standard class glider, the LS-4. It's not even finished, but enthusiastic competition pilots are laying down stacks of Deutschmarks for an early delivery position.

What's causing all the excitement? Recent developments in boundary layer control and 3-D wing design have contributed to the evolution profile shapes that slice the air much cleaner. The sailplane is rumored to have a glide angle equal to that of the much more expensive 15m ships, and performance unparalleled in standard class circles. This should be no consolation for formerly beaming ASW-19 owners, who up till now thought that they had the upper hand in this class.

Another Great White Overcast

If Schweizer and LS are working on new projects, what's Schleicher doing to keep its engineers busy? Apparently a 24-meter

monster is in the works, destined for something other than the "average guy" market. They aren't asking average prices either; the ship will start on the auction block at about 100,000 DM. This usually translates on a one for one basis with dollars, when government tariffs and extras are added, so don't bother saving pennies for this one. It seems intended for pilots of world calibre such as Hans-Werner Grosse, the incredible man who set the straight distance record of 907 miles in an ASW-12 about seven years ago. This design will probably be seen at the World Contest in 1981, along with the new LS-4.

From December 1979 "LUFTSPORT"

Alexander Schleicher have recently introduced their "ASW-19 Club." This new club class sailplane is virtually identical to their ASW-19 except for the fixed landing gear and the missing water tanks, although both of these items can be easily retrofitted to convert this glider to the standard class. The glider is equipped with enlarged divebrakes which increase the rate of sink at

speeds of 45-48 kts by 25-30%. The L/D is quoted at 36:1 and the builders feel that the sailplane will prove successful in performance flying as well as in training. (See picture)

Grossed Out

Hans-Werner Grosse of West Germany resumed his assault on world records in the heat of Australia once again. Just before Christmas, on December 21st, he set world distance and speed records in the 2-seat category with a 1002 km flight around a triangular course starting from Alice Springs. He flew the course at an average speed of 129.5 km/hr. with his co-pilot Hans Kohlmeier. The glider was reported to be a 26-meter Scirocco (ASW-22 ? *).

Hans-Werner reported the flight to have been a pleasure flight. After waiting two weeks for the conditions and with \$150,000 being spent to build the glider and transport the team of eight to Australia, it would have to be a pleasure.

* Certainly not the Volkswagen variety, but — those Aussie thermals . . .

essay/composition contest winners

Here are the winners

Category A (0 - 6 years)	no entries	
Category B (7 - 10 years)	Susan Bantin, 7 yrs.	S.O.S.A.
Category C (11 - 14 years)	Rhonda Yungblut, 11 yrs.	York Soaring Assoc.
Category D (15 - 18 years)	Wayne Conrad, 16 yrs.	Kawartha Soaring Club



Snowball's First Flight by Susan Bantin

One day there was a dog her name was snowball.

One fine day Snowball thought she would take a walk with her dad. So Snowball took a walk with her father.

They saw a thing in the sky. Snowball said "it looks like a bird." Her dad said "what is it?" "It's not a bird. I know what it is it's a glider," said Snowball. "What is a glider?" said her father. "I don't know what a glider is," said Snowball "but I would love to go in one myself one day."

"I don't know about that Snowball," said her father. "I want to go." "Be quiet Snowball I am thinking about it. If you be good I may take you up."

So one day Snowball got a chance to go up. Her dad took her. After Snowball had landed she thanked her dad for taking her up in the air. It was fun said Snowball. She talked about her flight to her friends all the time and this is what she said. That she got to steer the stick in the glider and made it go straight down. It was very scary in the glider. It looked very nice up in the air when you looked down on the ground.

Gliding

by Rhonda L. Yungblut
Y.S.A.

Did you know that a glider can fly without a motor? One of the first gliders was built in 1810 by an Englishman named Sir George Cayley. His models were too small to carry anyone, but they proved that gliding was possible.

Gliding as a sport has become very popular all over the world. In a glider there is a rudder stick that basically controls the plane with other main controls. The plane is very narrow with long wings and a wheel on the bottom of it. They come in many different colours and code numbers such as: CF-QYY, XAE, NFA and others. There are single seat as well as two passenger gliders.

The weather for gliding is to be a perfect day because normally if you would like to stay up for a few hours you should have white puffy clouds. These puffy clouds have lots of air currents under them that make you stay up for quite a time. Also warm air rising from ploughed fields give rising air currents to fly on. On a nice clear sunny day you gain a lot of altitude, which is height and do many fascinating things.

When you decide to go up you have to be towed by a motor plane to the height of 2,000 feet. When you reach that you release the glider from tow, then the tow plane re-

turns to the field and you are soaring on your own. There are rules to follow before you go up: first put your safety seat belt on, second do not take any medication before going up and third check your plane over that it is in safe flying condition. At 2,000 feet or more when you look out of your plane window it looks like a patch-work quilt with different shades of green and brown.

Here are some records: First a man in United States went up to the height of 46,267 feet. One more is a man stayed up for 56 hours and 15 minutes, which is more then two days of motorless flying.

After World War I Germany wanted to teach its men how to fly; glider clubs were formed. These clubs were permitted because it was thought that gliders could not be used for war, but this was a mistake. Gliders were also found useful for carrying supplies and experiments in war time. Today gliders are used for sport and competition flying. My experience with a glider club has been both fun and work. Just before it gets dark we have to tie all the planes down or put them in a hanger. After we have finished, club members and friends watch slides, sit around campfires and have discussions about flying. When we are tired we go back to our trailer and have a good night's rest, ready for another day on the field.

When I went up it was a thrill of my life.



The Joy of Soaring by Wayne Conrad

No one can fully realize what it means to experience the exhilaration of powerless flight except those who have been through it. The beauty and serenity of silently gliding through the still air is without compare and must be experienced to be understood. As one turns in the rising current one is drawn up towards the billowing clouds which tower in the sky like majestic mountains of ice and snow. Their true beauty and splendor is never revealed to those who are forever earthbound. Such beauty and tranquillity, the joy of soaring, can only be appreciated by one who has flown skyward as free as a bird, as I have.

Canadian Soaring Records

AS AT JANUARY 1980

The 1979 Soaring Season proved to be somewhat more productive of record claims than last year (1978) when there were no claims at all. However, of the five claims submitted during 1979, two were not followed up by supporting documentation, and one was rejected.

The two new records are both in the "multiplace" class, one of them filling a niche in a previously unclaimed category

(Multiplace, Feminine, Straight Distance to Goal), and the other replacing two earlier records — the Citizen's and Territorial Out and Return Distance. Details as follows:

May 14, 1979, David Marsden with Ed Dumas

Multiplace Goal and Return: 421.5 km
May 24, 1979, Antonia Williams with Elizabeth Bell

Feminine Multiplace Straight Distance to Goal: 76.2 km

Additional information in the Table of Records to be added as the second pilot of the place record claims.

FAI NO.	TYPE OF RECORD	OPEN			FEMININE			MULTIPLACE
4.6.1	Distance Straight distance	R.M. Cook	724 km(C)	1971	A. Williams	305 km(C)	1975	A. Pow (
4.6.2		D.J. Marsden	676 km(T)	1968	A. Williams	209 km(T)	1973	R. Shirle
4.6.3	Straight distance to goal	D.J. Marsden	676 km	1968	A. Williams	305 km	1975	A. William
4.6.4	Out and Return distance	J. Firth	554 km	1976	NC			D. Marsd
	Distance round a triangular course	J. Firth	753 km	1977	NC			NC
4.6.5	Speed round a triangular course (in km/h)	R.M. Cook	113.4(C)	1970	A. Williams	54.5	1976	D. Marsd
a	100 km	J.M. Firth	103.8(T)	1975				A. William
(not FAI)	200 km	R. Mamini	91.6	1973	M. Barritt	68.7(C)	1970	G. Buhr
b	300 km	R. Mamini	110.1	1973	NC			D. Marsd
(not FAI)	400 km	J. Firth	77.9	1974	NC			NC
c	500 km	R. Mamini	101.8	1973	NC			NC
d	750 km	J. Firth	87.4	1977	NC			NC
e	1000 km	NC			NC			NC
4.6.6	Gain of altitude Gain of height	W.F. Chmela	8321 m(C)	1974				R. Shirle
4.6.7	Absolute altitude	W. Mix	7420 m(T)	1966	A. Williams	5898 m(C)	1969	A. William
		W.F. Chmela	12449 m(C)	1974	A. Williams	9772 m(C)	1969	R. Shirle
		W. Mix	9705 m(T)	1966	A. Williams	3940 m(T)	1973	A. William
4.6.8	Speed over an Out & Return Course (km/h)							
a	300 km	J. Firth	102.7	1977	NC			W. Chme
b	500 km	J. Firth	85.8	1976	NC			NC
(not FAI)	Speed in straight Line (km/h) 100 km	D. Band	59.4	1975	NC			W. Chme
(not FAI)	200 km	J. Firth	70.0	1970	NC			
(not FAI)	300 km	W. Mix	108.6	1966	NC			NC
(not FAI)	400 km	NC			NC			NC
(not FAI)	500 km	D. Marsden	97.1	1970	NC			NC

HANGAR FLYING

Records JANUARY 1980

ion has been added to
this year, viz. the name
r passenger on multi-

—R. Flint

WINGLET

J. Leadbeater)	235 km	1957
ay (J. rlink)	153 km	1959
ms (L. ill)	76 km(Fem)	1979
den (E. Dumas)	422 km	1979

den (M. Jones)	98.1	1975
ms (M. Stone)	31.0(Fem. C)	1970
(P. Tingskou)	42.8	1969
den (E. Dumas)	69.9	1975

ay (P. Campbell)	7100 m	1961
ms (M. Kossuth)	2987 m(Fem. C)	1970
ela (A. VanMaurik)	10390 m(C)	1975
ay (P. Campbell)	9085 m(T)	1961
ms (M. Kossuth)	4206 m(Fem. C)	1970

ela (H. Rominger)	65.0(C)	1976
-------------------	---------	------

ela (R. Timm)	47.0	1971
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Mandatory Transponders

Reports say that the Dept. of Transport has proposed transponders become mandatory in certain airspace by specified times. Included is the proposal that they would be required in TRSA's and PCZ's at Winnipeg, Vancouver, Edmonton, Toronto and Montreal. The effective date would be Sept. 1, 1980. The deadline for comments on the proposal is March 7. They can be sent to the Director, Civil Aeronautics, Transport Canada, Ottawa, Ont. K1A 0N8.

The implications, in terms of money, weight and power supply for private and club sailplanes that have occasion to enter TRSA's, are clear, and it remains to be seen what reaction from the soaring realm, as well as the larger general aviation world, is generated.

Winglets

Squeezing that last drop of performance from a supership is taking a new twist — literally! Messrs. Spillman and Allen, two British researchers at Cranfield University have taken a novel approach to wing tip design with their triple element staggered winglet. Their design is considerably more complex than NASA's single-piece winglet and somewhat more efficient.

Rather than extending the span it is theoretically more advantageous to sweep up the tip for those last few inches of the span. The winglet saps energy from the tip vortices and propels the ship forward.

Sounds like a perpetual motion machine? Not so. It simply tries to recapture a small portion of that energy that would otherwise be dissipated in the vortex. In fact, a properly designed winglet (and no one yet knows what that is) could effectively give the performance of a 16m ship to a 15m sailplane.

Spillman and Allen's design could potentially yield tangible gains on low aspect ratio sailplanes like the 1-26; their worth on large span open class ships is questionable however. It's simply easier to extend the span.



John Spillman standing next to his three-part staggered winglet.
(Photo: Aviation International Magazine, France)



Will Schuemann (right) explaining to Rudy Mozer his philosophy of design of winglets for his 15 metre ASW-12. (Photo: Peter Masak)

The most promising application for winglets on sailplanes lies in its use on 15m racing ships. Using NASA's relatively simple vertical winglet does not increase the span beyond 15m but reduces the induced drag and thus theoretically achieves the same result.

A handful of experimenters in the US and Canada have tried putting the winglets on their sailplanes with some modest success. None has reported any measurable L/D increase but favourable low speed handling improvements have resulted. In particular the thermalling performance is better and no high speed penalty has been observed. It would appear that none of these aircraft have the optimum configuration and the next generation of winglets should yield some gains.

Will Schuemann had so much confidence in NASA's winglets that he chopped his open class ASW-12 to 15 metres and then re-extended the wing — vertically! The aircraft has proved to be extremely competitive, a testament both to Will's ingenuity and his piloting skill.

All this talk of potential performance gains naturally leads to the question — why didn't the sailplane manufacturers get into the act and market them on their aircraft?

I talked to Wolf Lemke, designer of the LS series of sailplanes for Rolladen-Schneider. He seemed particularly concerned that if the manufacturers started using these devices on their ships, then they would be outlawed by the FAI from the span-limited classes. Moreover, it seems designers and their customers remain skeptical about winglets, and are wary of spending more money on something that they aren't sure works to begin with.

— Peter Masak

(Editor's wonderment: What do the French call winglets?)

DOWNBURSTS

Dangerous Weather Phenomena

Downbursts generally are spawned by summer thunderstorms. The danger of thunderstorm downdrafts has been recognized for almost as long as man has been flying. Strong, straight line winds, rapid temperature drops and pressure surges associated with the leading edges of thunderstorm outflow areas are also well known dangers to be avoided. The new features explained by downburst research are the previously unidentified, extremely intense, small diameter downdraft that may be about 10 times the downdraft speed estimates from previous thunderstorm data, and the impact of the burst when this air hits the ground.

The development of the intense downburst cells appear to be tied up with strong updrafts. Because of their momentum, these drafts actually can break through the tops of cumulonimbus thunderheads at the anvil level, at times higher than 45,000 feet. After, overshooting the anvil, the entrained

air collapses into a rapidly descending column. When such a downdraft continues its descent without dissipating or recirculating, it impacts the ground. Successive rise and fall of the cloud tops may generate a family of downburst cells.

1. Pilots, particularly those flying light aircraft, should avoid all thunderstorms.

2. Pilots should never venture closer than five miles to any visible storm cloud with overhanging areas because of the possibility of encountering hail.

3. Pilots should be extremely cautious in attempting flight beneath all thunderstorms, even when visibility is good, because of the destructive potential of shear turbulence in these areas.

4. Pilots flying in the vicinity of thunderstorms should, at the first sign of turbulence, reduce speed immediately to the manufacturer's recommended airspeed for turbulent air penetration for a specific gross weight.

5. Maintain a straight and level attitude on a heading that will take you through the storm area in a minimum time.

6. Do not let a compulsion take the place of good judgement — the first decision need not be your last if it's a one-hundred eighty degree turn — Safety is Always Professionalism.

One of the first and best rules for safe flying is: Avoid thunderstorms. Pilots respect nature's unpredictable violence without a full understanding of the storm's complex structure. It is enough to recognize that airplanes have been shredded by the intense turbulence of severe updrafts and equally intense downdrafts within a storm cell. Now a scientist has identified and studied sudden and dramatic vertical winds blasting down from the stratospheric altitudes to ground level in narrow concentrated columns. An understanding of this phenomenon has helped to explain some plane crashes previously attributed to "unknown causes."

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INSTRUCTOR'S COURSES

Association-sponsored courses will be run again this year, and will follow the format of last year's two courses.

The course in the east will be held at Pendleton near Ottawa from May 18-24 inclusive, and in the west at Chipman near Edmonton in July following the National contest (July 21-25).

Any pilot is eligible to attend provided they are sponsored by their CFI and already have an instructor endorsement. If you are flying passengers from the rear seat and you would be eligible to instruct this season you may also apply provided again that you have your CFI's support.

Entry fee and costs will be announced at a later date. Information and entry forms are available from your CFI or from Terry Tucker, Box 18, RR1, Kars, Ontario, K0A 2E0.



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1980 EVENTS

March 15-16 (Sat.-Sun.)

April 27 (Sun.)

May 17, 18, 19
(Victoria Day Weekend)

July 5-8

July 9-19

July 20-27

July (TBA)

Sept. 1 (Mon.)

Oct. 26 (Sun.)

SAC Annual General Meeting, Ottawa.

Daylight Saving Time begins

SAC Eastern Instructors Course,
Pendleton, Ontario.

SAC Practice, Cowley, Alta.

SAC Nationals, Cowley, Alta.

Wave Camp, Cowley, Alta.

SAC Western Instructors Course, Chipman, Alta.
(ESC Field)

Labour Day

Daylight Saving Time Ends

F.A.I. Badges

by Tony Burton

The following FAI Badges were issued Nov. - Dec. 79.

DIAMOND BADGE

Paul Sears (certified to England) SOSA

GOLD BADGE

162 Spencer Robinson SOSA

SILVER BADGE

551	Yvon Saucier	Quebec
552	Frank Robinson	Erin
553	Donald E. Rowe	Cu-Nim
554	Peter Walmsley	Bonnechere
555	George Sebele	Windsor
556	P-J Parent	Independent

DIAMOND LEGS

ALTITUDE

Paul Sears	SOSA
Spencer Robinson	SOSA
Donald Rowe	Cu-Nim

GOAL

Jonathon Trent	MSC
----------------	-----

GOLD LEGS

ALTITUDE

Len Gelfand	Gatineau
Spencer Robinson	SOSA

SILVER LEGS

ALTITUDE

John Towers	Edmonton
Stephen Stober	MSC
Jean Provencher	Quebec
Jean-Guy Bernier	Quebec
John Malby	SOSA
John Hache	Quebec
Elizabeth Boesch	Air Sailing
Len Gelfand	Gatineau
Calvin Devries	Windsor
Tony Brett	(certified to UK)
Yvon Saucier	Quebec
Frank Robinson	Erin
George Sebele	Windsor

DURATION

Doug Bremner	SOSA
Annemarie Van Maurik	York
Michael Baker	York
Joseph Blankier	SOSA
Len Gelfand	Gatineau
George Sebele	Windsor
Percy Yungblut	York
Calvin Devries	Windsor
Tony Brett	(certified to UK)
Earl Stroud	earned in USA
Yvon Saucier	Quebec
Elizabeth Boesch	Air Sailing
Paul Yardy	COSA

DISTANCE

John Towers	Edmonton
Stephen Stober	MSC
P-J Parent	earned in France
Yvon Saucier	Quebec
Donald E. Rowe	Cu-Nim
George Sebele	Windsor
Peter Walmsley	Bonnechere



— Astir CS touching down. Photo: Seth Schleiffer

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FEDERAL AVIATION ADMINISTRATION
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LETTERS

Dear Editor:

I read with interest Lloyd M. Bungey's article: *The Technique and Hazards of Winch Launching*, which appeared in the July/August issue of *Free Flight*.

Lloyd's points are well taken and no one would argue that the potentially dangerous conditions he describes are very real and ever present. It would, however, be unfair to talk about the detriments of winching without saying something on the positive side.

The key to a successful winch operation is training, both on the part of pilots and winch operators, and I would like to point out some facts in support of what can be a safe and economical method of launching gliders.

Ian Oldaker, in his account on glider accidents, describes three separate cases involving winch tow. All of them, to some degree, suggest lack of training. The pilot who initiates a 180 degree turn at 250 feet after a cable break lacks training.

The proper procedures in dealing with these emergencies are well known and are described in every good training manual. It is not my intent to dwell on them here. There are some important considerations that should warrant another look at winching, especially since to the best of my knowledge winching is, on a worldwide basis, still the most popular launch method.

- When the cable breaks, the glider will always be over or within safe limits of the runway.
- Every solo pilot in our club is a trained winch operator. Winch training is simultaneous with flying training and this way we never get stuck without a tow pilot.
- Depending on wind strength, in our club, a dollar-fifty will get you 1200 to 1500 feet of altitude in less than one minute, plenty of time to get away when there is lift.
- Even on this small tow fee, which covers fuel for winch and retrieve car, cable, maintenance etc., the club makes a profit.

- By alternately being at either end of the rope, so to speak, everyone remains current and up to date in either activity, flying and winching.

Our club has made some 28,000 winch tows since it was formed in 1962 and never was there any incident where the winch launch was a factor.

With the solid wire cable we have been using, we have been making up to 1800 tows without a break. By replacing the cable each season, regardless of condition, we have virtually eliminated cable breaks. No student is sent on his first solo flight without simulated break checkouts at different altitudes. We are winching everything from Ka-6's - 7's and 8's to HP-18's and most recently our new 2-seater Lark (which incidentally behaves beautifully on winch launch).

With our single winch which has served us faithfully for 16 years we have approached 60 launches a day, 2000 annually. We are now building a second one to increase launch capacity further and to guard against breakdown of one launch vehicle. In any case, the reader may derive from this that we are planning to use the winch launch method for a long time to come. Our club has shown steady growth and our flying and tow charges have got to be among the lowest.

With ever increasing fuel costs, who knows, we may all have to take a second look at winching.

Kurt Moser, C.F.I.
Windsor Gliding Club

Dear Editor:

I read with interest "Waves" by J.A. Koehler in your Sept./Oct. issue. Mr. Koehler's experience in Hawaii must have been really exhilarating but his mental excursions into fantasy at the prospect of flying downwind from Oahu to Kauai brought shivers to my spine. Yes, he is unlikely to ever try such a trip but perhaps, elsewhere, he or someone like him may try a downwind excursion over forbidding terrain with similar blind faith in manufacturer's figures.

The problem in attempting a downwind glide in such conditions is that that glorious L/D of 40:1 plus the tailwind component is likely to wind up being all of 20:1 or less. Sink respects no dreamers. I vividly remember one 25-mile final glide in wave conditions with a 30 mph tailwind. From 7000' I barely squeaked it in to my goal. Between the pieces of rough chopped-up rotor, unworkable except for a couple of marginal areas, lay bands of 1000' fpm sink. No matter how good your ship's performance sink of this order still drags you down no matter how fast you fly through it.

Yes, wave lift is fine for gaining height but the sink between each band of lift can be ferocious and if you fall below the critical altitude the wave may not be present, just rotor, rough, tough and frustrating. Before you are tempted to fly away into the wild blue yonder, using up all that hard-earned wave-gained height in one long maximum distance glide, think sink. Your performance figures assume zero sink but in real life it's different.

— Lloyd Bungey

The Editor, FREE FLIGHT:

I am very concerned about "The Intro Flight" (Sept./Oct. '79). To quote: "At that moment I glanced at the altimeter and nearly flipped. The altimeter read 1100' . . . I immediately turned and headed for the 'green barn' which is our entry to the circuit . . . We were still a mile away from the entry to the circuit but fortunately the altimeter still read 900', which is the height I should

be over the 'barn' . . . Now we were over the 'barn' at 650' and fortunately we hit some zero sink on downwind which allowed us to make an almost normal base leg . . ."

I apologize to the writer but in the name of safety I must ask these questions:

(a) Is this "BARN" business of circuits approved or endorsed by SAC? Derek Piggot says it's an absolute no-no. Because a student will home on "the barn" as his first thought and without "some zero sink on the downwind" will kill himself on the base or final turn is just one reason. You see, there is no familiar BARN to align himself on to go into one of the many large fields available between the relay tower and home base. Having glided in the area for four years I would say a 2-33 could be towed out of most of them. But all the BARNS are different.

(b) Gliding is an exercise in co-ordination and judgement and part of that is depth perception. Not paint by numbers. Ga-ga reading of altimeters must be discouraged. Tell me of a gliding club that recently or has routinely calibrated its altimeters. Better still, tell me of altimeters that lag or stick.

So I ask, has not the need to be over a BARN at a number on a clock, regardless of the situation smashed up enough sailplanes? Killed enough people?

(c) Lastly, were the numbers in the article AGL or ASL? On an aviation map the tower is four miles from home base, at the outside (from a 1:500 000 map). From 1100' AGL that 1 to 19.2 L/D, plus the ground height difference; easy for a 2-33. Or was it ASL which is 75' AGL? To debate that one you would have to assume that altimeter was accurate. Very dangerous.

To clubs and individual instructors teaching paint by numbers in gliding instead of good judgement within prescribed parameters of safety I ask: What happens when: you're not there, the day is different, the student has to make a decision, AND HE'S NOT OVER THE BARN AT 900'? Hope for some zero sink, right? And hope a whole lot!

Stephen Newfield
CFI-KSC



"A Smile is Contagious" — "The Shark" — Estrella Sailport - B. Small (This photo lends support to rumors that some 1-26's have been reacting to slurs on their performance, and their replacement by the 1-36 — either that or this is what happens when you cross a P-40 with a CG-4.)

the Mnemonic plague

by Bert Small

If you aren't already familiar with the word 'mnemonic', it is simply defined as a "memory aid", and is pronounced "newmonic".

To a sailplane pilot the most common usage of a mnemonic is the cockpit check. As you know the official SAC (even SAC is a mnemonic) cockpit check is CISTRSC. In the USA they favour ABCCCD. Another one that I have seen is CBSIFTCB which translated means, Controls - Ballast - Straps - Instruments - Flaps - Trim - Canopy - Brakes. There are many others and we haven't even taken off yet!

Pre-landing checks take the same form such as — "USTALL" — Undercarriage - Speed - Trim - Airbrakes - Lookout - Location. Also "STALAW" is a pre-landing check which becomes — Spoiler Trim Altitude Landing area Airspeed Wind (or Wheel). I have even heard of one called TLAR designed to judge the angle to turn onto base leg. It means "That Looks About Right."

Did you know when the Soaring Society of America was first formed, they wanted to call it the "American Soaring Society" but

since the mnemonic was considered rude it became the SSA.

Mnemonics are used extensively in other areas of our life besides soaring. For instance on TV some popular shows are called MASH — CHIPS — SWAT etc.

In the NEWS which in itself is a word formed by the four main compass points, we hear about NATO, OPEC, DEW line, NASA, SALT etc. etc.

During the second world war our women volunteers were known as WAVE's or WAAF's or WREN's to name just a few.

Some of our words started out as mnemonics and through usage became words in their own right. 'Tips' in a restaurant was originally To Insure Prompt Service. The word 'posh' derived from an English cruise-ship which would (for an extra charge) arrange for some passengers to have their cabins on the — Portside Outbound - Starboard Homebound. This was considered desirable for some reason which escapes me at the moment.**

Of course we're all familiar with TTFN — Ta Ta For Now and TGIF — Thank Goodness It's Friday.

The government probably uses mnemonics more than anyone else. You may check up on me if you wish but I can assure you that the following are actually in the Toronto Phone Directory.

Everyone knows "OHIP", the Ontario Health Insurance Plan, but have you ever heard about 'MA', Mothers Allowance, or 'SAP', Secondary Apprentice Program. How about 'HEAL', Hunters Exams And Licenses, and I really like 'OOPS', Oversize-Overweight Permits Station. We have 'CARE' for Conservation And Renewable Energy and 'CAD', which means Crown Assets Disposal. How about 'RATS' which describes Roads And Traffic Systems and finally, one of my favourites 'WEE', Water Energy Emergency.

If mnemonics are going to make flying safer, then I'm all for it but my biggest problem is remembering how to spell it, so I have devised a mnemonic for mnemonics. If you are still with me it goes like this

Memory Never Escapes Me Once Newmonics Is Correctly Spelled.



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Just to see what it is like

by Ian Oldaker, Chairman,
Instructors' Committee

An aerobatic pilot was discussing his experiences the other day and when he said he had taken to his 'chute I wanted to know what it was like. Even though in this case he is a power pilot, it appears we have something to learn from his experience.

As many readers know, a number of us wear parachutes when flying cross-country, in contests or even locally, and it may have occurred to you too, to have a go "just to see what it is like." My acquaintance is as enthusiastic at flying his Decathlon upside down as I am at flying my Lark right side up, and he always wears a 'chute. One day, however, he started to wonder what it would be like, and he decided to make a jump "in case he really **had** to use his 'chute some day," he said.

It may have occurred to some of us too, not necessarily to try a jump, but to do something out of the ordinary, "for kicks". For example, who hasn't been tempted to

do a high speed pass followed by a pull up into a chandelle, a low circuit and landing? Have **you** done such a maneuver dual, and at a safe altitude? You know, the ground can be mighty hard when we make the slightest error low down.

If we want to try something new it is good airmanship to get adequate instruction first, and then to try it dual if possible. On first impulse our idea may sound exciting, but let's take time to think about it and to go over the likely consequences should anything go wrong. Things left to the last minute, impulsive actions and decisions made without thinking ahead have a tendency to invite trouble. For example, it can be frustrating when flying without a motor to find on final approach that you have selected a field covered with chicken manure when with an earlier decision you could have made it into a cow pasture. Don't change your mind now though, you are better off with the chickens!

You may be wondering about the fellow who took to his 'chute (and it had a large canopy, too) to "see what it felt like." He made it, but he hurt his back and broke his ankle so he was unable to fly anything for six months. He is now the first to admit that he should have obtained adequate instruction before taking the plunge.

As an aside to this story I know of one club (Cu-Nim in this case) that had an organized introduction - to - jumping type of course. Such courses are a great way and perhaps should be the only way to obtain this experience.

The moral to this story is of course that if you wish to advance, to try something new, or even to check up on something that is not going well, take up an instructor for some dual or for a check ride — check rides can be fun and are good for your flying — at any time.

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Bluenose Soaring Club, c/o 622 - 200 Willett St., Halifax, N.S. B3M 3C5
New Brunswick Soaring Association, 521 Blythwood Ave., Riverview, N.B. E1B 2H3
Newfoundland Soaring Society, c/o Mr. J.J. Williams, 57 Boyle St., St. John's, Nfld. A1E 2H5

Quebec Zone

Aero-Club-des-Outardes, 1690 Chemin St. Damien, Ville St. Gabriel-de-Brandon, J0K 2N0
Appalachien Soaring Club, Box 271, Sherbrooke, P.Q. J1H 5J1
Ariadne Soaring Inc., 735 Rivière aux Pins, Boucherville, P.Q. J4B 3A8
Association de Vol à Voile Champlain, 192 Highfield, Mont St. Hilaire, P.Q. J3H 3W5
Buckingham Gliding Club, c/o 8 - 365 St. Joseph Blvd., Hull, P.Q. J8Y 3Z6
Club de Vol à Voile Asbestos, 379 Castonguay, Asbestos, P.Q. J1T 2X3
Missisquoi Soaring Association, Box 189, Mansonville, P.Q. J0E 1X0
Montreal Soaring Council, Box 1082, Montreal, P.Q. H4L 4W6
Quebec Soaring Club, Box 9276, Ste. Foy, P.Q. G1V 4B1
Club des Planeurs St-Jean Inc., 900 Boul. Séminaire, St-Jean, J3A 1C3

Ontario Zone

Air Cadet League (Ont.), Mr. G. Fraser, 1105 - 2175 Marine Dr., Oakville, Ont. L6L 5L5
Air Sailing Club, Box 2, Etobicoke, Ont. M9C 4V2
Base Borden Soaring Group, Mr. G. Popodyne, CFB Borden, Ont. L0M 1C0
Bonnechere Soaring Inc., Box 1081, Deep River, Ont. K0J 1P0
Central Ontario Soaring Association, Box 762, Peterborough, Ont. K9J 6Z8
Chatham Air Cadet Gliding Club, 561 Lacroix St., Chatham, Ont. N7M 2X1
Erin Soaring Society, Box 523, Erin, Ont. N0B 1T0
Gatineau Gliding Club, Box 883, Station B, Ottawa, Ont. K1P 5P9
Huronia Soaring Association, Mr. G. Ehmecke, 714 King St., Midland, Ont. L4R 4K3
Kawartha Soaring Club Inc., P.O. Box 168, Ormestown, Ont. K0L 2W0
Lakehead Gliding Club, Box 161, Thunder Bay, Ont. P7C 4V8
London Soaring Society, Box 773, Station B, London, Ont. N6A 4Y8

Rideau Gliding Club, Mr. H. Janzen, 172 College St., Kingston, Ont. K7L 4L8
Rideau Valley Soaring School, Box 93, R.R. #1, Kars, Ont. K0A 2E0
SOSA Gliding Club, Box 654, Station Q, Toronto, Ont. M4T 2N5
Toronto Soaring Club, P.O. Box 856, Station F, Toronto, Ont. M4Y 2N7
Windsor Gliding Club, 62 Lancefield Pl., Chatham, Ont. M4V 2N5
York Soaring Association, Box 660, Station Q, Toronto, Ont. M4T 2N5

Prairie Zone

Air Cadet League (Man.), Box 1011, GPO, Winnipeg, Man. R3C 2W2
Regina Gliding & Soaring Club, 19 Ritchie Cres., Regina, Sask. S4R 5A5
Saskatoon Soaring Club, Box 379, SPO 6, Saskatoon, Sask. S7N 0W0
Swan Valley Soaring Association, 510 Main St. E., Swan River, Man. R0L 1Z0
Winnipeg Gliding Club, Box 1255, Winnipeg, Man. R3C 2Y4

Alberta Zone

Cold Lake Soaring Club, Box 1714, Medley, Alta. T0A 2M0
Cu-Nim Gliding Club, Box 2275, MPO, Calgary, Alta. T2P 2M6
Edmonton Soaring Club, Box 472, Edmonton, Alta. T5J 2T6
Grande Prairie Soaring Society, Box 550, Grande Prairie, Alta. T8V 3A7
Nanaimo Soaring Club, Capt. K. Peters, CFB Edmonton, Lancaster Park, Alta. T0A 2H0
Southern Alberta Gliding Assoc., Mr. D. Clark, 514 Sunderland Ave. S.W., Calgary, Alta. T3C 2K4

Pacific Zone

Advanced Soaring Training & Research Assoc., Mr. L.M. Bungey, General Delivery, Port Mellon, B.C. V0N 2S0
Alberni Valley Soaring Association, Box 201, Port Alberni, B.C. V9Y 7M7
Bulkley Valley Soaring Club, Box 474, Smithers, B.C. V0J 2N0
North Okanagan Soaring Club, Mrs. L. Woodford, Grindrod, B.C. V0E 1Y0
Vancouver Soaring Association, Box 3651, Vancouver, B.C. V6B 3Y8
Wide Sky Flying Club, Box 6931, Fort St. John, B.C. V1J 4J3

Tailless Research Glider at the National Research Council

By Dick Wickens

Toward the end of the Second World War, NRC, in cooperation with G.T.R. Hill, well known for his tailless aircraft designs, and the Royal Aircraft Establishment (England), was experimenting with tailless or all-wing aircraft configurations. Historically, the esthetic and practical appeal of these shapes was not new; in fact, one of Canada's early military aircraft, designed by J.W. Dunne, was a tailless swept-wing biplane, possessing a degree of inherent directional-lateral stability that many of his contemporaries lacked. As the science and technology of flight advanced in the following decades, the tailless configuration would continue to crop up from time to time, particularly due to the impetus of wartime urgency.

During the latter part of World War II, some unusual all-wing aircraft were flying, and in some cases operational, as the race for performance caused aircraft designers on both sides to search for the ultimate aerodynamic shape. Germany in particular, produced many radically new aircraft, some of which were flying before the war, and had their origins in the active gliding movement which produced many future pilots. The extent of all-wing glider development ranged from the Horten designs which were flying in 1937 (which included powered military versions), to the more notorious Me 163 rocket fighter. The initial test flights of this aircraft were unpowered, the glider being towed by a Me 110. Later, after the war, the RAE also evaluated it as a glider, and used a Spitfire IX as a tug.

In Britain, tailless aircraft research and development was confined initially to the Pterodactyl series designed by Prof. Hill before the war. At the end of the war, however, the first all-wing research aircraft, the De Havilland 108, flew and made attempts on the International closed-circuit speed record. This was a beautifully shaped aircraft, with swept wings and a vertical tail fin. Unfortunately, however, it exhibited all of the classical difficulties of longitudinal control of tailless configurations at high subsonic speeds, killing three experienced test pilots.

By the end of hostilities, it was clear that the results of wartime research, which produced the jet engine, the swept wing, and the laminar flow aerofoil, would be most advantageously applied to both commercial and military future aircraft designs.

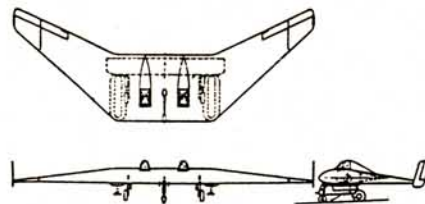
One such enterprise was the Armstrong-Whitworth AW-52, a jet-engined tailless aircraft which first flew in 1947, and was to be

the prototype of a 200-ton passenger-carrying airliner. Its swept planform had a laminar flow aerofoil, with jet engines buried in the central portion. With a low-drag wing plus the elimination of drag from fuselage, tail and engine nacelles (including their interference flow), the designers were convinced of significant improvements in performance over more conventional configurations.

Since the success or failure of the tailless design depended upon the laminar-flow aerofoil performance (which was then a fairly new concept), it was decided to construct a smaller, but similarly-shaped unpowered glider which was to be used as a flying test bed for the evaluation of the performance, stability and control of the basic concept.

It was from this origin, therefore, that the NRC glider project was conceived, with the aim of continuing investigations of laminar flow aerofoils and tailless configurations. Prof. Hill, protagonist of the tailless principle was at that time Scientific Liaison Officer at NRC, and he lent both his expertise and persuasion to the development of the project. The glider airframe was designed and constructed at the National Research Laboratories, Ottawa, and initial flight trials took place at RCAF Station Namao, Alberta, where a Dakota (DC-3) was used as a tow plane. A total of 105 flying hours were accumulated at altitudes between 6,000 and 10,000 feet. The glider was later towed to Arnprior, Ontario, a distance of 2,300 miles, with three stops enroute.

The general arrangement and main characteristics of the glider are shown in the sketch and table. The planform consists of a constant chord centre section of



roughly one third span, with highly swept portions outboard. A typical aerofoil section near the centre shows the laminar profile and structural details. Twin, side-by-side cockpits accommodate pilot and observer. The glider was equipped with a retractable, tricycle undercarriage and a split flap on the wing centre section.

Since all-wing aircraft typically lack adequate longitudinal stability and control, it is necessary to provide this by an adjustment to the wing lift distribution at the ends of the swept tips. This is usually accomplished by



Section near centre showing trailing edge, rib, spar, skin and leading edge.

washing out the geometric wing twist using hinged trimming tips. On the NRC glider, these tips comprise the outer 4 feet of span, and rotate together about their leading edge to increase washout, thus producing a longitudinal trimming moment. Additional central surfaces, spanning portions of both wing and trimming tip (i.e. elevons), serve as both ailerons and elevators, and function independently of the trimming tip. Directional stability and control was achieved by the use of wing tip fins and rudders, operating in the normal sense.

The aircraft was flown from the left-hand cockpit, and the arrangement of flying controls and instruments was similar to a standard aircraft except for additional levers which controlled the trimming tips. The basic flying controls were duplicated in the observer's cockpit. The towing hook was placed just below the wing leading edge on the aircraft centreline.

The structural details and construction methods of the glider are too varied and complex to describe at any great length, but it is interesting to recall that this was essentially a wooden aircraft. The main wing structure was of wood, and employed a reinforced, moulded plywood skin with the main spar well aft, and sub-spars which support the elevons. Although the plywood skins were moulded and assembled over the rib assemblies in several sections, the wing is considered to be a one-piece monocoque structure. The wing upper surface was given a finish of epoxy paint and polished to a very high degree of smoothness so as to ensure maximum aerodynamic performance. The central surfaces were also of wood, and skinned with plywood. The elevons were mass-balanced by the use of counterweights attached to the central linkage.

From: Rideau Valley
Soaring School
Newsletter, Jan. '80

BEWARE of the evening lull

by Norm Taylor — W.G.C.

There is a tricky little phenomenon that goes on in the evening that we should all be aware of. As is well known, the wind in the evening normally dies down — BUT THIS IS ONLY THE SURFACE WIND. The wind at circuit altitude keeps blowing, at least for a considerable period of time. In fact, more often than not, as the surface wind dies down, the wind at 500 to 1,500 feet or so will increase.

You can see the consequences. In the early evening as you are coming in to land, you check the wind sock. It is standing straight out, so you turn on to base early and get into the field with no problems. As the evening progresses, the **surface** wind begins to die down. You now check the wind sock on your down-wind leg and see it hanging limp. Because of this you extend your down-wind leg and turn on to base much later than before, and then sweat it out on final as you find that you have been blown away from the field much further than you had expected.

The explanation is very simple. The wind in the lower levels, say from circuit height down, blows at a certain strength because of the pressure gradient in this layer. The movement of the air at the surface, however, is impeded because of obstacles such as trees, buildings, hills and so forth. The result is that the wind in this friction layer tends to be less than in the layer above it. In the daytime, particularly on good thermal-lifting days, bubbles of the slowly moving surface layer rise up into the faster moving air, and wide areas of the faster moving air sink down into the friction layer to replace the thermal air. This creates a linkage that speeds up the surface and slows down the upper layer.

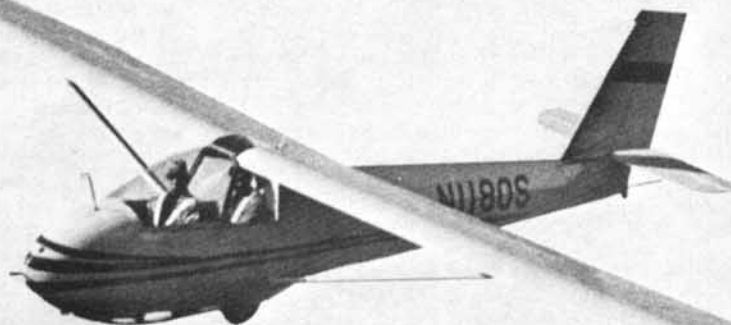
As thermals cease in the evening, this linkage is broken, starting first just near the surface and then working up. Without the linkage, surface friction holds back the surface air and the wind decreases. But also, without the linkage, the layer of air above the friction layer is now unimpeded and

speeds up. So we get the situation where during daytime heating, circuit height winds and surface winds are much the same, but as daytime heating ceases, surface winds decrease and circuit height winds increase.

This does not happen all the time, because there are occasions when the actual pressure gradient decreases by coincidence at the same time as the sun is getting low and the wind throughout the layer will decrease because of this. On cloudy days too, or days when the winds are light, little effect will be noted.

But, in general, if the winds have been strong, **BEWARE THE EVENING LULL**. Check the wind sock as usual on down-wind, but check your drift and ground speed too. The winds at circuit height can at times be very strong (40 or 50 knots) while the surface wind becomes very light. If you delay turning on to base, these strong winds can carry you so far away that you will not be able to reach the field on your final.

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Vintage Sailplanes

and first homebuilders meeting at Harris Hill, Elmira

It was an exciting gathering of the pioneer time gliders and their builders, and designers of contemporary sailplanes, on Labour Day last year at Harris Hill, the cradle of American soaring. Harris Hill, a national park and camp site at a 2500' elevation in the foothills of the Western Adirondaks, overlooks Elmira and Chemung Airport.

Highlights of the schedule were a vintage sailplane competition, the first homebuilders workshop, an all - you - can - eat - and - drink pizza - and - beer party, evening films about the 1970 US National Championships in Marfa/Texas (the best was "The Sunship Game"), and on Sunday the great banquet with guest speaker Stan Hall, Writer of the homebuilder section in SOARING.

There were quite a number of dedicated homebuilders as we found out. When hands were raised on the question "How many gliders did you build? One . . . two . . . three . . . , a hand was still up at eight. Stan Hall gave us an outstanding talk about the magnitude of homebuilding. He admired the homebuilder and his attitude of respect towards gliders rather than the one of the competition pilot: more homebuilders, less accidents. The builder seems to appreciate a lot more the delicacy of the birds we fly. He asked designers of sailplanes to bring out kits that can be built and financed by teenagers. Let's get everybody involved.

All workshops about glues and gluing, proper woodworking techniques, and metal and fiberglass handling were well attended by pilots, builders and neophytes. The designer of the MONARCH talked about the airfoils and stability of his sailplane and tailless gliders in general. The designer of the EAGLET also discussed his ship.

There was a strong desire to get all homebuilders organized to exchange knowledge and experience and to give assistance where necessary. This new organization was proposed as a subdivision of the SSA, and representatives from all corners of the North American continent volunteered to communicate with their colleagues — a first start. Leo Schober from Ottawa will represent Canadian homebuilders.

The National Soaring Museum received great appreciation. It houses quite a number of vintage sailplanes and other experimental sailplanes. I admired the craftsmanship of the ALBATROSS, a competition glider of the 1930's, featuring an enclosed cockpit. Literally, it was closed. Squares of wood panels were perfectly glued together from tail to nose, forming an elegant body. The cockpit narrowed towards the wing root pylon with only two circular holes at eye's level for looking outside. It sounds strange, but it obviously worked out. Slightly bent, transparent 19 m gull wings were framed in wood. I wonder whether it was fun or difficult to fly a 19 m

bird at that time? How could they launch such an enormous glider?

There hung the SISU, a homebuilt bird and most successful American competition sailplane ever produced. There were other vintage and experimental sailplanes exhibited in the hall, introductory texts about gliding and safety equipment — an interesting museum for the soaring fan as well as for the tourist.

Modern homebuilt designs enjoyed great attraction, and the MONERAI was the future. A pretty mini-ship, a relief for all the short ones who fly with piles of pillows in their back. John Monett explained his design with slides and also briefed a large group on "how to go about the welding of the fuselage, manufacture of ribs, metal handling, and what comes with the kit."

The proud owners of vintage sailplanes had brought their babies, not only as an attraction, but rather for a fun meet and contest. There was the GRUNAU BABY, an open-cockpit example of 1930 soaring times. Old pilots certainly remember the bungee launches and gliding off the slopes, but she also gracefully followed the towplane to heights where thermals are found so much easier: the BABY taxied on a dolly and on becoming airborne, the two wheels stayed jealously on the ground, bouncing crazily down the runway. There was the MINIMOIA, an elegant combination of glider/bird with high gull wings. Even tied down she appeared to float in the air. There was a very neat and graceful design of 1942, the Swiss MOSWEY. Waiting for take-off was a CHEROKEE with a narrow nose and fine mahogany finished cockpit; her balsa framed wings were transparent and one could admire the clean work of glued ribs and all the tiny bits and pieces that give strength and flexibility to a wing. The PIONEER with spotless white body finish and carmesin velveted cockpit attracted pilots and trousters.

As Labour Day treat, Paul Schweizer guided us (about 80) through the halls and corridors of his plant, he showed us the tooling and metal works, assembly line (it is rather a hand-made assembly) of his Ag-Cats, a 2-33 frame being welded, a 1-35 waiting to be beautified; and he mentioned "a new model" which he was unable to show us at this time (1-36).

At Harris Hill, you can see the "good old time" beauties, guarded with loving care by their owners, standing in line with our today's "super" soaring ships — you meet builders and designers and their story is a never ending book — and you also enter another world of people who pass on the heritage of the beginning of soaring.

You should go and visit Harris Hill.

Ursula Wiese — R.V.S.S.

Club Farewell

Members of the Winnipeg Gliding Club gathered on Saturday, January 26 for a reception honouring CFI, and SAC Instructor Committee Chairman, Ian Oldaker whose work takes him to Toronto.

Gifts were presented, including a farewell "card", a toy sailplane autographed by all the Club members attending.

Ian, and his IS29D2 Lark should become a familiar sight to Southern Ontario glider pilots in the near future.



Windsor

As usual every year, our operation got underway early in April, but we had to wait until the end of May to hit on the odd good thermal and have some extended flights. This year our club membership grew to 40. The Club flying equipment consists of one Ka8; two Ka-7's; and then since October our newest acquisition, an I.S.28B-2 (two-seater) Lark. We also have seven private ships. In addition, one of our members designed and built a high-performance all metal ship (RHJ 10) and he is just about ready to take to the air for his first flight. Then there are two more ships in the early stages of construction, an American Eagle and an HP-18.

Although we are operating with only one single drum winch, we made up to November, 1850 launches and this without any cable break. Our Club ships flew a total of 380 hours (Lark not included) and our instructors made (under the direction of our able CFI) 700 instruction flights.

But the rest of our pilots were not idle either!

We had this summer:

- 2 — 300 km Gold distance,
- 3 — Silver C Badges complete,
- 2 — Silver C Legs
- (Duration and Altitude),
- 9 — C Badges, and
- 12 — Solo flights.

The total flying time accumulated was 700 hours.

For the idle winter months, we had a few ambitious projects lined up. Overhauling and recovering with new fabric of the two Ka 7's, cleaning and repainting the Ka8 and building a new winch which is already in progress. Of course, we need the cooperation of everyone and with hard work we will bring those projects to conclusion and be ready for a new flying season come April of 1980.

Next year at this time, the Windsor Gliding Club will report again.

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I have one glider too many, so should sell one. Any offers?

I have a PIK 20B with all the contest goodies, also a two-seat high performance homebuilt (not completed at time of writing but target date for completion in early spring). I'm open to reasonable offers on either of these. For more details contact:

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Australian Gliding:
December, 1979

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The study leads to the following conclusions:

- * Club gliders have much higher speed limits, especially during aerobatics
- * They have reinforced instrument panels which are impervious to feet and parachute buckles
- * They require a much shorter braking distance on landing
- * They have a much tighter turning circle

when changing direction on the landing run

- * They can land in smaller and much rougher fields than private machines
- * Battery condition and tire pressures do not need to be checked nearly so often
- * They do not need to be hangared quickly in storms or rain
- * They can be flown for up to 200 hours with the undercarriage warning system unserviceable
- * They need cleaning less often, especially inside
- * The wings are specially designed for bumping into things and are adapted to

allow forward ground movement by pulling on the tips

- * They have reinforced control stops, permitting the controls to flap rapidly about in the wind and during ground movements
- * Floor design permits its use as a rubbish bin
- * Unusual and alarming noises during/after bad aerobatics are easily solved by flying other machines
- * And finally, no security is needed. Canopies can be left open regardless of wind conditions.

J.P.

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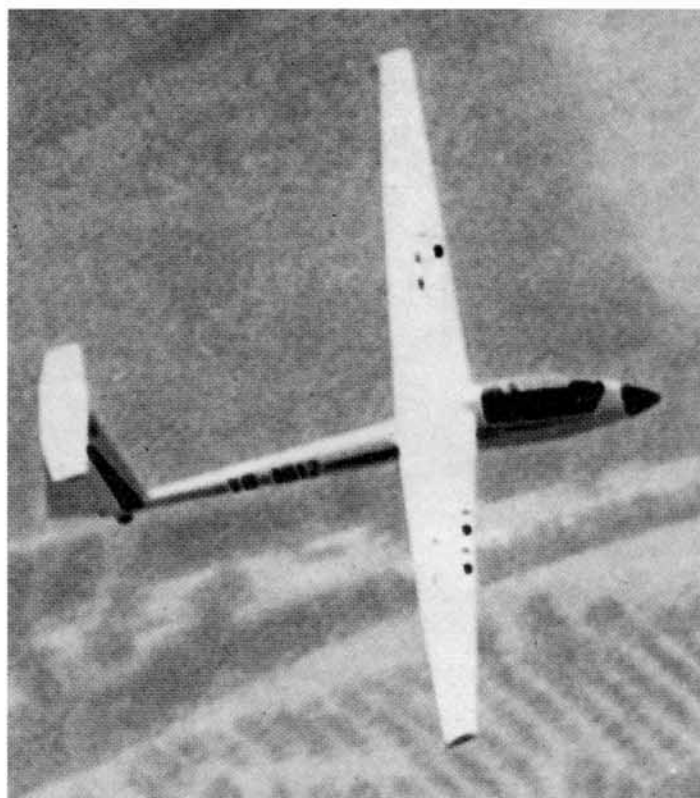
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