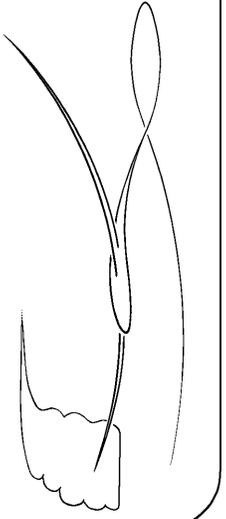


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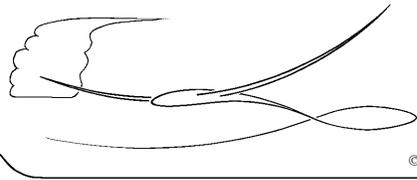
Journal of the Alberta Soaring Council



Spring 1992

ASCent

Spring 1992



In this issue

- 3 ... from our president
- 4 Lost? – never with GPS
- 5 Being ready
will get you through the day
- 6 ASC 1991 annual reports
- 14 Summary of 4 Jan executive meeting
- 15 Summary of annual general meeting
- 16 ASC funding
how we get it, how we use it
- 18 Inertial hampsters
continuing the quest for ever better gadgets
- 19 club news and gossip
- 20 odds & ends
- 21 Record courses out of Golden, BC
- 22 more excerpts from the DoT medical handbook
- 23 ASC executive & chairman address list

editing and layout Tony Burton
typing and proofing Ursula Wiese
printing Dave Puckrin



photo:
Bruce Hea

Some people have bumper stickers to
advertise their politics, others ...

ASCent is the journal of the Alberta Soaring Council and published three times a year. Material may be freely used on the condition that the author and ASCent are given credit. Editor – Tony Burton, Box 1916, Claresholm, AB T0L 0T0, tel/fax (403) 625-4563.

Editor's notes

Spring is well upon us following a balmy no-winter winter over much of Alberta (thank you, “el Niño”), particularly Calgary and south. Cu Nim took a page from the ESC operations book and had a New Year Day soaring session at Claresholm, finding some weak wave on a +6°C afternoon just west of the airport – enough to extend each flight a little.

This is my first issue as editor as well as layout man, and promise to do the best I can with what I've got. One thing I do have now is a fax on my home number, so you have less excuse not to get news to me the day after it happens. ASC will be publishing *ASCent* three times a year in this format. I'm hoping that I'll be able to get enough good stories and news from our members that I won't have to borrow from other newsletters (though I'm sure I will occasionally).

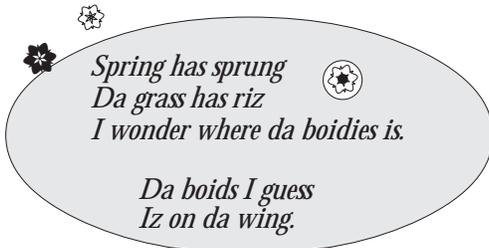
Keep taking and sending in great photos like the one on the last cover by Paul Moquin of Cold Lake. And a drawing can be even better than a photo. The illustration by Hans König for his flight story in the last issue was outstanding – no photograph could capture the essence of his flight as well – so give that a try if you have any artistic talent.

This being the spring issue, it's mostly full of all the organizational reports, decisions, and trivia arising from our necessary but dry winter “talk-talk”. I want to see a summer issue filled with soaring adventures, not financial statements! There's potential for some good flying stories to come from ASC members this year. (I can almost guarantee that some Canadian records are going to fall on flights out of Golden, BC. I hope we can read about them here.

Please support and assist all the people who have volunteered to help run all the events ASC has on its plate. Some of their names are on page 23 – pin a copy of this list next to your phone.



. . . from our president



*Now ain't dat absoid ...
Da wings is on da boid!*

I was going to leave it at that, but then I thought Tony might be upset with me for leaving too much for him to fill in. In some respects though, the poem is my theme for this time of year – as Tom Knauff calls it – “the silly season”. For many of us it’s the first time we have been flying since the fall and we are not as sharp as in the middle of the season. While all res-ponsible clubs require a check-out with an instructor at the first of the season, we may get past that hurdle not really much more proficient than before the flight.

So rather than just going off now and carrying the first passenger that comes along, why not take a couple of additional flights with either an instructor or a check pilot and do some exercises that stretch your abilities a bit? Why not take a couple of 3000 foot tows and tell the tow-pilot you are going to box the wake both times. If you are like me, I can usually get the first attempt down pretty good. Then it seems the next one doesn’t go quite as well. Perhaps we relax a bit because we’ve satisfied ourselves we can still do it after a long layoff. Do some more incipient spins. Try some high and low circuits. The point is to try some things with another pilot who is there “just in case”. Agree on a plan for the flight ahead of time with whoever is going with you. The fact that you are planning on doing these things and announce that ahead of time forces you to think about what you are going to be doing and may reduce the “silly” factor. Please remember – how we fly is really up to each and every one of us. Pilot error is just that – not someone or something else’s error. Please fly safely. If I can quote Tom Knauff again, “In flying, a 90% is nota passing grade! The 10% you don’t know really can hurt you.” Read as much as possible. Think about what you are doing. Look after yourself- you deserve it!

This year is the 20th Summer Camp to be held at Cowley so why not make a point of planning to attend now. If you haven’t been recently, the impact of the Oldman Dam is very evident. Not only topographically but also in the effect on local soaring conditions and decision-making when flying cross-country. However, the swimming hole is still there and feels just as good as ever at the end of the day. The camp starts on July 25.

Marty Slater

A letter to the president

Dear Marty,
I am writing to thank the Alberta Soaring Council for their generous financial contribution toward my expenses for participating as a member of the Canadian Soaring Team at the recent World Soaring Championships in Uvalde, Texas. The cost to participate in this contest was in excess of \$10,000 and without the Alberta Soaring Council’s assistance I doubt if I would have participated in the contest. The contest in Uvalde was a fantastic experience. The soaring conditions were unprecedented and I learned an immense amount about our fantastic sport. It was both an honour and a privilege to fly in a contest of such prestige in the company of world renowned pilots and personalities. I am looking forward to the next time that I might be able to experience this level of competition again.

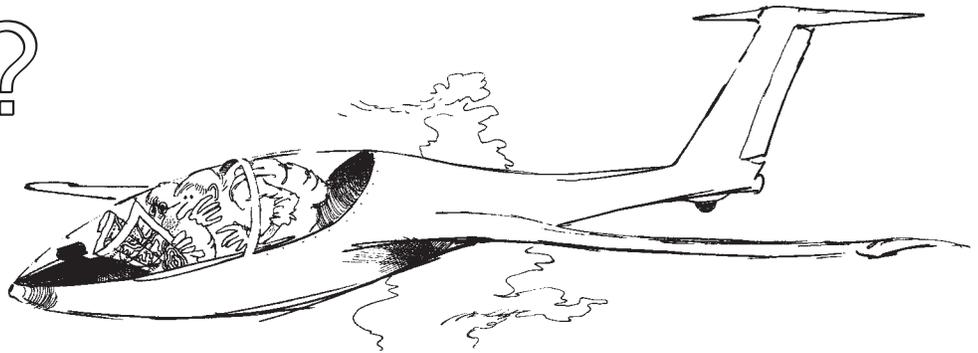
I encourage the Alberta Soaring Council to keep their World Contest Fund actively growing so that other Alberta pilots may have the ability to some day participate in a world contest. The cost of these contests are becoming increasingly expensive, and without financial assistance, the costs must be born by the pilots, crews and other team members. It is a shame that the current trend is towards only the “Rich” being able to participate in these contests.

Again, I would like to thank the ASC for their financial contribution toward my participation in the World Soaring Contest.

Yours very truly, **Kevin A. Bennett**
Team member, Team Canada 1991

LOST?

NEVER WITH A GPS



from the *New Zealand Gliding Kiwi*

MUCH IS BEING WRITTEN about the Global Positioning System, but few understand just how it works. It is now only about three years away to the time when all cars manufactured in the USA will have a GPS unit fitted as standard equipment. It will show on a screen on your dashboard exactly where you are, and be able to give you precise instructions on how to get to for example, Alpha Bravo Street in downtown Los Angeles.

Sailplane variometers are already being made with GPS built in as a navigation aid complete with the option of a printout trace, recording time, speed and height. When GPS units are built with extended memory, they could also have a barograph function, and allow detailed post flight data analysis. Future world soaring championships are very likely to see them being used as a means of recording a sailplane rounding a turnpoint. Contests will also finally become a spectator sport, with large displays showing a second by second position of all competitors!

Some information extracted from the operating manual of a current hand-held Sony (Japan) unit gives a picture of this system's capabilities:

- Check and store your present latitude and longitude.
- Store lat/long data and name of up to 100 waypoints.
- Distance displayed in miles, nautical miles or km.
- Time displayed (UTC - Coordinated Universal Time, or local time) based on the atomic clock in the satellite.
- Can track distance, direction, altitude and points you have passed.
- Can check distance/bearing to your destination point.
- Can plan and store up to nine routes and destinations.
- Can check your absolute direction (the direction in which you are moving) and your absolute velocity.

GPS is a satellite-based navigation system developed and maintained by the United States Department of Defense. When complete (in 1993), the GPS constellation will consist of 24 satellites. The satellites transmit signals which include an identifying code for each satellite, and precise time and navigation data. The receiver automatically se-

lects four satellites and determines its precise latitude, longitude, and altitude anywhere in the world, at any time, in any kind of weather, with a position accuracy of 30-100 metres with a time accuracy of 10^{-8} seconds.

The GPS system specifies and displays latitude, longitude and altitude with the WGS (World Geodetic System) coordinate system which uses a single coordinate system for the world based on defining the whole earth as a particular ellipsoid. A conventional world atlas uses a coordinate system in which the ellipsoids have different centres for each area, therefore the latitude and longitude displayed in the receiver may not be identical with those found in an atlas. GPS indicates true bearing, not the compass (magnetic) bearing.

The GPS system consists of the following parts:

- GPS satellites, 6 orbits x 4 satellites = 24 satellites (including spare satellites),
- A ground station to track and control the satellites,
- The GPS receiver.

GPS system specifications:

- Satellite altitude – about 20,000 km
- Satellite orbit – about a 12 hour elliptical orbit
- Signal format – P code signals are used for military purposes and C/A code signals are used for civilian purposes. The unit tunes itself to the C/A code signals. (the P code allows additional position accuracy.)
- Frequency: 1475.42 MHz

Note: It is not possible to receive the GPS satellite signals indoors, and GPS signal reception may become poor when a GPS satellite moves low on the horizon (low elevation angle) or is obstructed by a building, etc.

It takes about 30 minutes for the unit to receive the data from the GPS satellite and initialize its location when:

- the unit is used for the first time,
- the unit hasn't been used for a long time and the data in the memory has become too old,
- the unit has been moved a long distance (to abroad, for example) while unit turned off.



BEING READY

WILL GET YOU THROUGH THE DAY

Hal Werneburg
ASC Sporting chairman

THE SOARING SEASON has started again. So, it is timely now to look at some issues which are always of concern to pilots in their attempts to achieve satisfactory results in cross-country flying. In this issue of *ASCent* I would like to talk about some of the things which do not relate directly to the piloting skills required in getting the sailplane over the greatest distance in the shortest time.

Being prepared as much as possible ahead of time for the intended flight is probably the most important part of a successful flight besides the actual piloting. To be prepared for a flight means a number of things to me and I will list some here as they come to mind without any claim to completeness. Not having to worry about things which can be taken care of beforehand leaves the pilot to concentrate on the really important things the morning of the flight such as task selection, route planning, obtaining last minute weather updates, etc.

The sailplane must be in airworthy condition — any doubts in this area should be reason to stay on the ground. Radio, instruments, barograph and battery(ies) should be in good working order throughout the flight. It can be very frustrating during a competition flight to lose all battery power, and the nearest visible fellow competitor becomes the primary rate of climb indicator (I speak from experience!).

The water ballast system should be checked out carefully since all sorts of problems can be caused by a faulty dumping system: no dumping at all and having to land — very carefully — with full tanks, only one wing dumping (potentially very dangerous), or a flooded cockpit — besides a wet seat, this results in a forward C of G condition.

Make sure all tools required for easy derigging are stowed safely aboard — it can be difficult to obtain that special metric wrench in the middle of the prairies late on a Sunday afternoon.

If you carry a parachute, please treat it as you would any other insurance policy and have it checked out regularly by a professional.

Make sure all required documentation is up to date and carried in the aircraft since nothing is more aggravating

than to find that your C of A has lapsed when you are getting ready for that big flight.

Since not all flights end up back at your takeoff field, make sure that your retrieve vehicle and trailer are ready to hit the road at a moment's notice. This means the rig should be hooked up, full of fuel, all lights working, and generally in a safe driving condition. Also make sure that the trailer contains all the fittings and parts needed to store the sailplane. Again, I learned this lesson the hard way when my crew once had to return to base to get the wing saddle that was left behind.

To me one of the most important pre-flight items is getting to understand the changing weather patterns as they relate to the planned flight. The weather is the engine that keeps the glider pilot aloft and drives him forward. It's absolutely essential for the successful pilot to learn as much as possible about the forces that keep us going; the most accomplished pilots are constantly making decisions during a flight based on changing weather conditions as they observe the sky from the cockpit. Good weather books are available from libraries and all the top-rated soaring books have extensive sections on soaring meteorology. Get to know the people at the local weather office, study TV and newspaper weather maps and try to be what I call 'weather conscious'. Weather can be a fascinating subject, and watching the sky as the day progresses is never boring — a lot of things are happening up there in the blue. ❖

1992 Alberta Team Squad

The '92 members are: **Kevin Bennett, Tony Burton, Buzz Burwash, Fred Guest, Bingo Larue, Dick Mamini, Jay Poscente, and Rick Zabrodski.** The concept of a high performance squad was established in 1987 when it became possible for 'non-game' sports to have their top competitors supported to a degree by Sport Council funds to further their skills. ASC defines what we mean by top athlete, which is a combination of competitive success and dub nomination of 'up-and-comers'. Full details may be found in the ASC Annual Plan 8.04 available from me or your club president.

ASC ANNUAL REPORTS –1991

Vice President *Alan Sunley*

SAC Director meetings were attended in Ottawa and Quebec City. A phone conference in October was participated in. Safety was a continuing concern, with one fatality occurring in the year. We must make greater efforts to eliminate these tragic occurrences.

SAC membership had a minor increase from the previous year as did the Alberta membership. The insurance broker consented to handle the premiums and all correspondence with the clubs at no charge so SAC was able to cancel the handling fee. Thus the insurance premiums were in effect reduced for 1991.

The SAC Treasurer, Jim McCollum, was able to obtain a ruling that the total SAC membership fee is eligible for the charitable donation income tax receipt, which negated the increase in fees.

The GST is causing an increase in operating expenses. That and funds required to organize a special *free flight* edition for the 50th anniversary of SAC in 1995 and some historical programs for the event will likely cause a small increase in fees in 1992.

ASC planning workshops, executive meetings and the AGM were attended in Alberta along with the Cowley meets and the Provincials at Cu Nim. I assisted in two Outreach events, one at Lacombe and one at St. Paul.

Donations to the Alberta Sport Council's "Sportsfund" were not as many as last year, the total amount being \$6825. We wish to give a big THANK YOU to the following donors for their generosity –

Kevin Bennett, Randy Blackwell, Tony Burton, Lewis Burwash, Dick DeJong, George Dunbar, Bruce Hea, Sylvain Larue, Dave Mercer, Alan Sunley, George Szukala, Hal Werneburg.

Please remember that the cheques are to be made out to "Sportsfund" and must be accompanied by the formal donation letter. Please send them to me so that I can make up the Donation Report that accompanies them and forward the complete package to the Sport Council. Please contact your club executive or myself for blank forms.

Secretary *Ursula Wiese*

In 1991/92 I attended the annual general meeting in Red Deer and three executive meetings.

- *Cowley camp guide* was improved and reprinted.
- *Waiver* used for familiarization flights at Cowley.
- Registration form is being revised. The address column is useful to update ASC clubs', and SAC's mailing lists.
- *Phone charges* at Cowley have been mounting over the years, including non-ASC long distance calls. Signs at the storage shack now remind any caller to charge any non-ASC call to their own number. The phone itself is now disconnected by AGT to save rental charges to about \$100 a year. A new connection every year with a new number will be obtained.
- *Draft towplane manual* (revised by Iain Colquhoun) put on computer with revisions forthcoming.
- *ASCent* postage (and taxes) this year were almost equal to the cost of printing! After initial trial and error, Dave Puckrin, our friendly printer and glider pilot, agreed to print *ASCent* at \$500 plus postage, regardless of page number. This is still a price below cost and ASC owes a lot of thanks to Dave for his continued support. *ASCent* will be printed three times a year.
- *ASC logo* has become ASC property, with all rights transferred from Tony Burton to ASC for \$1. ASC now uses the copyright sign with the logo.

The work behind the scenes, like writing thank-you letters, keeping in touch with and follow up on jobs-to-be-done by executive and chairmen, dealing with information requests from out-of-province pilots, typing and proofreading *ASCent*, and other odds and ends have been part of my job. I noticed in previous minutes that many of these items had been discussed and acted upon following motions at general meetings. The actual day to-day administration of ASC is an ongoing activity, greatly facilitated by the declaration of a head office in Claresholm.

It was a pleasure to get prompt replies from our chairmen for the annual reports. Club mailings of the annual reports will allow preparation for discussion of their recommendations at the general meeting with swift implementation.

ASC '91 Financial Summary

Treasurer *Jos Jonkers*

ASSETS	1991	1990
Cash and equipment replacement funds	\$58,049.11	\$40,614.15
Sailplane C-FAML (depreciated at 15%)	25,238.85	29,692.75
Towplane C-GPCK (")	12,237.21	13,024.97
Misc Equipment (")	4,682.18	2,196.84
Computer (depreciated at 20%)	0.00	1,076.04
Accounts receivable	11,664.20	19,650.27
Total assets	\$111,871.55	\$106,255.02

LIABILITIES	1991	1990
World championships competitor fund	\$2,000.00	\$4,000.00
National championships support fund	1,139.46	1,139.46
Outstanding ASC tickets	4,920.82	4,869.82
Accounts payable (see note 1)	14,157.78	13,034.65
Members' equity	89,653.49	83,211.09
Total liabilities	\$111,871.55	\$106,255.02

REVENUES	1991	1990
Sport Council and Rec & Parks grants (see note 4)	44,150.00	53,421.00
Sportsfund donations	7,635.00	17,357.57
ASC membership fees	6,000.00	6,257.00
Towplane operation	9,143.00	9,344.05
Sailplane operation	2,729.80	2,881.30
Interest, book sales, registration fees, misc.	6,630.88	5,867.51
Total revenues	\$76,288.68	\$95,128.43

EXPENSES	1991	1990
<i>Administration</i>		
Office supplies, phone, postage	\$2,739.09	\$3,199.69
Executive travel & AGM	1,189.16	3,225.20
ASCent	1,580.81	1,708.78
SAC membership paid out (see note 2)	0.00	257.00
Other	80.00	445.00
<i>Leadership</i>		
Coaching, instructors, advanced training, nationals	7,400.32	14,798.28
Club member/instructor check flight support	7,700.00	7,425.00
Other	2,589.46	2,110.00
<i>Program/Event</i>		
Technical staff contract (see note 4)	12,500.00	18,750.00
Staging meets and camps	3,810.35	4,109.32
Towplane operation (see note 3)	13,765.66	11,196.86
Sailplane operation	6,464.73	8,708.55
Athlete development	6,917.23	1,200.00
Redirect ASC donations by request	1,650.00	7,864.07
Other	1,616.18	2,005.69
Total expenses	\$70,002.99	\$87,003.44
Net operating surplus	\$6,285.69	\$8,124.99

STATEMENT OF MEMBERS' EQUITY

Equity at 1 January 1991	\$83,367.80	\$73,597.13
add operating surplus	6,285.69	8,124.99
add ASC ticket write-off (5% of outstanding tickets)	259.00	256.30
add new reserve for engine fund	3,800.00	3,800.00
less computer write-off	(1,076.04)	0.00
less equipment depreciation	(826.25)	(269.01)
less reserve for world championship fund	(2,000.00)	(2,298.32)
Equity at 31 December 1991	\$89,653.49	\$83,211.09

This condensed summary has been extracted from the full statement prepared by the Treasurer, Jos Jonkers and audited by Al Stirling and Dave Fowlow. Anyone wishing more information may see copies held by club executives, and one can be sent to you by the ASC Secretary.

Notes on Summary

Note 1 All accounts payable and receivable complete by 23 feb.

Note 2 SAC membership fees and aircraft insurance premiums will be processed by ASC again in 1992.

Note 3 The increase in expenses due to two 100 hour inspections and the addition of the depreciation to annual expenses.

Note 4 1990 grant from Sport Council includes a \$6250 one-time grant received at the end of the 1989 Sport Council fiscal year which was locked to the Technical staff program.

ASC COMMITTEE CHAIRMEN REPORTS

Archives *Ursula Wiese*

Stalking the Mountain Wave

Only 14 copies of the book are now left and they certainly will become a collector's item as a reprint is not anticipated at this time.

Practical Wave Flying by Mark Palmer

The last book has been sold at the Cowley summer camp. New stock is not anticipated since the SAC national office will have them for sale.

Winners – an ASC publication by Ursula Wiese
Updates of the 1991 flights have been made. The “profiles” still require extensive work.

ASC History

A summary of the ASC minutes 1966 –1990 was printed in *ASCent* 3/91 to reflect on ASC history. This project suggested that at least the ASC minutes should be amended on an annual basis with a [secretary's] note “for the record” so that in future a more complete picture can be offered from the minutes alone. The annual chairmen reports are a vital amendment to a year's operation.

Videos “*Julie [Pithers] Goes to Camp*”

This short visit by CBC TV Calgary was aired on 31 July following the 6 pm regional news. Some of our well-known pilots commented on the flying and the camp, and two PR flights were given to the CBC crew. The tape is added to the ASC library.

ASCent *Rick Zabrodski*

This year was special for two reasons. The first was the 25th anniversary of ASC. The second was the much improved format. It is at this high point that I tender my resignation. Simply put, it is time for new blood and fresh ideas. The job of editor has changed dramatically over the past five years. Initially, everything was done on my computer at home. Now the editor only surveys the information and leaves the rest to others. (Thanks, Tony!) However, it is this gathering of information that has always been the most challenging and at times I felt as if I was a commission salesman selling used cars!

Rather than replace the editor in his current capacity I suggest the following alternative that might solve the information void at the same time. During each club's annual elections designate one member to represent the club to *ASCent*. This individual would forward relevant information regarding the club to Tony and one “guest club editorial” per year. To facilitate this process I would suggest that ASC mail convenient forms with a SASE to remind the individuals of deadlines and make the effort as painless as possible. Some may think this last point is overkill but as the guy with the experience, TRUST ME!

I would like to take this opportunity to thank Marty Slater and of course, Tony Burton and Ursula Wiese for their help and contributions over the years. Lastly, I will continue to offer my medical expertise from time to time and would be happy to answer any general aviation medicine questions. Best wishes and good flying in '92!



Don Matheson's two-place RHJ-8 parked at Naniamo airport.

Cowley Development *Bruce Hea*

In 1991 the ASC purchased a 14 foot roller which Alberta Transportation will store at Cowley field and utilize for runway maintenance. Runways should now become a little smoother as a result of this significant capital expenditure.

An analysis of soil samples taken from the runway intersection indicated a near zero amount of nitrogen and phosphates. This analysis was delivered to Bill Odland at Pincher Creek airport. However, it may be necessary for ASC to pay for the fertilizer required in the spring of '92.

Al Heschl of Recreation and Parks, Alberta abruptly informed ASC in June that the Cowley campground was included in a group of campgrounds to be transferred to that jurisdiction. The situation was reviewed at a meeting in Claresholm attended by me, Tony, Ursula and Mr. Heschl. Copies of the Alberta government letter to ASC (from our earlier years) convinced Mr. Heschl to recommend that "our" campground NOT be included in the transfer. We were recently informed that a Recreation and Parks Edmonton letter supported the return to Alberta Transportation jurisdiction.

The farm lease arrangements at Cowley field have yet to be clarified to ASC. There is some reason to believe there may be a partial restoration to the width of runway 11 south of the intersection. The wildlife continues to insist on homesteading on airfield runways. We may organize an early spring hunting season to reduce the runway population. It will probably remain necessary to thoroughly inspect and repair runway damage prior to any flying operations. That's why we bought those shovels. 1992 will be the 20th annual summer camp. See you there.

Equipment *Tony Burton*

The ASC currently owns the following equipment at the end of 1991:

- IBM clone computer, wide platen dot matrix printer, misc software (held by Treasurer).

The following is at head office Claresholm:

- contest box containing: 4 stopwatches, 5 walkie-talkies, 3 battery chargers, Alpha 100 ground station, contest photo ident board, misc. electrical power cables, large clock, contest landout cards (about 320), clipboards.
- contest ground clock panels in duffel bag
- 4 ea, 18 lb dry chemical fire extinguishers (2 new)
- 1 ea, 2-1/2 lb dry chemical fire extinguisher
- Canada and Alberta flags with halyard
- telephone
- 10 towropes and 18 weak link ropes
- 20 Tost rings and 3 Tost clones
- first aid kit (new)

- 1 fire blanket

The following are in Cowley shack:

- manual fuel pump with fuel filter and filter cartridges
- set of flat fibreglass runway markers
- 4 folding chairs and 3 sunshades
- 5 fire brooms
- 3 fuel drums with about 115 gals of avgas
- 3 empty fuel drums

The following are in Claresholm hangar:

- O₂ cart with 4 large cylinders, manifold, and wrench

Al Sunley constructed a set of towropes and weak links at the beginning of the season. The weak link rope turned out to be understrength and several broke during the fall camp. Polyethylene rope (1/4") similar to that used at Cu Nim will be purchased in the winter and a new batch of weak links made. During the summer camp the fuel pump broke and the spare was put into service. I will attempt to find parts for the old pump so that we retain a backup. An ASC dot matrix printer (held by Marty Slater) was sold to George Dunbar at a price he couldn't refuse.

Ownership of the Grob trailer was officially transferred to ASC (address head office Claresholm) on the trailer registration and licence plate. Insurance for O₂ cart through SAC, licence plate in name of Ursula Wiese.

A basic first aid kit (with additional burn coverings), two more large fire extinguishers, a fire blanket, a contest clock (for synchronizing cameras and the ID board), a new telephone, and a new large Canadian flag were purchased in 1991 for ASC event use.

Recommendations for 1992

It is possible that bulk fuel can be delivered in drums to Cowley by Shell or Esso from Pincher Creek at a cheaper price than getting it ourselves from the airport. If this new source is used, I recommend that we dispose of the fuel drums presently in the Cowley shack, leaving one only for backup fuel storage. I further recommend that any superfluous contest gear be sold or scrapped.

OO Coach *Tony Burton*

As the provincial Official Observer coach, I am available to any club or individual having a question regarding the interpretation of the FAI Sporting Code. Also I am willing to run seminars on the subject at your club at a mutually convenient time. One seminar was held in 1991 during the XC clinic at Chipman.

At the national level, I have revised the "Official Observers Questionnaire" (a self-examination for OOs to test their basic understanding of FAI flight requirements). I recommend that SOOs get a copy from me and use it as a check for their club OOs. I also revised

the SAC trophy application form and the SAC 00 application form.

SOOs should remember that their club OOs should be checked now and again to ensure they are current, and that all new OOs possess the most recent documents relating to their duties. New cross-country pilots should be encouraged to apply for 00 status in order to share the 00 work during the season.

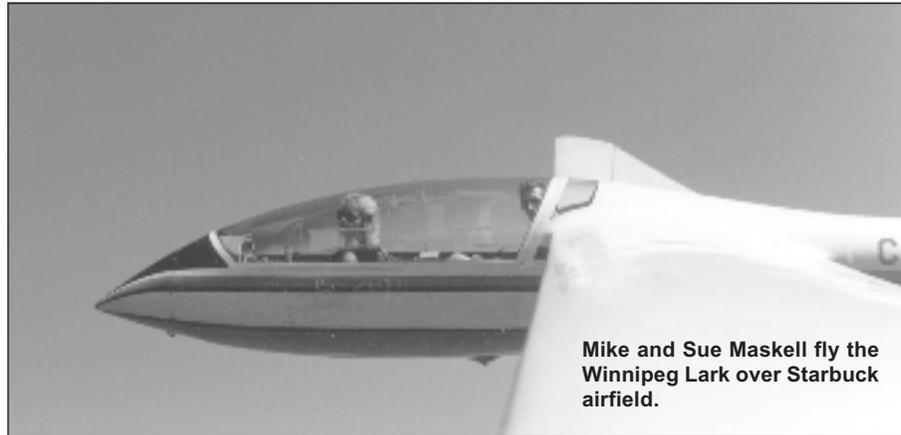
Safety *David Fowlow*

This year's report will be more of a quiz than a report, but it is intended to focus attention on a recurring problem. Likely, you already know the answers. For those of us planning wave flights, these are "must know" questions:

1. How high can one fly in the Livingstone Block with out contacting ATC?
2. Where and what is the pressure setting region?
Hint: A transition level exists between the altimeter setting region and the standard pressure region. This is flight level 180. When climbing (immediately after ascending through FL 180) change your altimeter from the current setting to standard pressure (29.92" Hg). When letting down (immediately before descending through FL 180) change your altimeter back to station pressure.
3. Does your barograph and altimeter always agree?
4. How often should an altimeter be serviced and calibrated?



Glasflügel created this concept cockpit in 1981 which featured a heads-up liquid crystal display instrument panel. It looks good and the view is great, but there is not much pilot protection.



Mike Maskell

5. How often should a barograph be calibrated?
6. What are the consequences for you and for Alberta Soaring Council if you violate the Block?
Hint: Paragraph 3.12c of the SAC FAI Badge and Record Procedures Guide (5th edition) states: "No flight known to the supervising Official Observer to have been made in contravention of the governing nation's air regulations shall be accepted by SAC for a badge or record claim."
7. How would you explain to a pilot, why their barograph recorded a flight apogee of 29,000 feet, but their altimeter only showed 27,000 feet?
8. Has this pilot violated the Block?

Answers will be appearing in *ASCent* later in the year.

Towropes Several concerns were expressed in regards to the many weak link failures experienced at Cowley this fall. This has precipitated another review of ASC weak links and towropes. The problem has been resolved and the modified ropes will be in service this spring.

Recommendations

The Cowley Guide should be amended to include a clause concerning the use of aviator's oxygen in sailplanes. Aircraft equipped with other oxygen types (medical, welding, diving) should be grounded to prevent regulator freezing at altitude.

The motorglider procedures for Cowley should be reviewed, and the Grob and Scout operating rules and utilization should be reviewed to continue to ensure the efficient, safe use of these assets.

Have a safe, fun year in 1992.

Sailplane & Towplane *John Broomhall*

The Grob flew 249 flights, for a total of 134 hours in 1991. The table shows a breakdown of time for the Grob for the four years it has been with ASC:

	1988	1989	1990	1991
Total hours	70	94	157	134
Summer Cowley	22	26	20	17
Fall Cowley	5	12	4	–
ESC Fly Week **	15	15	9	10
Cold Lake	–	–	25	–
Cu Nim	4	13	26	19
ESC	–	17	26	19
Other	24	11	13	13
notes	*1	*2	*2	*3

*1 Eight hours were spent at Medicine Hat. Most of the rest were from Claresholm.

*2 Claresholm, Fairmont, Invermere.

*3 Soaring Outreach to fly-in breakfasts at Westlock, St. Paul, and Lacombe.

** The time under “Chipman Fly Week” actually represents the 2-3 week period in June at Chipman when the Grob was resident there.

The Grob spent most of the 1991 season at Chipman. This was mainly due to the fact that the ASC equipment manager was an ESC member. The presence of the Grob became more important to the ESC after Summer Cowley due to the loss of their Blanik in late July. Kerry Bissell undertook the job of getting the ASC equipment out to some fly-in breakfasts, and doing some promotion of our sport. The Grob and the Scout attended three fly-in breakfasts (as noted above) and flew a total of about 20 fam flights. The ASC equipment generated quite a bit of interest, and we will no doubt be requested to attend others in the future.

As the above table shows, Grob use was down in 1991. Use at the ASC events has remained generally constant until this year. Summer Cowley was not as well attended as past years, and the logistics of getting the Grob to Fall Cowley this year outweighed the interest of having it there. Clearly the bulk of the Grob use over its ASC life has been with the individual clubs. Since the Grob was purchased, about 40% of its use has been for ASC-sponsored events, typically spanning about 3–4 weeks of each season. The remaining 60% has been flown by individual clubs, primarily Cu Nim and ESC.

The decline in 1991 was due to a number of factors: in the short term, Summer and Fall Cowley attendance was down, and this was reflected in the time flown. Over the longer term, individual clubs are and have been upgrading their fleets. Cu Nim has upgraded to Blaniks. Cold Lake has a rebuilt Lark. With the loss of

its Blanik, Edmonton is currently re-assessing its fleet, and will likely be upgrading to higher performance two-seat ships over the next few years (a Puchacz has been ordered for 1992 delivery). The net effect will likely see the overall demand for use of the Grob decrease. Based on current trends, it is my estimation that the use of the Grob will be about 100 to 130 hours per year for the next year or two, then decline to 80 to 100 hours per year thereafter.

Recommendations

1. The ASC “*Sailplane Operating Rules*” be updated to reflect the actual types of use that the Grob has been put to. While the Grob was acquired “to promote soaring in Alberta, with the main emphasis on advanced soaring and cross-country flying”, it has in reality done its most service for miscellaneous or backup club use. I recommend that the *Sailplane Operating Rules* be amended to be similar to the rules governing the use of the ASC towplane:

Criteria for Use

1.1 The purpose of the ASC sailplane is to promote soaring in Alberta. Every member dub and individual is entitled to use the sailplane subject to the criteria set forth herein.

1.5 The Sailplane Manager will schedule its use based on ASC events and dub requests and based on the following priorities:

Priority 1 ASC sponsored events
 Priority 2 Emergency backup for club use
 Priority 3 Miscellaneous club use
 (the rest of 1.5 is unchanged)

1.6 (add the following paragraphs)

If two or more demands are for backup use, the requesting clubs may be asked to come to an agreement for sharing the sailplane by the Sailplane Manager.

Clubs requesting the ASC sailplane are responsible for arranging transportation from its previous location. Clubs in possession of the sailplane immediately prior to scheduled ASC events may be required to arrange transportation to that event.

2. The rental rate for the Grob at ASC events remains as is for 1992, being one ASC ticket for each 30 minutes of flight. The rental rate for the Grob should be competitive with rates charged by clubs for their higher performance (ie. not 2-33) two-seat gliders.

3. The rental rate to clubs for the Grob be increased by \$4/hr in 1992 to \$20 per hour.

4. The depreciation rate (and the contributions to the capital replacement fund) of the Grob be adjusted to a

figure closer to its actual estimated life, and overhaul costs. The time before overhaul/replacement should be set after a professional survey is done.

PCK flew a total of 152 hours in 1991. PCK also flew 152 hours in 1990, and 134 hours in 1989.

A breakdown of PCK hourly use during 1991 follows:

Ferry time	28
Summer Cowley	39
Fall Cowley	18
ESC, Chipman	55
Fly-ins	12

PCK use at Summer Cowley in 1991 (39 hours) compares to previous years (1990 - 40 hrs, 1989 - 37 hrs). PCK spent the balance of its non-ASC use at Chipman. PCK was useful to the ESC while they continued sorting out the problems with their second towplane. As with the Grob, PCK attended three fly-in breakfasts, aerotowing the Grob in and out, and towing the fam flights.

Recommendation:

That PCK have Mode C (altitude encoding) added to its transponder. This is now mandatory for flying in the Edmonton and Calgary airport control zones.

Final thanks to Gerhard Novotny, ESC Chief Towpilot, who did most of the leg work on PCK, keeping it fit to fly (and doing a good share of towing too).

- to the Bruces (Anderson and Hea) who again this year took care of the fuel delivery at Summer Cowley.
- to Denis Bergeron, who got up much too early every morning at Summer Cowley to fly the temperature sounding, and did a lot of towing too.
- to the Cold Lake crew who did most of the towing at Fall Cowley, and saw that PCK got back to Chipman afterwards.

Sporting *Hal Werneburg*

The 1991 soaring season produced a fair amount of high performance flying by Alberta pilots.

Buzz Burwash of ESC took part in the Canadian National contest held at Pendleton, just east of Ottawa; Tony Burton attended the US Region 8 contest at Ephrata, Washington, and Kevin Bennett was the only Alberta pilot on the Canadian team competing in the World Soaring Championships in Uvalde, Texas. Tony, in addition to quite a number of cross-country flights flown in Alberta, also made some remarkable polygonal flights (including two which were well over 700 km) out of Invermere, BC.

The provincial contest was held on June 29-July 1 at the Cu Nim Gliding Club field at Black Diamond. A total of 26 pilots registered for the event which included 7 gliders flown as team entries. It was encouraging to see the level of enthusiasm shown by the participants and it is hoped that this trend will continue. The weather for the contest was challenging, to say the least, but I believe every pilot gained something positive from the competition. Kevin Bennett from Cu Nim took top honours.

The cross-country clinic which had been planned for June 8-16 at the ESC field at Chipman unfortunately suffered from a severe case of "nimbostratus continuous" and was considered only a limited success. Perhaps a change in timing might bring some improvement to this event.

Both Cowley camps were well attended this year and produced a fair amount of cross-country and altitude flights in addition to the vast amount of local flying. Unfortunately a high performance sailplane was written off in an off-field landing attempt; luckily the pilot was not hurt.

Please fly often and safely.

Trophies & Awards *David McAsey*

Response was about the same as in 1991. Most of the entrants had to be encouraged and reminded to apply for a trophy. However, on talking to the presidents or other representatives of each dub, we should not expect entries to increase much. First, the person applying has to meet the minimum standards, and second, he or she is frequently aware of whether another person has considerably more achievements to register. Thus registering is unlikely unless the person believes that winning the award is likely.

To raise the ASC awards profile some this year, I propose:

- to make a simple ASC entry form similar to the SAC form and distribute copies to each club in early spring.
- to have at least one brief mention in each issue of *ASCent*.
- to send a letter to each dub in early summer for posting on bulletin boards, briefly defining each trophy.

I very much regret being unable to attend the ASC meeting and present awards to the winners.

AWARDS PRESENTATION TEXT

CROSS-COUNTRY 100 This trophy was designed, crafted and presented by Al Sunley of ESC to encourage novices to fly cross-country tasks. It is for the five best flights by licensed pilots with less than 100 hours in their logbook at the beginning of the season.

Jay Poscente of Cu Nim won this award. He had 20 hours, 54 minutes logged at the beginning of 1991, presented 10 cross-country flights for consideration. All except one were in Alberta, and they ranged from 64 to 304 kilometres. Jay flies a Mini-Nimbus, "52".

Invermere-Golden-Canal Flats-Invermere was Jay's first cross-country. "It was a very intense experience", Jay said. Thermals from mountain bowls facing the sun were 10 or 15 knots. Then, as I flew my Mini-Nimbus 500 to 1000 feet above the peaks, I found it disconcerting to hit sink as strong as the lift I had found. Around Golden I found my first wave, and used it both going to and coming from the turnpoint. But I didn't know what it had been until after I landed. After the (Golden turnpoint, I got bolder in weaker conditions. It was a blue sky, and I had a few religious experiences, but I was always planning an escape route to the valley, where there were a few landing places." (story in *ASCent*, Summer '91)

Jay, briefly a power pilot, tried power aerobatics for a season. In 1990 he came to Cu Nim to apply as a tow pilot, but after an intro glider flight with Bruce Hea he knew he had found his new sport. Recently Jay was elected president of Cu Nim Gliding Club.

BOOMERANG – Interclub flight. This trophy was designed and crafted by Al Sunley of ESC and first presented in 1984. It is presented to encourage inter-club activity and is awarded to the pilot who flies from one club to another.

Mike Apps isn't the type to boast loudly about his achievements. That's why the ASC Trophies chairman, David McAsey, discovered in a chance conversation that Mike had flown from Chipman to Cold Lake and return – 350 km O&R. Mike flies a Nimbus 2, "18".

Bingo Larue of the Cold Lake club, flying locally in OAK, his Dart, heard Mike on the radio in the Bonnyville area and flew with him to the airport. Although no one else in the province succeeded in a boomerang flight during 1991, for Mike Apps it was just another pleasant outing.

CARLING – best single flight of the year. A stainless steel 1-26 on a wooden base. It is awarded to an Alberta pilot for the best single flight in western Canada for distance, speed, or altitude.

Tony Burton of Cu Nim won this award for the best flight in western Canada with a spectacular 751 km flight on 1 June out of Invermere, BC. Tony flies an RS-15, "EE" The route was Invermere to Nicholson (just short of Golden), to the US border south of Elko, northward to Nicholson again, then back to Invermere. After nine hours and 25 minutes in the air, Tony landed out 20 km from Invermere and discovered the

most unfriendly farmer yet recorded in western Canada. Fortunately, an RCMP officer played referee at the critical moment. The day before this flight, Tony had successfully completed 723 km over essentially the same route, with the southern turnpoint being Elko instead of the US border.

BRUCE – May Meet or Western Regionals winner. This handmade trophy is a hardwood stylized Minimoa sailplane model on a turned wooden base. It was designed and crafted by Norm Bruce, "father of gliding in Western Canada" (and refurbished by Hans König). The trophy was originally awarded to the winner of the Western Canada Open Soaring Class; it is now awarded to the winner of the May Meet or the Western Regionals.

Kevin Bennett won the first day with a flight of 133.5 km at 70.8 km/h in his Ventus, "X1", followed by Dick Mamini flying 149.8 km at 55.2 km/h in his ASW-12. Day 2 was survival flying: Okotoks airport and back was Kevin's choice of a proud 35.6 km O&R at 40.4 km/h in his Ventus. The third day produced 301 km at 73.8 km/h, chased by Dick Mamini again. What a practise competition prior to Uvalde.

DON MCLAUGHLIN – best 5 flights of the year. A large ornate silver trophy cup originally presented annually by ESC for the best Alberta flights. In 1982, ESC has passed authority over to ASC for awarding this fine trophy. The trophy is awarded for the best five flights originating in Alberta by an Alberta pilot.

Kevin Bennett of Cu Nim, who flew 3000 kilometres between April and June of 1991 to practise for the World Soaring Competition in Texas, picked up the Don McLaughlin trophy along the way for the best five flights of the year.

His winning flights, all from and to Black Diamond, included out and returns to the Shell Waterton gas plant and to Waterton dam. The first was completed at a speed of 106 km/h, and the second at 125.1 km/h. A flight to Cowley, Bragg Creek and return, a distance of 320 km, was completed at an average speed of 120 km/h. A flight to Cowley and Bassano dam and return totalled 405 km, flown at 90.2 km/h. The best flight of the group was to St. Mary's reservoir dam, Brooks airport and return. Kevin completed the 513.5 km flight at an average speed of 102 km/h.

"My best weekend was April 20-21", Kevin said. "On April 20, I flew with Dick Mamini to the Waterton Reservoir dam. It would have been a speed record if the barograph had been working – more than 120 km/h. The next day was the flight to the Shell Waterton gas plant. Jos Jonkers was my companion as far as Pincher Creek." ❖

Summary of 4 Jan exec meeting

Outstanding expense claims

Viking Through hard work and a lot of effort by a few ESC members the first fibreglass sailplane built in Canada was discovered in an old yard and brought back to life for display in Canada's Aviation Hall of Fame, now located in Wetaskiwin. Payment of the restoration bill in full approved. (See article "The Fiberglass Homebuilt" by Paul Tingskou in SOARING Feb '69, 3 pages; thanks to Garnet for pointing this out. Article in ASC archives.)

ESC Open House and Media Day

Payment of bills approved to the extent of the budgeted amount. If clubs want to receive support from ASC general revenue, they are required to:

- submit a budget to ASC at the planning meetings;
- if they offer printed material such as posters, all Alberta clubs should be included to satisfy the Sport Outreach program objectives.

Sport Outreach Garnet Thomas will be the coordinator and instructor at a two week long concentrated student training event. The training week has been very successful for ESC and usually these students become loyal members to the club and the sport. It is recommended that this week be advertised through *ASCent* and through mailings to clubs so that CFIs can recommend the course to students who can benefit from an intensive training period. Please notify ESC of potential candidates.

C-GPCK inspection bills by Aero Aviation, Edmonton. Higher than normal bills (compared to Sunaero Aviation, Claresholm) have been received in the past year for 100 hour inspections done by above company while PCK was stationed at ESC for most of the year. As it is recognized that Jerry Vesely of Sunaero is an expert in Scout servicing it is recommended that PCK be preferably serviced by Sunaero if it can be conveniently scheduled. Towplane manager is advised to coordinate ASC towplane schedule and upcoming inspection times.

Unspent athlete development funds Tony reported on unspent Sport Council athlete funds at end of 1991 and that the Council accepted that such funds could go to clubs to assist in club cross-country sailplane operating expenses. It was decided that "any remaining funds, after all claims have been received, be divided 35% each to GPSS and CLSC, and 15% to Cu Nim and ESC."

ASC sailplane It is generally felt that money spent on a provincial sailplane is a worthwhile investment. At

the planning meeting and AGM we will entertain extensive discussion on the status of C-FAML and when we should consider upgrading it.

ASC charges for 1992

- sailplane rental to clubs \$ 20
- 1 ticket each 30 minute block at ASC events
- 2000 ft tow (unchanged from 1991) \$ 17
- 1000 ft tow stickers for ticket (new for '92) \$ 8

Administration expenses We had a close look at the '91 admin expenses with the goal to possibly cut cost. Jos reported that all expense claims had been reasonable and he does not see any drastic measures necessary. Exec travel was very low as ASC representative expenses to SAC AGM in Quebec City had been paid by SAC for Tony as editor of *free flight*. Expenses (\$1000 for 1992) for one executive to be budgeted each year. This amount is likely to be unspent in 1992, as the SAC AGM is held in Calgary.

Members equity Direction on the method of any future dissolution of ASC is not in present by-laws. Al Sunley noted this is now a necessary addition given the equity of the association. Ursula to look into wording for presentation at next general meeting. Bylaw 9-1 applies.

ASC aircraft movements We have to avoid losing valuable items! A list of these items is to be attached to the respective logbooks. Prior to ferrying, the conductor is to check list to ensure all additional loose items are present.

Sport Council Tony reported from a meeting on 3 Jan 92 that Sport Council had reorganized their funding method to sport associations. They are now ranking the 73 sport associations on 15 variables including membership, budget, etc. We now rank 53th. Past funding was 40th. We were fortunate that funding for ASC will be held at the 48th rank based on the quality of our programs. The result however, is that there will be a 20% reduction of grant money in 1992, down \$6400 from \$32,400. The ASC budget for 1992 will reflect this cut in program funding. Tony pointed out to Sport Council some errors in their scoring data. This will be rectified by Sport Council but the change in our "score" is unlikely to be significant enough to change the funding level. ASC may have to look into ways to increase revenues. The Executive was concerned that, if the Program Coordinator program falls short of funds, we jeopardize the whole funding. Tony spends a lot of time to keep the programs running smoothly, keep an eye on the expense claims, reminds individuals to send in the claims, and other odds and ends. Tony does an excellent job.

'91 chairmen reports All reports were received which allows budgeting of expensive improvements or work for approval at AGM. Also, other recommendations can be dealt with and implemented before the flying season. ❖

Summary of annual general meeting

The ASC annual general meeting was held at the Nisku Inn south of Edmonton, 1 February 1992 with a very good turnout of members.

To celebrate a busy and successful first quarter of a century, a special luncheon and awards presentation was offered. The president, Garnet Thomas, presented a special recognition award and plaque to Mike Apps for past administrative work for ASC. Andrew Jackson then presented the trophies earned in 1991 by Alberta pilots (*details in Dave McAsey's report, page 12*).

In his opening remarks, Garnet noted that the ASC has grown immensely and that a lot more work had to be done than he had expected a year ago. He thanked the Vice-President, Treasurer, Program Coordinator and Secretary for their help; he thanked the pioneers for starting the whole thing — some of us don't even remember them, some were at the meeting; the Cowley camps had become a reality; clubs are meeting and together they grow and make the sport successful in the province.

A quorum was at hand. The minutes of the 1991 AGM and 1991 reports were distributed for discussion.

1991 Financial statements Jos apologized for presenting the statements unaudited. He pointed out that the year's donations were down from the previous year which may affect future programs paid from general revenues. Al Sunley reiterated that any donations should be mailed to him together with a cheque and letter to Sportsfund. Details are available from him. Dave Fowlow and Al Stirling were nominated as auditors.

1991 chairmen reports The reports generated a lot of discussion. Significant points were raised in the following areas:

Cowley Development – Fertilizer for runways may cost \$300. Bruce will take care of "spring hunting season to reduce the gophers". Farm lease arrangement presently a wait and see situation. Large runway roller purchased.

Towplane – Dry rate for 1991 was \$50. The operating costs are based on depreciation, maintenance, (excl. fuel) 150 hours/year. The past year's expenses were higher than the revenues and input from members suggested that the proposed increase to \$70 dry rate was in line with other rental charges. A motion on this rate was passed. The change in dry rate will possibly effect the price of a ticket (tow and sailplane cost at ASC events). The executive to

re-evaluate the ticket price and sticker for 1000 foot tow increments. (*no change in '92 ticket price.*)

Sailplane A lot of time was allocated to discuss the future of the ASC sailplane. Excellent comments in no particular order were received such as that an ASC sailplane is desired; but that the Grob is a depreciating asset and should be sold before major surface repairs are required and while there is still a market for it; wave flying required a lot of upkeep of instruments, oxygen, etc, fibreglass sailplane should be hangared; visitors in awe at the sight of a sleek sailplane are the least to join and learn to fly; managing – preferably seek a manager who is not a private owner and give incentive such as special flying privileges. Hal pointed out that the Grob is a safe sailplane to fly, and that we are dealing with all levels of skills of pilots.

The motion (as amended) by Tony Burton, "that the ASC sell the Grob as amended," was carried. The amendment by A. Jackson, "that the executive sell the Grob at a price approved by the executive and replace it with another two place sailplane," was carried. A subsidiary motion by Marek Wakulczyk, "that the executive purchase a glider within a reasonable time frame only after a committee has reviewed the uses to which an ASC sailplane is put and has recommended the desired attributes." was carried.

New Business Proposed bylaw amendment on dissolution of organization. The present bylaws do not take care of distribution of the Council's assets (which are substantial now) in case of the dissolution of the Council. The motion by A. Sunley was that the bylaws be amended by addition of bylaw 10 to read: "If upon the winding up or dissolution of the Council, there remains after the satisfaction of its debts and liabilities, any property whatever, the same shall not be paid to or distributed among the members of the Council, but shall be distributed to one or more recognized charitable and/or non-profit organizations in Alberta having objects similar to the objects of this Council and which prohibits the distribution of its or their income and property among its or their members." The motion was tabled to allow for the minimum of 21 day notice to all members to call for a special meeting.

Election of Officers

President – Marty Slater by acclamation.
Treasurer – Denis Bergeron by acclamation.
Re-affirmation of SAC Zone Director as
ASC Vice-President - Al Sunley.

ASCent editor – Tony offered to do the job and was unanimously accepted.

Sailplane Manager – Darwin Roberts was unanimously accepted. ❖

ASC FUNDING – how we get it, how we use it

Tony Burton, ASC Program Coordinator

Do you realize that ASC may be getting more government grant money for our sport than any other national or regional soaring body in North America! How can we use it to best advantage given the constraints imposed by the granting agencies and our own distribution priorities?

The problem of keeping people informed on the working structure of our association never stops. It is important that clubs and enough interested persons stay aware of how we operate so that mistakes and misunderstandings are minimized, useful changes can be incorporated into ASC operating policy, and that the Council improves and grows. The purpose of this paper is to explain how ASC presently gets its funds – it is our greatest benefit and headache – and to prompt discussion and ideas from club executives and others to improve the fairness in how these funds are spent. Clubs are encouraged to present ideas.

There is a lot of misunderstanding on the how and why of funding from the province to the ASC and then from ASC to clubs and individuals. There is no question that it is rather esoteric and requires some willingness to spend a little time to learn how you can plug into it. Part of the problem is one of human nature: most pilots and club executives don't want to be bothered with any more administration than absolutely necessary to go flying, and ASC administration is one more layer down than they really want to go – even if it is in their best interest to understand it.

BASIC FUNDING PRINCIPLES

Alberta Sport Council – Their basic principle lies in supporting individual athletes in order to bring the maximum number of medals to Alberta citizens and credit to the province's athlete support system. The emphasis is on elite rather than grassroots; and on athlete, coaching, and officials development and competitive events which help individual athletes reach their maximum potential.

The Sport Council grants we have access to consist of two "pots" broadly defined as supporting athlete and leadership development. ASC distribution of this grant money is constrained to the specific set of plans and events we define to achieve these two Sport Council development objectives. As events shift through the year, budgeted money can now be shifted around between plans in these two categories. This is a considerable improvement from the system in place in the past when transfer of funds between planned events was very limited. Unspent funds must be returned, therefore an important part of the Program Coordinator's job is to make sure all the money does get spent.

Sport Council funds are chiefly generated from lotteries (\$9.1M in 1992) and are therefore less subject to economic stresses, but there is political pressure from many organizations to redistribute this money to their advantage (less to sport - more to hospitals, for example). ASC has received \$32,400 in each of the past two years.

However, for 1992, the Sport Council made a major redistribution of grants between sport associations based on factors such as membership, operating expenses, number of competitions held, number of coaches and officials, etc. The result was that soaring dropped from 40th to 53th out of the 73 sports associations funded, with the further result that our annual funding will drop \$6400 (\$4900 in '92 and a further \$1500 in '93). So 1992 grants will total \$27,500 (this includes a \$10,500 grant for a "technical services contract" for an ASC Program Coordinator).

Alberta Recreation and Parks – Their basic principle lies in supporting sport associations at the provincial level, and ensuring that they are well organized, with a decent set of on-going plans and budget, and have the willingness and ability to present the sport to as many people in the province (the grassroots) as possible.

Based upon a sport association's "profile" (membership, planning, etc.), it provides funding to support the bed-rock expenses of an association. The only caveat on this funding is that the association must be able to generate its own funds to at least 50% of the grant. Given no change in a sport association profile, the amount of the grant depends on the health of the provincial finances (the R&P budget). ASC has been getting \$12-14,000 over the past several years, declining slowly. In 1992 it will be \$12,500.

Alberta Soaring Council – ASC's basic stated principle on support to our individual members or clubs is that: "No person or club shall be out-of-pocket for reasonable expenses incurred as a result of supporting a program of the association." Our grant funds distribution is constrained by the limits defined above on the grant money received, so if a legitimate claim cannot be supported by these grants it will be from our general revenues. There are some complaints that the distribution of grants within ASC is weighted too much to competitive activities and a few pilots and not enough towards clubs. This is partly a perceptual problem but true enough to see if better ways to manage the distribution can be found.

ASC GENERAL REVENUES

These are the discretionary dollars of the ASC. Managing these is one of the most important jobs of the treasurer if

the equity of the association is to grow and we are to remain financially healthy.

- Substantial growth in our revenues in real dollars comes in two ways – unspent Recreation & Parks funds, and donations to ASC through the “Sportsfund” program.
- Some real growth in revenue accrues from interest earned on ASC deposits, but only at the interest rate less inflation. Some growth comes from ASC ticket sales, events held and services provided in excess of expenses. This is variable and difficult to establish in real terms (it’s tied to how we depreciate equipment, for example).
- No growth comes from our current \$25 ASC membership fee which is now a book entry between clubs and the ASC because the fee is exactly offset by grants to clubs.
- A lack of loss (if I can express it that way) comes from many ASC members not asking to be reimbursed for legitimate ASC expenses incurred.

Improving on the “substantial” revenues requires the ASC executive to be prudent with the ongoing expenses of the association, and to actively encourage member donations.

SPORTSFUND

Sportsfund is a legal entity established in the province to maintain a Revenue Canada approved arm’s-length relationship between the individual receiving a tax receipt for a charitable donation and his sport association.

The reason Sportsfund is so valuable is that it is our only vehicle for converting allocated Sport Council funds into general revenues. (The principal restriction here is that ASC cannot legally use this money to directly benefit the donor.) This conversion is a several step process which benefits both the individual and the ASC:

- An ASC member presents his full expense claim to ASC for participating in or running an activity for which Sport Council funds have been designated that year.
- The Program Coordinator reviews the claim against the Sport Council athlete/coach/officials funding and general revenues available for the activity, recommends to the Treasurer the amount of expense support appropriate for payment and, if the support is substantial, sends a letter to the member outlining the Sportsfund program and asking that a donation be sent to it.
- The member writes a check to Sportsfund, signs the cover letter provided, and sends both to Al Sunley. Al consolidates the donations at intervals and sends them to Sportsfund.
- Sportsfund sends an equal amount back to ASC for its general programs, and sends a tax receipt to the donor.

The system works because, for example, a pilot may have gone to a contest regardless of any expectation of financial support, so is happy to get some reimbursement and a tax break, while the ASC now has more general revenue to help pay for sailplane insurance.

CAPITAL EQUIPMENT

A very large part of ASC assets are now tied up in the provincial towplane and sailplane. (To our advantage of course, remember that \$25,000 in grants were given to help purchase them.) Their proper financial and operational management is critical to maintaining or increasing the equity of the association. At present the towplane about breaks even while operating the sailplane is substantially subsidized out of general revenues. Majority opinion still values the benefits this equipment provides. However, a few are concerned that they are unnecessary financial risks, tie up funds that could be better used in club support, and that ASC should only be in the business of planning, coordinating, and in managing grants – not in owning equipment. This minority view should not be dismissed without examination.

Maintaining the towplane and sailplane with club and individual effort is difficult to manage. ASC should regularly consider how our operations or the market may affect the long term status of the equipment so that financial risk is minimized. For example, the time to consider if ASC should buy a new sailplane is when a better/more easily maintained one comes on the market – not after events which may substantially devalue the one we have.

“THE BOOK”

Each March a consolidated book of grant applications, an ASC profile, budget, the annual plans, a financial statement, and annual committee reports, et cetera, is prepared by the Program Coordinator for executive approval and then it goes to the two granting bodies and to each club, and the ASC executive. The ASC annual plans and how we propose to spend our money arises out of our two planning meetings and approvals by the executive and the (annual) general meeting(s). That is why it is important that clubs be prepared to make intelligent suggestions as to changes in the way they operate as a provincial group, and why the answer to any question you have about the ASC can probably be found in “the Book”. It is a resource which clubs must be prepared to read occasionally and not just file and forget!

CONCLUSION

The above brief general discussion on our funding is presented to give background information for any club or ASC deliberations on how we can improve the way we operate (and to probably tell members more than they really wanted to know). ASC has had a remarkable evolution over the 25 years of its existence, but there is a natural tendency to take our enviable condition for granted. Financial management within ASC has been somewhat ad hoc in the past, depending a lot on the skills and interest of the treasurer of the day. Such management should take place in an organized fashion so that we continue to gain. We’re too big an organization now not to be more deliberate in this matter. ❖

INERTIAL HAMSTERS

Howard Bishop

from the *1-26 Association Newsletter*

In keeping with the quest for ever better gadgets – and not just gadgets, but toys with merit – and also in keeping with the great debate over a device with which we may accurately measure bank angles, I decide to put some effort into a new answer for my glider.

After giving due consideration to the problem at hand, the most common and straightforward solution would seem to be some sort of gyroscope as used in, say, a turn and bank indicator. Given this, the next problem was how to power such a device, for ours is – alas – an imperfect world and even a relatively massive gyro (10-20 kg) must necessarily spin down during a long flight. I ruled out vacuum driven gyros as an unnecessary source of drag, although I suspect my airplane has enough leaks already to drive a complete IFR panel. Battery driven electric mechanisms were similarly ruled out as I'm a 1-26 plowhand and don't believe in electricity. (Actually, the vagaries of batteries and the uncertainty of a good charge render this method suspect and not suitable for the general case.)

My first serious consideration was two shotputs separated by a toothed piece of rebar and placed in a tube along the long axis of the aircraft. The shotputs would travel back and forth in the tube as a result of pitch changes (putting them in the wings would allow for greater travel, but a coordinated turn would prevent them from ever moving). The sliding rebar would engage a clutched mechanism which would keep the gyro spun up. The problems encountered were twofold:

- pitch changes while thermalling are small, minimizing the effect during time of greatest need.
- the prototype (two 1 inch ball bearings in a 'Gentle Lady' model glider) demonstrated an unacceptable level of pitch instability. The resulting crash was spectacular.

At this point the design team went back to the drawing board and arrived at our second solution. We called it "Ruminant Volant". Picture a hamster in a small spinning wheel, as commonly seen in pet stores. This wheel itself could be the gyro, vastly simplifying the mechanical process. During the course of experimentation, some problems were noted.

On the prototype device the primary power supply became hypoxic and passed out as we climbed through 11,000 feet. We subsequently issued an RFP (Request for Proposal) for a small rodent with abnormal aerobic capac-

ity and conditioned for high altitudes; a "turbo gerbil" if you will. Since this was not a government project we were able to procure one forthwith and testing was resumed. While this rodent performed satisfactorily up to 17,450 feet, it was lethargic below 10,000 feet (all altitudes are msl). Some consideration was given to having the high altitude rodent drive a compressor for a pressurization chamber for the standard model, but this was abandoned as being obstructively complex.

Ultimately, the flying rodent solution was dropped. Not for technical issues, which we thought were solvable. In fact, we were in the process of letting a contract for an experimental hybrid hamster with a four-valve-per-cylinder heart and special two-stage high bypass lungs, but the bureaucracy arose. Our man at the FAI declared that any such program would only be eligible for multi-place awards and equal credit would have to go to the copilot(s). We were considering trying to use a lizard of some type and applying for a waiver but rationalized that:

- cold bloodedness, per se, would not be sufficient to issue a waiver (witness the contest pilot circuit),
- cold blooded animals would likely have problems with the temperatures encountered at higher altitudes. Plus, try getting an iguana to perform at + 4, - 3 G.

I'm now back to square one. I have considered such options as scratching all sorts of lines in my canopy, or using a grease pencil and protractor, but in the end abandoned them as well. What seems to work well is to get more experience and then simply tighten the turn until climb rate is maximized. ❖

1992 MAJOR EVENTS

Provincial soaring contest	Innisfail	16 - 18 May
Beginner's XC Clinic	Chipman	19 - 24 May
Mountain soaring camp	Invermere	27 Jun - 5 Jul
contact: Tony Burton 625-4563		
National soaring contest	Hawkesbury, ON	23 Jun - 2 Jul
US Sports class nationals	Ephrata, WA	28 Jun - 9 Jul
contact: Mike Delaney (206) 743-4020		
Student ab-initio training course	Chipman	6 - 19 Jul
some slots available for students from other clubs.		
can camp/tent or use bunkhouse (\$15/wk)		
contact: Garnet Thomas 484-7242		
20th Cowley Summer camp	Cowley	25 Jul - 3 Aug
Western Instructor course	Cu Nim	16 - 22 Aug
Fall wave camp	Cowley	3 - 12 Oct

Club news and gossip

Edmonton Soaring Club

A new Puchacz is on its way to replace our Blanik with delivery expected in early May. This brings our club fleet at five gliders, two towplanes and a winch. The private fleet numbers 23 ships ranging from a Grunau Baby to a Ventus. A dune buggy with low pressure tires has also been purchased to replace our aging tow car.

Our extension to the runway to make it 300 feet wide has now fully grown in and will be fertilized and rolled this spring.

Our open house is scheduled for the 25 April with a two week flying camp the last two weeks in May. Anyone requiring details call Dave Lacy at 438-5935

Andrew Jackson, president

Cu Nim Gliding Club

Cu Nim may buy its own land this summer. On March 18, after 15 years of building a land fund, the membership voted 30 to 4 in favour of pursuing a purchase of the Thompson Ranch airfield at Black Diamond. An agreement in principle was reached with the landowner, Kirk Thompson, on March 21. As of this date (2 April) there are a few outstanding issues to be resolved before the purchase can be finalized. If our dealings with the vendor, various banks, member-investors, the MD of Foothills DoT, the club membership, and the owners of the land in southern Alberta that Thompson wants to buy with the sale proceeds, then Cu Nim will own its current facilities. This purchase has many implications. One change to be expected will be an immediate improvement in the level of safety at the airfield. Pilots in Black Diamond can look forward to a wider and longer 07/25 runway plus a new north/south runway. Another encouraging phenomenon is the level of enthusiasm building within the club as a sense of ownership sets in. There has been spontaneous volunteering for projects including runway design, camp ground planning, and various club-building promotions. But first, ... the deal must be finalized.

Jay Poscente, president

Grande Prairie Soaring Society

Hi Tony – despite having just a handful of members, the GPSS is preparing for another flying season. As all our members are licensed pilots (no students), we've decided to emphasize cross-country and duration flights.

We have lowered the Blanik rates from \$30 per hour to \$12 so that longer flights aren't discouraged. We have also begun construction of a trailer for the Blanik. We also hope to return to Sherman Meadows south of Grande Prairie to further explore our possible wave flying site.

Jordie Carlson

Cold Lake Soaring Club

1992 started with the traditional New Year's flight. In the spirit of beating Edmonton to the post, several members came to the club early on the day and gathered in front of a snow bank, knowing that our towplane was somewhere behind it. After several hours of shovelling and de-icing, the towplane and Lark were ready to go. Our CFI, 'Moose', had the honour of making the first flight of the year (so he thinks – but it actually was because he is bigger than me). Takeoff was 1100 – what's your story, ESC?

CLSC was well represented at the SAC AGM on 29 February. While the rest of us drove to Calgary, the guest of honour, Captain Doug Carter, flew in with his CF-18 (a two-seater I might add). There was a long list for the back seat, I understand – even I had all my equipment with me for a ride home!

Our 1-26 is in the shop for a new skin and a new look. It's going to be painted red and white, the club colours – I'm told the new colours have nothing to do to hide last year's performance of a certain yellow and white 1-26 at the Cowley wave camp. We have seen an early spring in Cold Lake but strong wind has prevented us from flying, but we managed to get all our towpilots checked out, and by the time you read this we should be flying every weekend.

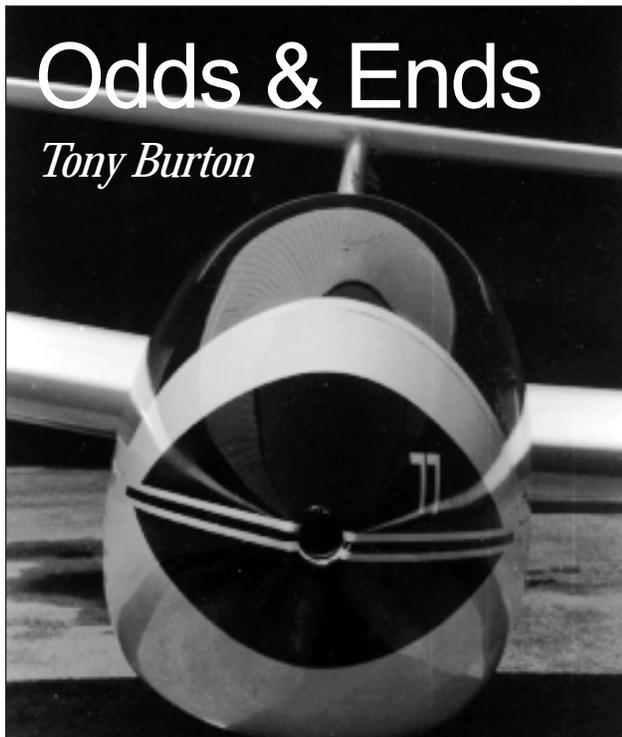
Bingo Larue

Central Alberta Gliding Club

Our club members are largely power pilots working on soloing in gliders with our 2-22. Only one of us tows and two of us instruct, and I also have responsibilities running the Sunday air cadet gliding courses at Penhold in the summertime, so it is difficult at times to get everyone together at the same time the weather is decent. This cuts into club flying quite a bit as you can imagine, but we are progressing slowly. One project we have going is getting an autotow rig operational – that should take some of the pressure off Don Hand, our towpilot.

As we get more members checked out, activities should increase. We managed to get around twenty flights last fall in the 2-22, which is in good shape now after some winter work.

Dean Gillrie



New ASC ticket The price will remain at \$17 this year. Improved ASC tickets have been printed which will go into use when the existing ones are used up this season. Space has been provided on them for badge tow release data, the registration "dot", and the new sticker (below).

New "1/2 tow" stickers Some more good news. ASC will now offer a 1000 foot sticker for \$8 which will give you an additional 1000 feet on top of whatever regular ticket(s) you are using for a specific tow. Note: only one sticker may be used on any individual tow – you won't be able to get a cheap 4000 foot tow with one ticket and two stickers! This idea came from the Vancouver Soaring Association, and will give pilots an easy way to get a 3000 foot tow which, for example, is useful on those somewhat stable days at summer Cowley, for the standard tow over at Invermere, or for that extra height to contact the wave.

BC Soaring Safari Some Vancouver Soaring Association pilots are again planning on a safari across BC to the Invermere valley this June. Last year the point-to-point schedule was fairly rigid, but this year it will be more flexible to allow more local soaring in interesting places such as Grand Forks and Elko. Alberta pilots are cordially invited to participate in all or part of the event. (I plan on flying with them at Elko to explore the route south of the border for later long flights from Golden.) Tow costs will include a surcharge to support the towplane ferrying expense. For details on dates, contact Norm McSween at (604) 943-9431 or Joe Gengenbauer at (604) 272-1817.

The 20th Cowley summer camp will be celebrated this year. Barry Bradley offered a coyote breakfast (or two, or unlimited) complete with the coyote tradition ... Special BBQ, special this and special that ... think about it!

Video library Newly available is a short amateur video which shows the KR-03A 'Puchatek' (I read this translates as "fluffy bear?!") metal two-place trainer. The ASC library is full of video tapes for your open house, get-togethers, or what have you. Also, some interesting books on soaring subjects are available on loan. Please contact Ursula.

1992 Provincials The first big event for 1992 is planned for Innisfail again on the Victoria Day weekend – no rotten weather forecast this time – right? Clubs are again encouraged to enter teams of student/mentor with a club two-place (which was so successful last year at Cu Nim)... I can see it now – Dave Fowlow and awed student in Blanik AUK, *mano a mano* against Bruno Schrein and white-faced navigator somewhere over central Alberta in the new ESC Puchacz. I would appreciate it if clubs poll their members and let me know how many are planning to attend so I have some idea what to plan for.

Aviation library I'll bet that the total volume of books ASC members own on soaring, aircraft maintenance, aerodynamics, meteorology, homebuilding, aviation fiction, etc. is considerable. I also think they would loan them to a friend if asked. So, *if everyone would send me a list of the books, periodicals, papers they would be willing to lend out (giving title, author, and a short description of content if useful, etc.), I will publish a consolidated database for club distribution – exchange would be up to the individuals.*

123.4 soaring frequency Now that 123.4 MHz has been designated as the soaring frequency in Canada, don't forget to have your station licence amended, and if you have a crystal radio, call Paul Moffat to place a low cost order (204) 633-5221. ASC will keep 123.3 MHz as the Mandatory Frequency for exclusive Cowley operations – that will give pilots one more frequency for 'personal use'.

Note from Darwin Roberts, the Sailplane Manager

The 103 Grob will be at ESC for the first few weeks as they still have not received delivery of their new two-place sailplane, and don't expect it until May. They only have one two-place flying at the moment. In order for the various clubs to have the use of the Grob, the following conditions must be met and agreed to:

- 1 It must be hangared and kept out of the weather. I know that could mean a lot of work but will be worth it considering the value of the aircraft.
- 2 An individual, preferably be a non-owner, is to be assigned to look after it, and a snag sheet kept to indicate any problems that should be attended to.

3 The receiving club must agree to see that the Grob gets to all of the ASC scheduled events.

4 A list of loose items such as canopy cover, rudder locks, logbooks, licences, is to be checked and signed by the receiving club. This is to help prevent all these loose items scattering and getting lost.

I have decided not to repair or replace the radio in the Grob as the sailplane is for sale, and also most clubs have hand-held radios that can be used for that purpose.

Preliminary survey results on future ASC sailplane

Marty has been analyzing the responses from a survey he gave to the nine members of the ad hoc committee set up at the AGM to determine what sailplane should replace the Grob. The questions he asked related the way a sailplane is to be used and maintained in the ASC now since that will drive what new sailplane should be acquired.

– *areas of strong agreement* – the primary purpose of the ASC two-seater should be for use at ASC events, it should have characteristics that make it suitable for the average club member to fly, and ASC should agree on a specific replacement before selling the Grob.

– *there were less-strong opinions in the following areas* –

- the primary purpose is not for unusual attitude or aerobatic training,
- the primary purpose should be for back-up use for club operations or assisting small dubs,
- the Grob not be replaced during the flying season,
- some agreement that the replacement be capable of outside storage,
- slight disagreement that a fibreglass should not be flown in wave,
- some disagreement whether the replacement be glass,
- a little disagreement that metal is the only option for a replacement,
- there was a balance of opinion on the replacement being aerobatic, and no opinion on cost.

– *areas of no agreement* – whether or not replacement should be metal, a primary purpose for the ASC sailplane is cross-country training, and a replacement must be capable of outside storage without damage. The work of the committee continues, more results later.

Club trailer insurance The SAC group insurance has now been amended to include \$5000 of all risks coverage on club trailers. This includes glider trailers, utility trailers, etc. (and the ASC oxygen cart).

RECORD COURSES OUT OF GOLDEN, BC

With the opportunity of getting tows from Golden now (a Citabria has been leased from Maple Creek, SK), I thought that I would do a little research on a sampling of record courses from there with the speeds required to surpass the current record. Pick one and go for it! Contact Uwe Kleinhempel at (604) 344-6665 for more info.

TURNPOINT	LAT	LONG	dist.	min ⁽¹⁾ speed req'd	max speed in kts	max ⁽²⁾ time req'd	record category	max ⁽⁶⁾ start height
Roosville border crossing	49 00.0	114 03.5	659.8	625 km	–	–	O&R distance	5790
Canal Flats forestry bridge	50 12.0	115 43.0	302.4	118.2	63.9	1h 16m	300 O&R speed	5790
Elko RR-Highway#3 crossing	49 18.0	115 07	517.8	118.4	64.0	4h 22m	500 O&R speed	5790
Whitefish airport, MT	48 24.0	114 18.5	750.2	any	any	any	750 O&R speed	5790
Arlee, MT racetrack ⁽⁴⁾	47 09.9	114 04	1011.9	97.7 ⁽⁵⁾	52.8	10h 21m	1000 O&R speed	5790
Swansea fire lookout ⁽³⁾	50 30.45	115 56.15	114.7	121.7	65.8	56m 33s	100 speed to goal	8850
Canal Flats forestry bridge	50 12.0	115 43.0	151.2	121.7	65.8	1h 14m	100 speed to goal	5900
Elko RR-Highway #3 crossing	49 18.0	115 07	258.9	112.6	60.9	2h 17m	200 speed to goal	6400
Fort Steele	49 37.0	115 37.5	210.4	112.6	60.9	1 h 52m	200 speed to goal	6150
Roosville border crossing	49 00.0	114 03.5	329.9	111.6	60.3	2h 57m	300 speed to goal	6150
Ferndale airport, MT	48 04.4	114 00	418.0	84.5	45.7	4h 56m	400 speed to goal	6275
Arlee, MT racetrack	47 09.9	114 04	506.0	100.1	54.1	5h 3m	500 speed to goal	6400

1 min speed or distance based on current record at beginning of 1 992

2 max time rounded DOWN to nearest minute

3 Lookout elevation – 5640'

4 16 km south of St Ignatius a/p

5 any speed ok for the territorial record

6 no excess height (more than 1000 m over finish elevation) is permitted on a speed record launch

Golden airport – lat 51° 18', long 116° 59' - elev 2575

More excerpts from the DoT Medical Handbook

Drugs Self-medication or taking medicine in any form when you are flying can be extremely hazardous. Even simple home or over-the-counter remedies and drugs such as aspirin, antihistamines, cold tablets, cough mixtures, laxatives, tranquilizers, and appetite suppressors may seriously impair the judgement and coordination needed while flying. The safest rule is to take no medicine while flying except on the advice of an aviation doctor. It should also be remembered that the condition for which a drug is required may itself be hazardous to flying, even when the symptoms are suppressed by the drug.

A strictly personal example: a single dose of one common cough medicine gave me such a "buzz" and dizziness within a half hour that I had to lie down for a while. Had I gone flying, I would have had to land immediately. On advice, I used another brand which didn't contain the ingredient that gave me the strong reaction. Tony

Hypoxia in simple terms is a lack of sufficient oxygen to keep the brain and other body tissues functioning properly. Wide variation occurs with respect to susceptibility to hypoxia. In addition to progressively insufficient oxygen at higher altitudes, anything interfering with the blood's ability to carry oxygen can contribute to hypoxia (anemia, carbon monoxide, and certain drugs). Also, alcohol and various drugs decrease the brain's tolerance to hypoxia.

Your body has no built-in alarm system to let you know when you are not getting enough oxygen. *Rapid change in oxygen concentration was never an evolutionary factor.* It is impossible to predict how hypoxia will manifest itself ... major early symptoms are slowed reactions, impaired thinking ability, unusual fatigue, and a dull headache. The symptoms are slow but progressive, insidious in onset, and are most marked at altitudes above 10,000 feet ... Smokers may experience early symptoms at a lower altitude [due to carbon monoxide in the blood].

Alcohol Do not fly under the influence of alcohol. An excellent rule is to allow 24 hours between the last drink and take-off time. Relatively small amounts of alcohol in the blood significantly decrease a pilot's tolerance to hypoxia. At 6000 feet the effect of one drink is that of two at sea level. [At any altitude] alcohol impairs judgement and reaction time: alcohol and flying do not mix.

Carbon Monoxide This gas is a colourless, odourless, tasteless product of combustion and is always present in the exhaust of internal combustion engines and cigarette smoke. Even minute quantities of carbon monoxide breathed over a long period of time can lead to dire

consequences. Biochemically, carbon monoxide has a greater ability to combine with the hemoglobin of the blood than oxygen, and once absorbed, prevents oxygen from being attached to the hemoglobin. The symptoms and their onset is similar to hypoxia, however it may take several days to fully recover and clear the body of this gas.

Vertigo This word is hard to define. To a pilot it means, in simple terms, that he doesn't know which end is up. In fact, vertigo during [IFR] flight can have fatal consequences. On the ground we know which way is up by the combined use of three senses:

- vision – we can see where we are in relation to fixed objects.
- pressure – the gravitational pull on joints and muscles tells us which way is down.
- inner ear – the otoliths tell us which way is down by gravitational pull.

Pilots are susceptible to vertigo in any flight condition when outside visibility is reduced to the point that the horizon is obscured. This is because vision is our dominant sense — if it is working it can overcome any lies that pressure and the inner ear are telling us about our orientation and movement.

Accelerations of the body are detected by the fluid in the semi-circular canals of the inner ear, which tell us when we change position. In the absence of visual reference, acceleration can be confused with the gravitational pull on the muscles and otoliths. The resulting disorientation is vertigo (or dizziness). Pilots should have an instructor perform maneuvers which will produce vertigo. Once experienced, later unanticipated incidents can be overcome.

The aeromedical facilities glider pilots visit to take chamber rides to experience hypoxia usually also have equipment on hand to induce vertigo. Pilots should take "advantage" of this equipment if possible. In VFR glider flight, vertigo can result from rapid movement of the head during a medium to steep turn. The motion induced in the inner ear fluid can induce a sensation of body rotation which the eyes say is not occurring. The disorientation this causes can be overcome by keeping the head still and concentrating on where the horizon is.

Vision In flying, reduced or impaired vision is always dangerous. In the air, a number of factors such as hypoxia, carbon monoxide, alcohol, drugs, and fatigue have early effects on visual acuity. Bright sunlight also affects vision; make use of sun glasses (*and eye shade*) on bright days to avoid eye fatigue. *Sunglasses should also have good UV blocking properties, since excess UV exposure (which is stronger at altitude) can cause serious long term eye damage.* ❖



Copy this and hang it by your phone.

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