

# FREE FLIGHT

ISSUE 4/76 JULY/AUGUST 1976



# Contents

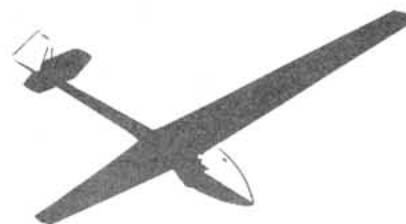
Free Flight

Issue 4/76 July/August 1976

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Letters to the Editor	3/4
Hangar Flying	4
More Thoughts on Early Instruction	6
Eastern Instructors Course	11
Pilgrimage to Bryan	12
Way Back When...	15
Flying the Falke	16
PIK 20 D	18
Just for the Record	19
Club News	20
Gliders in the News	21
Problems on Tow	22
Club Supplies	23



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Issue 5/76	Sep/Oct	Aug 13/76
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Issue 1/77	Jan/Feb	Dec 14/76

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FREEFLIGHT should be mailed to:

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# Letters to the Editor

Dear Sir,

William Langelaan's article, "Turns on tow and in Free Flight", published in your May/June issue contained one small but very significant error. In paragraph 1 he states "The reason for giving opposite aileron is because the angle of attack of the higher wing is greater than the angle of attack of the lower wing etc." This is correct but is not the whole story. The higher wing is also on the outer side of the turn and is travelling faster than the inner wing thus it generates more lift both on account of its greater speed and because of its greater angle of attack. There is thus a two-fold reason why opposite aileron must be used to prevent overbanking in a climbing turn.

When considering the descending turn, however, we have a different situation. As stated in the article, the lower wing now has the greater angle of attack but, and not considered in the article, this lower wing has less speed than the upper wing. The net effect of these two opposing factors is usually that the upper wing still generates more lift than the lower but not nearly as much as in the case of the climbing turn. However, it is still necessary to apply some opposite aileron to prevent overbanking, at least that has been my experience in all gliders I have flown.

Reference to the S.A.C. Instruction Manuals and also to the Department of Transport's Flying Training Manual will verify the above description of the use of ailerons in turns although the latter publication allows that in some cases it may be necessary to hold an aircraft into a turn.

In order to head off a score of dissenters writing to say that their practical experience shows that it is necessary to hold aileron into the turn while soaring, I wish to make one point clear, all the above assumes that the aircraft is flying in smooth air. When soaring in a thermal the inner wing is usually in stronger lift than the outer wing and in such a situation it is the extra atmospheric lift that tries to level the aircraft not the difference in angle of attack due to the turn.

Lloyd M. Bungey

Dear Bob:

After reading Bob Cairns article, "Safety Is A State of Mind", in M.S.C.'s newsletter several months ago, I felt compelled to contact Mr. Cairns and clarify some of the facts regarding our 1-34 accident in Glen, New Hampshire.

Now that his article has been reprinted in Free-flight I feel doubly compelled to make the same comments to your readers. I am enclosing the pertinent material from my letter to Mr. Cairns. I hope you see fit to publish this letter in its entirety, as I feel SOSA's safety procedures are in question here.

"I'm the instructor you said was not there. I was I was also on the flying committee that thoroughly reviewed this incident. There were at least four other SOSA instructors there, if I hadn't been. Among them Hal Werneberg and Peter Trounce. (Both quite capable of checking out pilots.)

The pilot had relatively low time with 100 hours total time, and 35 hours on type within the last four months. He had two thirds of his Silver C, with the height gain the only part to be achieved. He had one check flight in the soaring centre's 2-33 with Babbs Nutt. He was then ok'd for a flight in their 1-26. He had a 1 1/2 hour flight in the same area that this incident later took place. I then gave him briefing, and he had a 3/4 hour flight in our 1-34.

Although by this time I had gone home, this is what took place as reported by the pilot and other pilots who were flying with him.

He contacted wave and reached 11,500 feet, at which time he started to put on his oxygen mask. During this time (1-2 minutes), he slipped back and fell out of the lift.

After pushing forward, he realized that to hit the strongest lift and climb again, he would have to fly through cloud. In order to avoid this, he doubled back for a few seconds and dropped below the cloud to 10,000 feet, then pushed forward. He could see the other gliders a mile or two ahead and pushed on.

This seems to be where his major mistake was made. He felt with utter certainty that he could make the other gliders and lift from 10,000 feet (9,500 A.G.L.) (I wonder how many of your members would feel the same way?) Even though he was thoroughly checked out in this area, I'm sure he was not prepared for the rough conditions he was about to meet.

He contacted very strong sink estimated to be in excess of 2000 feet/min. When he reached the final ridge, he was several hundred feet short of clearing it. As he was too low to fly down the valley and reach the airport you mentioned in your article, he elected to try and work very broken lift on the side of this ridge. Finally he was forced to crash land in a extremely short clearing on the side of this mountain. Through a series of quick decisions, he managed to walk away from this unfortunate incident."

"As a direct result of this accident, SOSA has set up even more stringent rules as to who flies club equipment at wave sites.

Among the new rules are:

- Silver C status
- A written Wave Flying test
- Gyro experience

The lesson that can be learned from this incident is that wave flying can be dangerous and that this site throws some extreme situations at the unsuspecting glider pilot."

Regards, Paul J. Thompson Secretary

## RAYSKALA RESULTS

**The XV World Gliding Championships almost had to be called on account of rain. The Open Class flew seven days and the Standard Class could only manage five contest days out of the two week period.**

**Thirty-nine pilots competed in the Open Class won by George Lee of Great Britain with 4594 points. Second and third spots were taken by pilots from Poland. Jim Carpenter from Toronto finished in 28th position with 3540 points having slipped eight places on the final day. Dave Webb of Fort Erie finished in 31st spot.**

**In the Standard class there were 46 pilots competing; the winner with 4056 points was Ingo Renner from Australia only eight points ahead of Gunnar Karlsson of Sweden. Third place was won by George Burton of Britain. Ottawa's John Firth placed second on Day 2 in a Pik 20 but slipped to 31st place by the contest's end. Hal Werneberg from Beamsville, Ontario finished 39th in the Standard Class with 2400 points.**

**We hope to have a more detailed report of the contest for the next issue including a statement of the contributions made to support our team. If you haven't donated yet, give \$5 to your club treasurer or mail a cheque to SAC in Ottawa marked World Contest Fund.**

Dear Sir;

In the first Safety Bulletin just received (SAC Safety Bulletin No. 1 - A.N. Le Cernant) the evidence is very much on the 28.5% of STALL - SPIN accidents.

From that, it is quite obvious that too many pilots fly too slow and stall in the critical phases of the final approach. It seems, those faithful souls - instructors & students - have accidents on a speed-to-fly formula contained in the SAC Instructors Manual which calls for: STALL-SPEED + 10 m.p.h. + 1/3 of windspeed.

The Bulletin goes a step further to point out that there is also the difference between knots and MPH, which is just an additional handicap.

Personally, I have never flown that slow on final approach nor do I teach my students to fly at these speeds. Having realized some time ago the students tendency to slow down in the turns I could not possibly see the value of the formula. Needless to say, there is no reference to the degree of bank (accelerated stall) which varies in the first place.

My policy is and has been in excess of the suggested speed in the "Joy of Soaring" (page 47) by adding the full windspeed. If you care to consult the Schweizer "Soaring Soaring School Manual" a similar ruling applies.

If the initial SAC formula was based on the Schweizer Manual, then someone really goofed. Schweizer refers to the best L/D SPEED in every instance and not the STALLSPEED. It further suggests that for speeds (wind) in excess of 10 m.p.h. the FULL WINDSPEED is to be added.

On page 113 (dealing with landings) the Schweizer Manual states under 6 b.: (applicable to the 1-26)

Example: Max. L/D 45 m.p.h.  
Wind velocity 8 m.p.h.  
Pattern speed 53 m.p.h.

If we use the SAC formula we arrive at a speed of 28 + 10 + 3 m.p.h. for the same pattern to be flown, which is 12 m.p.h. slower than suggested by Schweizer or 5 m.p.h. according to the "Joy of Soaring" pattern speed (page 47).

My own formula, as mentioned, adding full windspeed to the (STALLSPEED + 50%) brings me within 1 m.p.h. of the L/D + windspeed rule. Throughout the Schweizer Manual reference is made to the BEST L/D SPEED which is as follows for the 2-33:

Example: Speed at best L/D 40 m.p.h.  
Wind velocity + 15 m.p.h.  
Desired speed 55 m.p.h.

Again, the SAC rule is by 8 m.p.h. slow. With the students tendency to vary speed, this 8 m.p.h. could just make the difference between a safe landing and a hairy situation. I am convinced that only the most experienced can fly the suggested speed safely. An error in the judgement of the wind condition MUST prove fatal in its outcome. Adding depth-perception (after a prolonged flight), traffic conditions, lighting and the many other factors, is stressing pilot ability to a maximum.

The dilemma is in the fact that no amount of training or checking will rectify the situation which is inherently wrong. I can vouch on personal experience that in over 3000 training flights on the STALLSPEED + 50% + WINDSPEED formula I have never seen a potentially dangerous situation develop.

It is with some urgency that instructors and C.F.I.'s should re-evaluate their practices and rectify them IMMEDIATELY.

FRANK HINTEREGGER, C.F.I.  
Wide Sky Flying Club.

# Hangar Flying

## CONTEST LETTERS

Many owners have contest letters, or numbers, painted on their ship's fins and under the wing. At the present time SAC has no register of such contest numbers and we are unable to answer such queries as "Can I use TB or is it already used?"

Unless we establish a register we are surely going to find two owners choosing the same contest numbers. We therefore have to start a register and we are in the process of finding a volunteer to handle it. Would all owners please write in to SAC office and advise us of competition numbers that they already have on their ships. Please do not write in requesting allocation of numbers until we establish what already is in use. We also have to determine how to control the contest registration; for example,

- a) do they belong to the owner or the ship? - I favour owner although this means repainting when the ship changes hands, unless the owner agrees to transfer the number.
- b) do we make a charge for annual registration? - I do not like the idea but experience shows that without some such leverage people will not bother to keep us informed.
- c) do we allow people to reserve letters even if they do not have a ship? - I think not, unless they have had a number allocated and are 'between ships'. (The exception, of course, being when they have placed an order for a ship).
- d) obviously, once a list is published and we start allocating contest numbers we have a problem if we allocate letters that are already used by an owner who has not bothered to inform us. In this case we would have to recognise only the new allocation and possibly not allow entry of Canadian gliders into SAC sanctioned contests if they are carrying unregistered contest numbers.

Please discuss this matter with your friends and let us have your views.

T. R. Beasley (President)

## HELP!

Is there anyone out there who is interested in becoming editor of FREE FLIGHT?

Now that we have a graphic artist doing the layout and the copy is typeset, the job is easier than it was at the outset but it only reflects the thinking of one person and there is no one gaining experience to take over as editor.

The experience with the past six issues has indicated that the production side is in good hands but we should have new people assisting in selecting material, editing articles, choosing photos and corresponding with clubs, advertisers and contributors.

How best to involve more people will depend to some extent on the numbers and where they are located. It is our hope that we can have help from all regions not just one area of the country.

It might be worthwhile to divide the job into departments, like feature articles, advertising, photography, club news, news items and regular columns. Each co-editor would work separately to a schedule thus dividing the work load.

Write to me and tell me what contribution you can make; if a few people take over segments of the job of preparing FREE FLIGHT we can continue to improve it and at the same time develop several potential editors.

Bob Nancarrow  
43 Sealcove Dr.  
Etobicoke, Ontario  
M9C 2C7

A new Canadian record claim has been made by Denes Pandur for 100 km Speed to Goal of 67.5 km/h. The flight was made in a SGS 1-35 C-GWTI and is subject to homologation.

## MEDICAL COMMITTEE

SAC now has a Medical Committee to whom problems regarding medicals can be directed for advice. Please send your inquiries to: Dr. E. Mortis, 1123 Beverly Blvd., S. W., Calgary, Alberta, T2V 2C4.

The cost of training for a glider pilot's licence is a legitimate deduction for income tax purposes and many students have taken advantage of this in the past. There is a government form that you may obtain from your local Revenue Canada office. This form must be completed by the student and certified by the club treasurer; it is then attached to your income tax return the following April.

## FIRST 1000-MILE FLIGHT IN SOARING HISTORY!

Karl Striedieck, from Port Matilda, Pennsylvania is claiming a world soaring record for out-and-return distance of 1004 miles (1616 km) for a flight he made on May 19, 1976 from Lock Haven, Pennsylvania to a railroad bridge near Oak Ridge, Tennessee, and back to Lock Haven. He took off at 5:35 a.m. at his home at Eagle Field, near Port Matilda, Pennsylvania, but flew north to Piper Memorial airport at Lock Haven to make his start, at 6:00 a.m. He encountered strong winds, except for the last 80 miles to his turn point, where he flew out 50 miles into the valley and used some thermals. He reached the turnpoint at 1:30 p.m. He landed back at Lock Haven at about 7 p.m. for an average speed on course of about 77 mph. He used water ballast in his Schleicher AS-W 17.

This flight exceeds the world distance record of 908 miles, which was set by Hans-Werner Grosse, on April 25, 1972.

By this flight, Striedieck is making his sixth bid for world out-and-return distance, having previously earned it with flights of 476, 569, 636, 682, and 807 miles (claim pending).

## Letters to the Editor

Continued

Dear Sir:

I refer to the letter from Ross McNee in the May/June issue of Free Flight concerning cockpit checks and in particular to his comment that the order of the check is not critical.

In R.R.S.A., we regard the order of the pre-flight check as very important and use rather different version from most other clubs. The major contents of the list are the same as the standard CGSITCB or SISTRSC mnemonics although our terminology is different.

Our check word is WHITCHS which has the advantage of being easily remembered just like TRICCS suggested by Ross McNee. The derivation is:

W Weight (Could be Ballast but then the check word sounds impolite.)

H Harness

I Instruments

T Trim

C Controls

H Hatch (or canopy)

S Spoilers

The most important point in our sequence is that the control check comes after fastening harnesses. With cable operated controls, there would seem to be a significant risk of a harness being secured in a manner which could restrict control movement - in our system this is detected.

Yours truly

Red River Soaring Association

J. W. Davies



Enclosed are two snapshots of Russ Flint building his Pioneer II wings in his basement. (See "Flying Pioneers" Page 12 March/April '76 Free Flight.)

Yours truly

Lloyd Davies



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# More Thoughts on early Instruction

*Including all you ever wanted  
to know on stability*

by Ian Oldaker

*Drawings by  
Gil Parcell*

He may  
need  
prompting  
the  
first time





In my previous article a number of points which came up during early instruction, including the primary effects of controls, were covered. I again refer you to the S.A.C. Instruction Manual parts I, II and III, which lists the following exercises next: straight flight, gentle turns, aileron drag, gentle stalling, stability and further effects of ailerons and rudder, in that order. This article plunges into all these.

In your early training and subsequent flying which of the above were the most difficult to understand? In my own club and in discussions with a number of other club instructors, it is clear that some confusion exists with some of these early exercises, and if this is the case with instructors, think of the students! It is vital that a student have a good foundation upon which to build his flying abilities, hence I hope you will agree that the sooner he understands how the aircraft flies and responds to the controls, then the more easily will he progress through the later stages of training.

Straight flight is most effectively taught by making a series of gentle turns one way and then the other towards a horizon reference point. A student should fairly quickly master some form of straight flight in this way without the need to do continuous turns; he must understand though that straight flight is in fact, a whole series of little corrective turns. Note that contin-



uous turns are not taught until Stage VI.

The S.A.C. Manual now allows "steering with rudder" to be taught to a student in this early flight, to steer towards a horizon reference point while he keeps the wings level with the horizon. The S.A.C. Instructors' Committee have been discussing this and agree it is a faulty technique and should not be taught. (The Manual will not be revised until the next printing however.)



We should in the meantime remember to avoid allowing our student to get into a wrong instinctive behaviour pattern by using the above technique in his first flights (this is when we pick up habits) which is likely to return in a moment of stress years later. For example, there could be nothing worse than applying too much rudder in a moment of stress when turning onto final at a low speed.

The usual reason why the aeroplane will not maintain its heading is that the student allows a wing to drop which then makes the plane turn in that direction. At this stage he won't notice a small wing drop; everything is so strange anyway. He will often tend to keep his head level with the horizon by bending his neck or leaning in his seat. He often needs to be taught how to recognise a small degree of bank, and this is where we come in handy. A small turn back is all that is needed to correct the wing drop. Because flying straight is in fact very difficult for students, and not



terribly important at this stage in flying gliders, I like to leave this exercise until much later, when flying straight is almost automatic anyway.

In the long run turning correctly is the most important part of gliding instruction. Turns are used to thermal; good turns determine how efficiently we fly, and to a large degree determine how safely we fly when under stress, when our flying is mostly by instinct.

Aileron drag. I guess most students understand the need for stick and rudder co-



ordination but they tend not to understand why it is so difficult to achieve.

A model with big slab ailerons can be used very effectively to explain aileron drag and its effects. Intuitively it is seen that the down aileron will produce more drag due to the higher "angle of attack" of that part of the wing than the up aileron, with the resultant effect being adverse yaw. The



following exercise will show how aileron drag can be countered by simultaneously using the rudder to produce the correct entry to and exit from a turn.

Our demonstration will be helped by getting our student to look at an object on the horizon straight ahead and noticing how the nose moves relative to it. The yaw is then easily seen. So, with rudder central, roll to left, aircraft yaws initially right - this is the adverse yaw caused by aileron drag. If we then immediately roll the opposite way the yaw produced by aileron drag in the opposite direction is even more noticeable. I then like to demonstrate, with a similar rolling motion, how to overcome or prevent the adverse yaw by correct amount of rudder control. During this exercise the heading can be kept steady after the initial roll - try it! The student should then be asked to repeat this. He may need prompting the first time, but we should increasingly be asking him to tell us what is happening. This helps us determine how well we are teaching the lessons and will imprint the exercise in his mind in one of the most effective ways possible.

The above aileron drag demonstration differs slightly from the S.A.C. Manual if you look carefully; this method does not involve turns but introduces the use of rudder to overcome, or more correctly to prevent adverse yaw. In fact it links with the aileron drag demonstration how to overcome adverse yaw now, i.e. in Stage III instead of leaving this to later in Stage VI. It also introduces the "Dutch rolling" exercise which is good for co-ordination practice. You can even do this most of the way down your down-wind leg of the landing circuit to make good use of air time! A good lookout must be maintained at all times however especially when in the circuit.

The Air Instruction Notes, or Cards, state in Stage III for example that we are to take off with the student following through. The purpose of the first and last items on these cards is to remind us to encourage our

students to try the take off, tow, circuit, etc., so that by some of the later Stages on the average they should be able to do at least a safe, if not a very polished job. Some instructors feel trying to teach the aerotow



for example, this early may be too difficult, better to wait until the student can fly reasonably well off tow first. These early tows can then be used to good advantage to ask questions, develop height judgement and lookout techniques while the student is not doing the flying. In the long run however the only way a student will become polished is for us to encourage and to let him do as much of the flying as possible, so long as we monitor the flying, and take over if there is danger to us or the aircraft. A



good instructor talks about what he is doing even when not covering the particular

exercise, with the student following through during the early Stages, or doing the flying with us giving a critique, in the later Stages. To avoid "overloading" our student on his first attempts at the take off or aerotow, we can for example completely take over at 50 feet to review the take off, or 500 feet before release to let him relax while we quickly review the upcoming exercise.

The most important point about Stage IV is not really mentioned in the Air Notes but is covered in the Instructor's Guide. We must not forget that the student has to first recognise the symptoms of the stall and the stall itself before he can recover, and these should be discussed in the pre-flight briefing. The five or so symptoms of the approach to the stall must be learnt well over a number of flights so that instinctive corrective action and recovery can be initiated. Remember the pitching demonstration and angle of attack control? The technique which I like to use is to get the student to fly as slowly as possible, to mush in fact, to get used to the symptoms, and to practice how to keep the wings level with rudder; more on this later. Can anyone list those symptoms - now?

I haven't mentioned instruments but these should be discussed as suggested in the Guide, especially with students who have not yet had a ground school course. Perhaps we should mark our Air Notes to remind ourselves to cover these in pre or post-flight briefings.

Stability is covered in some detail in the Student's Notes section of the S.A.C. Manual, Stage V, and the exercise on longitudinal stability is designed specifically to demonstrate that the glider is in fact stable when trimmed. Longitudinal, or pitch stability can be shown, even in a 2-22, very effectively by pushing or pulling very slightly on the stick, then letting go. If you haven't tried this before, do so soon, it can be quite an eye opener, but your 2-22 might dive to 80 mph before beginning to slow again.





..and when recovering  
from a spin..



There are two more types of stability that we should understand, directional and lateral stability. We can demonstrate these with very similar exercises to that above for pitch stability. Hence, fly trimmed, feet off - give a little kick, feet off again, the yawing motion damps out due to directional stability. Again fly trimmed hands off - give a little side push to the stick and keep hands off. The small roll subsides due to lateral stability.

Unfortunately the motions are not simple. The smaller the disturbances the nearer to pure yaw and roll you get. For larger disturbances the secondary effects of controls (and aileron drag!) become significant. Usually the aerodynamic coupling between yaw and roll produces a spiral type of motion. Most gliders exhibit some spiral instability but it is mild and easily controllable. Before we go into the "Further effects of rudder and ailerons", some definitions.

Directional or "weathercocking" stability is the tendency of the glider to straighten out again to fly head on into the relative wind without slip or skid. Lateral Stability is built into the aircraft by dihedral and is the tendency of the aircraft to bank or un-

bank its wings so as to avoid skid or slip; note it is not the tendency necessarily to right itself relative to the horizon.

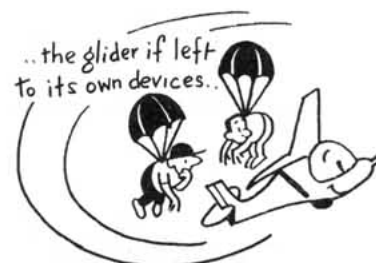
The further effect of rudder control, or further effect of yaw, is important to understand as we use this effect when flying slowly, i.e. when keeping the wings level just before the stall, and when recovering from a spin. Two effects work for us to produce a banking tendency when yawing. The first effect is caused by one wing moving faster when we induce the yaw. The second is due to the dihedral. Look straight on at a model with a pronounced dihedral and note the angle of attack assuming its flight path is directly towards your eyes. Now yaw it and note that the nearer wing to you has a much increased angle, of attack - hence more lift. O.K. so we demonstrate further effects of rudder (or yaw) in this exercise by holding rudder. Initially this produces yaw and due to our built-in lateral stability the glider banks its wings to try and remove the skid that we have produced. Directional stability now comes in if we hold the ensuing (bad) turn too long, so I prefer to stop this demonstration once the banking has occurred.

Let's return to banking with ailerons, to demonstrate the further effect of aileron control. This is sometimes called the secondary effect of aileron control and must not be confused with aileron drag which is quite different and was covered earlier.

Imagine that we roll to a banked attitude and that we use the rudder correctly, but then centralize it and the ailerons, once we are banked. The glider now has insufficient rudder for the turn and it will begin to slip inwards (More drag on faster moving upper wing). As the glider slips so the directional stability, or "weathercocking tendency", will try to remove this slip by yawing the glider towards the lower wing tip. It is this yaw that is called the further effect of aileron control. It is of course only indirectly due to the ailerons and some people prefer to call it further effect of

bank. Notice again that it has nothing to do with aileron drag.

This exercise can (and should?) be used to demonstrate the fact that to fly a con-



tinuous turn correctly all controls have to be used, and that if left to its own devices the glider will eventually go into a spiral dive with both bank and speed increasing. However we are now rapidly getting into the subject of inherent spiral instability which is complicated enough and is perhaps beyond the requirements of our course. (A quick glance at "The Joy of Soaring" shows this covers the subject in three sentences only, but the S.A.C. Instructors Committee feel that a good understanding of stability, etc., is important enough in gliding that it should be covered in our course).

This article started by listing the exercises in the order as they appear in the S.A.C. Manual. The Instructors' Committee have been discussing this and may be adopting a different order that will allow the covering of one lesson before it is needed in the next, when the Manuals are reprinted.

A preferred order might be (after effects of controls), aileron drag and prevention of adverse yaw, stability (all three axes being covered), further effects of rudder and ailerons, gentle stalls and recovery, gentle turns on a straight heading and straight flight, followed by medium turns (Stage VI) and the balance unchanged.

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The 1976 Instructors course got underway on May 24th after an informal meet at the field on the weekend.

Most of the candidates got their check rides done on Saturday or Sunday, some even managed a few soaring flights at the same time trying not to impose too much on the hospitality of our hosts, the members of the Gatineau Gliding Club at Pendleton, Ontario.

Finding the field the first time by road seemed the hardest part of the course. I solved this by a large ever tightening spiral, just when I thought all was lost we came through the front gate.

Saturday night we enjoyed a smorgasbord supper put on by the ladies of the club. There was variety enough to satisfy any taste. Left overs were enjoyed again the next day.

Most of us met Helen and Walter Piercy for the first time Sunday evening in the Clubhouse and the personalities of both made us much less apprehensive for the start of classes the next morning.

It was a very informal session consisting of morning lectures on teaching procedures and sequences, questions and comments from the hopefuls were always welcome.

The mornings were interrupted by coffee break at 10.15 which was always ready for us, compliments of Helen Piercy and Jean Campbell. Jean incidentally was the only candidate's wife in attendance and she reports she had a ball in spite of the mosquitoes and cool nights in the tent trailer. She even managed a 30 minute flight later in the week in the K-13. So come along next year ladies.

The only other lady in the group was Debbie Burleson one of the instructor candidates. Debbie is a proficient Power Pilot, and along with some associates is starting a Glider Club in Halifax called the Bluenose Soaring Club. We wish you lots of luck Debbie.

Afternoons were spent at the flight line with each team making one flight in the 2-33 and teaching one stage as per the instructors manual. Stages covered during the week were stages 11, 111 and 1V. Each day we changed around so the other members of the team could take over the rear seat.

We understand Terk Bayly started instructing for real right from the start as his partner had almost no aro tow experience, his club uses a winch launch exclusively. Congratulations Harold you looked real good right from the start, hardly any wobbly wing take offs, even from the back seat.

As usual the acting instructor in the back seat took along the tape recorder so we could tear apart his teaching talents in class the next day.

It must have been a real chore for a few of the teams teaching gentle turns in 600 F.P.M. lift, some of the people couldn't even make it back down in the 30 minutes allotted to them.

Guest lecturers were Dr. Karl Doetsch who gave us a very interesting and informative morning on aerodynamics.

Dr. Sepp Froeschl who just has to be one of the tops in met. and "Chem" Le Cheminant gave us some sobering thoughts on safety. One of which was "Safety is everyones business and this in itself is what makes it so easy to leave it for the next fellow".

Thursday evening after the hanger doors were closed we had a bar.B.Q. behind the Club House. I think George Fletcher must have played hookey in the afternoon because by 6.30 he had a stack of steak and

# 1976 Eastern Instructors Course



Left to Right Back row: Mike Atfield, Harold Spriggs, Raymond Gourdeau, George Fletcher, Front row: Daws Campbell, Terk Bayly, Jim Bayly, Ramond Chartier, Chris Eaves, Terry St. Geroge, Andrew Talzer Foreground: Dr. Sepp Froeschl and Son, Walter Piercy Not shown are: Pierre Grosse, Louis DeLisle and Debra Burleson

"School is out at '76 Eastern Instructor's Course"  
Photos by Jean Campbell



baked potatoes with mushrooms and a carton of wine ready. If the insurance business ever goes George, you can always open a steak house.

Friday came and the course was finished before we even realized it was over.

Looking back now there were good times in the week shared with others who have the same interests which is what club flying is all about, but at the same time it was a week of serious learning as we are each left with the responsibility of turning our future students into good, safe pilots and not just people who fly gliders.

Most of us left after class on Friday, however some stayed on to get in a few

extra flights. We were anxious to get on our way as we had a new Grandson in Toronto, born just the previous week and we hadn't seen him yet. When we got there I could tell just by the look in his face he was a born glider pilot.

On behalf of all on the course I would like to thank the members of the Gatineau Glider Club for the hospitality, the use of their equipment and for making our stay so enjoyable. It was really nice to pull up a chair around the fireplace and hash over the days activities over a bottle of beer or two. Also the tow pilots deserve a pat on the back, they were always there when we were ready to go and sometimes even had to shut down and wait for us.

Most of all we would like to extend our thanks to Walter and Helen Piercy who both really went out of their way to make this week of instruction so enjoyable.

## Post Script from Walter Piercy

"This year's East Course was limited to a maximum of 15 candidates and 14 actually attended from 11 clubs, from Halifax in the East to Windsor in the West. I was pleased to observe, that this year for the first time none of the candidates were actually endorsed as instructors; but had apparently attended as pre-requisites to becoming endorsed. Also, all were power pilots as well as glider pilots. It was a pleasure to have such an interesting group in attendance, and the committee looks forward to another interesting, and interested, group next year."

# PILGRIMAG

Don Band and I joined the ranks of homebuilders when we purchased an HP-18 kit from Dick Schreder last October, and report that we are progressing well. I thought FREE FLIGHT's readers might find it interesting to hear some general remarks about this sailplane.

After a season of cross-countries where comments such as, "I missed the big one by just a couple of thermals", or "If only I had started half an hour sooner", were heard more often than not, Don Band and I decided to sink our eggs into a golden basket.

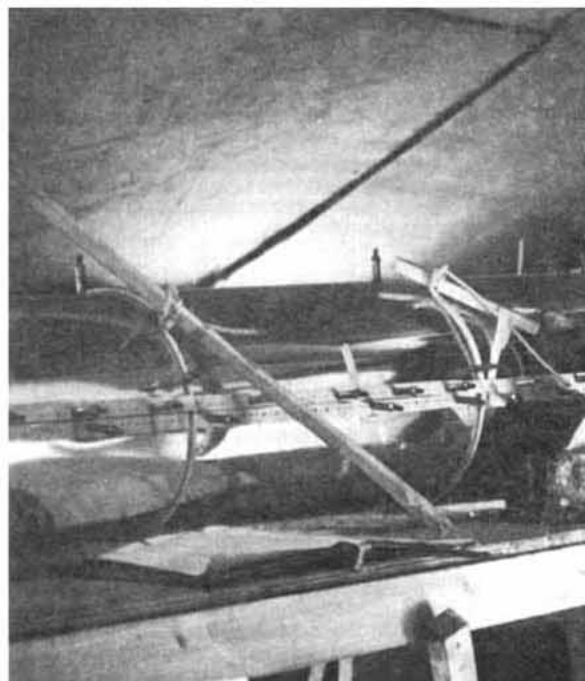
Dick Schreder had just brought out his newest super ship, an HP-18, last year at about the same time we were drooling over the RS-15s that had recently rolled out of the basements of local homebuilders. Three were already flying at SOSA! A look at performance claims of Schreder and some of the comments of pilots who have seen and flown the RS-15 (predecessor of the HP-18), convinced us that this was the right ship for us. In their brochure, Bryan Aircraft listed a glide angle of 40 to 1, full range flaps, water ballast, coupled ailerons and flaps, and a low-profile fuselage as some of the distinctive features. Foam ribs, combined with a special HYSOL structural glue were used to achieve a very smooth surface and to reduce the amount of riveting (although it is still necessary to buck at least 2000 rivets). The fuselage construction was unique also; it was completely fibreglass from the trailing edge of the wing forward to the nose and was already prefabricated. The pilot rested in a reclining position, similar to the Diamant, with pitch and roll controlled by means of a small side stick. Needless to say, we were very impressed with Schreder's ship when we drove down to Bryan from Toronto for a visit last fall. We were also pleasantly surprised to see how much material is already prefabricated in the kit; I would estimate that 40% of the work is already done for you, judging from the work we have done to date. Nevertheless, it will probably still take about 1000 man-hours to complete the aircraft. However, a homebuilder will have to pay dearly for this



**Above:** Peter Masak working on rudder-vators.

**Above Right:** Flat tip plates to be replaced with Whitcomb Winglets to reduce tip vortices.

**Right:** Don Band and Peter Working on HP-18 Fuselage.



**By Peter Masak**



# E TO BRYAN



custom craftsmanship. We estimate that when complete, it will have cost us about \$7,000. for the sailplane including all taxes and related costs. Say ... didn't I read somewhere that homebuilding was the cheap way to go! Fortunately, the HP should be worth about twice that amount when complete judging by present prices and inflation.

Upon returning from Bryan with a tail kit, Don and I immediately devoured the package like a pack of hungry wolves and eagerly anticipated drilling our first hole and driving our first rivet. But I was shocked to see the complexity of the plans and instructions. Only after going over each part and relating it to something on the plans was I able to piece together some meaning out of the instructions. Needless to say, we rapidly revised our estimated date of completion. As we discovered in ensuing hours of work; taking each job a step at a time made it quite easy.

Building any airplane is nothing but a series of small jobs, none of which is particularly difficult, if you don't try to do everything at once. This is the thing that keeps many people away from homebuilding. They feel that they don't have enough experience to undertake such a complex project, and for that reason shy away from what really can be a very educational and enjoyable experience.

This is not to suggest that we haven't had our share of frustrating moments. Preparing aluminum for gluing for example, is a long, laborious, and awfully smelly job that makes you wonder what you are doing trying to build an airplane, and prompts you to ask yourself, "Who are you trying to kid anyway?" In order to ensure that the glue will bond properly, one must clean the surface with paper toweling soaked in MEK (methyl-ethyl-ketone) to remove the grease and grime, followed by roughening up with Scotchbrite (a special scouring pad, and then repeated wipings with paper toweling and MEK. We found that vigorous wiping, elbow grease and a great deal of time and patience were necessary to remove all traces of oil and oxide. A single fingerprint

on the surface to be bonded will prevent proper adhesion of the glue! By the time you finish this operation you will detest the smell of the solvent.

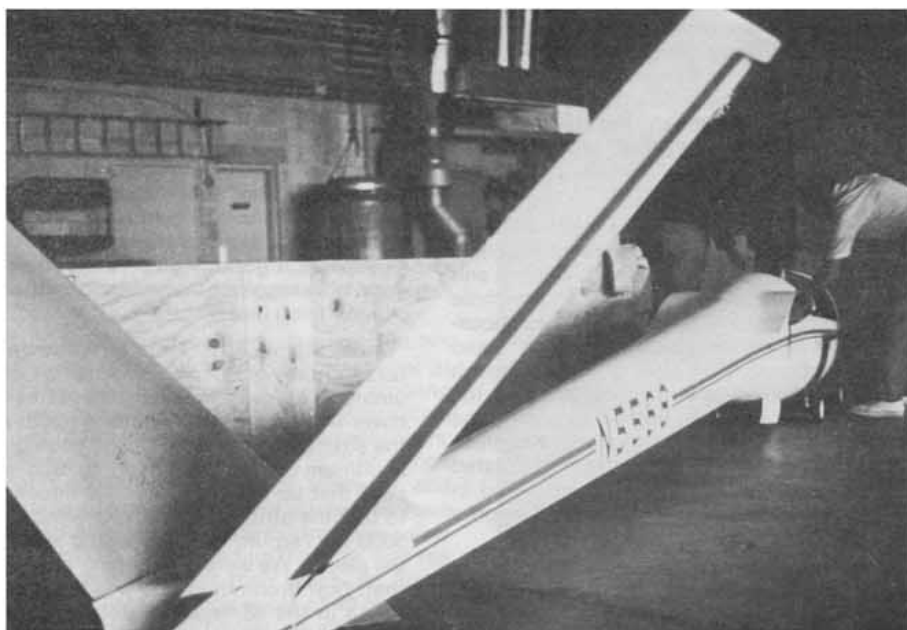
Ridiculous as it may seem, the next time we undergo this operation we plan to don scuba gear and masks.

I am sure that this process does not really amount to any real time saving; to glue one stabilator of the empennage for example is a good night's work. The only great advantage of this method is the excellent finish that results.

Upon making initial tests on a number of test samples of one inch wide strips of aluminum, we were most distressed to discover that we were only getting about half the strengths claimed as being possible in aluminum to aluminum bonding. Schreder says that up to 50 lbs. force is necessary to tear the strips apart (tension) and up to 5000 lbs./sq. in. in shear would separate the pieces. We were only getting about half that! Don Broomfield who was building an HP-18 in the same area informed us that he had run some tests on the gluing procedure, and he had got similar results. Don had found that simply making a large fillet improved the strength of the glue joint tremendously in tension, and he had averaged about 2000 to 2500 lbs./sq. in. in shear. Therefore, even with these results, the skins would tear long before the glue joint separated. Fortunately, all important glue joints in the aircraft were loaded in shear and therefore we didn't have any reason to worry, and we discounted Schreder's figures as being overly optimistic.

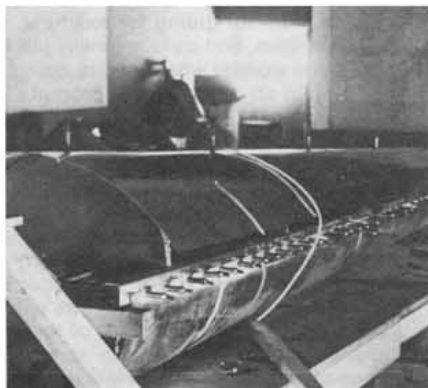
One interesting result Don Broomfield discovered was that exposure to water did indeed reduce the strength of the glue joint to some degree. Therefore, we are planning to be extra cautious about sealing the spar so that the water ballast in the wing cannot leak out.

It is interesting to note that a few years ago, when Dick Schreder tried to add a last-minute water ballast capability to his HP-16 prior to the 1971 Open Class Nationals, the water separated the skins from the



**Above:** HP-18 Fuselage at Bryan Factory.

**Below:** AFT Fuselage is all metal construction.



ribs, forcing him and a second HP-16 to withdraw from the contest.

At first, work progressed slowly on the tail kit, but lo and behold, along came the Toronto Teachers Strike. I am a grade 13 student and the unexpected nine week holiday permitted me to spend a few hours each day working on the ship. By New Year's Day, about three months after starting, we completed the tail kit and once again embarked on a pilgrimage to Bryan. Don Band and I arrived just ten minutes before the factory closed. Two weary glider guiders quickly loaded our prized possession on board (an HP-18 fuselage kit, serial No. 75), and headed back to Canada. Little did we suspect what a reception awaited us at customs in Windsor.

We rolled into Windsor about 9 p.m. and stated to the incredulous customs officer that the few boxes and fibreglass pod lashed to the trailer were worth \$2000. (an arbitrary value we had chosen since this was the amount that we had paid on the fuse-

lage which cost \$3000; not having received all the parts yet). We were most distressed to discover that we did not have the proper forms (an oversight on our part), that we should have a broker, and that the appraiser didn't work after 5 p.m. After a very frustrating night, we eventually paid a \$45 fee to be able to take the sailplane kit through customs in Toronto the following day. Fortunately, we were cleared through customs with only an invoice and no broker.

Don Band and I were eager to embark on our next project, the fuselage; but were now faced with the problem of insufficient space. It seemed that the 25 ft. fuselage just wouldn't fit into the 20 ft. basement. A phone call to Walter Chmela, our club president quickly resolved this problem. He agreed to allow us to use the top floor of a two story garage at York Soaring Association's airfield near Arthur, Ontario. The only difficulty was that this had been used as a storage area and chicken coop, and we would have to insulate and renovate the upper floor. A few weeks of work soon transformed our workshop into home sweet home.

We have since become accustomed to working in sub-zero temperatures, having installed an oil burner that inevitably gets blown out whenever the wind shifts. Don and I are working on that one now.

By the time we have completed this project (target date - Spring 1977), we will undoubtedly have amassed considerable experience in many fields and can consider ourselves as bonafide carpenters, riveters, heating specialists, gluing technicians, customs experts and certainly a pair of very humbled sailplane pilots.

I would encourage anyone interested who lives in the Toronto area to drop in and visit us any weekend at York Soaring. At latest count, Schreder has sold 87 HP-18 sailplane kits since beginning to market this latest design about a year and a half ago. An MoT inspector told me that there are over 1000 aircraft being built in Ontario at the present time. I have heard of at least six HP-18's building in the Toronto vicinity.

# “Way Back When...”

Selections from Soaring Magazines  
by Evelyn Furedi

From “Soaring” Nov./Dec. 1947.

**T**he second major trophy offered in Canadian gliding is now open for competition. Set up through the generosity of the British Aviation Insurance Company and administered by the Soaring Association of Canada, the trophy is a brilliantly conceived sculpture in gleaming steel and lucite by the internationally known sculptor, Emmanuel Hahn. It has been named the B.A.I.C. Trophy.

Rules for the competition specify that a candidate must be a resident of Canada who makes the best soaring flight of the year, judged by the Soaring Association of Canada.

The best flight of the year will normally be the longest cross-country flight. Only flights of over 35 miles will be counted. If in any year no cross-country flight of 35 miles or greater is made, the Trophy will be given for the greatest gain in altitude achieved in a free soaring flight.

Competition flights must be carried out in accordance with the following regulations:

1. The take-off and release point must be in Canada.

2. The annual competition period is the calendar year.

3. The results will be measured according to the FAI regulations for national and international record flights:

**Distance:** For cross-country flights the distance allowed will be the great circle distance from the point of departure to the point of landing. The point of departure is considered to be the point where the glider commences free flight. The loss of height between the point of release and landing point must not exceed one percent of the distance covered. A barograph need not be carried on cross-country flights unless there is any possible doubt that the total loss of height is greater than that allowed by FAI rules.

**Altitude:** For altitude flights the height allowed is the difference between the greatest height registered on the barograph chart and the lowest point registered subsequent to release.

A barograph, sealed by an official SAC observer must be carried in the glider and returned still sealed to the official observer at the completion of the flight.

In order to compete, a detailed flight report should be submitted to the SAC.

“The Gull Gliding Club of Dartmouth, N.S., has just completed construction of a Dawydoff UT-1 Cadet (almost identical to the Kirby Cadet) after 18 months’ work. George Dunbar, formerly of McGill University Gliding Club and a member of the Air Cadet Gliding Camp at Carp, Ont., in 1946, gives some interesting man-hour statistics on the construction of the Dawydoff, 70 per cent of which was done by some five club members.

Wing ribs, 208½ man-hours. Wing spars, 136½. Wings, 576. Fuselage, 535. Tail units, 240. Fabric, 329½. Metal Fittings, 187½. Misc. (including shop-work and trailer), 322½. Total 2535½ man-hours.

Unfortunately the Department of Transport has only given permission for test-flights of this glider because of registration troubles and a question of the acceptability of the plans. However, the Club will conduct some valuable experiments this Winter in attempts to fly from frozen lakes in the vicinity of Dartmouth. Further re-

ports on these efforts will be forthcoming.

The Gull Gliding Club normally operates from the Stanley Airport, Dartmouth.

The Gatineau Gliding Club of Ottawa recently held its annual banquet at the Chateau Laurier Hotel. This club has abandoned its former field at Kingsmere due to wet conditions and short season and is now located at Carp Airfield, a few miles outside the city.

A feature of the 1947 activities was the gaining of 26 gliding certificates by the Gatineau Club members, including seven “C” certificates. Club equipment at present includes the whole range from primary to high performances types of gliding craft. Ottawa, centrally located between Toronto and Montreal, is felt to be the ideal centre of a future gliding championship in Canada, with accessibility to Elmira, N. Y., also stressed.

It is reported that Queens University Gliding Club, Kingston, now boasts the largest membership of any gliding club in Canada, with 75 members. They are equipped with two Laister-Kauffmanns and one Grunau Baby.”

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# FLYING

This is the story of a soaring pilot who lives in the North country, Sault Ste. Marie. We have a lot of water, very little farm land and the rest is bush.

Anxious to soar, I organized the Algoma Soaring Club, but after three years and a lot of bad luck, we had to give up.

I flew the Cherokee 140, the Cessna 150, the cub, but soon decided that it was soaring that I enjoyed.

Since pure soaring was impossible, I had only one alternative, motor gliding and the availability of a motorglider in Canada was not very promising.

I tried to buy the only Canadian Fournier RF4, but the owner like it so well that he would not part with it. I also enquired about RF5, but at the time it seemed so expensive, that I waited for a used ship to turn to.

In April 1975, I phoned Elemer Balint of Provincial Motor Gliding to ask him if he had anything for sale. I had met Elemer a year ago when he stopped at the Soo airport with his beautiful RF5 on his way West.

Elemer told me that he had heard a rumour that a Falke SF25B was for sale. Immediately, I got in touch with the owner; I called Bill Budachs in Toronto and asked him if he would go to see the Falke, test fly it and give me his opinion on it. I have known Bill for years and value his opinion enough to buy the motorglider on his word. Bill went to Valcourt and sent me a written report 6 pages long that I think would make a very interesting article.

In less than a week, the Falke was bought. I could not justify the high price for a power glider so I found a partner, an ex-club member who since then, had bought a share in a Cessna on floats. One luncheon together, a couple of pictures, and he was sold on the idea. I got on the phone and asked Bill if he would fly it to the Soo and so he did, from Valcourt to Quebec to the Soo in 8 1/2 hours.

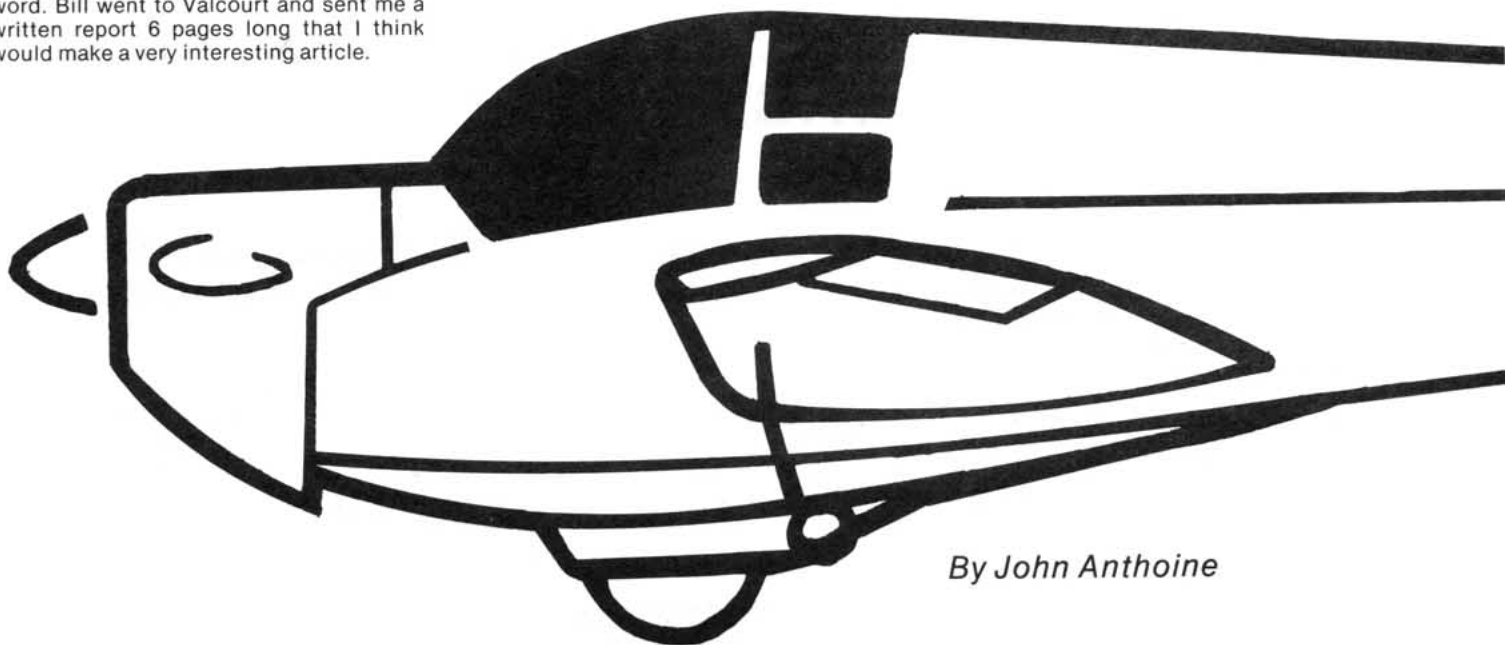
And here it was, at 5:30 p.m. at the Soo's airport, a powered glider that I had never seen before and it was just beautiful.

The Falke is a two seater side by side with a Volkswagen engine, 1500 cc, 50 foot span, single wheel plus outrigger wheels at mid-wing. This was the answer. I have been accustomed to gliding club activities. Soaring starts when the conditions are good and stops when the conditions are no longer good enough. How many days do we have? Flying a powered glider is not like flying an airplane, even with the power on, it feels like a glider. I can get out at 6 a.m. and go for an hour, wandering about the sky, and fly all day, any day, as long as I have VFR conditions. I can fly after work, for an hour or two in the setting sun, beautiful flying, get up to the last cus, climb alongside, go around, shut the engine off and soar back to earth. One of the biggest advantages is that sometimes conditions are not good within 10 miles of the field but 20 miles away they are excellent. Many a time I have travelled towards beautiful

skies, when I would not have taken a 20 mile tow. I have no retrieve crew to recruit and wait for, no off field landings with their risks of damage to the aircraft - no derigging and rigging. I have a 7 gallon tank that gives me 250 miles at 75 - 80 knots. I enjoy it because during soaring I find myself too busy to enjoy sightseeing, but coming back, power on, I can see a lot of things that normally I would have missed - a moose in a swamp, a canoe on a lake ...

I relax a lot more in soaring, although I always have a field picked out within gliding range. I do not worry about an off field landing.

Last Wednesday, at 11 p.m. I went for my coffee break and noticed that cus were forming. At lunch time, I took my sandwich with me, a thermos of orange juice and headed for the air strip, washed the bird, and at 2:20 took off. Five minutes of power, I was at 2000 feet and centered in a thermal. I shut off the engine, and climbed to cloud base at 5800 feet. I flew north about 6 miles, picked up weak lift, climbed up to 4200 feet, lost my lift, scouted around and went down to 1600 AGL, where I picked up 700 FPM and climbed back to cloud base. I was about Silver C distance from Sault Ste. Marie and although I had a head wind, and a 22/1 glide ratio, I decided to give it a try. I worked my way north west, losing 2000 feet as I penetrated from cloud to cloud. Finally, I reached the last farming



*By John Anthoine*



# THE FALKE

ground and approximately 16 miles left to go, over bush. I was at 6700 feet, I put the nose down and headed west. I radioed the Soo, the wind was 330 at 10 knots, and I was not moving over ground very fast.

I have no McCready ring, no idea of the polar of the Falke and all I could remember was reading in soaring Tom Beltz saying that in lift he flies slow and in sink, he flies fast. So I pushed to 60 knots and when the Vario came close to zero sink I pulled up to 45. You know, all I have is a C badge. I have made numerous flights over Silver C distance but never with a barograph, most of them out and return.

The five hours is what gets me. After three hours, I am bushed and when I read about the runners who sit for twelve hours; I can't help but bring them up to the idol level.

Anyway, I am flying west and as I think of all these 1000 mile flights, I am getting close to my destination - I reach the field with 2000 feet and scout for lift, but it is 5 p.m. and all has died out. I restart the engine and the lazy way, return to base - my starting point on St. Joseph's Island, some 25 air miles away.

To me, this is what motorgliding is all about - the ideal compromise.

I was up for three and did not burn a gallon of gas. You go up when you want and go down when you want. Soar, restart, soar - from morning to night. Lift or no lift, no crew, no tow plane, no wing runner, just

you the pilot. I love to fly and in my books, there is only one way to do it. Motorgliding. The Falke is a beautiful machine and I am very happy with it, but I see in the future when the 29/1 glide ratio of the Milan might tempt me enough to justify its price, the reliability of the engine proved to be 100% on restarts.

When I owned my 1-26 I never had the nerve to go over this 16 miles of bush, but with the Falke, I never gave it a second thought. I have never had such a beautiful summer, even for the two years when I owned the 1-26. I have flown more often, and have soared more now than ever before. I can see where motorgliding has something to offer to a lot of flying fanatics, the Falke is the best investment I have ever made.

Motorgliding is fun and is cheap. The initial cost can be shared by two or more partners, who will share the expenses as well.

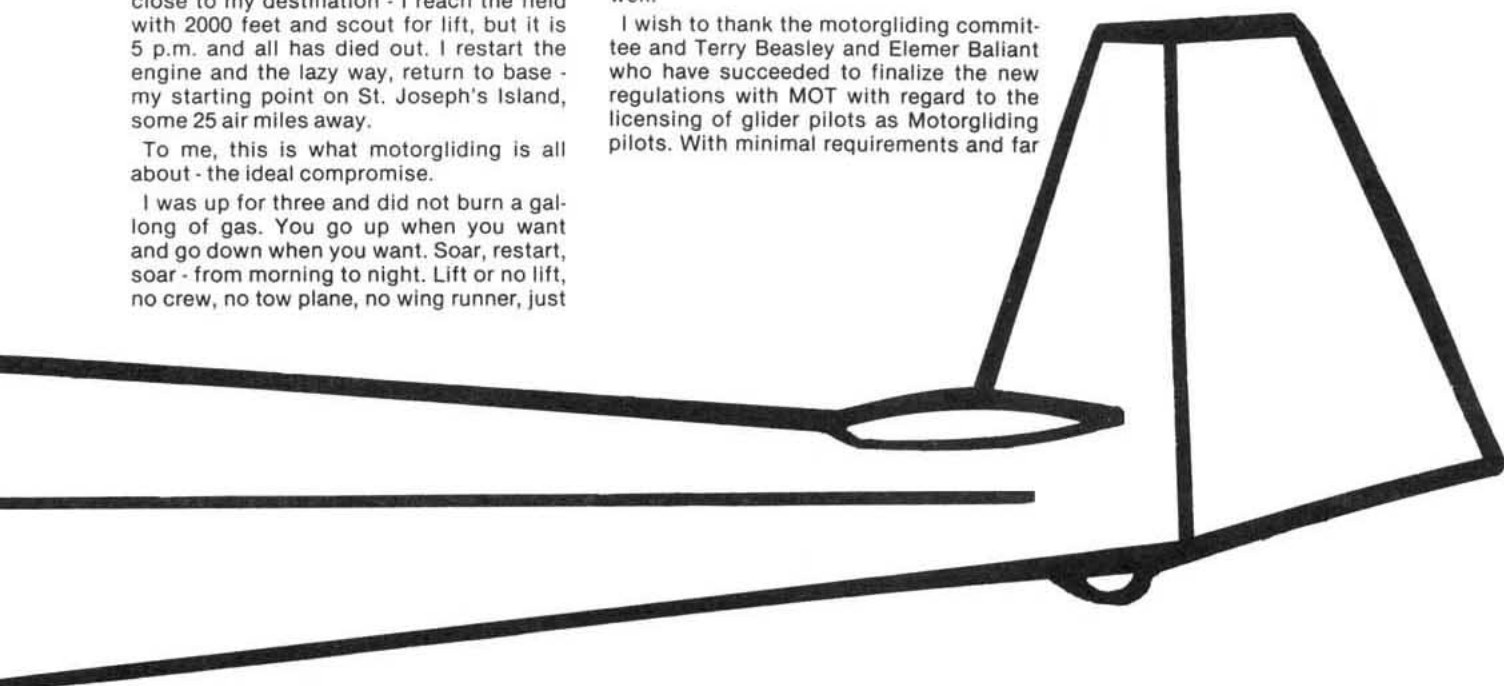
I wish to thank the motorgliding committee and Terry Beasley and Elemer Balian who have succeeded to finalize the new regulations with MOT with regard to the licensing of glider pilots as Motorgliding pilots. With minimal requirements and far

less expense, than to go through the power pilot licensing. A special thank you to Terry Tucker who has always been so helpful and always answered my letters promptly.

I am doing ten times more flying now than I did soaring before, and if it were not for motorgliding, I would be grounded. To the purist, I say that not one should make up their minds about anything without having a chance to experience thoroughly and then only take a stand.

As far as I am concerned, motorgliding is just great!

*Since writing this article for Free Flight John Anthoine has had to stop flying due to a health problem and has put his Falke up for sale.*





# PIK 20 D



Seppo Salomaa, the testpilot of Eiriavien's new ship PIK 20 D, has so far made some 90 testflights with different PIK 20 ships. He has also flown the test-flight program of the PIK B model.

The maiden flight of the PIK 20 D started at 9:30 on the 19th of April and lasted two hours. A gusty wind was blowing from the west, lift was 2-3 meters per second, turbulence was strong and the sky was filled 3/8 with cu's.

A tow and release at 2000 meters, which was 1000 meters over the clouds. The testflight began with straight and turning stalls - nothing unusual. The PIK 20 D goes into a spin only if forced and it terminates in self recovery after about one and a half turns.

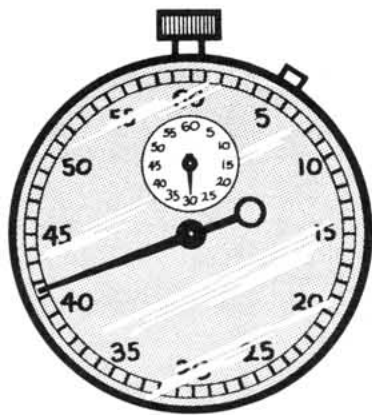
The mass of the PIK 20 D on this testflight was 300 kg:s and stalls appeared at the predicted air-speeds. The ailerons as well as the other controls were light and pleasant giving good response and a sense of solidity, aileron drag was just noticeable.

At high speed PIK 20 D was SILENT. Centering and thermal flying was easy and the ship was stable. Aileron efficiency is clearly better than that of the B model, which in turn is one of the fastest to roll.

The average sink with the new Schempp-Hirth dive brakes on three different measurements was 5.0 meters per second at 90 Km/h.

The PIK 20 D was easy and safe to land because of its efficient dive and wheel brakes.

The whole testflight program is being continued now. The Type Certificate should be granted before the end of June.



# Just For The Record

by Russ and Hazel Flint

When Peter Coleridge handed over to us the job of F.A.I. Record Claims - keeper, he suggested we should write for Free Flight an article of inducement and encouragement to potential record breakers, with some additional comments and warnings based on his own experiences with the job. There can be no better way to start than to pass on the news received today, that Karl Striedieck has just filed a claim for the World Out and Return (and distance!) records of 1004 miles for a flight made on May 19th.

The current Canadian Records were printed on page 24 of the last issue of Free Flight, and this would be a good place to look before planning your next cross country flight. However, please take note of the following to make your job of breaking records, and ours of recording them, a smoother one.

## Time Keeping

Speed records are quoted to the nearest 0.1 km/hr. On a speed of 100 km/hr, this implies an accuracy of 0.1%, which over a 100 km course amounts to timing precision of 4 seconds! Fortunately speed record claims must exceed the old one by 2

km/hr (see F.A.I. Sporting Code, Section 3 - Glass D, Gliders, 1975). John Firth's territorial 100 km triangle speed of 103.3 km/hr would therefore have to be raised to 105.3 km/hr, implying a time differential of 1.1 minutes over 100 km. However, the F.A.I. also requires that the margin of error in timing not exceed 0.5%, which is 0.29 minutes, or 17 seconds, in our example. It is possible to achieve this precision only with a clock with a synchronised sweep second hand, or a stop-watch (though the F.A.I. does not specifically permit the latter). The clock used for timing should also be checked carefully against a standard chronometer (e.g. C.B.C. time signals) and certified as having been checked. A watch which gains 7 minutes a day is dangerously close to the 0.5% timing error margin.

To summarise these points, 100 km flights need to be clocked with an accuracy of 10 seconds at start and finish. For 300 km and greater, timing to the nearest minute is adequate.

## Recognition Time Interval

It is perhaps evident that some control on recognition times should be imposed by the Official Observer controlling a speed

triangle. The F.A.I. suggests that before a 100 km task the Observer may even want to have the glider continuously in view until its last crossing of the start line. Other, less tiresome, methods can be simply employed (e.g. photographing a ground time marker), but it is recommended that some check be agreed upon between the Official Observer and the pilot making the flight.

## Altitude Records

For most records it is sufficient that a barograph has been calibrated within a period of 12 months preceding the flight. For altitude records, however, the calibration must be done within one month following the flight, ideally on the same foil or paper containing the flight trace without any previous adjustments of the instrument, though a separate trace and foil is quite acceptable. The calibration should include points bracketing, and at the approximate heights of, low and high points.

## Turnpoint Photographs

With well refined turnpoint photographing techniques, it is possible that a sailplane, banked at 90° can take a photograph of a turnpoint without having overflown it; i.e. the turnpoint object is "below" the wing of the glider when the glider is in the banked position. Precision flying produced a picture last year in which the turnpoint object was so close to being vertically beneath the glider, that only very close scrutiny showed that the turn point had been overflown by the narrowest of margins. Just to be sure, take the extra 1 1/2 seconds to fly another 100 feet and be sure the "far side" of your bridge of church or whatever can be seen.

## General Rules


The guidelines for record claiming as set out by the F.A.I. in the Sporting Code should be followed. The satisfaction of doing something "right" is well worth the extra care taken in planning, organizing time-keepers, observers, recorders, etc., plus the knowledge that the next fellow to break your record has also done it by the book.

Best wishes to all for a record summer.

Russ & Hazel Flint  
S.A.C. and F.A.I. Canadian National  
Records-Keepers.



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## 1-35 HAS WHAT IT TAKES TO WIN!

Last season Las Horvath placed 8th in the U.S. Nationals after winning the Region 9 contest. A. J. Smith won the Region 6 in a 1-35 and this year the Region 1 meet was taken by a 1-35 flown by John Seymour.

Wally Scott's victory in the Smirnoff Derby is the latest win for the Schweizer high performance sailplane.





# Club News

## OKANAGAN SOARING CLUB

We are now operating off our new field, 6 mi. North of Vernon, on the L & A Ranch. The 3,000 ft. strip of grass is slowly getting smooth. With a Ka7, a 1-19, and two 2-33s, the two private tow planes and the winch should be busy this summer. We have had 8,000 ft. on hill lift, 10,000 ft. on thermals, now all we need is a wave to make us believe in Santa Claus.

Don MacClement.

## S.O.S.A.

The first S.O.S.A. glider launching for 1976 took place on April 4th when Eric Ketonen and Stan Janicek had their first soaring flights of the season.

On April 10th we started Spring check-outs in Blaniks and pretty soon 1-26's could be seen searching for lift. With more Spring checks, the delivery of our first new 2-33 at the field, good soaring conditions and an Instructor and Tow Pilot's meeting on Saturday, the Easter weekend was as busy as it was successful. Our second new 2-33 has joined the fleet. By the end of May we took delivery of our new Club Libelle.

S.O.S.A.'s club fleet is now:

- Two - 2-33
- Two - 1-26
- Three - Blaniks
- One - Club Libelle
- Three - 150 HP Citabrias

In the interest of safety and to improve communications, S.O.S.A. has published "OPERATIONAL RULES" which must be adhered to by all members, including Tow Pilots.

For many years now S.O.S.A. published a DUTY ROSTER which assigns active members to do special jobs such as: Field Manager, Assistant Field Manager, Duty Instructor and Duty Tow Pilot. The dates and names are assigned arbitrarily by the C.F.I. and the "team of the day" is expected to be on hand not later than 8:00 a.m. to get the operation started. This enables new members still on DUAL training to get some flights in before the soaring begins and the more advanced students can have their SPIN CHECKS in relatively calm air. All flights originating before 11:00 a.m. and a duration of less than 30-minutes are charged a flat rate and in many persons opinion a tremendous bargain.

Because the S.A.C. insurance deductible has been raised to \$1,000, S.O.S.A. members will be held responsible for up to half (\$500) of the deductible if a mishap occurs. Any S.O.S.A. member renting club equipment for CONTEST - CROSS COUNTRY - OR WAVE FLYING is expected to pay the full deductible of \$1,000 regardless of cause of accident. At the discretion of the flying committee S.O.S.A. instructors will be liable up to \$200 of the deductible if a mishap occurs during a training flight.

Our second hangar is now completed and the Directors agreed to have the floor asphalted.

We have a portable V.H.F. radio on order which should help to control traffic during local contests and reduce the number of white knuckles experienced by visiting power pilots who are not familiar with our operation, which requires gliders to do left hand circuits and tow planes to do right hand circuits. So, if you should visit us this Summer in your powered aircraft just follow the nearest tow plane through a right hand circuit after clearing your intentions with the ground station (use 123.3 or 122.8).

In addition to personal contributions of S.O.S.A. members, the Board of Directors has voted in favour of a \$300 donation to the S.A.C. WORLD CONTEST FUND.

Hal Werneburg and Dave Webb left for Europe to compete for CANADA in the world championships.

By June 6, 1976 S.O.S.A. had logged approximately 1100 launches for the 1976 gliding season and in spite of complaints by late sleepers some people still sneak the hangar doors open at 6:00 a.m. and start flying at 7:00 a.m.

S.O.S.A. is hosting the EASTERN REGIONAL SOARING CHAMPIONSHIPS July 24 to August 2 inclusive. Registration fee will be \$25 plus \$10 for each additional pilot in case of a team effort. Please send your money and application to:

Jack Knowles  
543 Cayley Drive  
London, Ontario  
N6H 3G5                      Bob Kurzwehnhart

## ALBERTA SOARING COUNCIL

This year our regular May Meet was held at Edmonton Soaring Club's Chipman field, and was managed very capably by Ed Steer, from Edmonton. Attendance from other than the host club was lower than had been hoped, but 10 aircraft - of 8 different types! - made it a very worthwhile contest.

Saturday, May 22nd, produced a rather strong wind, and broken thermals and the difficulty of penetrating into the wind, kept many pilots from even leaving the field. Willi Krug and Andre Dumestre both passed the first turnpoint, but could not complete the ambitious 216 km. task. Since points were awarded only for distance achieved beyond 40 km., Willi received the top score of 860 points. (It had been decided initially that the derating factor would not be applied, but that handicap factors would.) Air Marshall John Bachynski of the Ukrainian Air Force covered 18.5 km, while most of the others considered themselves lucky to get back to the field from various down-wind positions.

Sunday's weather was similar to Saturday, once the early cloud cover disappeared. An out and return of 117 km was set as the day's task, and six of the ten competitors were able to complete it. Cec Sorensen returned to within shouting distance of the field after a hard fight in his Blanik, and, because of the handicaps, actually scored more than two others who completed the task. Andre made an excellent flight at 93 km/hr, but this was not enough to overcome Willi's lead from Saturday.

On Monday low cloud, followed later by thunder showers, forced the committee to

declare the contest over. Prizes of sets of Olympic coins were presented to the top two pilots. The Edmonton Club is to be congratulated on a well-run contest, including an informal barbecue for all on Sunday evening.

In addition to the above, I should also mention that the Fourth Annual Cowley Summer Camp is to be held from July 24 to August 2nd this year. Anyone who can make it will be very welcome. Contact me for any further details required.

G. G. Dunbar

## VANCOUVER SOARING ASSOCIATION

Following preliminary discussions during the latter part of 1975 and during early 1976, representatives of the four active B.C. Soaring Clubs met at Hope on Easter Sunday to discuss the formation of a Provincial Soaring Council similar to those existing in Alberta and Ontario. All present agreed that such a council is needed in B.C. to co-ordinate our activities and to better represent our interests within the province. Therefore a steering committee with representatives of the clubs present has been formed and a constitution is being drawn up.

While the meeting was in progress those V.S.A. members not attending were treated to the best soaring so far this season. Several pilots made rapid climbs to 12,000 feet in strong wave readily contacted from the ridge lift on Hope Mountain. The wave obviously went much higher but could not be pursued higher without entering controlled airspace.

After three pilots had been to this height Charles Grant was persuaded to take the Pilatus up, carrying a barograph, but was forced to abandon his attempt for Gold altitude at 10,000' when the wave window threatened to close. The strong conditions of an hour earlier had gone with lift averaging only 100 fpm against 600 fpm or better before.

The following weekend saw the return of the 1-26 to the club fleet following a complete overhaul and refabricating. Bernie Wohlleben had headed up this winter project and the 1-26 gleaming in its new orange and white, high visibility finish is a credit to the entire work force who put in over 500 man hours in seeing that no small detail was overlooked.

On May 8th, one of the 1-26 workers, Alfred Pratt, got his reward for his hours of toil. Not only did he complete his 5 hours duration but he got his gold C height at the same time. He can't wait for an opportunity to do his cross-countries now.

While Alf was staying up, Charles Grant rectified the situation of three weeks previously when he got his gold C altitude to complete his Gold badge. This time he was in the SHK he shares with two others. Charles has been as high several times before but this is the first time he's done it with a barograph.

The remainder of May produced only fair soaring conditions with some days being a little damp. However, we have not lost a day to rain since before Easter and with warmer weather approaching we hope to have a lot of good soaring ahead.



# GLIDERS IN THE NEWS

Many thanks for the favourable reaction to the first column. Any material should be sent to T.R. Beasley, 173 Leslie Avenue, Dollard des Ormeaux, P.Q. H9A 1X2.

## CANADA

Two 2-22s

from SOSA have been bought by the Champlain Soaring Association, of St. Johns Quebec. They have also bought a Cessna 150; a Lycoming is being installed. We understand that this makes an excellent tug. Not the least important news from Champlain is that a will probably be complete by the time you read this. This is the work of Paul Dorion and Gilles Seguin and I am sure that all of us wish them many happy hours of soaring as the just reward for their (how many?) years of work.

DUSTER

C-GRLB

will be the first ASTIR CS in Canada, expected in late July.

CF-PBJ

C-GUJF  
C-GUJG

Club Libelle

That is all the Canadian news from the grapevine; do please keep me posted on any items of interest - even if it only to provide me with the missing registrations. Now for foreign gleanings.

This new 15 m ship is built by Burkhart Grob of Mindelheim, W. Germany who gained know-how in building some 200 Cirrus (is the plural Cirri?) under license. The owner, Bob Barry, toured the Grob plant in March and will probably return to help in the production of his ship. This seems to be a good idea; he will get to know the details which will be particularly useful as he is the authorised Canadian agent for Grob.

is a 2-22 owned by the Air Explorers and flown with the Montreal Soaring Council. Sadly the Explorers are not going to continue their gliding activities due to lack of (adult) helper interest. Although the Montreal Soaring Council has phased out 2-22s it will probably stay with the club.

are the two Jantar Standards reported in the last F.F. Expected before you read this, one will be quickly evaluated by the SAC Technical Committee and then used as a demonstrator.

We understand that SOSA has one.

## POLAND

The 19 m Jantar has led to a new version, Jantar 2, of 20.5 m span, area 14.25 m<sup>2</sup>, max. weight 580 kg including 130 kg of ballast. The wing is four pieces and weighs 210 kg. Best L/D 48, Vs (min) 0.46. We hear that Dick Johnson will fly one in Finland.

## GERMANY

H-121

Three more new ships reported in Aero-Revue 2/76.

A staggered side by side two seater from 'Start & Flug' the 'Salto' creators. Span 17 m, area 15.8 m<sup>2</sup>, max. weight 500 kg, equipped weight 290 kg. Best L/D ca 36, Vs min. ca 0.64 m/s. The staggered seating has been used before in an attempt to avoid the wide fuselage necessitated by rubbing shoulders. The stagger only 25 cm.

Speed Astir

This is Grob's unrestricted 15 m ship for the new class. Aspect ratio of 19, max weight 500 kg, empty weight 270 kg. Up to 120 litres of water gives a wing loading range from 30 to 40 kg/m<sup>2</sup>. Best L/D ca 42.

Twin Astir

is a tandem two seater with a mid wing and T tail. The wings are swept forward and are of 17.5 m span and aspect ratio 17.1. Empty weight 330 kg, max. 650 kg, best L/D ca 38.5.



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# Problems on Tow

A recent report highlights one of the rare instances of a failure to release. A KA7 two seater on tow in mountainous country with a steady 15 mph wind blowing obliquely up rising ground quickly gained release height. There was buffeting from agitated air; when the pupil pulled the release it clicked but the rope did not fall and repeated pulls failed to free it. The instructor told the student to dive the glider to slacken the rope and then pull up sharply. This maneuver was successful and the flight contin-

ued. Reviewing the incident afterwards resulted in a conclusion that the rope had released from the towing hook but had caught on the open 'bungy' hook, presumably a result of the turbulent ride. The 'bungy' hook was removed and to date no further problems.

This calls to mind another instance where several hang-ups had occurred in a Blanik when releasing from the rear cockpit. It was found that stretch had occurred in the new cables operating the release such that

pulling from the rear cockpit unless this was carried to the very end did not fully actuate the release. The rope ring would move from the jaws giving an impression of release but would then catch between the partially open hook and the fuselage effectively linking glider and tug. Correcting the cable tension eradicated the fault.

Whenever a problem surfaces on tow carefully examine all the related hardware and ensure the occurrence difficulty has been identified and eliminated. Don't wait for a second or third occurrence. An incident is fortunately an accident that did not happen.



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TWO THEMES: SPORT IS ACTION  
SPORT IS FUN

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The Sports Federation of Canada's Second Annual Foto Contest is open to any photographer except Sports Federation of Canada personnel.

A maximum of ten entries per individual will be accepted.

Black and white and colour prints and negatives, and colour transparencies are eligible.

Minimum size print is 5 x 7 inches, maximum size including mount is 11 x 14 inches. Colour transparencies must be in 2 x 2 inch mounts.

Print name and address on each slide mount, negative envelope, and top right hand corner of print that is entered. In addition, print on each entry an 'A' for Sport is Action or an 'F' for Sport is Fun indicating in which category it is to be judged.

In event of winning entries; black and white or colour negatives should be available on request.

### TWO BIG WINNERS

In order that entries may be returned entrants should enclose a stamped self-addressed means of return.

Entries must be postmarked not later than September 24, 1976.

### PRIZES

Entries will be judged in two categories by a panel of three judges. Chairman of the judges is Josef Karsh, prestigious Canadian photographer.

The winners in each category will receive Air Canada tickets for two for air travel anywhere in Air Canada's World.

Winners will be notified by December 30, 1976.

The top 24 entries will be displayed at the Sports Federation's Meeting, January 27-30, 1977 in Toronto. Following the showing, the photographs will become part of the collection on display at the National Sport and Recreation Centre.

### ENTRY FORM

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

PHONE NUMBER \_\_\_\_\_ AGE (if under 21) \_\_\_\_\_

TOTAL NUMBER OF ENTRIES: SPORT IS ACTION \_\_\_\_\_ SPORT IS FUN \_\_\_\_\_

I have enclosed a stamped self-addressed means of return for my entries.

In case of colour or black and white negatives, I will make them available in the event that my entries win.

SIGNATURE \_\_\_\_\_

Please enclose \$1.00 for each entry and mail to:  
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(613) 549-3056

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	a) Button — Screw Back	\$ 4.75	10.	S.A.C. Decal	0.25
	b) Button — Clutch Back — "A" only		11.	S.A.C. Cap (Red, Green or Blue with white Crest)	3.50
	balance of stock	5.00	12.	S.A.C. Glider Pilot Log Book	
	c) Pin — Safety Catch ("A" & "B")	5.50		a) single copy	2.25
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	Claims available from Club C.F.I.			a) "C"	0.75
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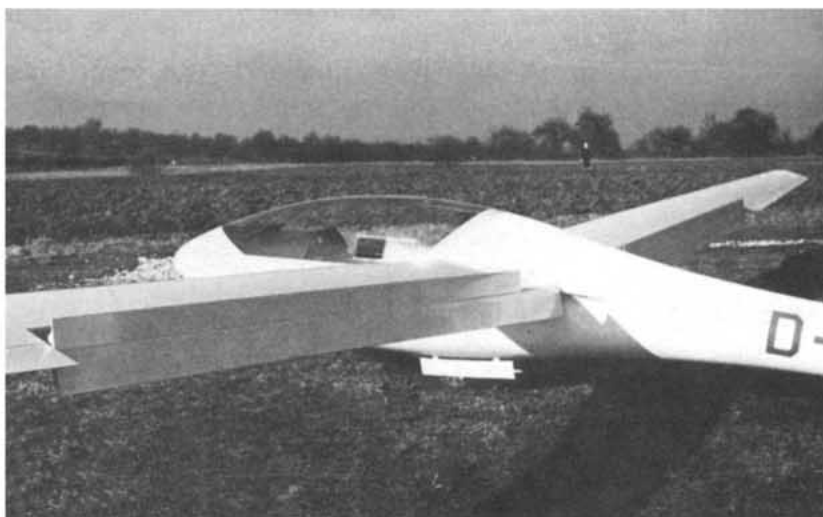
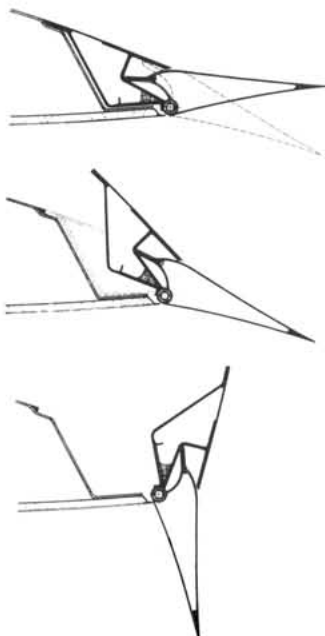
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