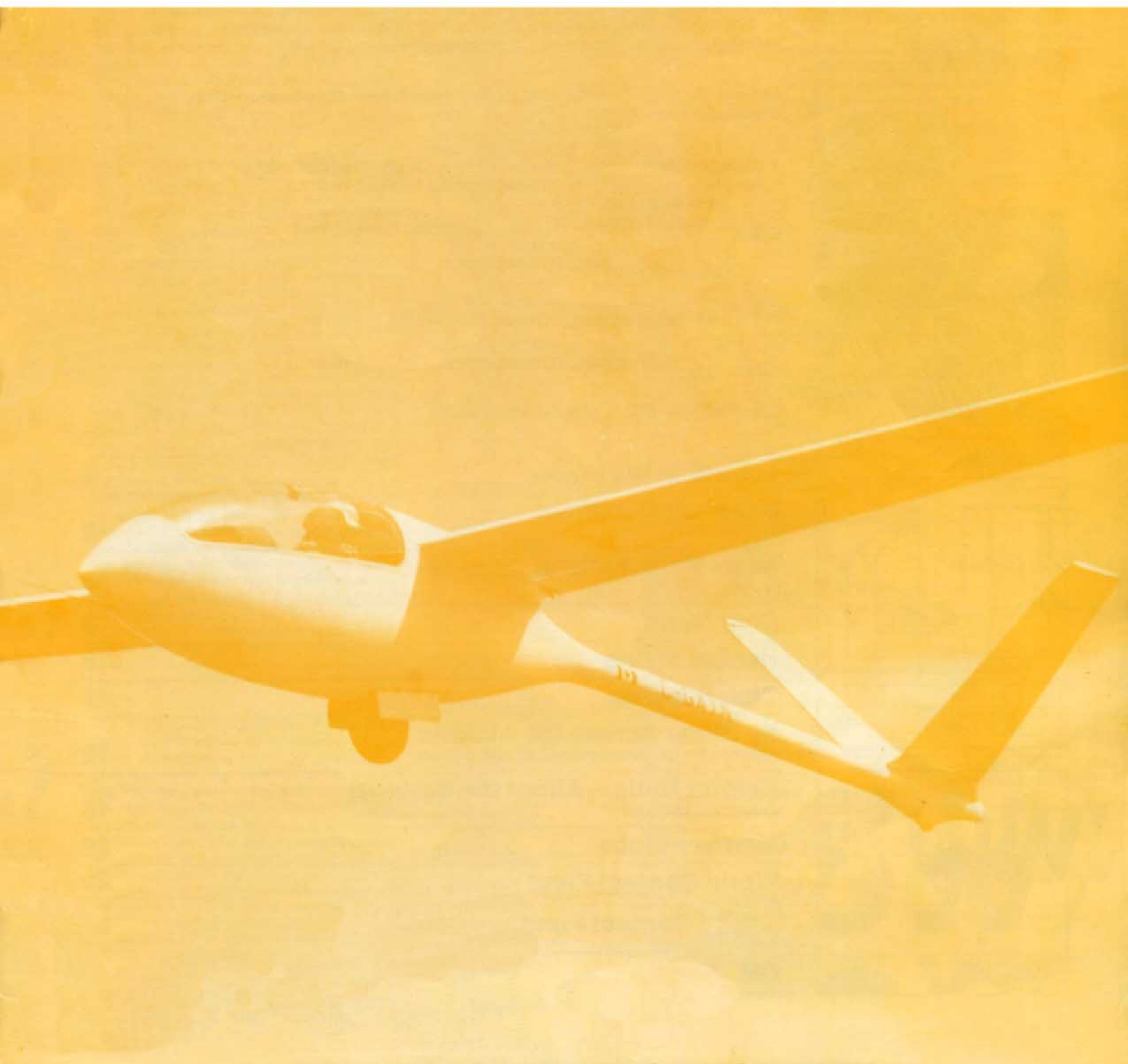


FREE FLIGHT

ISSUE 1/77 JANUARY/FEBRUARY 1977





FREE FLIGHT



Official Publication of the Soaring Association of Canada
Issue 1/77 January/February 1977

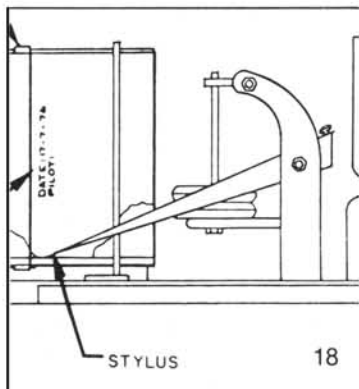
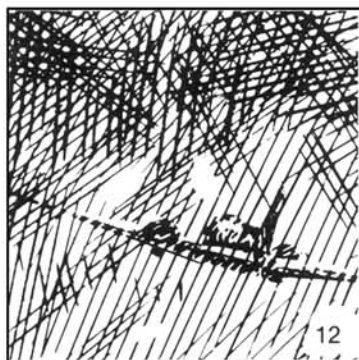
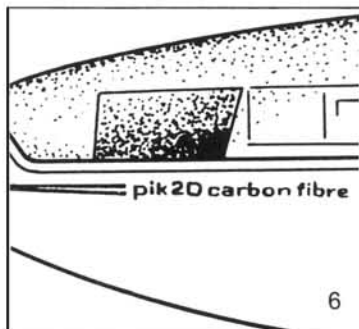
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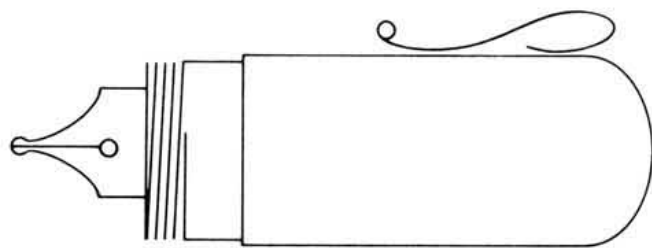
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Letters to the Editor



Regarding E. Feather's "Armchair Comment" in the November/December issue; perhaps his experience with lift on the outside of thermals was at Waikerie in '74 or in New Zealand or South Africa. It is common knowledge that the water goes down the bath tub hole in a reverse spiral south of the equator due to Coriolis or geostrophic force. Similarly, the lift generated in thermals in the southern hemisphere must be reversed. This makes Ingo Renner's win at Rayskala all the more amazing.

Perhaps our friends in the New Zealand Gliding Assn. or the Gliding Federation of Australia could supply additional technical data on this phenomenon.

A. Fletcher

Dear Bob:

I was rather saddened to read Elemer Balint's article on bilingual air traffic control in the Sept./Oct. issue of FREE FLIGHT, not only because I feel our magazine is not the proper forum for what is something of a political issue, but also because Elemer's proposed solution is far too simplistic (naive?) for what is a very complex problem. Since the issue has been raised however, and at the risk of extending the improper use of FREE FLIGHT I would like to make some comments, hastening to add that they are no doubt biased by the fact that I am unilingual in English. The reader should bear this fact in mind as he reads the following.

As much as I dislike labelling some Canadians as Francophones and some as Anglophones, for ease of identification I will use these terms in this case.

First the Francophone argument. Some of the Francophone pilots and controllers insist that French must be permitted for Air Traffic Control as a right under the Official Languages Act and that those Francophones that oppose are traitors to the French cause. Controllers in the Quebec region who favour the use of English only have been told bluntly that they are not wanted in Quebec control units and consequently there has been a mass exodus of Anglophone and some Francophone controllers from the Quebec Region to the other five control regions in Canada. This movement involves more than half the normal staff in the Montreal Area Control Centre. Most of the Francophone pilots, controllers and other aviation employees belong to a group call the "gens de l'air" a quasi union that has no official status but does have a great deal of support in the French community. This group is on record as stating that the use of French in A. T. C. communications will make for a safer rather than a less safe system in that pilots whose first language is French would be less likely to misunderstand instructions. The "gens de l'air" are angry and bitter at the Federal Government in general and Otto Lang in particular for what they feel was a sell out to the Anglophone pilots and controllers in agreeing to study the safety aspect of the use of French in air to ground IFR communications

before such use is legalized.

How do those on the other side of the argument see the problem? The Canadian Air Traffic Control Association (CATCA) and Canadian Air Line Pilots Association have opposed the use of French in IFR communications claiming it is hazardous and would be a threat to the safety of those who fly either as passengers or crew. They accept the use of French in six specified VFR control towers in Quebec but are opposed to its use at the major IFR airport towers such as Mirabel and Dorval and totally opposed to any use in IFR communications anywhere. Their contention is that air crews must be able to understand all the communications that are directed to and from all aircraft so that a back up is provided to the control function. Both of these groups (CATCA and CALPA) are upset at what they feel is an attempt to run roughshod over safety considerations in order to achieve political ends. There is a feeling too of bitterness among the Anglophone controllers at what they feel has been inhuman treatment of those controllers who have been forced to move out of Quebec. They site threatening phone calls and verbal attacks that have allegedly taken place. The Anglophone faction also states that French is already being used illegally on a regular basis and that no efforts are being made to discipline those who are involved.

It seems clear that there is no easy solution to the problem and that the government is faced with a monumental task in coming up with an acceptable compromise. Both sides seem genuinely concerned with safety in the air but are diametrically opposed in their stand on the issue. Radicals and bigots have come out of the woodwork on both sides, but fortunately seem to be a minority, if a highly vocal one. There is no question that English is the most widely used language of aviation and the only one permitted for international flights. About half the countries in Europe use English for all A. T. C. communications and about half permit local languages to be used for domestic flights. Which approach is best for the Canadian aviation community is the question that has caused all the furor over the last several months.

The use of two languages appears at this writing to have been a factor in the midair collision in Yugoslavia in September. If this proves to be the case then the stand of the government and the "gens de l'air" would seem to be indefensible. On the other hand if the computer study to be undertaken in Ottawa can prove beyond a shadow of doubt that two languages can be used as safely and efficiently as one, then the position of CATCA and CALPA will be difficult if not impossible to support. Sometimes one dispairs of a rational solution to what is essentially a technical problem that has unfortunately been thrown into the political and cultural arena. Gratuitous proposals such as the one made by Elemer can only serve to make the situation even more difficult.

In closing let me suggest that if you want advice on Motorgliders by all means consult

Elemer Balint. He seems to be an expert in this area. If, however, you seek guidance on the question of bilingual A. T. C. communications it would be best to look elsewhere!

An Air Traffic Controller
(Name withheld by request)

Dear Bob:

I am in receipt of the Nov./Dec. issue of 'Free Flight' and I must say I am not particularly surprised by the emotionally charged response of Messrs. Pedersen and Tustin to my brief on French Radio-Communications.

It is exactly this emotionalism and total ignorance of logic which caused this issue to be super-charged way beyond its air traffic implications. Accordingly, neither of the above two gentlemen countered my postulations with reasoned arguments but rather pathetically resorted to innuendo.

Perhaps you could be gracious enough to allow equal space for me to respond publicly this one time, after which if Chris Pedersen and Dave Tustin wish to continue the dialogue, we could do it in private and, hopefully, in a more friendly manner.

So let me respond to Chris Pedersen first. I had no intention to create an illusion of authority beyond my competence. I have obtained my IFR ratings in 1952 in another (non English) country and I categorically state that knowledge of English was not a requirement. Eighty per cent of our pilots did not speak English at all and airline IFR operations were conducted smoothly in two languages at Buenos Aires International Airport. English for foreigners and Spanish for domestic pilots. I challenge Chris Pedersen to prove that this rule was changed and native pilots must use English in air traffic communications in South American or European countries.

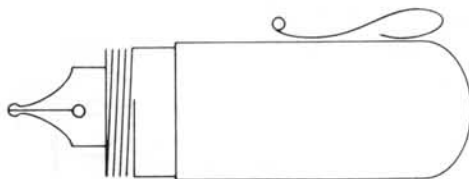
Chris Pedersen conveniently by-passes the issue of the constitutional right of French Canadian citizens to receive federal services in their native tongue. I am afraid his hazy reference to ignore legal or moral connotations in the interest of ill-defined safety is not valid either, since bilingual communications were and are proven safe daily the world over. Airline flying and soaring may be business or pleasure but certainly should not be used as justification to ignore basic legal or moral issues, which Chris, unfortunately, considers petty.

Dave Tustin may or may not be interested in the subject and whether Free Flight should or should not be involved is certainly "one man's opinion". I fail to see, however, why my concurrence with the letter and spirit of the law and M.O.T. regulations should be considered the same. I hope we did not reach the stage where agreement with government decisions is disturbing.

Judging by the tone of Dave's last sentence, I surmise he would prefer to send the old fashioned gunboat to calm the restive natives and administer twenty lashes to the agitator's backside with something else than the editor's plume-amusing.

Elemer Balint.

Letters to the Editor



Dear Editor:

As a member of the recently formed Bluenose Soaring Club of Halifax, Nova Scotia, who took instruction towards obtaining a glider pilot licence this past summer, I would like to be able to deduct such costs from my taxable income much as persons proceeding towards a power pilot licence can do. However, I am aware that differences of opinion exist as to whether this is legal or not.

If the Executive of the Soaring Association of Canada could clarify this matter, I, and perhaps others taking instruction, would be grateful.

B. M. Jessop

Section 32 of the 1975 Tax Guide says "...you may deduct tuition fees (not books or other expenses) from your income if the fees were paid to an education institution and were over \$25.00 ..."

"... the fees that may be claimed are those covering a period of not more than twelve months commencing in the taxation year. Attach to your return the approved form of receipt or certificate for income tax purposes which is issued by the education institution ..."

Our information is that some have had the deduction accepted and others have not. Why not try it; the worst that the tax department can say is "No"!

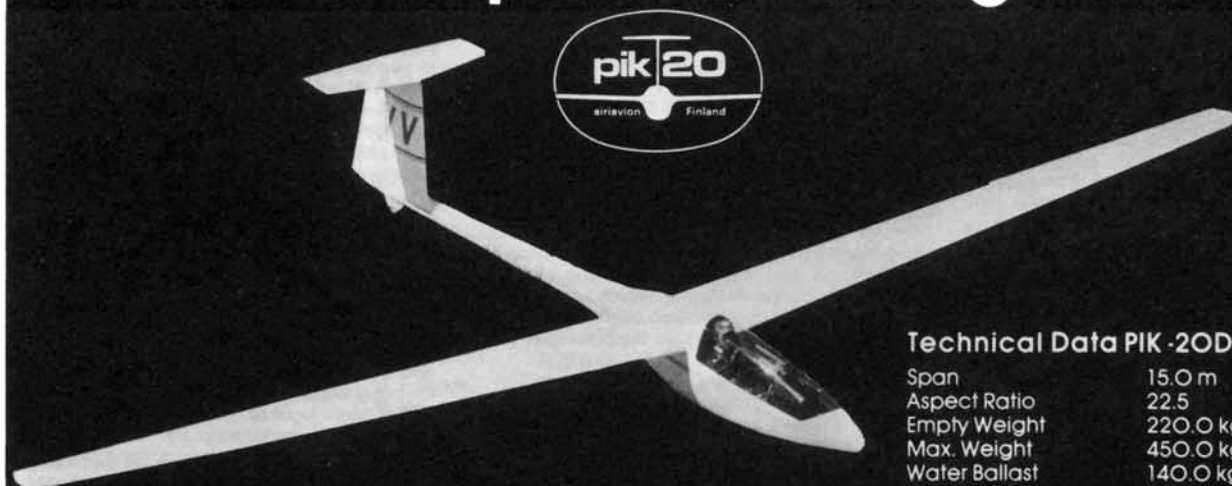
Ed.

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A Great Ship and a Delight to Fly



Available now for 1977 season

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

PIK-20D Flaps and spoilers - lock flaps for use in restricted 15 m class.

Watch For

PIK-20C Restricted 15 m class - ideal for high performance club use.

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

Technical Data PIK-20D

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

For further information please contact:

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

“Armchair Comment...”

Sitting in my comfortable armchair which I have incidentally recently re-upholstered I thought back to some comments which were made at last year's AGM. From these, and an article or two plus some letters in subsequent Free Flights my conclusion is that we have an alarming lack of awareness and concern for flight safety in our Association.

But wait, you may say, surely the 1976 statistics don't support that statement. Ah! What about the weather? Maybe we should credit that with part of the remarkable improvement.

What concerns a number of us is that few pilots seem to be thinking of safety - perhaps we need to examine our attitudes to how we and our fellow members (S.A.C. not our own club) conduct our flying. For example, when visiting another club, differences in their operation and perhaps in their approach to safety are bound to be noticed. Nowhere are these differences more obvious than when several clubs visit one site together. What do we do, for example, if we feel that someone is setting himself up for an accident? Yes, this question has been put to me, and it needs an answer. Insurance companies will not insure a home that does not meet minimum standards as set by the power or building codes. Do we demand minimum safety standards for those of us insured by the S.A.C. scheme? Perhaps we should.

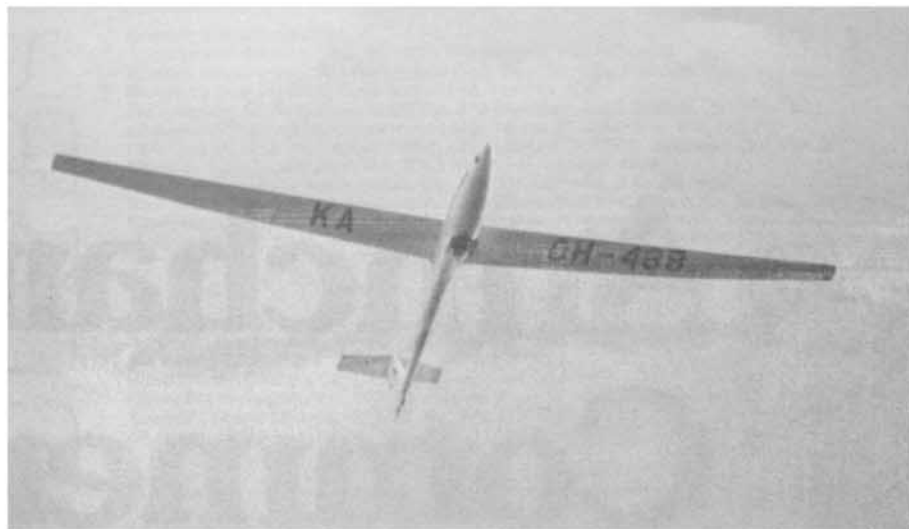
We are now in the enviable position of having an Aviation Safety Bureau in Ottawa, which is a non-regulatory body; it issues the Aviation Safety Letter to all pilots. The Bureau has an arrangement with our Association to receive copies of all our incident and accident reports (anonymously if need be), however, how many of our reports are now going in to our Safety Committee? Does your club in fact produce such reports?

It is axiomatic (wow! big word) that if our insurance rates are not to increase, our safety practices must improve, and to do this we must know the trends in our incidents. For this we must (yes, I do mean must, let's not be wishy-washy!), we must have full reporting. Perhaps what we need to do is to get rid of our old stuffing and re-upholster our concepts of the needs and methods by which to keep each other informed - because we could do with this interchange.

Some recent letters in Free Flight explaining certain accidents are just the sort of thing - in modified form perhaps - that would be great in Free Flight. As I sat in my armchair reading them a number of other questions came to mind, but even so I certainly learnt from them - because they were reported.

We have a very able, keen and hardworking group of people in our Association, but they can't improve the record without our own cooperation. First we must have an incident/accident reporting system that is active, and seen to be active. From this the Safety Bureau have offered to report to us through Free Flight. We can only benefit. We also need (there I go again!) agreed minimum safety requirements and/or reviews of club operating procedures as part of our insurance scheme (wouldn't it be great if the Safety Bureau could be persuaded to give us a grant to help us police our own activities in this area?) - we can only benefit.

Let every one of us pressure our Zone Directors into taking positive action in these areas, and we should do our reporting to the Safety Committee; we can benefit.



NEWS FROM

Eiri*Avion of Finland has been quietly expanding their successful PIK-20 line of sailplanes which now include:

PIK-20B, the carbon fibre spar, 90° flap, 15 m ship with aileron interconnect and the winner of the 1976 World Standard Class Championships.

PIK-20C, the Standard Class ship with no flaps and conventional upper surface S-H airbrakes. Also used as a high performance club sailplane.

PIK-20D, the carbon fibre spar unrestricted 15 m class ship with lockable flaps and S-H airbrakes for participation in Standard Class competition.

PIK-20E, self-launching motorglider with a fully retractable power module.

UNDESIGNATED, a high performance two-seater in the design stage.

As a part owner of a PIK-20 I was naturally very interested in talking to Esko Gronlund of Eiri*Avion when he recently visited Canada. Some of the information passed on by him should be of interest to the Canadian soaring community and certainly to the owners of the seven PIK's now in Canada.

One of the reasons for Esko's visit was to talk to the Canadian manufacturer of the Kohler engine which is used to power the PIK-20E motorglider. The 2 cycle, 35 HP engine, complete with an electric starter and propeller fits neatly into a sealed

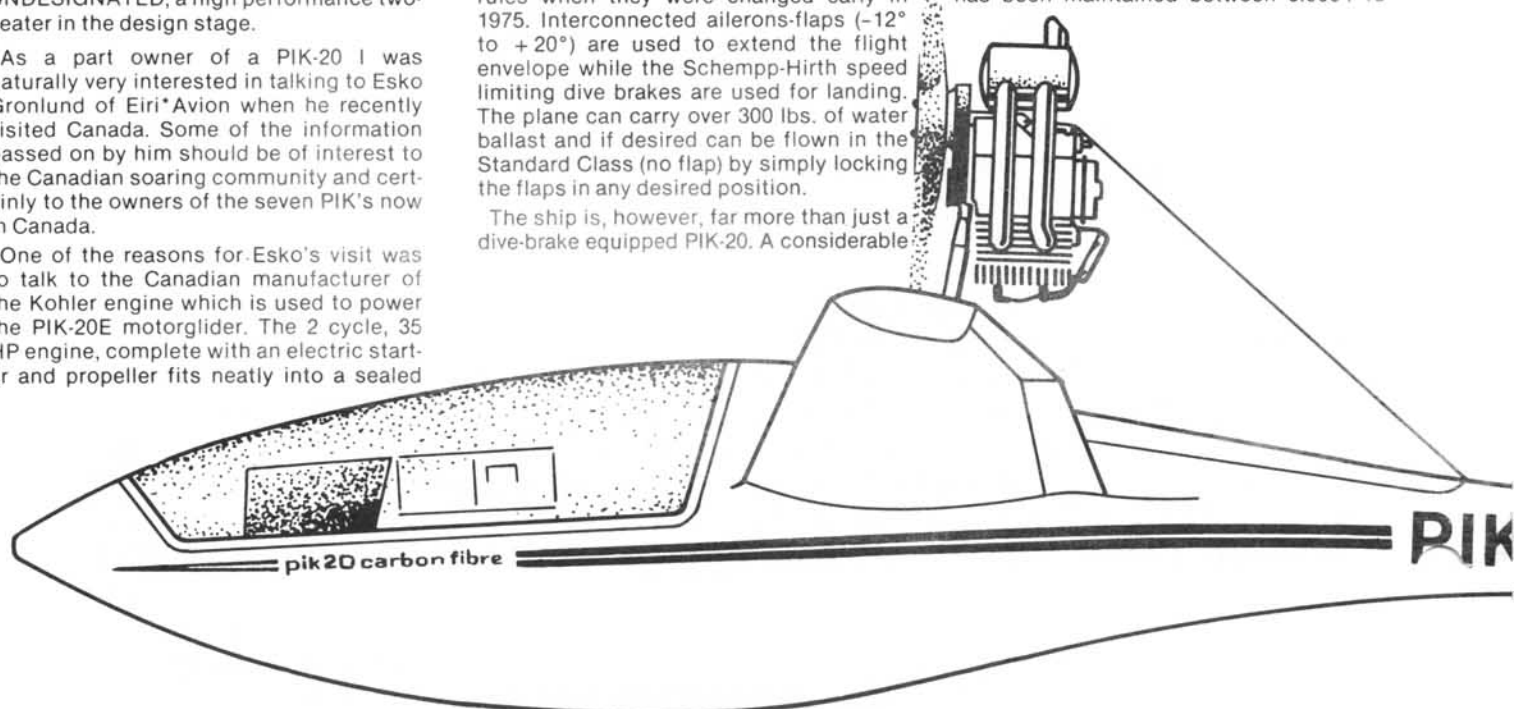
compartment in the aft portion of the fuselage and is raised and lowered by means of a hand crank in the cockpit. The total power package adds only 133 lbs. to the normal weight of a PIK-20D. This still leaves a maximum useful load of up to 373 lbs. resulting in a wing loading range of 7.1 to 9.2lb / ft.². With the engine retracted the "E" behaves very much like a normal PIK-20, retaining its 40:1 L/D. The only prototype of this machine is being used to accumulate flying time and data for certification. Although it is not officially on the market as yet, the estimated price ex works is US \$17,800.

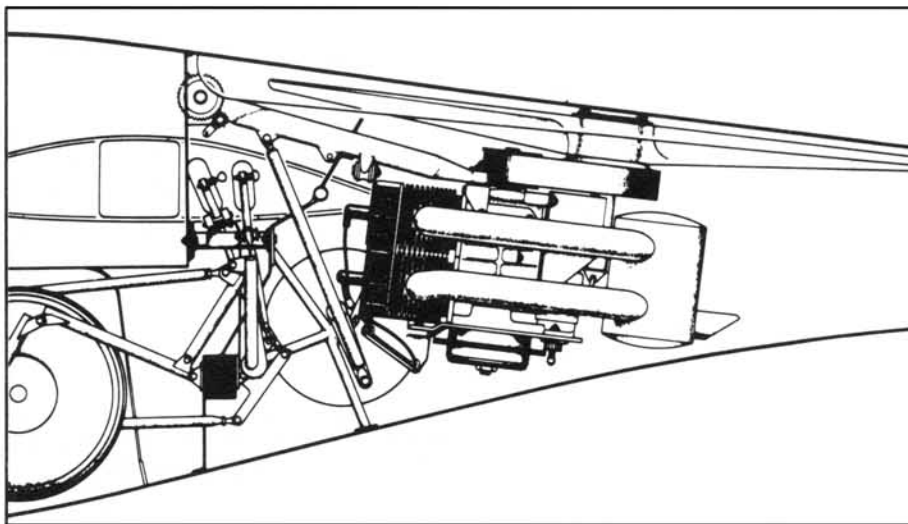
The hottest selling item at the present time is the PIK-20D. This machine was developed to meet the new Standard Class rules when they were changed early in 1975. Interconnected ailerons-flaps (-12° to +20°) are used to extend the flight envelope while the Schempp-Hirth speed limiting dive brakes are used for landing. The plane can carry over 300 lbs. of water ballast and if desired can be flown in the Standard Class (no flap) by simply locking the flaps in any desired position.

The ship is, however, far more than just a dive-brake equipped PIK-20. A considerable

amount of design went into the "D" model including the experience gathered during three years of manufacturing some 150 flapped ships as well as the feed-back from hundreds of PIK-20 pilots from various countries. Esko particularly stressed the significance of the special type of epoxy used which requires a high temperature curing cycle at +70° C for 15 hours. This heat cure guarantees the stability of the material and its exact shape during the whole lifespan of the ship. This eliminates the "spar bulging" often seen on other ships several months after manufacture.

Because of this curing method and the super-accurate wing moulds (which were made using steel templates) the wing surface waviness, according to the factory, has been maintained between 0.0004 to





FINLAND

by Hillar Kurlents

0.0008 inches on all production ships (Measured using a 2" gauge spacing).

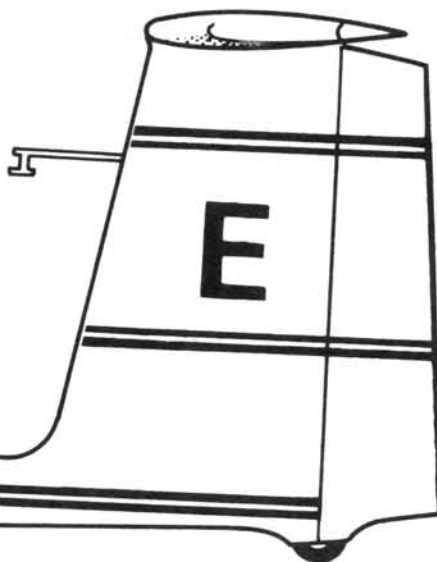
Another very important improvement is the extensive factory sealing carried out and includes virtually leak proof wheel-housing, the tow hook pit, the dive brake housing and the wingroots. All the control surfaces are sealed carefully with strips of airtight material. The hinged canopy is effectively sealed by means of a continuous elastic tube mounted around its rim and inflated by a small bulb type hand pump after closing the canopy. The cockpit air is exhausted only from the tail through streamlined fairings around the rudder cables.

The flight controls management is greatly simplified by the incorporation of a special elevator trim/flap interconnect. This arrangement allows the pilot to set the trim interconnect at the beginning of flight for the correct speed at a given flap setting and flying weight. Once set, the optimum flying speed is automatically established whenever the flap lever is changed. This eases the pilot work load enormously and enables one to get the most out of a thermal.

From the safety point of view the carbon fibre spar which is now a standard item on all models (except the club "C" model) not only saves weight but also stiffens the wing. Carbon fibres are also used around the edge of the cockpit for added

pilot protection. The cockpit area is enclosed in extra thick skins and the empty space between them filled with energy absorbing foam. The aircraft structural calculations are based on OSTIV Airworthiness Requirements for Sailplanes 1971, where the maximum gust limit is set at +15 m/s. This means that the PIK-20 is for example 1.5 times stronger in a gust compared with any sailplane designed to the German airworthiness Requirements (LSF). This coupled with the traditional airbrakes has generated a great deal of European interest, particularly in the alpine countries. The present annual production capacity of 99 ships has been almost completely allocated and surprisingly most of them are destined for Austria, Switzerland and West Germany. When I pointed out to Esko that this appeared somewhat

of a paradox since Germany produces several 15 m flapped ships of similar performance, he replied that the German pilot is also very systematical, and considering all factors often find the PIK-20D a superior buy. For example, the PIK-20's competing in the World Championships were standard factory ships without any special "tuning". This is apparently not true of most other manufacturers who have a history of spending considerable effort to optimize a ship for an important competition while the average customer may end up with a somewhat inferior one. The main reason is however, that most of the new flapped ships are only paper designs or at the prototype/certification stage without any production history. Esko is certain that the PIK-20D will more than hold its own against these ships once they have received their type approvals and are being delivered on a production basis.



Regarding the "B" model and the performance tests run by Dick Johnson, where a degradation occurred after installation of the flap/aileron interconnect kit, Esko had a plausible explanation. The kit was installed during the hot Texas summer and adjusted for the proper flap deflections. The test program was carried out during the winter months usually starting from around 10,000 feet altitude. He was able to prove that the aluminum push rods contracted sufficiently in the cold temperatures to result in appreciable flap deflection when selected for 0° position. This amount of deflection corresponds quite closely to the amount of degradation experienced by Dick Johnson. At any rate all the future push rods are made of steel tubing which should minimize the temperature effect. Dick Johnson has, incidentally, ordered a new "B" model for himself. Because of the overwhelming demand for the "D" model, the factory has only limited capacity to produce the "B" models and is faced with the decision of possibly building another set of moulds.

PIK-20

CLUB NEWS

Provincial Motor Gliding and Soaring Association

After several years of trying to convince the majority of our members to commit the Club to the purchase of land, a number of potential sites slipped out of our hands. Finally when the present 80 acres of land just north of the village of Omemee became available, seven members of C.O.S.A. privately concluded the purchase with the hope to transfer the property to the Club. Again, after a couple years of trying, our attempts to reach the required majority of vote failed, and the group of seven decided to go separately to the new site, and The Omemee Gliding and Country Limited was incorporated as a shareholding company. A great deal of effort and money was spent and in two years the runways were graded and seeded, and many facilities installed at the field. At a joint meeting between O.G. & C., Ltd., and P.M.S.A., Kawartha Soaring was incorporated as a S.A.C. Member Club. By June of 1975, flying began with an L-15, KA-2B, and an RF-5B. However, by the end of 1976, the following fleet operated from the same field: two Blaniks, a restored Grunau Baby, L-19, Sperber, Diamant 16.5, open Class Cirrus, and a Pilatus B4.

During 1976, 652 flights were completed with a Silver C obtained by H. Ksander, and Mrs. Balint obtained her Glider Pilot's License after having flown five years on a Student Permit (surely a record). Other activities included: a bonfire party every Saturday night, the building of six T-Hangars, cutting the name of Omemee Gliding Club in huge letters in the grass which you can read from 10,000 feet, doing a triple towing of two Blaniks and a Cirrus at the Peterborough Air show, buying a 2,000 gallon fuel tank, having an open house with many guests and forty flights that day with only one tow plane and a very tired tow pilot by the name of B. Wolski. By the end of the season, the original membership grew from seven to twenty-eight including six instructors, four tow pilots and the rest of the members in various stages of development from student to introductory pilots.

Wide Sky Flying Club

Once in awhile we all get plain "fed up" with the world. Especially with some of the clubs we belong to. It is alright for a Bridge Club or a Golf Club to get into that kind of attitude or "mess".

In a Glider Club the story is a little different. Alone the equipment represents a fair amount of personal devotion by some.

We had belonged to a club some years ago and struggled to acquire the first airplane (an Aircoupe of all things) and some of the wealthier members even contributed to a Link trainer never to be installed or used. Nonetheless, it was an achievement and we were proud of both: the coupe and the Link.

Most clubs have duty rosters for instructing, looking after equipment and you name it. Some have as many people on the executive and committees as there are members. O.K. that spreads it around and within these groups a few diehards are still required till the rest of the membership can get fired up. The whole circle starts all over again until the cycle is completed.

Notable Achievements this Year: Dieter Wedemeyer has earned his "C" Badge, Barry Holland has flown the 5 hour duration, Marvin Toes soloed on May 15th, Brian Cameron soloed July 17th, and Ken Goosen completed his flights for license as well as Brian Cameron.

While we do not have the total flights for this year it is estimated that we are down about 50% from 1974 and '75.

Edmonton Soaring Club

This year's unusually long season produced good gliding days, but poor soaring cross country weather. Our flights and hours flown are way up over last year, and Reg Adam, our Treasurer, is smiling and our banker is off the Pill(s). Our "Five Year Program" (to be elaborated upon in future issues) is on schedule so we can go into next year without a backlog.

Chipman Field comprises 160 acres, with 120 in a crop, one runway 300 feet x 2,750 feet in grass with no obstructions at either end, and is noted on the map as Airfield No. 972. New additions include: a brand new steel and concrete hangar 65 feet by 78 feet, an equipment building with a new roof and paint job, a mobile home belonging to our Vice President, Bill Pidruchney, which serves as our Club House, 12,000 feet of cable tie-down for both wing and tail, 200 newly planted trees, swings and sandboxes in the camping area, 2 radios, 1 electric vario, and an overhead gas tank, which now makes refueling the tow plane a one man job.

Each spring a corner of our field is plowed up by the Ukrainian Air Force for a large garden which is free to use by any member. Usually the men stake out a patch of land and the wives have always some work to beat the weeds.

The busiest member of our Club this year was Garnet Thomas, our C.F.I. He had a very well planned training program for both students and instructors. Regular Club Meetings occur ever second Wednesday of the month, summer and winter, besides frequent Executive Meetings.

The Five Alberta Clubs form the Alberta Soaring Council, which had its "May Meet" at our field this year. We also had a summer camp in the mountains at Cowley a one week training camp at Chipman, and a Labor Day Extravaganza (which is a real festival). The October Cowley Wave Camp was very good this year because the weathermen did everything just right. The best ever annual banquet and awards night was on November 13th with two new trophies added to our collection.

Enough of statistics, watch for a film to be shown on T.V. shortly called "Silent Flight". It was filmed from our field at Chipman using our equipment and pilots.

Letters were sent out to 46 Member Clubs who had not recently submitted "Club News" to Free Flight, requesting up to date information on their activities. The response was certainly gratifying. I'm sure you are proud of your organization....so let's hear from you.

CVVA Sherbrooke

CVVA's new site is a 3,300 foot field not far from Valcourt where Bombardier Ski-Doos are made. Adolf Scherbaum is the person who spurred the club towards ownership of its home field. Two converted buses form our club house and headquarters.

A Ka6 had been bought in Virginia last winter and towed to Sherbrooke through inclement weather.

Routine club news? We have that too, but last season's disappointing weather reducing our dreams to a wet reality and we hope our new site will give us better luck.



Erin Soaring

Although the past year will not be remembered as one of our most outstanding years, it has been a "good" season. While the more visible achievements like records, badgelegs, and long cross-countries were lacking, other accomplishments of a more quiet nature were underway: the acquisition of a good number of keen new members, more towpilots, the growing experience of the newer instructors, the initiation of a more effective duty pilot system, and mid-week flying on a regular basis. In the way of new aircraft there is a syndicate-owned Pilatus, an RS-15 under construction, and 3 Eaglet kits.

The improved organization of our operations extended to include the annual week of wave flying in New Hampshire. This

year's efforts were rewarded with a diamond, a gold, and several other spectacular wave flights.

The club exceeded last year's number of flights by more than two hundred giving us at year end a total just short of 1800 flights.

For the future we ask only more of the same (with perhaps slightly better weather - nine rainy weekends in a row is a bit much). We are fortunate in having an enthusiastic group of people whose potential is only beginning to show. Finally a vote of thanks goes to all those members like Jack Dodds, our retiring CGI and Peter Rawes, our President, without whose efforts it couldn't happen.

Winnipeg Gliding Club

Hopes for an early start at the Winnipeg Gliding Club this year were dampened during April by a major flood of the Assiniboine River. However, the water ran away much more quickly than expected, and the first flights of the year were made in strong winds on May 1st. Since then, the club has made almost 3,000 flights (over 500 more than last year) in one of the best soaring summers ever. The majority of the flights were training flights, of course, but a number of outstanding individual flights have been made. Ian Oldaker completed a 300 km triangle for his Diamond Goal and Gold distance in his homebuilt Tern, and Dave Tustin made the longest ever flight from the Winnipeg Gliding Club - a 534 km Goal flight to Millbank in South Dakota in the HP 14 for his Diamond distance. Dave later picked up his third (altitude) Diamond when he and Chris Pedersen took the HP to Pincher Creek for the Alberta Soaring Council Wave Camp on Thanksgiving weekend.

The aircraft population at Pigeon Lake did not change much this year. We acquired a new 2-33 (SOR) at the start of the season, having sold our old 2-22 to the newly formed Alask Club, and a just completed Tern took to the air for its test flights on



the very last flying day of the season; congratulations to owners Jeff Tinkler and Norm Taylor. Meanwhile the Fauvel AV-36 flying wing moved east with its owner to Ottawa, and one of the Cherokees moved to a newly formed club at Gimli, Manitoba - the Interlake Soaring Association. Next year we'll be seeing our first ever fibre-glass ship at the Winnipeg Gliding Club, Bob Barry's new Astir, and (we hope) another new 2-33 for the club. The hottest local news is that a syndicate has just been formed to purchase Henry Preiss' RHJ-8, which visited us here at the Nationals in '73.

For the past three years, the final major activity of the year at Pigeon Lake has been the Thanksgiving Dinner in the hangar. Dressed in our secret long underwear and thickest socks, some fifty of us enjoyed the best ever of Thanksgiving suppers, in the warmest atmosphere to be found anywhere (except perhaps in thermals).

HANGAR FLYING

1977 National Soaring Championships

Contest pilots take note that there has been a slight change in the contest dates. The contest has been moved back by one day to allow more travel time for contestants coming from some distance away. The contest dates are 19 to 28 July, 1977. The location is Hawkesbury, Ontario; midway between Ottawa and Montreal, the home field of the Montreal Soaring Council host of the 77 Nationals. There are four classes; Open, Unrestricted 15 m, Standard and Sports - the number of entries will determine if all classes will participate. All competitors who plan to enter the Nationals contest are requested to advise the Contest Committee now! Write to George Couser, 735 Riviere aux Pins, Boucherville, Quebec, J4B 3A8.

Trophy Claims

The Trophy Committee request that all trophy claims for 1976 be submitted as soon as possible to A. Sawatzky, Pinawa, Manitoba, R0E 1L0

CIVV Paris

At the CIVV meeting in November it was announced that the 1978 World Contest would be held in France. Both France and Germany had made proposals to host the next World Contest. France was host country for the contest in 1956 for the VI Championships; Poland, England and Germany are the only other countries that have hosted a championships contest on more than one occasion.

European Glider Tour

Tentatively planned for August 5 to August 27, 1977. Visit famous glider sites like Wasserkuppe, Hahnenweide and Zell am See, fly where the Champions fly. Tour some of the world's top factories and see the latest glass ships. Sightsee in Munich, Frankfurt and Innsbruck. Room for 15 couples. If you are interested write A. O. Schreiter 3298 Lone Feather Cr., Mississauga, Ont. L4Y 3G5 for more details.

News from St.-Jean Airport

As soon as mother nature gives the chance to swing ourselves again into the excitement of free air, thermals and (unfortunately) downs, we are ready to join with top notch equipment ... the super all metal bird, a Blanik. a new operation will start at St-Jean airport and we invite you heartily (with your own glider if you have one and your friends) to join this group of safety minded pilots.

For more information, please call after 6 o'clock: Ursula Wiese, Montreal 482-7827 or Albert Strasser, Chateauguay 691-9769.

'77 AGM

The 1977 AGM will be held at the Airport Holiday Inn, 920 Dixon Road, Toronto on Saturday, March 5th. Visitors should make reservations prior to February 1st and advise the hotel you are attending the SAC AGM to obtain the special rate of \$29. single, \$40 double. The host club for the AGM is York Soaring and arrangements are being co-ordinated by Fred Mueller. For information contact Fred at 34 Cicerella Crescent, Scarborough M1K 5B5 or call (416) 751-3924.

Class Structure for the 1977 National Contest

Owner of 15 m ships are probably aware that a new development has occurred in this class; CIVV has announced the acceptance of an unrestricted 15 m class in World championships. There is no reason for SAC to follow suit immediately, except to accommodate these new aircraft (e.g. PIK 20B) in our National contest.

We have not yet reached the situation of being able to count on a more than adequate entry in all classes (Sports, Standard and Open); in fact the 1976 Western Regionals had to be cancelled for lack of interest. Various possibilities are open to us for accommodating the new ships.

1. Simply revert to 1972 rules (no flaps) and force the PIK's and Mosquitos etc. to fly in the Open Class.

2. Create an Unrestricted 15 m class instead

of Standard Class.

3. Use the 1976 rules (flaps but no aileron interconnect) in which PIK's can choose to fly, but may in fact find less solid competition in the Open Class.

4. Hedge our bets by waiting to assess the entries in the 15 m classes and separate the unrestricted from the old Standard Class, if there are more than 10 in each class.

It should be pointed out that there should be something like ten or more in a class for the scoring rules to work fairly and successfully. Please write your comments in the space below and mail to: John Firth, 542 Coronation Avenue, Ottawa, Ontario, K1G 0M4

(Potential contestants only please)

32nd Annual General Meeting
March 5, 1976 - Airport Holiday Inn
Toronto
Agenda

Friday, March 4

19:00 Social Evening - President's Suite

Saturday, March 5

09:00 Registration

10:00 Opening Formalities

10:15 Minutes of 31st AGM

10:30 Club Voting Strength & Proxies

10:45 Committee Reports

12:00 Luncheon

13:30 Business Session

16:30 Election of two Directors-at-Large

17:00 Adjournment

18:30 Happy Hour

19:30 Dinner & Awards

Sunday, March 6

09:00 Meeting of New Directors &

Election of 1977 Officers

CLUB SUPPLIES

ITEM NO.	DESCRIPTION	PRICE
1.	F.A.I. Soaring Badges - "A" & "B"	
	a) Button - Screw Back	\$5.25
	b) Pin - Safety Catch	5.75
2.	F.A.I. Gliding Certificates & Badges:	
	a) Application Forms for Certificates & Badges	
	Claims are available from Club C.F.I.	n/c
	b) Gliding Certificates - S.A.C. Member	5.00
	Non Member	18.00
	c) Badge - "C" (button or pin)	6.00
	d) Badge - Silver "C"	11.00
	e) Gold or Diamonds - SAC keeps no stock but issues a letter of authority for the applicant to order directly from the manufacturer.	
3.	F.A.I. Soaring Awards & Rules Booklet	5/\$1.00 or .25 ea.
4.	F.A.I. Sporting Code (English or French)	1.50
5.	S.A.C. Instruction Manuals:	
	a) Part I - Instructor's Guide	.75
	b) Part II - Air Instruction Notes	.50
	c) Part III - Student Notes	1.00
	d) Air Cards - set of 11 plastic laminated cards (8 x 5)	3.00
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 sheet)	n/c
8.	Application for Official Observer	n/c
9.	S.A.C. Blazer Crest (Navy Blue)	9.00
10.	S.A.C. Decal	.25 ea.
11.	S.A.C. Cap (Red, Green or Blue with white crest)	4.00
12.	S.A.C. Glider Pilot Log Book	
	a) single copy	2.25
	b) 25 or more	2.00
13.	F.A.I. Cloth Badges - 3" diameter	
	a) "C"	.75
	b) Silver or Gold	1.50

NOTES:

- Item 2 (b, c, d or e) available only from Mr. R. Wilson, Chairman of F.A.I. Awards, Box 971, Kingston, Ont. K7L 4X8
- 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.



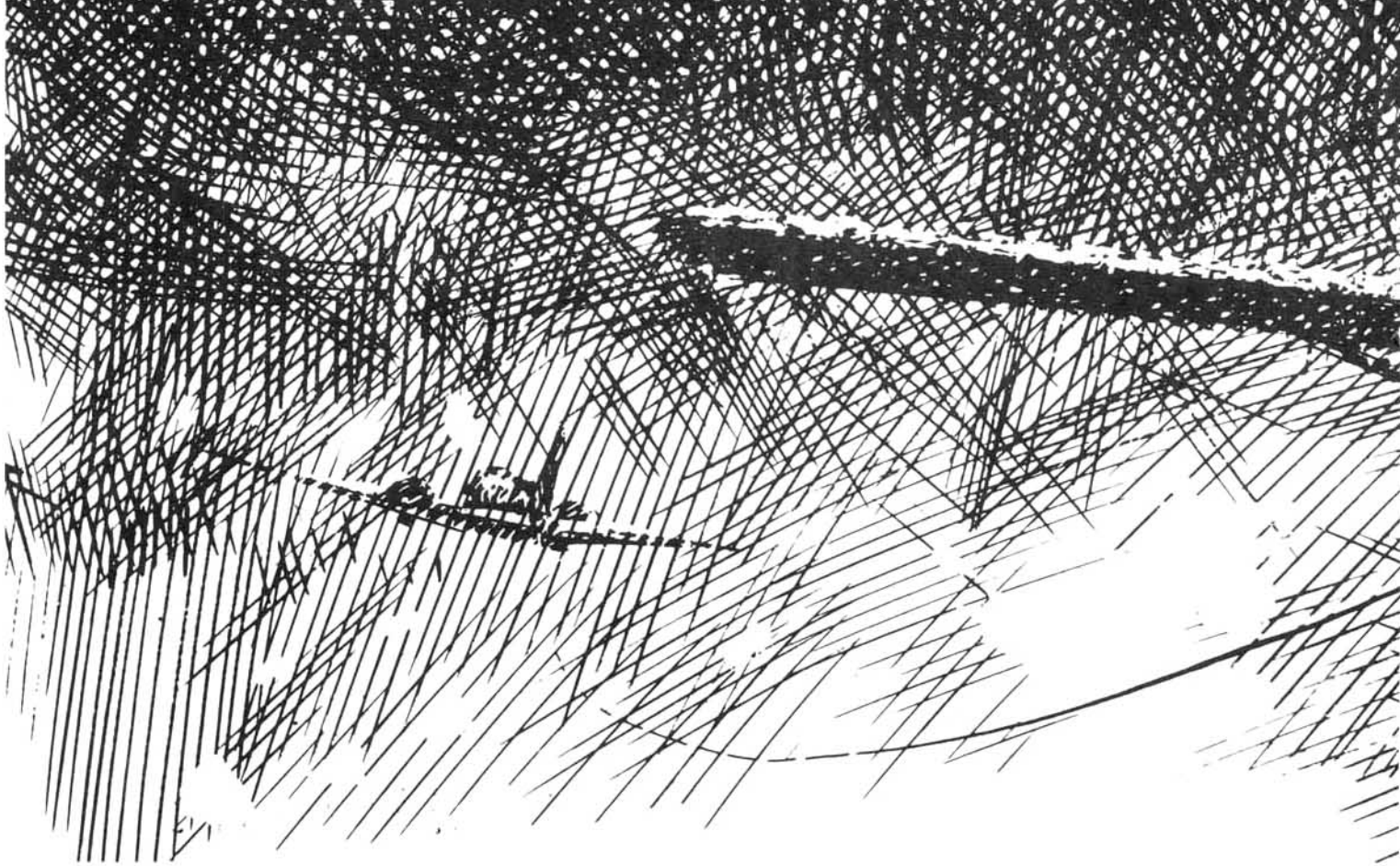
The Pilatus B-4

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BY GLIDER ACROSS T



First of Two Parts

by W/C F. M. Gobeil



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



ILLUSTRATION BY W. WHEELER

ORIGIN

The idea of a transatlantic air freighter "train" was first conceived by Air Chief Marshall Sir Frederick Bowhill, G.B.E., K.C.B., C.M.G., D.S.O., Air Officer Commanding-in-Chief, R.A.F. Transport Command, who while in command of the North and South Atlantic Bomber Ferry Service from Canada, started experiments with a view to obtaining detailed information as to the ultimate possibility of a transatlantic glider service for freight and for the rapid return of vitally needed ferry crews from overseas after they had completed an ocean delivery. The pioneer crossing was made by R.A.F. Transport Command.

AIRCRAFT INVOLVED

A Waco CG-4A Hadrian glider, christened the "VooDoo", registration number FR579 was used on the pioneer flight. The glider was towed by a twin engined Douglas C-47 Dakota aircraft, registration number FD900. A Catalina flying boat, registration number FP159, on a normal delivery flight

from Canada to England accompanied the glider train, the intention being that this aircraft could land in the open ocean to rescue the crews of the glider train if a ditching occurred en route. This was a safety precaution prescribed by the authorities before permission could be obtained for the flight but, as events transpired, it is questionable whether a successful rescue could have been effected, owing to the presence of extensive ice packs in the northern waters and the extremely turbulent seas which prevailed during the crossing. However, it must be admitted that the mere sight of the snow-white Catalina, sailing majestically alongside for hours, steady as a rock was very comforting.

THE GLIDER

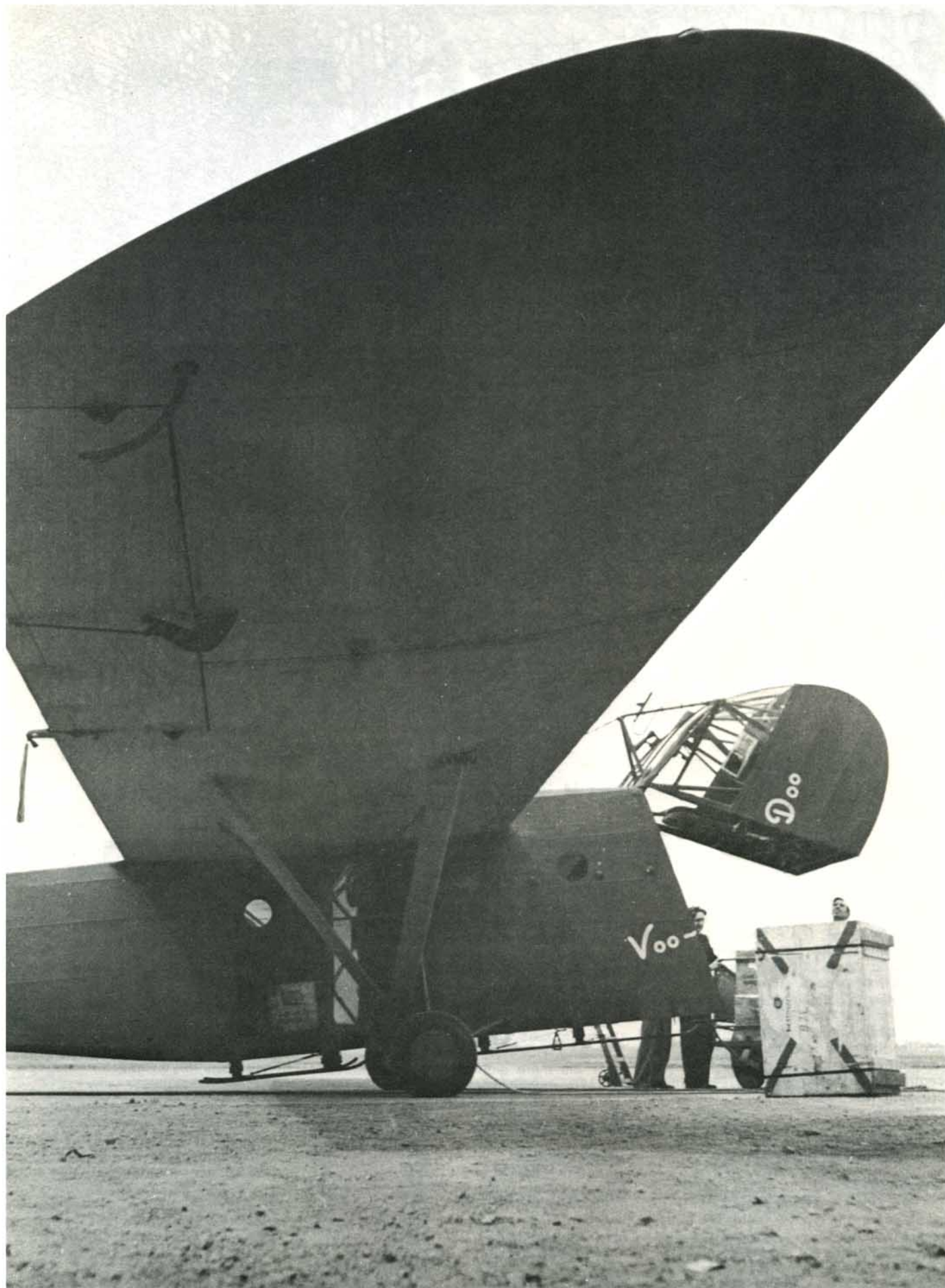
The American Waco glider used on the flight had a two spar, fabric covered wooden wing; span 83 feet 8 inches; area 851.5 square feet. At the maximum designed all-up weight of 7500 pounds, the wing loading was 8.81 pounds per square foot.

The fuselage was constructed of welded steel tube, fabric covered, length 48 feet 3 3/4 inches, height (tail on ground) 12 feet 7 7/16 inches.

This glider was designed to carry various loads. Typical of these are 15 fully equipped infantry men or a quarter ton truck and its crew or a 75 mm howitzer with crew and ammunition.

The basic weight of the glider was 3516 pounds; the normal all-up weight 7500 pounds. It could be flown, in case of emergency only, at 9000 pounds all-up, but never over this weight.

There were two types of landing gear available. One was the conventional fixed type, with wheel brakes, and the other without wheel brakes, was the tactical type. The latter type could be dropped once the glider was airborne, thus ridding the glider of the extra weight and the added aerodynamic drag. Once the tactical gear was dropped, the landing was carried out on the wooden skids below the fuselage. This resulted in a very short landing run, which was essential when landing airborne troops in small fields behind enemy lines.





On the transatlantic crossing, the tactical gear was used to lessen the risk if a ditching was necessary.

Two fully qualified transatlantic captains were carried on the flight in the glider and each pilot had a full set of flying controls. The flying instruments consisted of an airspeed indicator, an altimeter and a magnetic compass. No automatic pilot was fitted.

In flight, communications between the pilots of the glider and the towplane was effected through a "Walkie-Talkie" radio set, the same type radio as used by the infantry on the ground. As this set had a range of approximately 30 miles, this was ample for our purposes.

TOWING APPARATUS

The glider was attached to the towplane by an 11/16" pure nylon tow rope of American manufacture. (This may help in part to console the ladies for the disappearance from the market of their favourite leg wear in wartime!) This rope was 350 feet in length and had a stretch under load of 1 foot in 10. This property of elasticity greatly cushioned the various shocks of towing due to rough weather conditions and made nylon the ideal material for the tow rope. The rope cost approximately \$1.50 per foot and had a breaking strength of 800 pounds.

The tow rope attachment lugs on both the glider and the towplane could withstand a load of 20,000 pounds.

A device to release the tow rope in flight was installed in both the glider and the towplane. Normally, the glider always releases itself from the towplane and only in the case of an emergency arising in the towplane would the glider be cut loose from that end of the train.

The maximum permissible speed for the glider under tow was 150 mph.

THE TOWPLANE

The American Douglas C-47 Dakota used for towing the transatlantic glider was,

with a few special modifications chiefly in the amount of gasoline carried, the standard airliner as used by many commercial airlines.

This aircraft, when used as an airliner with two 1250 HP engines, has a top speed of 220 mph, cruises at 190 mph and has a range of approximately 1600 statute miles in still air on 850 gallons of gasoline. The normal maximum all-up weight of this aircraft is 22500 pounds.

For the transatlantic crossing, the normal gasoline capacity of 850 gallons was increased by the addition of the standard long range tanks of 400 gallons capacity. These tanks were fixed in the aircraft and the contents could not be jettisoned in flight. The speed of the Dakota was naturally lower when towing the glider, being in the neighbourhood of 120 mph for the first 4 1/2 hours after take-off and then increasing to 140 mph as gasoline was consumed with a resulting decrease in weight.

There was a distinct possibility, particularly in the northern weather regions, that the forecast weather conditions at the destination would change during the flight. Thus, a landing would not be possible and the train would be forced to return to the point of take-off or would be forced to proceed to an alternate landing ground. Therefore, more gasoline had to be carried in the Dakota. A further four tanks were installed, each of 135 gallons. These tanks were so installed that they could be jettisoned complete with contents if an engine failed on the Dakota during the early stages of the flight. If an engine failure occurred early on, the Dakota would not have been able to keep up on only one engine owing to the excessive overload of gasoline. It might be pointed out that the extra gasoline could not be released free through a drain pipe, as is normal in an emergency, as the gasoline would spray back over the glider with the definite risk of fire and resultant explosion due to static electricity.

When the modifications to the Dakota were completed, the gasoline carried was increased from the normal 850 gallons to approximately 1800 gallons; the range was increased from 1600 statute miles to 2450; and the all-up weight was increased from the normal 22500 pounds to approximately 31500 pounds. The Dakota was now virtually a flying gas tank and with the greatly increased all-up weight, each take-off with the glider in tow was an extremely hazardous undertaking, fraught with many possible causes of disaster.

FLYING THE GLIDER UNDER TOW

A glider is flown by means of the same controls as a normal powered aircraft. Before taking off, the glider is attached to the tug aircraft by means of the tow rope. Once the tow rope is attached and the fittings are checked for correctness, the glider pilot gives the order by radio, "Taxi slowly". The tug moves ahead until the tow rope is taut and the glider just begins to move. At this point, if the glider pilot is satisfied, he gives the final order, "Take off". The pilot of the tug opens his throttles and the actual take-off is commenced.

In all cases, the glider is airborne much earlier than the tug. This is due to two factors. First, the wing loading of the glider is much less than that of the tug and, secondly, the powerful slipstream from the tug's motors produces a much higher rate of airflow over the glider's wings, thus resulting in a higher lift. Thus, the glider is normally airborne in about one-third of the time required by the tug.

Once the glider is airborne and above the area affected by the tug's slipstream, it will continue to climb if not checked. This is always a dangerous period in glider towing operations since, if the glider is allowed to rise too far above the tug, it will raise the tail of the tug so high that the tug could not effect a take-off. Therefore, the glider is kept about 10 feet above the



tug or just clear of the slipstream throughout the take-off and the ensuing climb to cruising altitude. Once this altitude is reached, the glider is then flown at a constant 20 feet above the tug. (As a point of interest, it might be mentioned that the glider can be flown down through the tug's slipstream to a corresponding position 20 feet below the tug with perfect safety. This position is not normally used for protracted periods of towing as all tug captains report that under this condition, an excessively forward position of tail-trim control is necessary to maintain level flight.)

With a powered aircraft in steady air, the aircraft can be trimmed to fly "hands-and-feet-off" the controls for protracted periods and the aircraft will maintain a steady course. Unfortunately, with a glider this is not the case. A glider must be flown every moment it is in the air. There is no "hands-and-feet-off" at any time. This is the chief reason why glider flying, particularly for protracted periods, is so desperately fatiguing. The glider must be kept at a constant 20 feet above the tug. If it is allowed to get too high it will raise the tail of the tug and depress the nose. This will result in a terrific increase of air-speed beyond the tug pilot's control. If the glider is allowed to get too far below the tug it will depress the tail of the tug and raise the nose. This will cause the tug to stall and spin, resulting in the loss of the entire train. If the glider is allowed to get too far to one side or the other of the tug, the control surfaces of the tug will be fouled by the tow rope.

From this it will be seen that in rough weather, in clouds or at night, one clumsy bit of flying of the part of the glider pilot could bring down the entire train, despite one hundred per cent correct flying by the tug pilot.

When the train is proceeding normally, the tow rope does not extend in a straight line from the glider to the tug but takes up a curved path in the vertical plane, with

the mid-point of the rope about 20 feet below the glider. This gives rise to a peculiar perspective of the rope as viewed from the glider, called the "angle of dangle". On the other hand, after flying for prolonged periods under tow while watching the tow rope and the tug, the glider pilot begins to suffer from a marked hypnotic effect where sky, haze and sea all seem to merge into one and a determined mental effort is needed to convince him that he is not, in truth, flying upside down! While under tow there is a steady, continuous roar due to the air flowing around, over and through the glider, which is most unpleasant over long periods of time. However, once the glider is cut loose from the tug, this noise diminishes to a mere whisper and on the way down to a landing, even in a tow glider, some of the delights of a soaring glider are experienced. The glider is then on its own, free of the racking tug and free in its natural element. There is none of the noise and vibration so characteristic of powered flight. On the way down an upward current of air will very often be encountered and the sensation is much akin to going up in an express elevator. A free gliding descent from 12000 feet may take as long as 20 minutes.

The landing of a glider with wheel undercarriage is the same as with a powered aircraft. Final turn-in is made with ample height to reach the field and the flaps or glide "spoilers" are used to quicken the rate of descent. If the landing is made on the skids, without wheels, the actual touchdown is smooth, but the resulting deceleration is violent and unpleasant. This is much increased when possible enemy offensive action on landing calls for the glider pilot to raise the tail and force the nose to the ground in order to stop as quickly as possible.

PRELIMINARY FLIGHTS

In order to gain experience for the transatlantic crossing, considerable glider flying practice was carried out. These flights

began with local hops about the aerodrome with the glider empty except for the prescribed ballast. Flying characteristics and general handling of the glider were studied. Gradually, as experience was gained, the load in the glider was increased until full permissible load was carried. Longer flights were attempted until a full load of cargo was transported in mid-winter from Montreal to Newfoundland - Labrador and return. On this flight a world's non-stop record of 880 miles was established. Finally, in order to convince the powers-that-be that a transatlantic crossing was feasible, a full-load, over-water flight from Montreal to Nassau in the Bahamas was undertaken, with stops en route. On the return flight to Montreal, a new world's record non-stop flight of 1187 miles was carried out from Nassau to Richmond, Virginia in 8 hours and 50 minutes. This provided conclusive proof that the ocean crossing was not beyond the capabilities of the crews or equipment. This record flight, over water for the major part, was considerably longer than any called for over the proposed Montreal - Labrador - Greenland - Iceland - England route. Shortly after, while the crews concerned waited in feverish anxiety, official sanction finally came through for the transatlantic attempt and we were off!

STORY OF CROSSING — LEG 1

Wednesday, 23 June 1943 was a lovely clear, sunny day when the glider, loaded to capacity with urgently required radio, aircraft and motor parts and vaccine for Russia, was towed out at noon for take-off. To the superstitiously minded, it wasn't a happy augury that the attempted flight involved three aircraft and thirteen people. As a matter of fact, for some days previous, odds of 7 to 1 against a successful completion of the crossing were being offered around the field, with no takers! We were much too occupied with our task to be bothered with such trifles.

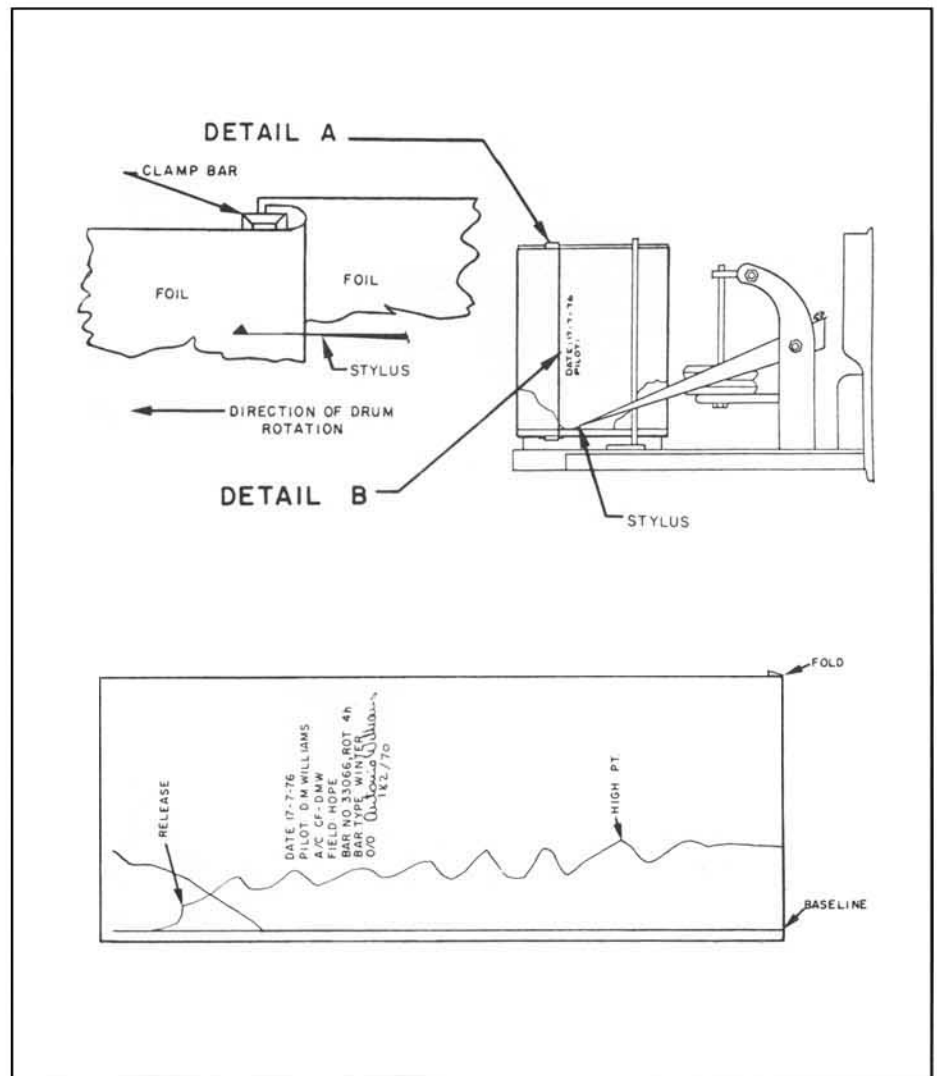
The take-off was uneventful and for the first four hours conditions were good. We sailed along in a clear sky over the broad

con't on page 23



HELPFUL HINTS

About the



Barograph

A majority of pilots will say that the smoke typed barograph is the most reliable. I agree. However in recent years barograph malfunctions have spoiled the documentation of some outstanding flights.

We can learn from the misfortune of others, this is the motivation for my writing.

It is common practice to reuse a foil which has a short trace from a previous flight, it is possible to only smear the existing trace and resmoke only this area. This works fine, however, it should be done only once. Repeated smoking can cause build ups of soot to the point that it can peel off when the foil is handled. If any of the new trace is lost the claim can be invalidated. To avoid this wipe the foil clean with a cotton ball before resmoking.

Smoking should not be difficult as it takes less than three minutes if you have the required accessories. I use an incense burner (without the lid) for holding the burning camphor, and an extra long pencil as a shaft through the drum while smoking. Rotating slowly I get a nice light smoke all over.

Not every aircraft has room to install the barograph with the drum axis vertical (which is the manufacturer's recommended way). If the drum axis is horizontal extra care is needed that the stylus is above the drum. If it is below, gravity may pull it away from the drum causing a break in the trace. The smallest break in the trace makes

it useless. Be aware of the stylus position and its importance.

I have noticed on the new badge application form it says "a complete record of the flight must be visible ..". What about the clamp bar of the drum? I asked myself and set my barograph for ten hour rotation (not likely that I'm to fly that long) it is not a good way, the notching hardly ever shows. Recently I learned that there is a better way. In order to have the stylus on the foil at all times place one end of the foil under the clamp bar then wrap the foil back over the outside of the bar and on around the drum in the direction of the rotation, finish up under the bar again (Detail A). This way if the length of the flight exceeds the time of the rotation of the drum, the stylus will ride on the foil over the bar. Note that the edge of the bar cannot catch the stylus and cause a jam, and that all of the traces are on the foil. Another advantage is that when the foil is sprayed with a fixer on the drum the clamp stays clean. Make it sure that the direction of the wrapping is clock-wise, the same as the drum rotation.

Barographs do not age (noticeably) but older ones should be checked for wear which would allow the rotation interval setting lever to move during flight. If the lever appears to move too easily it may be worthwhile to tape it in place. 4 hour rotation is the most efficient setting for long flights. With the 2 hour setting the drum turns for 7 1/2 hours only.

Not winding or starting the barograph is the most common error. The crew can be a great help to avoid this disaster by making a habit to ask the pilot before take off: "Barograph on?" Ninety-five percent of the time the answer will be yes, but five percent is worth while to bother. I ask everyone and some are glad I did.

After the flight, preparation of the barograph is equally important. The best way to put the information on it is when the drum is still on the axis. There is a post to guide the stylus before the drum. This can be used as a hand rest. After each line turn the drum a quarter inch (pilot, A/c, date, t/field, L/field, task, O.O. sig., Barograph No., Barograph type, Rotation time). This is necessary information that should be put on before fixing (Detail 2). Make a sample one and keep it with the rest of the barograph necessities.

It is a common practice for pilots to carry a second turn point camera, but not too many have the security of a second barograph due to the cost, although the incidence of failure is similarly high. Therefore the need for careful maintenance of the instrument is great.

Toni Williams will be making regular contributions to Free Flight under the heading "Helpful Hints". If you have any suggestions or helpful hints of your own, write to Toni at 2019 Dunrobin Crescent, North Vancouver V7H 1N3.

CLASS ADS

FOR SALE

Genave Alpha 360 radio, 360 channel low power consumption \$700.

Front canopy from Kestrel, could be used on homebuilt, two small cracks \$20.

HP11 wing tips, made by D. Webb, better than most, free to HP11 owner.

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

FOR SALE

Standard Libelle, serial no. 107, 495 T.T., a winner today even over higher priced new aircraft and at only a fraction of the cost. The most complete competition/recreation aircraft, easy to fly, does not spin, which you can fly now. The complete package consists of the most up-to-date instruments, radio, oxygen, and a superb strong streamlined aluminum enclosed weather-proof trailer with torsion bar axle and electric brakes.

Julius Nagy,
720 Conacher Drive,
Willowdale, Ontario,
M2M 3N6

(416) 225-9433 (H)
(416) 863-1822 (O)

FOR SALE

Winnipeg Gliding Club offers Schweizer-2-22, Ceconite cover, 2-33 canopy, basic instruments, in excellent condition, current C of A, open trailer. Asking price \$5000.

Contact: John Bandorf,
18 Emerald Grove Drive,
Winnipeg, Manitoba,
R3J 1H2
(204) 889-6343 (H)
(204) 775-0171 (O)

WANTED

Right wing for Schweizer 2-22E.

Contact: Major A. D. Erickson,
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S0L 0A0
(306) 968-2630

FOR SALE

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

Contact: Cecil Sorensen,
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T4N 5H3
(403) 886-4928

FOR SALE

Kestrel 19, fully instrumented. Factory trailer.

Contact: Jean Bellavance,
2584 Menard,
Ste-Foy, Quebec.
(418) 651-3733
evenings after eight.

FOR SALE

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

A. Heinemann
(416) 727-9566

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Quebec & Maritime Zone.

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

Ontario Zone

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

Prairie Zone

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

Alberta Zone

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

Pacific Zone

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

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World Contest Fund

We are pleased to submit a preliminary statement regarding the 1976 World Contest finances. It is unfortunate that it is only preliminary; however, not all team members have submitted their statements yet. In some cases this is understandable as they have not received all bills or receipts yet. In other cases it is not excusable but denotes a lack of concern for the good name of the Association.

We promised tax deductible receipts to those of you who were so generous as to make donations. Unfortunately our registration as a charitable athletic organization is not yet completed as there were minor legal problems to be resolved and legal problems, however minor, always take time. You will certainly receive your receipt as soon as we get the registration number. Thank you for your support and your patience.

T. R. Beasley.

NOTES:

1. Not all the Sport Canada grant may necessarily be used as there are strict rules on its application.
2. Even if there is a surplus, it is probable that all team members will be asked to bear some of their own costs in order to leave a small residue in the Fund for the next event.

WORLD CONTEST FUND DONATIONS (Clubs and Members)

Appalachien Soaring Club	\$ 5.00
Ariadne Soaring Inc.	160.00
Buckingham Gliding Club	5.00
Champlain Soaring Assoc.	5.00
Montreal Soaring Council	787.00
New Brunswick Soaring Assoc.	30.00
Quebec Soaring Club	300.00
Air Sailing Club	50.00
Bonnechere Soaring Inc.	110.00
Gatineau Gliding Club	218.00
Huron Soaring Assoc.	15.00
London Soaring Society	75.00
Rideau Gliding Club	80.00
SOSA Gliding Club	50.00
Windsor Gliding Club	25.00
York Soaring Assoc.	136.00
ACL (MAN)	10.00
Alsask Soaring Club	5.00
Winnipeg Gliding Club	75.00
Cu-Nim Gliding Club	80.00
Regina Gliding & Soaring Club	15.00
Vancouver Soaring Assoc.	207.10
Individual Members	80.75
	\$2523.85

Industry Donations

Fiberglass Canada	\$ 100.00
Hawkers Sidley	25.00
Ferndale Machinery	50.00
Canadair	100.00
Mr. J. Ames	25.00
	\$ 300.00

Glide for Canada

R. Saunders	\$ 100.00
C. Knowles	81.30
J. Evett	78.70
E. Balint	46.50
	\$ 306.50

WORLD CONTEST FINANCIAL STATEMENT (Preliminary)

INCOME

Donations	
Clubs and Individuals	\$2524.
Industry	300.
Glide for Canada	306.
Wintario \$250./pilot	1000.
Sport Canada Grant	16700.
	\$20830.

EXPENSES

Glider rentals and Entrance fees	9000.
Car rentals and Retrieve costs	3000.
Transport	
(not all statements in yet)	6000.
Individuals' entrance fees	4200.
Administration	500.
	\$22700.

Canadian Soaring Records – 1976

This table shows the Canadian records as of December 1, 1976. Besides five new records this year, there are also a few corrections which have been made to the table which was published in the May/June issue of FREE FLIGHT.

The five new records are as follows:
 Antonia Williams (Feminine, Citizens) 100 km Triangle Speed: 54.5 km/h

John Firth (Citizens and Territorial) Out & Return Distance: 554 km

John Firth (Citizens and Territorial) 500 km Out & Return Speed: 85.8 km/h

Walter Chmela (Multiplace, Citizens) Out & Return Distance: 388 km

Walter Chmela (Multiplace, Citizens) 300 km Out & Return Speed: 65.0 km/h

It should be noted that two of these records (the 300 and 500 km Out & Return Speeds) are the first claims in a new FAI category (as of January 1976).

Once again, we urge everyone who thinks

they may at some time or other set a new record, to read the "FAI Sporting Code - Gliders" booklet. Available from SAC for \$1.50 (English or French - your choice!). A good working knowledge of this booklet can save much frustration on both record and badge claims - and a good deal of time and paper. Plan now for a record 1977!

Russ and Hazel Flint,
 SAC FAI Records

FAI No.	TYPE OF RECORD	OPEN		FEMININE		MULTIPLACE	
4.6.1	Distance Straight distance	R.M. Cook	724 km (C)	A. Williams	305 km (C)	A. Pow	235 km
		D. J. Marsden	676 km (T)	"	209 km (T)		
4.6.2	Straight distance to goal	D. J. Marsden	676 km	A. Williams	305 km	R. Shirley	153 km
4.6.3	Out and Return distance	J. Firth	554 km	NC		D. Marsden	334 km (T)
4.6.4	distance round a triangular course	NC		NC		W. Chmela	388 km (C)
						NC	
4.6.5	Speed round a triangular course (in km/hr)	R. M. Cook	113.4 (C)	A. Williams	54.5	D. Marsden	98.1
a	100 km	J. M. Firth	103.8 (T)			A. Williams	31.0 (Fem. C)
(not FAI)	200 km	R. Mamini	91.6	M. Barritt	68.7 (C)	G. Buhr	42.8
b	300 km	R. Mamini	110.1	NC		D. Marsden	69.9
(not FAI)	400 km	J. Firth	77.9	NC		NC	
c	500 km	R. Mamini	101.8	NC		NC	
d	750 km	NC		NC		NC	
e	1000 km	NC		NC		NC	
4.6.6	Gain of altitude Gain of height	W. F. Chmela	8321 m (C)	A. Williams	5898 m (C)	R. Shirley	7100 m
		W. Mix	7420 m (T)			A. Williams	2987 m (Fem. C)
4.6.7	Absolute altitude	W. F. Chmela	12449 m (C)	A. Williams	9772 m (C)	W. Chmela	10390 m (C)
		W. Mix	9705 m (T)	A. Williams	3940 m (T)	R. Shirley	9085 m (T)
						A. Williams	4206 m (Fem. C)
4.6.8	Speed over an Out & Return Course (km/h)						
a	300 km	NC		NC		W. Chmela	65.0 (C)
b	500 km	J. Firth	85.8	NC		NC	
(not FAI)	Speed in straight Line (km/h)						
(not FAI)	100 km	D. Band	59.4	NC		W. Chmela	47.0
(not FAI)	200 km	J. Firth	70.0	NC		NC	
(not FAI)	300 km	W. Mix	108.6	NC		NC	
(not FAI)	400 km	NC		NC		NC	
(not FAI)	500 km	D. Marsden	97.1	NC		NC	



St. Lawrence. A newsreel camera plane accompanied us for some distance taking pictures, then, dipping its wings in farewell, it turned back to Montreal. Soon we passed over the ancient city of Quebec and later crossed the north shore of the St. Lawrence on our way to Labrador. The weather, which up to this point had been perfect, began to show ominous signs of change. Mountainous cumulus clouds began to pile up ahead. An attempt was made to top these massive clouds in order to fly in the smooth air above, but the train could not reach an altitude greater than 13900 feet. The cloud tops extended to at least 25000 feet. We were forced to go down under the clouds and to fly in conditions of the most violent turbulence. At one moment the glider would be in its normal position 20 feet above and in line with the tug; at the next it would be 100 feet below and to one side or the other. At one moment our airspeed would be 160 mph; at the next 95 mph. The glider shuddered and shook in every fibre. It did not seem possible that it could hold together under such terrible abuse. The combined strength of both pilots in the glider could not control it and the weather tossed it where it would. The cargo of the glider commenced to shift and every moment we expected it would break loose entirely and finish us. At one moment the tow rope would be hanging like a limp inert string; at the next it would be snapped straight, as taut and unquivering as a violin string. We feared the fittings would give way or the tow rope break. We were flying over the still frozen waste of tundra in inner Labrador. Ice began to form on the wings of the glider and hoarfrost in the interior. The temperature dropped below zero. We had to detour around heavy black rainstorms. We could not avoid all these storms and were forced to fly entirely by instruments for varying periods. Several times we considered turning back, but we decided to carry on. Finally, after some three hours of this fearful pounding we sighted the Hamilton River and shortly after, the great aerodrome at Goose Bay. With a sigh of thanks we cut loose from the tug at 1000 feet and landed. We had successfully completed the first leg of our 3500 mile flight.

LEG 2

The flight was resumed on Sunday, 27 June, on the arrival of suitable weather, when take-off was made for Greenland. This was to be our first long over ocean leg. We were, quite understandably, rather anxious about things in general but as it turned out, this leg of the trip was comparatively uneventful. We crossed the coast of Labrador at Cape Harrison and headed out over the open sea. Apart from picking up some slight rime ice when climbing through low cloud, the major part of the flight was carried out over solid cloud which hid the ocean from view and no doubt made us feel that it wasn't there! After some five hours flying under cloud conditions varying from solid overcast to

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a clear sky, the saw-tooth mountains of Greenland came into view. Shortly after, three squadrons of American B-26 Marauder bombers, bound for combat areas in Europe, went by us. Cruising at well over 200 mph they passed us as though we were going backwards. They had left Goose Bay only a short 2 1/2 hours before! Continuing on, we made our landfall as plotted and flew up Tunugdliarfik Fjord at 7500 feet. Later we passed over that famous landmark, Sugarbowl Mountain, known to ocean aviators the world over. We knew we were close to the stern test of landing a fully loaded glider for the first time on a narrow, steel mat aerodrome, completely hemmed in on all sides by the towering snowcapped mountains of Greenland. Despite our misgivings about landing in the narrow fjord without previous experience of possible dangerous air currents, no great difficulty was encountered. We cut

loose from the tug at 7000 feet and glided across the icebergs in the bay to a perfect landing up the fjord. On examining the tow rope the following day, one of the three strands at each end was found to be almost worn through. However, as by this time we were resigned to anything happening, neither of us was particularly perturbed! The rope was respliced and we were ready to go again when the weather was suitable. We spend two days waiting for weather in Greenland as guests of the American forces there; resting, eating and catching huge sea fish in the fjord between the tremendous, eternally snowcapped mountains. The water in the fjord was at freezing temperature and the blue-green icebergs floated lazily about the bay, occasionally cracking apart with an ear-splitting roar.

To be continued in next issue.

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