

FREE FLIGHT

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Notes From The President

First, the good news.

Now the bad news. As you can see from the following list 1977 started out with a bad accident, and continued with a series of accidents and incidents through the flying season. I am not even sure that the list is complete. 3 deaths, 5 aircraft destroyed and 11 more damaged is not a record Canadian soaring pilots can be proud of. We will conduct a thorough examination of these accidents and hope to learn something from them. Preliminary data lead one to believe that many of these accidents could have been avoided, or their severity lessened if the pilots involved had exercised better judgement. Of course, hindsight helps, too.

I most strongly recommend that all club presidents and CFI's conduct a thorough review of flying discipline, training methods and local safety rules. I also most strongly recommend that they take a professional attitude and do not hesitate to take action. It's all nice and well to be popular, but putting popularity ahead of safety can get people killed. At the same time, I appeal to all SAC members to cooperate fully with their CFI's and club officers. Especially the senior pilots have a responsibility to set examples, and not to abuse their seniority by claiming that their experience exempts them from good, common sense airmanship.

If we appear unable to maintain good safety records we should not be surprised if government bureaucrats attempt to regulate us into "safer" procedures. And from a purely money point of view, our insurers will protect themselves through rate increases, thereby making soaring more expensive for all of us.

Let's try to be accident-free for the balance of the year. I hope to have better news in the next issue.

Sincerely,

A.O. Schreiter

TOTAL LOSSES

April 17, 1977 Kawartha Soaring
CF-SYL Diamant 16.5
Pilot Killed
Mid-air break up during high
speed final glide

May 22, 1977 Toronto Soaring
CF-UXL Schweizer 1-26
Pilot Killed
Spun in from tow

May 29, 1977 Missisquoi Soaring
CF-ZBY Schweizer 1-23
Slow approach, spun in

July 25, 1977 York Soaring
CF-FEI Kestrel 19
Mid-air collision

Aug. 14, 1977 Wide Sky Flying Club
CF-HVX Blanik L 13
Passenger killed,
pilot severely injured
Spun in during approach

SEVERE DAMAGE

July 25, 1977 Gatineau Gliding Club
C-GAYN RS15
Mid-Air Collision

July 27, 1977 Cu-Nim Gliding Club
CF-SIG Scheibe SF 26
Pilot Seriously injured
Crashed in turbulent conditions
during out-landing

MEDIUM TO MINOR DAMAGE

May 14, 1977 London Soaring
CF-OHS Champ Challenger
Lost wheel on take off,
ground looped

May 14, 1977 Montreal Soaring
CF-OLO KA6
Minor damage on landing

May 15, 1977 Montreal Soaring
CF-QCE KA6
Ground looped

May 21, 1977 Gatineau Gliding Club
C-GAYN RS-15
Ground Looped

May 23, 1977 Edmonton Soaring
CF-CXC Blanik L 13
Ground looped

May 23, 1977 Cu-Nim Gliding Club
C-GWMR Blanik L 13
Hard landing, tail first

June 3, 1977 Saskatoon Soaring
C-GXDU Blanik L 13
Rut in field, lost landing gear

June 12, 1977 Gatineau Gliding Club
C-FOGW Aeronca
Nosed over on landing

Aug. 15, 1977 SOSA
C-GPXR Club Libelle
Ground Looped

Approx. total damage \$79,500.

A NOT SO SHORT HISTORY A "DUAL UNIT MOTION AND DEVICE, ENVIRONMENTALLY

Reprinted from the April 1977 issue of The Vancouver Soaring Scene

PART I

The day after I'd solo'd the club 2-33 for the first time, it became obvious that, well intentioned though they were, the club instructors could teach me nothing more about the art of soaring. Therefore, I decided to give the world the benefit of my vast experience. I would enter the next Nationals.

Almost immediately I ran into a problem. My wife refused to go back to work full time. That ruled out plan "A"; buying an ASW-19 and cleaning up Standard Class.

Falling back on plan "B" (never let it be said that I am not flexible), I surveyed the club 1-26 with some mistrust. Not that the aircraft itself was not sound. After seeing the beating it took from some of our less talented pilots, it was nothing if not strong. No, it was just that even with my superb piloting, I had to be realistic, I wasn't going to be able to stay with the 19s and H301s at over 100 knots. After all the 1-26 is redlined at 97. Even allowing for ASI position error, parallax and lag, I reckoned 125 kt was the best I could expect. I'd probably be a couple of points down on L/D too. Clearly, something else was needed to even the odds.

A chap at the club who'd done his training in England provided the answer. Cloud flying! Over there they do it all the time. "Best lift's in the cloud, Old Chap," he said to me one day. "Stopping at cloud base is like saying goodnight at the door. You're wasting the best part."

Of course, why didn't I think of it sooner. With better lift and overall altitude advantage I'd have by using CB's and towering CU, I could pass by all the weak stuff and only stop once for every three times the gaggle needed, while all the time cruising at red line plus 30%.

Next morning, after pulling the plug to free me from our trusty L-19 tow plane, I made a bee-line for the juici-

est looking CU I could find. A couple of minutes of superb thermalling brought me to cloud base. With the rate of climb increasing with every turn we entered cloud. The 1-26 and I spent the next few minutes perfecting our inverted spin recovery technique, plus recoveries from manoeuvres they haven't named yet.

The fifth time into cloud I decided that since I was always coming out inverted, I should try rolling first and climb into the cloud inverted. It didn't work! I came out backwards. 1-26s tailslide surprisingly well. Obviously what was needed was some blind flying instruments.

My motion at the next club meeting to equip the 1-26 with a full blind panel was narrowly defeated by a vote of 83 to 1. My wife chose this moment to announce in front of witnesses, that she would not even go back to work part time. Do you realize how much a full blind panel for a glider costs? Once more, back to the drawing board.

An old copy of "Interceptor", a U.S.



Air Force magazine, provided my answer this time. The old "Cat and Duck" trick. I'm sure most of my readers are acquainted with this method of blind flying, but for those who are not a quick recap is in order.

It is very simple. All you need is a Cat and a Duck. The cat is placed on cockpit floor and, on the theory that cats always remain upright, simply watch the way the cat leans and correct accordingly. The duck is used for instrument landings. Since ducks



OF THE DEVELOPMENT OF BALANCE INTERPRETATION ACCEPTABLE FOR SAILPLANES''

by J. J. Jinx



will not fly IFR, simply fling it out of the aircraft when ready to land and follow it down.

Considerable research was done on this several years ago and some serious drawbacks became apparent which caused the project to be abandoned. However, no research was done pertaining to the use of this method in gliders and I felt that it was worth another try. Some of the problems encountered before were as follows:

1. Cats get tired easily and go to sleep.

A large dog had to be carried to keep the cat at attention.

2. Get a clean cat. Dirty cats spend all their time washing. Trying to follow a washing cat results in a snap roll followed by an inverted spin.

3. Young cats have nine lives and get careless, so get an old cat with only one life left. He has as much to lose as you.

4. Get a well bred cat. Avoid strays. A vet or reputable breeder of house cats will help.

Being somewhat of a cat expert, having a total of six cats and eight kittens (2 active, 4 time expired, 8 status unknown) in our house over the last four years, I felt I could solve most of these drawbacks. Also our resident met man and chief tow pilot, who works at our gliding site, has said on several occasions that he knows of a couple of good cat houses in the local town; so I planned to call on him in regard to point 4 above.

As far as the duck is concerned the problems are somewhat different.

1. The duck must have 20-20 vision. A nearsighted duck may not realize he's IFR and go boring into the nearest hill. This is a real problem at Hope, of course, which is surrounded by mountains. A very near-sighted duck will not realize it has been thrown out at all, and will descend in a sitting position. This is hard to follow in a sailplane. It also upsets the cat.

2. Use a duck certified for land touchdowns. It is very disconcerting to break out of the overcast and find yourself on a very short final for a farmer's pond. Especially in duck hunting season.

3. Get a domestic duck. Remember ducks migrate. If you find yourself heading for Inuvik or Louisiana, depending on the time of year, then check back in six months with your nearest travel agent for a refund.

4. Get a medium sized brightly coloured duck. A small, dull duck is hard to follow in a dark cloud. On the other hand, trying to stuff a large duck through the small clear vision panel of a sailplane can be both distracting and messy.

In spite of the drawbacks outlined here I felt the system had much to recommend it. Not the least of these was the fact that it would not be obvious to the contest officials what was going on, whereas they would immediately become suspicious of anyone sauntering around with a full blind flying panel under his arms. The chap wandering around with a cat on a leash and a duck in his lunch kit would be regarded as exhibiting perfectly normal behaviour for a competition pilot.

In Part II, I will recant a few of my experiences during the certification of my "Dual Unit Motion and Balance Interpretation Device, Environmentally Acceptable for Sailplanes", or as it quickly became known - DUMBIDEAS!



CANADIAN NATIONALS '77

by Bob Gairns

As numbers go, the 39 sailplanes and 45 pilots who took part showed as good a turnout as for previous nationals. It is interesting to note that a couple of years ago, Standard Class pilots were fighting for recognition as a separate class, but this year the Standard Class had the largest entry, closely followed by the 15 metre Class. The Open Class was reduced to a field of eight, including two HP-14s which were not really in the same performance class as the big birds like the Nimbus II and Kestrel 19.

Western pilots must be congratulated for their endurance and fortitude, particularly Bernie Brayshaw and Peter Lamla and their crews, who drove 3500 miles from Vancouver. Dave Marsden and Dan Pandur from Edmonton and Cec Sorensen from Red Deer also had long drives.

We were pleased to welcome such regular contest supporters as Henry Preiss from Windsor with his latest Blue Fin two seater, this one with modified HP-18 wings. This machine represents a lot of work and the final result is most attractive.

SOSA sent a strong contingent with a variety of aircraft, and three U.S. pilots were kind enough to take part in the contest. R. McIntyre from Long Island and Bill Nockles from New England; and Tom Smith of Smitty's Repair Service brought a 1966 Libelle 301, but we could only provide him with one contest day during his short stay.

We regret to report a mid-air collision, which occurred on July 25th at 3000 ft. between Colin Bantin (RS-15) and Frank Markut (Kestrel 19). The rear fuselage of the Kestrel was broken and a large hole was knocked in the leading edge of the wing of the RS-15 and its canopy was smashed. Frank Markut parachuted down safely while the RS-15 was flown back to the airfield.

At the start it was decided that the open and the two 15 metre classes would have the same tasks, while the Sports Class would have shorter distances.

July 19th had winds of 25 knots at 2000 ft., with maximum cloud base forecast at 3500 ft., so it did not look promising. The open and 15 metre classes were set a 127 km triangle and the Sports Class a 102 km triangle. In the event, the wind proved too strong and the thermals too weak, so no one made the required minimum distance to make it a contest day.

July 20th was hot and humid with 30 to 35 knot winds at 3000 ft. No contest.

July 21st. Forecast cloudbase was 2500 ft. to 3000 ft., with a maximum temperature of 28°C. No task was set. The weather did

OPEN CLASS

| July 22, 1977 261 km TRIANGLE | | | | |
|----------------------------------|------------|----------------|---------------|-----------------|
| NAME | SAILPLANE | PLACE DAY 1 | SPEED km/h | TOTAL POINTS |
| 1. D. B. WEBB | TINBUS | 3 | 72.20 | 821 |
| 2. J. FIRTH | KESTREL 19 | 1 | 89.23 | 1000 |
| 3. P. LAMLA | CIRRUS | 2 | 72.90 | 828 |
| 4. J. HENRY H. BAEGGLI | NIMBUS II | 4 | 68.96 | 787 |
| 5. H. PREISS | RHJ-8 | 7 | 214.6 | 440 |
| 6. K. DOETSCH L. SPRINGFIELD | HP-14 | 8 | 157.6 | 323 |
| 7. G. NYE | HP-14 | 6 | 226.4 | 464 |
| 8. F. MARKUT | KESTREL 19 | 5 | 66.38 | 760 |

STANDARD CLASS

| July 22, 1977 261 km TRIANGLE | | | | |
|----------------------------------|-----------|----------------|---------------|-----------------|
| NAME | SAILPLANE | PLACE DAY 1 | SPEED km/h | TOTAL POINTS |
| 1. H. WERNEBURG | CIRRUS | 1 | 74.02 | 1000 |
| 2. W. KRUEGER | LIBELLE | 2 | 65.60 | 963 |
| 3. J. EICH D. KIRSCHNER | LS-1 | 6 | 239.3 | 776 |
| 4. P. SEARS | Ka6CR | 8 | 226.7 | 735 |
| 5. P. TIMM | CIRRUS | 7 | 238.2 | 772 |
| 6. M. AUBUT | OG-100 | 5 | 243.5 | 789 |
| 7. J. BRAYSHAW | ASW-19 | 4 | 244.5 | 793 |
| 8. G. MARCHAND E. NEWSOME | ASTIR CS | 12 | 180.3 | 584 |
| 9. G. ADAMS G. HICKS | SGS 1-34 | 9 | 203.1 | 659 |
| 10. R. MCINTYRE | ASW-15 | 10 | 201.5 | 653 |
| 11. R. STEIMER | CIRRUS | 3 | 49.89 | 895 |
| 12. J. KNOWLES C. KNOWLES | LIBELLE | 13 | 66.1 | 214 |
| 13. W. ROACH | LS-1 | 11 | 185.3 | 601 |
| 14. C. SORENSEN | JANTAR | 14 | 12.5 | 40 |

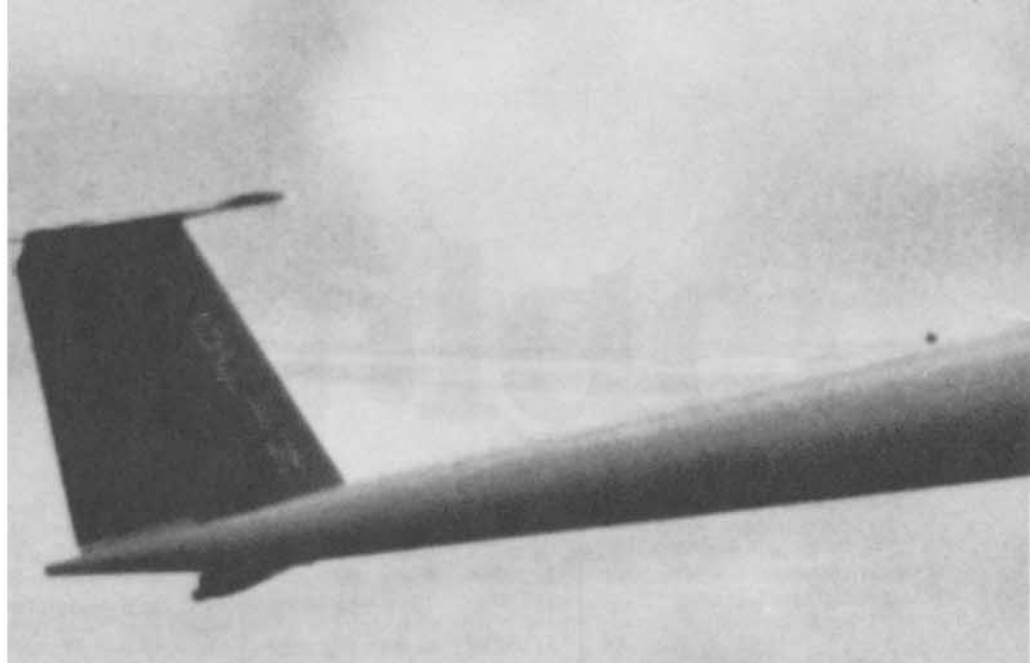
15 METRE CLASS

| July 22, 1977 261 km TRIANGLE | | | | |
|----------------------------------|-------------|----------------|---------------|-----------------|
| NAME | SAILPLANE | PLACE DAY 1 | SPEED km/h | TOTAL POINTS |
| 1. R. GAIRNS | 301 LIBELLE | 3 | 69.81 | 968 |
| 2. D. MARSDEN | PIK 20 | 1 | 72.10 | 1000 |
| 3. J. FEATHERSTONE | PIK 20 | 6 | 54.53 | 756 |
| 4. J. NAGY | PIK 20B | 4 | 68.89 | 956 |
| 5. V. WERNEBERG | PIK 20D | 2 | 70.15 | 973 |
| 6. J. BRENNAN | PIK 20D | 5 | 61.67 | 855 |
| 7. D. PANDUR | SGS1-35 | 8 | 50.26 | 697 |
| 8. H. KURLENTS B. PALFREEMAN | PIK 20 | 9 | 216.6 | 418 |
| 9. K. KOVACS | PIK 20 | 10 | 212.6 | 411 |
| 10. W. NOCKLES | CONCEPT 70 | 11 | 197.6 | 382 |
| 11. D. FERGUSON | RS-15 | 12 | 51.0 | 99 |
| 12. C. BANTIN F. VAUGHAN | RS-15 | 6 | 54.48 | 756 |

| July 25, 1977 128.1 km TRIANGLE | | | | | July 26, 1977 241.8 km OUT & RETURN | | | | | July 27, 1977 AREA DISTANCE | | | | July 28, 1977 114.0 km TRIANGLE | | | | |
|------------------------------------|---------------|----------------|-----------------|-----------------|--|---------------|----------------|-----------------|-----------------|--------------------------------|----------------|-----------------|-----------------|------------------------------------|---------------|-----------------|-----------------|-------------------|
| PLACE DAY 2 | SPEED km/h | DISTANCE km | POINTS DAY 2 | TOTAL POINTS | PLACE DAY 3 | SPEED km/h | DISTANCE km | POINTS DAY 3 | TOTAL POINTS | PLACE DAY 4 | DISTANCE km | POINTS DAY 4 | TOTAL POINTS | PLACE DAY 5 | SPEED km/h | POINTS DAY 5 | TOTAL POINTS | FINAL STANDING |
| 1 | 42.33 | | 550 | 1371 | 1 | 80.13 | | 1000 | 2371 | 4 | 295.5 | 924 | 3295 | 2 | 89.85 | 838 | 4133 | 1 |
| 3 | | 59.6 | 232 | 1232 | 4 | | 193.1 | 542 | 1774 | 2 | 308.1 | 971 | 2745 | 1 | 100.75 | 1000 | 3745 | 2 |
| 4 | | 40.3 | 118 | 946 | 2 | 71.01 | | 927 | 1873 | 5 | 270.7 | 830 | 2703 | 4 | 80.50 | 698 | 3401 | 3 |
| 2 | | 104.5 | 305 | 1092 | 5 | | 121.1 | 339 | 1431 | 1 | 315.8 | 1000 | 2431 | 3 | 85.09 | 767 | 3198 | 4 |
| 6 | | 0.0 | 0 | 440 | 3 | 50.35 | | 761 | 1201 | 6 | 127.4 | 291 | 1492 | 6 | 60.91 | 407 | 1899 | 5 |
| 5 | | 10.5 | 31 | 354 | 6 | | 40.2 | 113 | 467 | 3 | 298.9 | 937 | 1404 | 5 | 65.99 | 482 | 1886 | 6 |
| 6 | | 0.0 | 0 | 464 | 7 | | 0.0 | 0 | 464 | 7 | 87.2 | 140 | 604 | 7 | 50.58 | 253 | 851 | 7 |
| 6 | | 0.0 | 0 | 760 | 7 | | DNC | 0 | 760 | 8 | DNC | 0 | 760 | 8 | DNC | 0 | 760 | 8 |
| July 25, 1977 128.1 km TRIANGLE | | | | | July 26, 1977 241.8 km OUT & RETURN | | | | | July 27, 1977 AREA DISTANCE | | | | JULY 28, 1977 114.0 km TRIANGLE | | | | |
| PLACE DAY 2 | SPEED km/h | DISTANCE km | POINTS DAY 2 | TOTAL POINTS | PLACE DAY 3 | SPEED km/h | DISTANCE km | POINTS DAY 3 | TOTAL POINTS | PLACE DAY 4 | DISTANCE km | POINTS DAY 4 | TOTAL POINTS | PLACE DAY 5 | SPEED km/h | POINTS DAY 5 | TOTAL POINTS | FINAL STANDING |
| 1 | | 89.6 | 443 | 1443 | 8 | | 59.3 | 202 | 1645 | 1 | 366.0 | 1000 | 2645 | 1 | 80.80 | 1000 | 3645 | 1 |
| 11 | | 0.0 | 0 | 963 | 2 | | 189.6 | 637 | 1600 | 2 | 294.5 | 697 | 2374 | 2 | 71.51 | 828 | 3125 | 2 |
| 2 | | 86.4 | 407 | 1183 | 3 | | 176.8 | 603 | 1786 | 4 | 267.6 | 688 | 2474 | 12 | 52.17 | 468 | 2942 | 3 |
| 2 | | 86.4 | 407 | 1142 | 1 | 61.68 | | 871 | 2013 | 10 | 133.6 | 264 | 2277 | 6 | 60.58 | 625 | 2902 | 4 |
| 5 | | 42.4 | 0 | 772 | 9 | | 56.5 | 193 | 965 | 3 | 270.2 | 697 | 1662 | 4 | 64.36 | 695 | 2357 | 5 |
| 11 | | 0.0 | 0 | 789 | 6 | | 93.3 | 318 | 1107 | 5 | 202.5 | 482 | 1589 | 5 | 63.29 | 675 | 2264 | 6 |
| 7 | | 38.9 | 0 | 793 | 5 | | 102.1 | 348 | 1141 | 9 | 147.4 | 308 | 1449 | 3 | 67.08 | 745 | 2194 | 7 |
| 10 | | 8.8 | 0 | 584 | 4 | | 155.5 | 530 | 1114 | 11 | 116.0 | 209 | 1323 | 7 | 60.43 | 622 | 1945 | 8 |
| 9 | | 14.9 | 0 | 659 | 7 | | 78.6 | 269 | 928 | 7 | 181.2 | 415 | 1343 | 9 | 58.19 | 580 | 1923 | 9 |
| 6 | | 40.3 | 0 | 653 | 6 | | 56.3 | 192 | 845 | 8 | 155.4 | 333 | 1178 | 11 | 53.33 | 490 | 1668 | 10 |
| 11 | | 0.0 | 0 | 895 | 13 | | 0.0 | 0 | 895 | 12 | 72.6 | 71 | 966 | 10 | 53.76 | 498 | 1464 | 11 |
| 8 | | 27.8 | 0 | 214 | 11 | | 26.4 | 90 | 304 | 6 | 183.7 | 423 | 727 | 8 | 60.80 | 619 | 1346 | 12 |
| 11 | | 0.0 | 0 | 601 | 13 | | 0.0 | 0 | 601 | 13 | 63.2 | 42 | 643 | 13 | 51.67 | 459 | 1102 | 13 |
| 4 | | 49.1 | 0 | 40 | 12 | | 3.3 | 11 | 51 | 14 | 62.5 | 39 | 90 | 14 | 42.02 | 280 | 370 | 14 |
| July 25, 1977 128.1 km TRIANGLE | | | | | July 26, 1977 241.8 km OUT & RETURN | | | | | July 27, 1977 AREA DISTANCE | | | | July 28, 1977 114.0 km TRIANGLE | | | | |
| | | | | | PLACE DAY 3 | SPEED km/h | DISTANCE km | POINTS DAY 3 | TOTAL POINTS | PLACE DAY 4 | DISTANCE km | POINTS DAY 4 | TOTAL POINTS | PLACE DAY 5 | SPEED km/h | POINTS DAYS | TOTAL POINTS | FINAL STANDING |
| NO CONTEST DAY | | | | | 1 | 65.69 | | 1000 | 1968 | 1 | 261.8 | 1000 | 2968 | 6 | 60.77 | 710 | 3678 | 1 |
| | | | | | 6 | | 151.1 | 540 | 1540 | 3 | 202.8 | 721 | 2261 | 5 | 66.06 | 815 | 3076 | 2 |
| | | | | | 7 | | 102.1 | 365 | 1121 | 2 | 236.5 | 880 | 2001 | 1 | 75.36 | 1000 | 3001 | 3 |
| | | | | | 10 | | 82.9 | 296 | 1252 | 4 | 202.5 | 720 | 1972 | 3 | 74.03 | 973 | 2945 | 4 |
| | | | | | 4 | | 174.8 | 624 | 1597 | 9 | 121.0 | 302 | 1899 | 2 | 74.73 | 987 | 2880 | 5 |
| | | | | | 5 | | 167.05 | 596 | 1451 | 8 | 127.9 | 368 | 1819 | 4 | 66.47 | 823 | 2642 | 6 |
| | | | | | 3 | | 195.6 | 699 | 1396 | 7 | 135.6 | 404 | 1800 | 7 | 58.57 | 666 | 2466 | 7 |
| | | | | | 2 | 53.66 | | 950 | 1368 | 6 | 143.4 | 441 | 1809 | 9 | 53.84 | 572 | 2381 | 8 |
| | | | | | 9 | | 87.2 | 312 | 723 | 10 | 105.9 | 264 | 987 | 8 | 54.08 | 576 | 1563 | 9 |
| | | | | | 11 | | 25.9 | 92 | 474 | 5 | 152.0 | 482 | 956 | 10 | 53.69 | 569 | 1525 | 10 |
| | | | | | 8 | | 93.3 | 333 | 432 | 11 | 92.0 | 198 | 630 | 11 | 47.82 | 452 | 1082 | 11 |
| | | | | | 12 | DNC | | 0 | 756 | 12 | DNC | 0 | 756 | 12 | DNC | 0 | 756 | 12 |

NO CONTEST DAY

CANADIAN NATIONALS '77



improve by 2:00 p.m., but by that time a number of pilots had left for Montreal or Ottawa.

July 22nd. At last a reasonable day, though with winds of 22 knots at 3000 ft. and 25 knots at 6000 ft. The Open, Standard and 15 metre Classes had a 261 km triangle for their task. Winds were at 330°, so the 106 km second leg was a long push into a quartering headwind. Hal Werneburg set a cracking pace of 74.02 km/h to lead the Standard Class, only beaten by John Firth's 89.23 km/h in the Open Class. In the Standard Class the only other finisher was Walter Krueger. The 15 metre Class did much better with eight out of twelve finishing, Dave Marsden being top man for the day in the ex-George Moffat PIK-20. The Open Class has six finishers out of eight.

The 127 km out and return for the Sports Class saw Walter Hardie of Minnesota win in his homebuilt Tern, with one other finisher, Walter Herten in a Ka-6. The strong wind proved too much for MSC's Kevin Conlin in a 1-26. SOSA's Ruth Thumm in her 1-23H made just 2/3 of the distance to the turnpoint.

July 23rd. Looking back on the notes on the predicted weather, this day seemed reasonable, but perhaps the trigger temperature of 22°C and the maximum forecast of 25°C held the key; at any rate thermals were weak and it was a no contest day.

July 24th. Anxious to make up for lost days, and in spite of winds of 19 to 21 knots at 290° up to 6000 ft., the task committee set a 127 km triangle for the Open, 15 metre and Standard Classes and a 64 km out and return for the Sports Class. The strong wind called for good timing and some crafty flying. Dave Webb carried out the crafty flying in the Open Class, being the only pilot to complete the task. The timing was right for the Standard Class, as a number of pilots made reasonable distances, but there were no completions. Hal Werneburg went furthest. Walter Herten was just one thermal short of Hawkesbury, to win in the Sports Class and none of the 15 metre Class pilots flew far enough to score. The start gate was closed to the 15 metre and Open Class pilots for a period to make

sure that the pilots involved in the mid-air collision had landed safely.

With a run of poor weather and a chance of not making the requisite four days for a valid contest, there was a unanimous vote by all classes except the open to extend the contest one extra day if necessary.

July 26th. Things looked much more promising, for good convection was forecast in spite of winds of 22 knots at 310° at 3000 and 6000 ft. Cloudbase was forecast to go to 5000 ft. but with a possibility of overconvection. A 242 km out and return task southwest to Merrickville was set for the three senior classes, with a 78 km out and return for the Sports Class.

The overdevelopment caught out a lot of people on this day, as only one pilot in the Standard Class completed the task, Paul Sears, with a very creditable flight for a Ka-6. Only two made it in the 15 metre Class, Gairns and Palfreeman, and only Dave Webb finished in the Open Class. Herten won again in the Sports Class, the only pilot to finish.

July 27th. A distance task was a contest requirement, so the weather seemed suitable for an area distance day for the three senior classes, with a 202.7 km triangle for the Sports Class. The area distance was bounded by the turnpoints of Buckingham, Merrickville, Lansdowne, Iroquois, Lancaster and Hawkesbury, with an extra point, Winchester, inside the area. Winds turned out to be stronger than the 10 to 12 knots measured early on, so the necessary progress to the west was difficult.

Hal Werneburg got all the way to Merrickville, via Buckingham and was able to drift back with the wind to make 366 km, the longest flight of the day. Hans Baeggli won the Open Class with 315.8 km and Gairns won the 15 metre Class with a mere 261.8 km. Walter Herten consolidated his lead in the Sports Class by completing

the 202.7 km triangle. Walter Hardie was just 23 km short.

July 28th. Once again the task committee had some agonizing before setting a short 114 km triangle for all classes, as conditions seemed so unpromising. A thermal sniffer sent up at 11:15 a.m. reported very weak lift. However this improved a little by noon when launching began for all classes. By 1:00 p.m. things had improved remarkably and from then on it turned out to be an excellent day with good thermals and lots of cloud to mark them. Conditions were good enough for a number of pilots to complete the course twice, John Firth eventually turning in a speed of 100.75 km/h to win the day in the Open Class. John Featherstone nosed out Willy Werneburg to win the 15 metre Class, and Walter Herten just beat Walter Hardie in the Sports Class.

The weather could have been better, but a successful contest was held, due to a lot of work by many Montreal Soaring Council members who organized, administered, manned the start and finish gates, answered the telephone, organized the take-off grid, flew the towplanes, and provided a couple of excellent barbecues; and a non MSC member, Bill Budachs, performed a fine job out on the field all day at the start window.

We are grateful also to Cherry Knowles of SOSA, also employed by the met. service, who took temperature readings, made up the local tephigram, and gave us good advice.

Special mention should be made to Doctor Sepp Froeschl of the Montreal met. office, who spent two hours of his own time, from 6 a.m. to 8 a.m. every day of the contest, to collect met. information for us. He then telephoned in a soaring forecast which was used by the task committee to decide the daily task.

SPORTS CLASS

| NAME | SAILPLANE | July 22, 1977 127.0 km OUT & RETURN | | | |
|------------------------------|-----------|--|---------------|----------------|-----------------|
| | | PLACE DAY 1 | SPEED km/h | DISTANCE km | TOTAL POINTS |
| 1. W. HERTEN W. DELEVRANT | KASCR | 2 | 43.4 | | 728 |
| 2. W. HARDIE | TERN | 1 | 55.3 | | 869 |
| 3. K. CONLIN | SSS 1-26 | 4 | | 5.9 | 33 |
| 4. R. THUMM | 1-23H15 | 3 | | 41.1 | 202 |



Blue Fin by H. Preiss



"The Westerners" Bernie Brayshaw (left) & Dan Pandur (right).



Oscar Estebany & Gordon Bruce - Contest Directors.

Gordon Bruce - Contest Director.



"Humpa" Roth M.S.C. "Chef"



Frank Markut



Dave Webb and Mike Venables - Score Keeper



July 25, 1977

| 68.0 km OUT & RETURN | | | |
|----------------------|-------------|--------------|--------------|
| PLACE DAY 2 | DISTANCE km | POINTS DAY 2 | TOTAL POINTS |
| 1 | 56.6 | 165 | 893 |
| 3 | 0.0 | 0 | 869 |
| 2 | 9.8 | 0 | 33 |
| 3 | 0.0 | 0 | 202 |

July 26, 1977

| 75.7 km OUT & RETURN | | | |
|----------------------|------------|-------------|--------------|
| PLACE DAY 3 | SPEED km/h | DISTANCE km | POINTS DAY 3 |
| 1 | 45.94 | | 164 |
| 2 | | 18.7 | 33 |
| 3 | | 0.0 | 0 |
| 3 | | 0.0 | 0 |

July 27, 1977

| 202.7 km TRIANGLE | | | | |
|-------------------|------------|-------------|--------------|--------------|
| PLACE DAY 4 | SPEED km/h | DISTANCE km | POINTS DAY 4 | TOTAL POINTS |
| 1 | 45.42 | | 869 | 1926 |
| 2 | | 179.2 | 625 | 1527 |
| 3 | | 74.9 | 344 | 377 |
| 4 | | 0.0 | 0 | 202 |

JULY 28, 1977

| 114 km TRIANGLE | | | | | |
|-----------------|------------|-------------|--------------|--------------|----------------|
| PLACE DAY 5 | SPEED km/h | DISTANCE km | POINTS DAY 5 | TOTAL POINTS | FINAL STANDING |
| 1 | 51.53 | | 869 | 2839 | 1 |
| 2 | 50.52 | | 857 | 2384 | 2 |
| 3 | | 92.5 | 583 | 960 | 3 |
| 4 | | 28.7 | 0 | 202 | 4 |

Overseas News

edited by Lloyd Bungey

World Altitude Record Claim Rejected

The British Gliding Association has rejected Michael Field's claim for British and World Altitude and Gain-of-Height records. Mr. Field claimed to have ascended to 51000 ft. on March 29 this year (see May/June FREE FLIGHT) but the B.G.A. have rejected his barograph trace as not substantiating his claim.

Vega Prototype Flies

The Vega prototype has been completed and flown with fixed flaps. Some mechanical difficulties with the flap mechanism have meant a "back to the drawing board" undertaking but Slingsby's hope to have the problem resolved shortly.

Variable Span Ships The New Winners?

After the results of the U.S. 15 metre Championships held at Hobbs, New Mexico perhaps a new breed of super sailplane will start to appear on the designer's drawing board; the convertible 15 metre open class sailplane. Karl Striedieck flying an ASW-17 without its outer wing panels won the championship. With a wing loading around 12 lbs/ft² his high speed penetration made the other ships look like Ka6s. The climb performance was not so great but fortunately the conditions at Hobbs did not produce a really weak day; so it was penetration that counted.

Dossier Definitions

Exceptionally well qualified:
Active socially:
Has socially active wife:
Exceptional flying ability:
Quick thinking:
Indifferent to instructions:
Approaches difficult problems with zest:
Often spends extra hours at the field:
Takes every opportunity to progress:
Expresses himself very well:
Demonstrates qualities of leadership:
Keen sense of humour:

Has committed no major blunders to date.
Drinks heavily.
She drinks too.
Has equal number of take offs and landings.
Offers plausible excuses for errors.
Knows more than his instructor.
Finds someone else to do the job.
Has miserable home life.
Buys drinks for CFI.
Speaks English.
Has a loud voice.
Has a vast repertoire of dirty jokes.

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Club News

edited by John Bachynski

C.O.S.A. is a Soaring Club operating out of a leased, grass, field a few miles north-west of Peterborough, Ontario.

We have a Super Cub Tow-plane, a Blanik, 1-26, 2-33, 2-22 and several privately owned gliders including a Libelle.

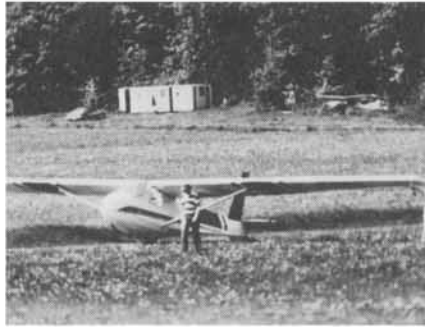
Our current membership numbers 58. 31 Solo pilots, 8 instructors, 6 tow pilots, and a very eager group of students, including Air Cadets.

Last Flying season (1976) was from the 1st of May until Oct. 30th and we had a total of 1115 flights without the 2-33, which we have just acquired this year, with the help of a Wintario Grant.

Our 1977 season started on April 16th and we have had many good soaring flights this year, the best to date was 7 hours and 10 minutes.

All our soaring is by thermal, and we are a "weekend only" club, except for a flying week in June and another in August.

Come and see us, talk to us, and fly with us. We are very proud of our Club and want to share it with you. You will be most welcome anytime.



Our newest - the 2-33 showing our club trailer in background.



Alex Chalmers - Paul Didrikson in Blanik talking to Hans Lohr.

Our C.F.I. Walter Weir in his Libelle. Greg McLean & Bill Becks.



Greg McLean and 1-26.



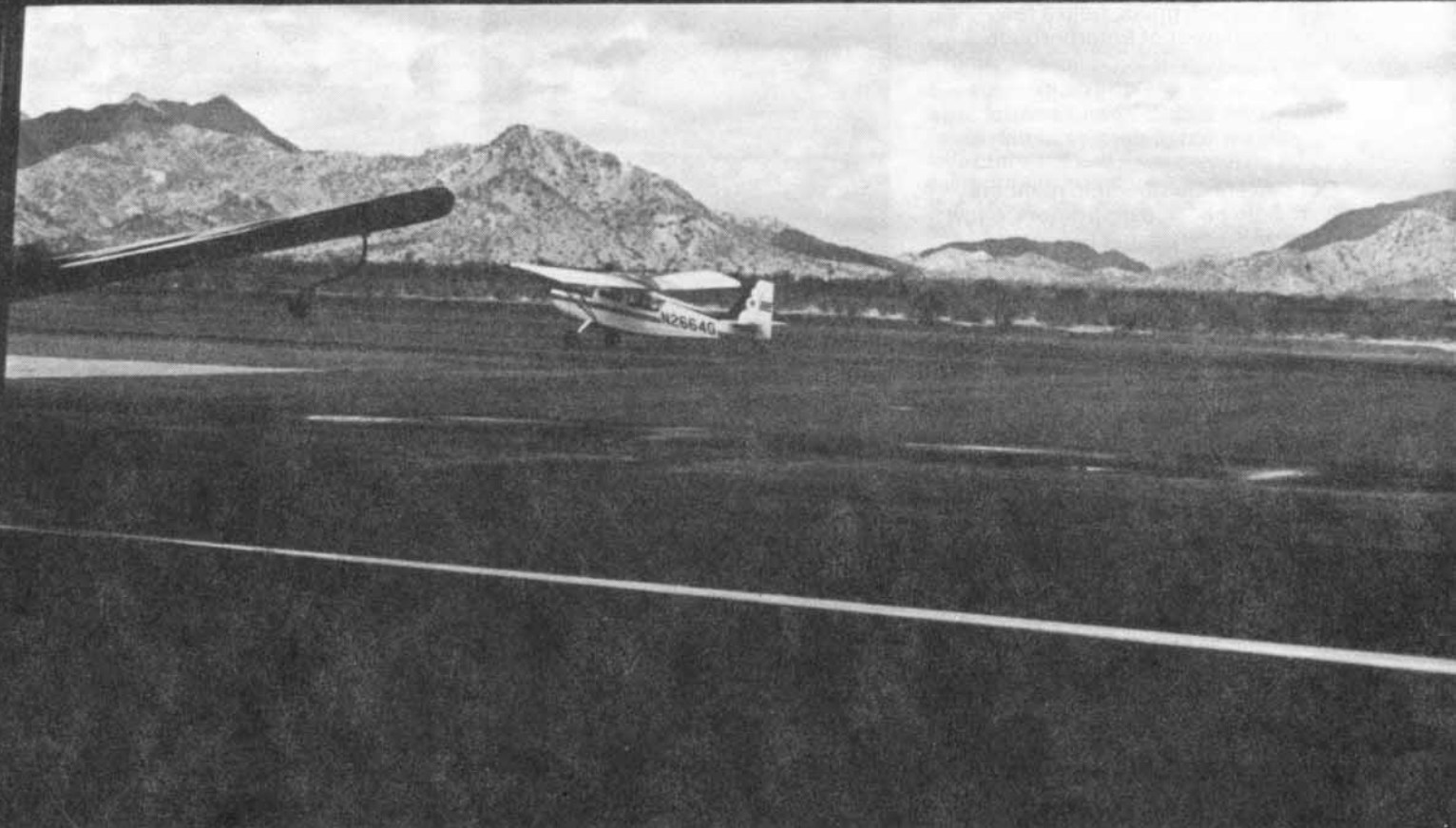
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A Visit to Estrella Sailport and A Diamond Distance



It took us six years to reach the final decision to go to Estrella, Arizona with the family, for a soaring vacation for me and a suntanning vacation for them.

We started the 2400 mile journey to Phoenix on Saturday, April 30th, at 4 a.m. Our three children comfortably resumed their sleep on the back seat specially fixed with plywood infill and foam to provide the the most comfortable bed for three. We were already at the American border at 8 a.m. when they started opening their sleepy eyes.

At the border we went through the usual question period and examination of papers and especially of the aircraft (PIK) papers. It took us some effort to explain that we could not and would not remove the registration markings from the plane and would not leave it or sell it in the States.

The trip after the border crossing was relatively uneventful until we reached the first warm air-masses. After the third half hour waiting for the car to cool down a visit to a service station was in order. Four hours later we were back on the road with a new thermostat and air shocks. Our original schedule of 800 miles per day suffered considerably, but with renewed determination we completed the trip on time and rolled into the Sheraton Inn of Sky Harbor in Phoenix at 9 p.m. Monday night.

We set up camp in this most luxurious hotel for the entire period of our stay.

Arizona Soaring Inc. had arranged this accommodation for us in our fixed-purchase deal in which they practically guaranteed the weather and arranged this A1 accommodation for an extremely reasonable cost.

The following morning I went to Scottsdale Airport for my equivalent American licence. However I was told that it is not required to fly a Canadian registered aircraft. I wasted no more time, returned to the hotel, picked up the PIK, and drove to Estrella 25 miles away.

The roads to Estrella are extremely good highways except the last 5 miles which is dirt road. The scenery is typical bare-looking desert with cacti and occasional hills rising thousands of feet above the flat terrain.

Estrella Airport is located four miles S.E. of the end of the Estrella Mountains which consist of a five mile long, approximately 1000 foot high hill and two miles north, the 22 mile long 3500 foot mountain line. The general orientation of these hills is such that nine out of ten days slope-soaring is also possible. Being bare and stoney it has the capability to store heat and carry late-comers home even long after sunset. During our stay lenticular cloud formations were noted on four different occasions. Unfortunately for me it was always late in the afternoon, when due to early darkness, trying to use the wave became inadvisable.

I have to admit the first view of the

scenery left me with mixed feelings which may have lasted some hours. However after my first take-off, a climb to 12500 feet, some ridge soaring high above the Estrella Mountains and getting centered in my first dust devil, my mixed feeling changed to definite love for the area. I realized it was a mistake to wait so long to come here. The next day, as Les* recommended it, I was flying only locally for about four hours. After my flight Les gave me a ridge-flying demonstration in his 2-32. As it turned out this new knowledge paid off in multiple and saved me from outlandings.

The weather was sort of strange to me, because I could not really read it by looking up, as at home. The cloudless sky did not reveal its secret, however on the ground, the dust devils could be seen for miles. This required some modified technique; the ability to locate it, find it, and centre it. The dust devil is seldom visible when viewed from above and the gentle 45° bank had to be increased to 55-60° in order to stay with it.

Unfortunately for me, the weather remain an unseasonal 11° cooler during our stay and fortunately for the present Canadian record holders because I had my

**Lazlo Horvath is the owner of Estrella Sailport and I predict the future U.S. Open Champion.*

Requiring My

by Julius Nagy



heart set on breaking every one of them.

The third day the sky looked like the sky in Southern Ontario at its best possible weather condition. A quick check with the aviation weather forecaster revealed south westerly winds at 15 to 20 kts and thermal indexes of -8. My mind was made up for a 518 km O & R to Tombstone Airport. We rushed to Estrella after playing some tennis and a lieisurely breakfast with the family. (Try to explain to a two and a half year old that you have to hurry.) The weather looked so great that I even thought of breaking an out and return speed record. By the time I got ready, took off and went through the gate, it was 1:15 p.m. I did not realize that it was late for an O & R even in Arizona. I was probably more optimistic than usual, so I went and never turned back.

The lift was plentiful but somewhat weak. My flying was rusty after the six months of winter and not knowing where the airports were made my whole flight a lost cause. Now I know I wasted time at the top, I flew slow and stopped too often. Nevertheless after four hours of variable problems; struggling against a head-wind, talking to air traffic controllers at Tucson, I took the turnpoint photo at Tombstone from circuit height. However when I completed my wingover I noted that a good thermal had placed itself directly in my path. So whenever I completed a 360° turn I took an additional picture while climbing.

Julius Nagy flies a PIK 20 out of York Soaring near Toronto. He is 43, a structural engineer and started his flying in Budapest in 1950. He obtained his C badge in Hungary in 1954 and came to Canada in 1956. He took his power licence in 1962 and returned to gliding in 1967. He is interested in competition and won the Novice Trophy in 1972.

The next forty-five minutes I have to tell you about. I never turned, I just flew; I flew the cloud street at 11500 feet. Unfortunately it turned south at Tucson, so I had to leave it. In the next twenty minutes I retraced my course with a simple glide right into Freeway Airport where I landed with a heavy heart.

A telephone call back to Estrella revealed that it was too late for air retrieve, so my wife with the three children had to come 105 miles to pick me up. They arrived at 10:30 p.m. The children were asleep and Hanna was half asleep herself. Dismantling the PIK in the dark with a sleepy lady turned out to be a real challenge; we somehow managed and by 1:30 rolled into our motel. The next day I had to give up flying, even though I was ready for more. Instead a family rest day at the hotel pool was declared.

The weather was really strange. Strange because it was always good and even better than the previous day. One day I asked Les how does he recognize a bad day. He said he can't, besides "I cannot remember one!"

One day I noticed strange looking cirrus clouds, so I thought it would be a bad day for flying. I stayed at the hotel. Next day I learned about two Diamond goal flights, 1000 ft./min. lift to 14000 msl. You can imagine how I felt. From that day on I flew every day. If I was not flying for a 500 km triangle, I was trying to beat the 100 km triangle speed record. My best speed was 111.6 km/hr. which is two per cent less instead of being more than the present record. Anyway I have a good excuse, the weather and my lousy flying. The temperature was still below normal with cold fronts coming and going almost at regular intervals.

By this time, two weeks after our arrival, I logged as many hours as I normally fly the whole season. But still no luck with the 500. Our days were now numbered. I already started to blame myself for all the mistakes I made and even for the ones I did not make. We were starting to pack and were ready to leave for home when my two and a half year old daughter came to rescue involuntarily, by becoming so ill that we had to stay.

While we took Christina to the hospital Les, sensing my last minute desperation, did the planning for me. The weather seemed good to the north, so that a 518 km O & R to Seligmon Airport was declared. I only learned minutes before take-off that he himself was also going to fly the same task in a 15m Jantar.

We rushed out to the airport and at 11:20 a.m. the furious preparation began; declaration, barographs (2), cameras (2), drinking water, ballast (240 lbs.), taping, etc.

Les got ready before me so he took off ahead of me. Just before my take-off, at the time of testing the instruments, I realized that something was wrong. No power, which meant no vario and no radio. I jumped out of the seat and started a

panic-type troubleshooting. In minutes, which felt like hours, we found a broken wire in the battery box. Soldering took a long time. The zinc did not run and when it ran it did not stick.

At 12:15 finally I took off in a hurry. I released and started climbing when I noticed my oxygen tube hanging outside and yaw string inside. I would not mind the yaw string but a possible diamond climb was also forecasted this day. I decided to land and correct the situation on the ground.

I admit that I gave a thought to opening the canopy in flight, but my better senses corrected this idea. I landed with 240 lbs. of water on board. I practically rolled to the take-off line, opened the canopy and with the help of the lineboy, corrected my problems and immediately took off.

At 12:35 I released the second time, I found the local thermal, marked it, dove as low as I dared for the low point. I worked this thermal to 4500 ft. but when I noticed Les leaving 1000 ft. above me I followed suit. It was too soon for me, because from that height I could only reach the side of the mountain. Sooner than I thought I had to double back to Estrella Airport just in case. However a good thermal and the previously exercised tight figure-eight saved the day, and I climbed to 6000 ft.

Les was close by so I felt very secure. I pressed ahead and soon again I was flying at ridge soaring position. At the end of the ridge, 26 miles out on course 600 ft./min. lift took us to 8000 ft. By this time we flew very close to each other. We stopped at the next thermal in order to gain the height to cross the 30 mile restricted (below 7500) Air Force Base. We climbed to 9500 and flew best L/D to the edge of the clouds, still within the restricted area. The next thermal under a good looking cloud lifted us at 800 ft./min. to 14500 where the lift decreased to 300 ft./min. so we left. We were flying over the mountains at places as high as 7500 ft. Landing field is another matter we did not have to worry about ... there were none, and besides the way the sky looked ahead, probably the hangar door would have soared. I remember seeing a blue rectangular piece of paper, like a calling card, twisting and twirling only twelve feet from my cockpit at 12000 ft. I was wondering whether the salesman was also around. Between thermals we were flying at speeds of 100 to 110 kts. however our progress seemed on the slow side against the 20 to 25 kt. headwind.

We had not radio communication between us. I tried to call Les several times but I received no reply so I turned my radio off too. I noticed that Les started stretching his glides longer and longer. Sometimes he seemed so low that I was wondering whether or not he was planning for an outlanding. However when I got close enough he was always higher, solidly centered and climbing.

About 40 miles from the turnpoint he was at 1200 ft. when I got there at 8000 ft. or so.

It took me at least five tries before I could centre myself. When I looked up and searched around, Les had disappeared in the blue sky. I climbed to 13000 ft. myself and in the meantime was continuously searching for Les. He was nowhere. I knew I was in trouble, I was not really prepared for the flight. My map was not marked and I did not really know my location. I left the thermal and followed the last heading. I saw the beginning of two canyons on my left at about 30 miles, saw other landmarks but I could not identify them on the map. I saw only the typical landscape with no roads of any kind.

I changed my heading to north hoping to find Interstate 66, which would lead me to the turnpoint. For some reason, I thought that I was still east of the turning point. When I finally found the highway, I changed my heading somewhat westerly toward a location where I thought the turning point should be. When I arrived at the presumed area, I found an airport. The highway underneath me was divided and black in colour but I could not see any traffic on it. I could not correlate my map and what I saw.

By this time I was desperate. I turned on the radio and started keying the mike button SOS. For minutes I got no answer. Suddenly my signal was answered with the same number of signals. I knew it was Les. I told him to push down the mike twice if he understood. He did. We carried out this coded conversation for minutes, when for the first time I heard his voice. I was surprised. When I told him I could hear him well he was surprised. He asked me questions in order to help me determine my position; whether I was under the edge of clouds. I looked around and the nearest cloud I could see was about 50 miles east. This gave us the clue. I was actually 50 miles west of the turnpoint. I followed the road back to the turning point where Les waited.

At 5:30 p.m., I took my turnpoint pictures and, because the thermal was located at the right place, I kept taking pictures with both cameras. My hope to complete the task was very slim. We only had one and a half hours of daylight left.

In the meantime Les flew ahead. He had waited long enough and I did not want him to land out on my account, if at all possible.

The 60-70 mile long glides and the strong tail wind component helped us to get back to Prescott in 40 minutes, where we climbed to 13000 ft. Les flew over the city where a good looking cloud indicated good lift. Being ten minutes behind Les, I took a more westerly route toward Wickenburg, to the area I knew from my previous flights.

At 50 miles out Les reported 12500 ft. while I was only at 8500. I was glad because I really hoped that from that elevation he could make it back. By this time the sun was only inches above the horizon.

At 40 miles out I had to face the facts and decide between landing out or ridge roaring the Whiteface Mountain, the same mountain where I turned back on my earlier flights because I could not stand



even the look of it. This time however I decided to try it. I put the flaps into thermalling position and flew as slow as I dared. I was relieved when I found myself climbing with the slope. A short time later I ridge soared at about a quarter height from the top. I nearly got trapped in a narrow U-shaped area where a 1000 ft./min. thermal and a tight figure eight flying helped me out and over the top of the mountain. The thermal became erratic, one side up, the other side down and a few hundred feet above the top completely unusable. At any rate I was on the safe side of the hill and I was breathing a little easier. In the meantime Les reported also that he was low just a half a mile east of me. I was surprised at this report but later I learned that he lost his height in heavy sink.

We were in desperate need for one more and last thermal to about 4500 msl. which would allow us to glide to the north end of the Estrella Mountain Range ten miles away. The sun was half below the horizon but I was not worried too much because at that point I had a choice of where I could safely land. I was about 1500 ft. above the ground when I found that last one, I let Les, who suddenly appeared from nowhere 1000 ft. below me, know about the thermal I found. The slow climb in the 100 ft./min. lift took us very slowly to 4000 ft. msl. where the lift simply disappeared. Slowly I glided to the slopes which I reached somewhere half way up. Using the same technique used earlier, I climbed the slopes.

At the top the normal ridge soaring technique could be used, which let me increase speed to red line ten miles out. The overheated rocks still produced 1000 ft./min. lift occasionally. The time was 7:30 p.m. The hangar at the airport four miles from the end of the mountain was barely visible in the dusk. I made a gentle beat-up and a quick landing and practically rolled into the hangar. I stayed in the cockpit for minutes and I was soaking it in: I finally made it! Or did I? Did I notch the barograph the second time? Will the turnpoint photos turn out? My mind was suddenly full of doubt.

We were pushing the PIK into the hangar when Les's red-nosed Jantar made its pass only a few feet above the hangar roof almost disappearing in the dusk before landing. That evening we had two reasons to celebrate. We both made it!

We stayed four more days until my daughter became well enough for the long journey home. As you may sense already I have the highest order of approval for Estrella, both for the weather and the general atmosphere. It is a paradise for serious soaring pilots of all calibre. In general I judge it as the best. The services provided are simply outstanding. I hope many Canadians will visit Estrella in the future and will enjoy the benefits of the package deal offered. I am sure their reaction and experience will equal mine. Future visitors may even have the benefit of flying (if qualified) a Standard Libelle for their Gold or Diamond Badge flights and record attempts.

We left Phoenix with broken hearts on May 25th but visited the Grand Canyon, Petrified Forest and Painted Desert on the way home, which gave a memorable end to a memorable vacation.

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Hangar Flying

Records

M. Jones two-place 200 km speed triangle, as no further word has been received on this claim, Glen Buhr's record still stands. John Firth's two record claims have both been verified, as follows:

May 29, 1977; 300 km Goal and Return Speed: 102.7 km/h.

July 10, 1977; 750 km Triangle Speed: 87.4 km/h.

Both flights were made in Kestrel CF-FGR.

Walter Piercy Retires As Instructors' Course Director

The 1977 Eastern Instructors' Course held at Pendleton in May marked the last course held under the direction of Walter Piercy. During the eleven years that Walter has organized these courses, 192 instructors have been trained and sent back to 29 different clubs in Eastern Canada. In 1969, Walter went to CFB Penhold at Red Deer, Alberta to help organize the Western Instructors' Course then under the direction of Don Skinner. Ian Oldaker of the Winnipeg Gliding Club took over from Don Skinner in 1975 and Walter went to Winnipeg to assist Ian with his first year's course.

In 1972 at CFB Borden, Walter handled Air Cadet Instructor Courses for the Armed Forces; these courses were repeated again in 1974 at CFB Bagotville and in 1975 again at CFB Borden.

In addition to his tireless efforts with the Instructors' Courses, Walter Piercy has been Chairman of the Instructors' Committee of SAC, an SAC Director and SAC President on several occasions.

SAC Finances

In order to give the membership better visibility into the financial activities of the SAC, some breakdowns of its cash flows are presented. Note should be taken of the following:

(1) Further details of the 1976 financial statement may be found in the Report of the 1977 Annual General Meeting mailed to all members.

(2) Dedicated funds are those funds which have been made available for predetermined and specific expenditures established at the source of the funds. They are not transferrable to other

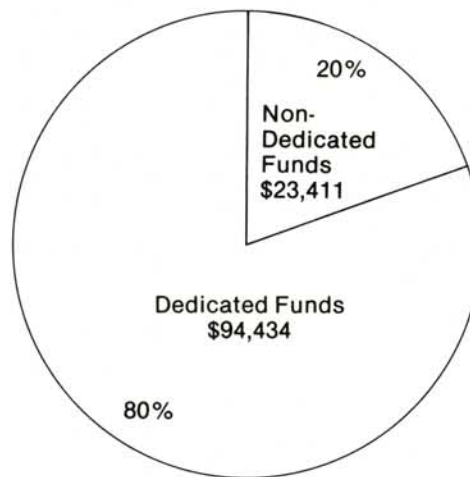
activities at the SAC's discretion. The major sources of these funds are insurance premiums and Government grants.

(3) Non-dedicated funds are those funds which can be applied against the general operation of the SAC. The major source is that from membership fees.

(4) The SAC's expenditure necessary to maintain the present services is greater than the income available to cover the expenses.

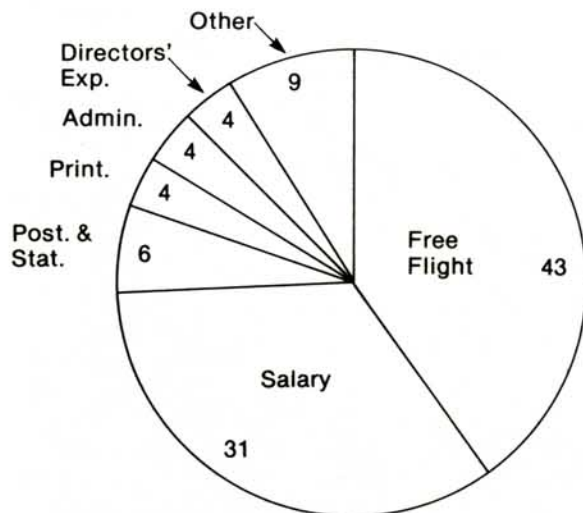
Karl Doetsch

1976 SAC Statement of Income

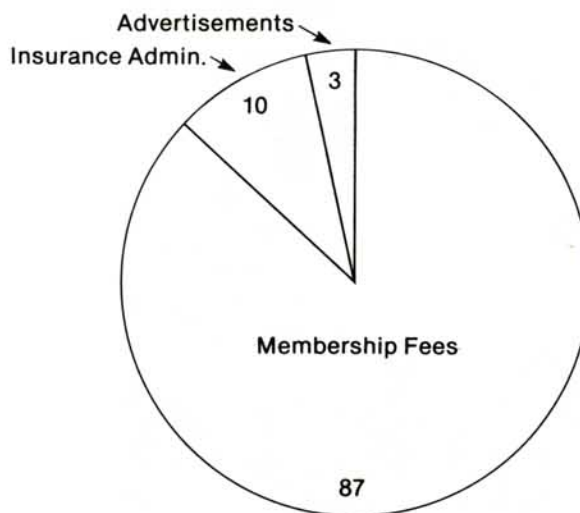


Total Income \$117,845

1977 Budget for NON-Dedicated Funds



Expenditure \$30,000



Income \$24,200

750 km. The Golden

During the gloomy part of the winter, having run out of useful improvements to do on the Kestrel, I began musing about the possibilities of distance flights achievable in a ballasted modern ship. The newly recognized 750 km triangle for both speed and distance seemed a possible, though formidable task in Eastern Canada. The main problem being the need for good soaring conditions over most of the course without getting completely away from inhabited regions. The map suggested two regions large enough and at least not entirely uninhabited. One is the Gatineau-Laurentian region north of the Ottawa River, and the other a high (1500 ft.) plateau within the Ottawa, Toronto, North Bay triangle. The first was ruled out for reasons of controlled airspace and a second leg with 100 unlandable miles. The second area seemed better, especially as I am not fortunate in belonging to a club

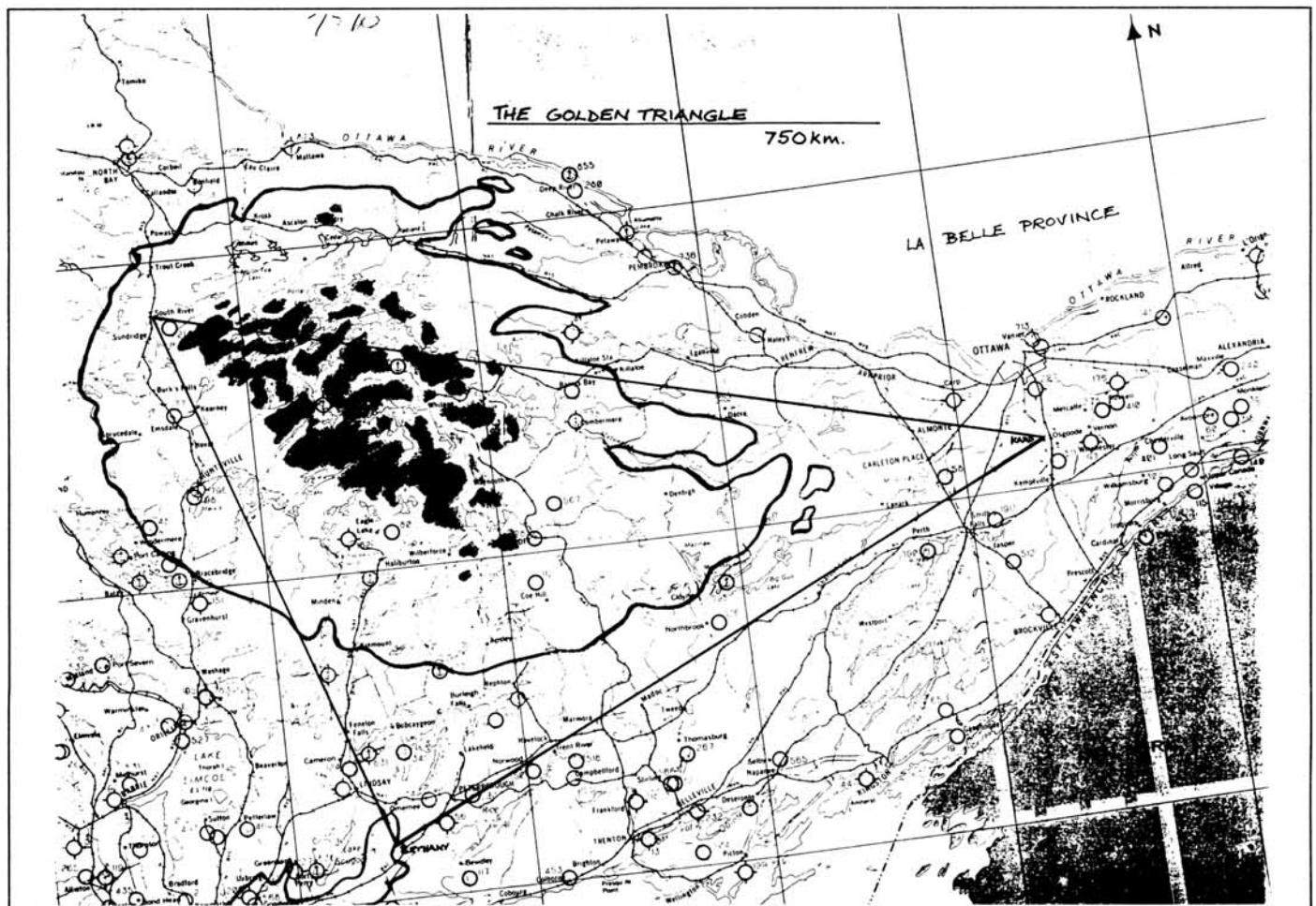
well placed for an early morning start on the first leg.

Much time was spent in selecting easily found, well placed turn points which yielded just over 750 km. Eventually Bethany and South River were chosen. The first leg lies over a modest ridge (500 to 1000 ft.) north of Lake Ontario. The second follows the edge of the 1500 ft. Algonquin Plateau, and the third, initially across Algonquin Park, with 50 miles of lakes and woods, is almost entirely over high ground, with the hope of strong convection continuing into the evening. Though 50 miles of unlandable terrain may seem formidable, I expected to be crossing this at 4 p.m. at the peak of the day, with cloudbase above 8000 ft., helped along by a tailwind. By flying conservatively if necessary, the Kestrel, with 7000 ft. underneath, will cover that 50 miles in one glide. This last leg also offered the promise of

a late downwind final glide of maybe 60 miles.

Some thought was given to emergency gear, and a small pack was made to fit into the oxygen bottle holder. Extra clothing, a blanket, peanut butter and dried fruit and a knife. So much for plans.

We had an early start this year at Rideau Valley and though there were no booming days, I was able to explore the plateau region with a series of probing flights, two 330 km to Barry's Bay and back, and a 529 km triangle which took me further into the uninhabited region. These flights showed my surmise to be correct; thermals and cumulus bases in this area are the best in the region. Thereafter on every promising day, I declared 750 km and prepared for 10 a.m. take-off. This tactic was necessary because of the lack of basic information such as a tephigram; the preceding evening's data are not a reliable



Triangle

by John Firth

indication of the next day. Twice I sat and waited for Cu and cancelled the task before 11 a.m. Twice I took off, and found only weak lift which did not really improve in the next hour, and turned back. Finally, on July 10th, 24 hours after a cold front, North Bay and Toronto reported clear skies and light winds from the north, and the early morning in Ottawa was clear and calm. The Kestrel had been rigged the night before, so we did not arrive at the field until 8:45; by 9:30 we had the ship watered and fed, and on the runway. At this moment the first Cu appeared away to the west and the fitful wind strengthened from the east. We had to tow the ship to the other end of the field. Take-off was finally at 10 and I left straight from a 3000 ft. tow, to find lift already over the field. The first Cu gave 3 to 4 kts., the unexpected east wind formed the clouds into streets and I was on my way in

fine style. In fact the whole flight turned out to be quite straightforward, no scrapes, no low points, though the lift was never strong, averaging 4 to 5 kts. with bursts of 6 kts.

By 12:30 turnpoint no. 1 was obligingly under Cu at 6000 ft. The east wind had slackened and shifted to the north and so I had streets along leg two and I pressed on keeping high and in touch with home via a double radio relay. Turnpoint no. 2 arrived surprisingly soon, around 2:30 p.m., with cloudbase now 7000 ft. to which I climbed gratefully before setting out on the 50 mile unlandable section. To the east the last small Cu formed two lines, one north and one south of the course. Choosing the south line, nearer to my emergency field, I climbed under every Cu back to cloudbase and continued at a conservative 75 kts. 5000 km. went by in

4 hours 40 minutes and then a bunch of sailboats racing on a lake; Algonquin Station on the disused railway is now a sailing club! By this time the sky was completely blue and thermals became harder to find and work. Speed dropped to 60 km/h and for the first time, I began to be worried about getting home. At Carleton Place, down to 3000 ft. at 6 p.m. I needed 2000 ft. and finding a 1 kt. thermal, worked it for a long twenty minutes. I need hardly have bothered as two miles further on 2 kts. arrived, then 3 and more; so with an extra 1000 ft. I enjoyed a glide at 90 kts. for the last ten miles. There was still local soaring around Kars at 7 p.m.!

If one can only be ready for another of those super days with 10000 ft. cloudbase that we remember from years ago, one can do 1000 km here in Ontario.

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| 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

GLIDERS AND W

In a letter from Mr. Hiram Jacobs, in 'Soaring' magazine, Dec. 1976 issue, he presented a fallacious and therefore potentially dangerous procedure to be followed by glider pilots approaching to land through a wind gradient. In his letter Mr. Jacobs refers to explanations of the effect of a wind gradient by Carle Conway and Derek Piggott and disagrees with both. Conway's and Piggott's analyses, although correct in principle, are unconvincing to many student pilots, as well as some experienced pilots, who fail to appreciate the interplay of lift, drag, and weight forces and changes in the wing angle of attack as the glider traverses the gradient.

I propose to analyze this problem in a much more basic phenomenological manner with reference only to Newton's three Laws of Motion in an Inertial Reference Frame and to show what is or is not possible for a glider to achieve as it traverses a wind gradient. It is important to understand that Newton's Laws of Motion are valid only in a so-called "Inertial Reference Frame" which is defined to be any frame moving with constant velocity (speed and direction) relative to the "Prime Inertial Reference Frame" which is postulated to be absolutely at rest, and is usually taken to be the frame of the 'fixed stars'. For our purpose the surface of the earth is a 'good enough' inertial frame but the moving air in which a velocity gradient exists or the glider itself are not inertial frames because the velocity may change. This simply means that in this case Newton's Laws are applicable only to observations made by a ground-based observer. It is as a result of failing to realize this fundamental limitation of applicability of Newton's Laws that improper conclusions are sometimes drawn. It is also essential to understand that Newton's Laws are vector laws dealing with the vector quantities of velocity, acceleration, and force for which the direction of action is as important as the magnitude. Any vector quantity can be represented geometrically by a line of a certain length representing the magnitude, drawn in the appropriate direction with an arrow head to show the sense. Vectors must be added or subtracted according to the parallelogram law for vector summation. Two vectors equal in magnitude and parallel in direction are equal to each other even though separated by some distance in space.

The wind gradient problem in vector form

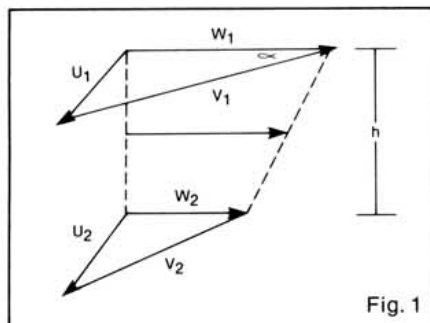


Fig. 1

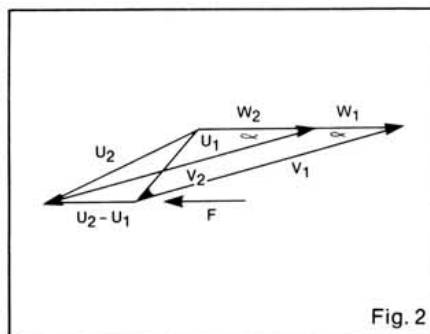


Fig. 2

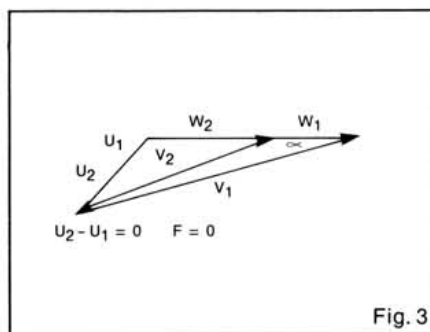


Fig. 3

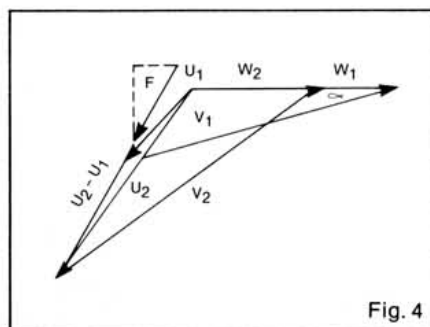


Fig. 4

is shown in Fig. 1. The glider starts off at an altitude where the wind velocity can be represented by the vector W_1 and the glider airspeed vector by V_1 which slants down from the horizontal by the gliding angle α corresponding to the speed being flown, shown greatly exaggerated for clarity in the diagram. The glider ground speed vector is then the sum of these two, shown as U_1 . At some altitude a distance h below the original, the wind velocity has decreased in magnitude and is represented now by the shorter vector W_2 and the corresponding glider airspeed and groundspeed vectors by V_2 and U_2 respectively. The solution of the problem depends on the relationships between these sets of vectors.

Fig. 2 represents the solution according to Mr. Hiram Jacobs. The two sets of vectors with subscripts 1 and 2 representing the initial and final conditions respectively, are shown superimposed to bring out clearly the implications of this solution. The two airspeed vectors v_1 and v_2 are drawn parallel and equal in length which corresponds to the constant pitch attitude and airspeed which Mr. Jacobs proposes as being all that is necessary for the glider to safely traverse the wind gradient. The initial and final groundspeed vectors U_1 and U_2 are then shown and are seen to differ by the horizontal vector $(U_2 - U_1) = (W_2 - W_1)$ pointing upwind in the ground observer's reference frame. So far this is in complete agreement with Mr. Jacobs' contention. The difficulty arises from the fact that, according to Newton's 2nd law, a change in velocity requires a force F to be applied to the glider in the direction of the change, that is horizontally directed upwind as indicated in Fig. 2. There is no way that a glider can achieve this other than by changing its pitch attitude nose down to give a forward tilt to the wing lift force and thereby produce an unbalanced horizontal force in the direction of flight. This change in pitch is thus seen to be essential, and this Mr. Jacobs insisted was not necessary. Thus Mr. Jacobs' solution is seen to be self-contradictory and in fact impossible for a glider. It is a possible solution for a powered aircraft for which the required force can be obtained simply by opening the throttle.

A solution which may be possible for a glider is shown in Fig. 3, where the glider is flown so as to keep groundspeed vectors U_1 and U_2 constant in both direction and magnitude. Now, according to

IND GRADIENTS

by H. Janzen

Newton's first law, no additional force is required. In this solution the airspeed vector V_2 is seen to be pitched downward and shorter than V_1 . This then implies that the glider must be flown in the regime where an increase in the gliding angle is accompanied by a reduction in the magnitude of the airspeed, that is, at a speed below that for best L/D, and this is clearly highly risky and undesirable on a landing approach.

Finally, Fig. 4 depicts a possible and safe solution. Here the airspeed vector V_2 has been pitched downward and allowed to increase, as it does at speed above that for best L/D. Now the groundspeed vector is again not constant and this requires the application of an unbalanced force to the glider to be achieved. There is no inconsistency involved now, however, as there was in Fig. 2. because the forward pitch of the

wing lift force and reduced angle of attack in combination with the ever present weight force, now not balanced by the wing lift, can combine to give the resultant downward slanted force F required to produce the change in the groundspeed. It should be noted that the groundspeed increases both vertically and horizontally in this mode and therefore a more pronounced flare for touchdown will be necessary to compensate for the higher vertical speed; however, since the airspeed has increased this also gives increased elevator control and so presents no great problem.

The safe wind gradient traversal on the basis of this analysis is thus accomplished by: (a) maintaining at least the airspeed for best L/D with spoilers deployed as the gradient is entered, (b) a continuous nose-down pitch with moderate increase in

airspeed should prevail while the gradient is being traversed, (c) be prepared for the higher than normal vertical sinking speed which must be compensated on the flare for touch-down. Whatever happens do not try to maintain constant airspeed and pitch attitude as Mr. Jacobs recommends, this can only lead to a stall-spin disaster in a glider!

Pilots who have flown landing approaches in strong wind gradients will I think agree from their own experience that the glider behaves as in the solution of Fig. 4. It is in fact necessary to keep increasing the nose-down pitch of the glider just to maintain a constant airspeed as the gradient is traversed, and this frequently results in an unexpectedly high rate of sink at the point of flare and a harder than normal touch down.



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1977 Eastern Instructors Course

by Lene Holm



1st row (kneeling) l to r: Tom Bell (Base Borden, and next year's Course Director); Albin Pastor, Lakehead Gliding Club; Harald Tilgner, Gatineau; Pierre Vielllette, Buckingham; Walter Piercy, Rideau.

2nd row, l to r: Andre Pepin, Champlain; Jim Scammell, Rideau Valley; Chris Purcell, Bluenose; Judy Evett, COSA; Perter Corley, SOSA.

3rd row, l to r: Tom Foote, Bluenose; Paul Hurst, Saint-Jean; John Kollar, York Soaring; Tom Milc, Gatineau; Peter MacLaren, Saint-Jean; Murray Shubaly, Bonnechere.

Back row, l to r: Lene Holm, York Soaring; Bill Black, Gatineau; Tom Tessier, Quebec Soaring; Bernie Feekery, ACL (Ontario); Jack McKeller, Rideau Valley; Cedric Greenhill, SOSA; Roland Boesch, Air Sailing; George Huxtable, Base Borden.

The 1977 Eastern Instructors' Course officially started May 23rd but many of the candidates attending arrived early, in time to join the members of Gatineau Gliding Club for a fabulous pot-luck supper.

By Sunday, all those attending the course had arrived and claimed their bunks in the rather mosquito infested bunk-house. The rest of Sunday was spent having check flights and exploring our surroundings.

After Sunday, each day followed the same pattern; we met in the classroom at nine o'clock and listened to lectures until ten. We stopped for coffee and then our lectures continued until lunchtime. The afternoons were spent flying and practising the lessons we had rehearsed on our "student". The evenings were purely social.

Monday started with introductions of all the staff and candidates on the course. We were lucky to have Max Harris and Chem leCheminant of the Safety Committee come to talk to us about safety and accident prevention. As future instructors, we found this topic very interesting for we are the ones who must ensure that each of our students understands the importance of safety.

By Tuesday we were all familiar with each other and the operation of the course. On this day, Nick Pattenson was on hand to answer questions about radio communication.

On Wednesday Inspector Hugo Leech of Transport Canada gave us a lecture on "The Art of Teaching". Hugo also managed to have a ride in a glider; something he always considered just short of suicide. His comments about the silence, lack of vibration and rate 18 turns in thermals were worth listening to. I think that we may see Hugo leaving his helicopter to join in a more silent sport.

Thursday was our busiest day. Hugo Leech finished his lecture and then Dr. Karl Doetsch gave a very enlightening talk on spins and spiral dives. He emphasized the importance of teaching these to the student and I for one went home to my club to see if I could get a 2-33 to spin.

Dr. Sepp Froesch took time away from his job to come to talk to us about meteorology. Sepp, a very experienced glider pilot, was able to give us a break-down of the types of lift in terms that even dumb glider guiders were able to grasp. Sepp has faithfully attended these courses for eleven years and we really appreciated

his coming.

Friday was a mixed day. It was a day of fuzzy heads after the night before, a day to complete the course and a day to say goodbye to all the friends we had met from all the different clubs.

The course ended with the retirement of Walter Piercy. We all owe Walter and Helen Piercy a great vote of thanks for the eleven years that they have spent organizing these courses. I know that all the instructors at my club, York Soaring, and all the clubs in Canada have gained a great deal from these courses; if not direct attendance, then from the S.A.C. manuals which Walter prepared. Again many many thanks for the years Walter and Helen have served S.A.C.

Post Script From Walter Piercy:

As candidates were accepted for the '77 Course, it was not known whether or not we would be getting a Sport Canada subsidy. We were fortunate in that the subsidy did come through, and it has been submitted on behalf of all 22 candidates from 15 eastern clubs. It was noted that only four of the 22 candidates were already endorsed as MOT instructors - they came to the Course prior to starting their important instructing duties.

It has been a great pleasure for me to give these Eastern Courses for the past eleven years - a total of 192, including those that came this year, have attended. I'm sure that Tom Bell will adequately handle the East Courses in future years, and I hope to attend for a few days each year for some guest lectures.

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Lahr Gliding Club, % Capt. W.J. Oke, 439 Sqdn., CFPO 5056, Belleville, Ont. K0K 3R0
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

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Ariadne Soaring Inc., 735 Riviere aux Pins, Boucherville, P.Q. J4B 3A8
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Champlain Soaring Association, 4627 de Lanaudiere, Montreal, P.Q. H2J 3P6
Montreal Soaring Council, Box 1082, Montreal, P.Q. H4L 4W6
Missisquoi Soaring Association, Box 189, Mansonville, P.Q. J0E 1X0
Quebec Soaring Club, Box 9276, Ste. Foy, P.Q. G1V 4B1

Ontario Zone

Air Cadet League (Ont.), Mr. H. Bruhlman, 561 Lacroix St., Chatham, Ont. N7M 2X1
Air Sailing Club, Box 2, Etobicoke, Ont. M9C 4V2
Base Borden Soaring Group, Box 247, Borden, Ont. L0M 1C0
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
Huronian Soaring Association, % M. Badiou, 435 Hugel Ave., Midland, Ont. L4R 1V4
Kawartha Soaring Club Inc., P.O. Box 168, Ormewood, Ont. K0L 2W0
Lakehead Gliding Club, Box 161, Station F, Thunder Bay, Ont.
London Soaring Society, Box 773, Station B, London, Ont. N6A 4Y8
Rideau Gliding Club, % H. Janzen, 172 College St., Kingston, Ont. K7L 4L8
Rideau Valley Soaring School, Box 93, R.R. 1, Kars, Ont. K0A 2E0
SOSA Gliding Club, Box 654, Station Q, Toronto, Ont. M4T 2N5
Toronto Soaring Club, % Mr. E. Meikle, 201-1700 Victoria Park Ave., Scarborough, Ont.
Windsor Gliding Club, 2050 St. Anne St., Windsor, Ont. N8N 1V7
York Soaring Association, Box 660, Station Q, Toronto, Ont. M4V 2N5

Prairie Zone

Alsask Soaring Club, C.F.S. Alsask, Alsask, Sask. S0L 0A0
Saskatoon Soaring Club, 1510 Early Dr., Saskatoon, Sask. S7H 3K2
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, % 1565 Rae St., Regina, Sask.
Southern Alberta Gliding Association, Box 394, Station J, Calgary, Alta. T2A 4X7

Pacific Zone

Alberni Valley Soaring Association, Box 201, Port Alberni, B.C. V9Y 7M7
Bulkley Valley Soaring Club, Box 941, Smithers, B.C. V0J 2N0
Okanagan Soaring Association, Box 791, Enderby, B.C. V0E 1V0
Vancouver Soaring Association, Box 3651, Vancouver, B.C. V6B 3Y8
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UNIQUE EMPLOYMENT OPPORTUNITY

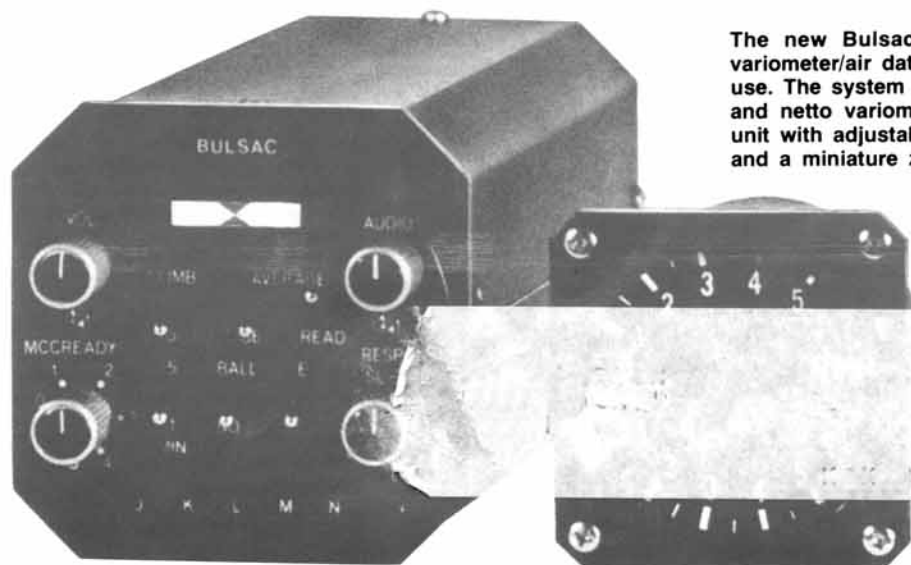
The 1978 Canadian Soaring Team is seeking a manager. The right man for this key position in international sporting diplomacy will be independently wealthy, with time and money to devote to planning and organising our team effort for Chateauroux next July. He should be qualified in aerodynamics, instrumentation, structures, aeroelasticity, car mechanics and accountancy. He will be bilingual in French and German, with knowledge of English, Italian, Polish, Russian, Swedish and Strine. (Since our team is now required to be bilingual, fluency in English is not essential). Managerial Experience and the ability to work long hours under pressure are important. The successful candidate will likely to be a World Champion or World Record holder, perhaps retired from a high rank in the Armed Forces, with contacts at high levels of government. He will be possessed of great tact and leadership ability, able to mould volatile and intractable individuals into becoming members of a team effort.

Owing to the prestige attached to this appointment, no salary will be paid; the successful candidate will be expected to start work immediately in a basement office in Ottawa.

Apply to the President, S.A.C., references and proven abilities are required.

Introducing... BULSAC Mk II

"The Swedish air data computer with the really curious name"



The new Bulsac Mk II is the first combination variometer/air data computer that is truly simple to use. The system includes a total energy variometer and netto variometer with variable damping, audio unit with adjustable threshold, dual-range averager, and a miniature zero-reader for cruise control.

\$1345.00

Complete system price

- ☐ The total-energy variometer reads ± 5 m/s on a $\pm 120^\circ$ indicator. The audio unit has a steady tone increasing in pitch with increasing rate of climb, and an interrupted tone with increasing beat frequency as the rate of sink increases. The audio threshold may be selected freely, as with a standard variometer. The total-energy compensation is electronically derived; no external venturi or other compensation device is necessary. Adjustments may be carried out in flight.
- ☐ The averager has a selectable time constant of one or five minutes. Readings are displayed on the variometer indicator: a spring-loaded toggle switch overrides the total-energy or netto signal already present. When set, the averager starts out with the instantaneous rate of climb.
- ☐ The airmass vertical speed (netto) is shown on the same indicator as the total-energy. Selection is by setting the CRUISE-CLIMB switch to CRUISE. This function is carried out by electronically adding the instantaneous polar curve value to the variometer reading. The polar curve used for each sailplane is a realistic, tested one. Components determining these characteristics are situated on a plug-in board.
- ☐ During inter-thermal cruise the small zero-reader in the front panel of the control unit shows at a glance if you should increase

or decrease your speed. With the pointers centered you are "right on" the optimum airspeed for the prevailing conditions. When entering a thermal the audio will give the familiar climb response until the speed is reduced to the correct value. Entering an area of sink gives the interrupted tone, the beat frequency dropping to zero (no signal) when the correct airspeed is reached.

- ☐ Variable time constant; the response may be slowed down or speeded up according to the flying conditions, or to suit the individual pilot's preference.
- ☐ A light emitting diode in the indicating instrument gives a warning if, during a thermal climb, you have forgotten to switch from CRUISE to CLIMB. The Bulsac Mk II is the first air data computer that really "thinks for itself"!
- ☐ The same diode will also tell you when the sailplane passes from sink to climb when cruising between thermals, with the indicator showing the airmass vertical motion.
- ☐ The performance polars for full or empty water ballast tanks may be selected with a toggle switch.
- ☐ The Bulsac Mk II has excellent radio interference suppression.
- ☐ ± 5 m/s $\approx \pm 10$ knots or ± 1000 fpm.

Ask for our Bulsac brochure

GRAHAM THOMSON LTD

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Sole distributor of Bulsac electric variometers and air data computers throughout the United States, Canada, and Mexico