



# NATIONAL NEWSLETTER

SEPT 1994

THE OFFICIAL PUBLICATION OF THE HANG GLIDING AND PARAGLIDING ASSOCIATION OF CANADA

VOL 8 ISSUE 3

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Barry Bateman asked the hang gliding competition pilots for articles and tips. Well, I am surprised that he asked me too, as I do not consider myself as a real competition pilot. I rather consider myself as an ordinary pilot that enjoy to measure its abilities in comparison to others. Since I can suffer the comparison (and learn from it) quite well, my motivation to do so just increased.

I am originally from Quebec, and I started hang gliding in Quebec City during the summer of 1984 with a second hand UP GEMINI. My fascination for flight drove me naturally into it. Because of poor weather and embryonic flying abilities, my first two years were not productive (about 30 hours only). Actually, I remember my former years as wild and harsh where the learning was left to the learner et les theories colportees sur le mouvements des masses d'air semblant plutot sortir de contes de fees. Je me souviens d'histoires de "convergences" et de "vents magiques" alors que les simples thermiques, la source du vol libre veritable, etaient ignorees ou meme fuits! "on ne peut pas decoller maintenant parce que ca "brasse trop". Je n'en reviens pas encore d'avoir entendu ca, des journees ou les conditions pour le vol de distance etaient merveilleuses. Je dois dire toutefois qu'il m'est arrive de faire le temeraire puisque je me suis retrouve parfois dans des situations perilleuses ou embarrassantes... Tout ca pour dire qu'apres avoir compris comment une aile vole, la chose la plus importante a savoir est comment se font les deplacements d'air a l'interieur de la masse d'air. En fait, je n'y connait encore pas grand chose puisque je ne suis pas un vrai de vrai de pilote de competition. Cependant, pour le pilote interesse, je crois que je peux dire qu'en competition (ou non), il est preferable d'en savoir plus que moins. Je n'ai aucunement l'intention d'expliquer ici, ce que des gens plus competents ont deja publies dans des livres. Voici donc brievement ce que je pense avoir appris au cours de mes trois dernieres annees de vols.

La meteo est probablement le point le plus important pour avoir une idee du compartement de l'atmosphere pour le vol. La presence d'autres lors de competitions peut avoir divers effets sur votre performance mais si vous etes un debutant, elle devrait etre extremement benefique. Voici les questions que je me pose avant et pendant un vol de distance, surtout en competition. Jusqu'a maintenant, je n'ai jamais eu toutes les reponses.

1. Quels seront les vents en vol? Il est non seulement bon de connaitre les vents au sol (vallees) et en altitude, mais encore leur evolution au cours de la journee.

2. Comment seront les thermiques? C'est la meme chose que pour les vents. Et c'est encore plus crucial puisque des conditions locales vont souvent avoir une influence determinante sur qualite des thermiques.

3. Ou sont les thermiques? Les thermiques poussent comme les fruits sauvages, certains terrains leur sont propices. Ils se developpent donc en grappes a des endroits particuliers qui peuvent changer (mais pas tant) d'un jours a l'autre.

4. A quelle altitude doit-on se tenir? Bonne question. Cela depend surtout de la presence d'inversions (et des vents). Par exemple, une faible inversion en basse altitude rendra tres difficile une remontee lorsque en dessous, alors qu'il sera tres facile de grimper les milliers de thermiques qui se trouvent juste au dessus.

5. Quand decoller? Cette question toute bete fait souvent toute la difference entre une bonne journee et un flop. La difference etant plus grande en conditions marginales. C'est la que la meteo locale prends de l'importance, a savoir comment les thermiques devraient evoluer au cours de la journee. De plus, cette question nous amene a parler de l'effet des autres competeurs sur votre performance. Pour beaucoup de competeurs, le bon moment est celui ou les pros y vont et peu savent vraiment quand y aller par eux-memes.

6. Quel itineraire suivre? Si vous ne connaissez pas le terrain, il n'y a qu'a suivre votre pif. Cependant, la plupart des gens s'aident en volant en groupes. En sortant d'une region thermique, les pilotes s'eparpillent. Lorsqu'ils remontent dans la region d'ascendances suivantes, ils s'amassent en tas bien visibles. Essayez de suivre en comprenant pourquoi (pour la prochaine fois) tel endroit est meilleur que tel autre. Si vous connaissez le terrain, vous savez habituellement quels endroits donnent et quels endroits prennent. La position du soleil et les vents peuvent aider a faire des predictions.

7. A quelle vitesse aller? Personnellement, je vais a ma vitesse naturelle (tres lent) pour m'assurer un bon vol (tres long). C'est souvent bon lorsque les conditions sont marginales et qu'une bonne partie des pilotes se ramassent vite au sol. Par contre, c'est beaucoup trop lent lorsque les conditions sont boumantes (vous voyez les autres vous dépasser) et lorsque la tache est longue (vous manquez de gaz avant le but). Ici, l'aile que vous possédez peut faire

une difference sur votre classement, mais votre comportement reste le plus important.

8. Que faire quand bas? Premierement, je dirais qu'il faut avoir un terrain d'atterrissage a l'oeil. Ensuite, voir si d'autres pilotes montent du thermiques a portee de vol. Sinon, utilisez votre technique de grattage habituelle (et restez proche d'un atterro).

9. Dois-je emmener une carte? Cela depend de la tache. Je cherche plutot a memoriser le trajet a effectuer et je verifie sur carte en cas de doute (pour les endroits a prendre en photo surtout).

10. Quelle radio utiliser? Une radio peut etre bien utile pour avoir de l'aide. Par contre, certaines personnes s'amusent a vous induire en erreur. Peu importe, puisque, ultimement, elle peut vous aider a vous sortir du bois. Personnellement, je prefere la radio sur frequence aeronautique, c'est ce que tout les pilotes devraient utiliser. Cependant, plusieurs aiment garder leurs secrets en vol et usent alors le FM.

En plus de ces questions, reste les problemes du transport de l'aile au decollage, de la recuperation de l'aile et de l'automobile et de vous-meme. Franchement, la plupart du temps je ne suis pas fort dans ces items. En competition cependant, le nombre de personnes circulant permet des arrangements acceptables.

Le cote humain peut-il poser probleme? Il parait qu'en competition, certains ont tendance a nuire. Certaines personnes tenteraient d'induire en erreur, de faire peur, voire de blesser ou d'empoisonner (pas gravement quand meme) un adversaire. Ne croyez pas cela. Quoique... Personnellement, je trouve que le vol libre est assez defficile en soi, je ne vois pas l'utilite d'y rajouter des ecueils artificiels.

Ceci etant dit, ne vous genez surtout pas pour faire de bon vols et d'apprécier a sa juste valeur, l'incroyable puissance du soleil.

# '93 ACTIVE AIR SPORTS SHOPPING TOUR

REPRINTED FROM THE HGFA SKYSAILER

*(Active Air Sports is a company offering tours in the US)*

Aah, yes... the '93 Active Air Sports shopping tour. I remember it as if it were yesterday. The dreams and aspirations of ten spirited pilots scrimping and saving, denying all earthly pleasures in order to be in California midway thru summer and the height, the apex, the pinnacle of, for some, many years of sacrifice: the greatest collection of shops in the entire Universe!

Let's forget the petty obstacles that were so ably conquered in our lust for bigger and better bargains. Who amongst our group wouldn't laugh at the pathetic attempts of the LA Airport staff to pretend (for over two hours, mind) that there were absolutely no hang gliders upstairs in the out-of-bounds-to-aliens-like-you cargo area. "Absolutely. Trust me. I've checked," the official pleased, giving us her best used car salesperson look. "Nothing up there but ten cardboard cylinders, twelve feet long bearing Australian markings and covered with FRAGILE signs..."

A mere piffle, a mild diversion compared to trying to fit ten and later eleven gliders on one vehicle without actually trampling the roof. Or how about at Venice Beach where the only set of keys to the aforementioned vehicle had disappeared and I spent one and a half ours berating Tony and everybody else in earshot about the need for responsible, mature leadership. All the while playing pocket billiards with what I, in my jet lagged (some say usual) state, thought were the keys to my house.

One need not mention the disparity of eleven people. The impossibility of having breakfast quickly or, "Don't get out, fellas, we're just stopping for gas...no! hang on, fellas. Quick someone lock the door. Oh my GOD one of them got away."

"Hey John...John! See if they've got one in white, size large, yeah, yeah, the one with Lone Pine on it. Pay ya back later..."

Oh, and of course our attempt at the World Record for Retrieve of Pilots. We actually tried for several categories including:

- \* Longest retrieve; at twenty four hours between first pilot and last (including gliders);
- \* Shortest handle; A draw between the three inch jack handle and Tony Armstrong (flying off the...);

- \* Largest fine: (we haven't been caught yet so technically this doesn't count) for denuding a National Park of several acres of environmentally sensitive brush (and the occasional rattler) in order to lay down a path over the sand on which yours truly had driven the truck (including bowed-in roof) and couldn't back out of!
- \* Most expensive knee. US\$700 not including margaritas, when Damien Virieux hitch-hiked into Bishop, became "happy" and disappeared off into the unknown with two locals. Damien also qualified for the biggest liar award when he stated that he doesn't know what happened to his knee; and finally the;
- \* Bravest Man Award to Gary Omundsen for not only being the first pilot retrieved, for not only coming with me as company instead of staying at Independence but, after six hours of digging by hand in the "quicksand", being prepared to drink warm beer. Heroic indeed notwithstanding it was a Samuel Adams.

I guess I could (should) tell you about the smog of Crestview, the nine thousand foot take off at Horseshoe Meadows, the broken uprights, keels, egos and pride. Or what about the turbulence, "Postage Stamp" landing zone, height gains to almost twenty thousand feet, distances over one hundred miles, the P.B.s (even getting off at some of these places involved P.B.s!)

But what the hell, it's much more fun to remember the other things that happened. The problems, the mistakes, the waitresses (ahh, the waitresses; what a story there...) The new friends made: Samuel Adams, Sierra Nevada, Negro Modello, Dos Equis, all fine and wonderful companions and not quickly forgotten.

Russell Ferrier

## THE UNIVERSAL TRANSVERSE MERCATOR GRID

While preparing to do the scoring for the Western Canadian Championship last year at Golden, B.C. I was trying to come up with an alternative to measuring flight distances the traditional way, laying out maps end to end and/or corner to corner and using a tape measure. This method is less than convenient and the accuracy is dependent on how well the interconnecting maps are aligned and how carefully the measuring is done. If they are not permanently attached the problem is even worse.

My first thought was to use the latitude and longitude of launch and landing positions and do a Great Circle Distance calculation. Although the GDC calculation is relatively complex, because I use a spreadsheet to implement the 600 point scoring system it would be easy to add the calculation to the spreadsheet. When I pulled out a topographic map I found the lat. and long. information is printed on the map borders but in the middle of the map it is difficult to find the exact coordinates.

This is when I noticed a grid of blue lines on the map connecting numbers on the borders. This grid is known as the Universal Transverse Mercator Grid ( UTM Grid ). The UTM Grid is used to determine position. The grid lines on 1:50,000 maps are 2 cm. apart representing 1000 meters. On this map scale 1 mm. equals 50 M so position can be determined to the nearest 50 M.

A UTM Grid reference consists of two numbers. These numbers are referred to as Northing and Easting. If the UTM Grid references are known for two points the distance between the two points can be easily calculated. The north/south offset can be found by subtracting the two Northing values and the east/west offset can be found by subtracting the two Easting values. The results are the lengths of the two sides of a right triangle. Using the Pythagorean Theorem to calculate the hypotenuse,  $\text{SQRT}((A * A) + (B * B)) = D$ , gives the distance. Where A and B are the lengths of the two sides and D is the distance.

To determine the grid reference of a point all that is required is the 1:50,000 scale topographic map containing the point. Locate it on the map and find the Easting and Northing values as shown below.

### Easting

Read the number of the grid line immediately to the left of the point. The Easting grid line numbers are shown along the top and bottom borders of the map. Measure the distance between the point and the grid line in millimetres and multiply by .05. Add this decimal to the grid line number.

### Northing

Read the number of the grid line immediately below the point. The Northing grid line numbers are shown along the left and right borders

of the map. Measure the distance between the point and the grid line in millimetres and multiply by .05. Add this decimal to the grid line number.

### Example

UTM Grid reference for the highway intersection at Parson.

The number of the grid line immediately to the left is 525. The intersection is 7mm from the line,  $7 \times .05 = .35$ . Adding these two numbers gives an Easting value of 525.35.

The number of the grid line immediately below is 5657. The intersection is 13mm from the line,  $13 \times .05 = .65$ . Adding these two numbers gives a Northing value of 5657.65.

For scoring the competition the pilots found their grid references and entered them on their landing forms. The launch and turnpoint grid references were already entered in the spreadsheet and when the landing points were entered from the landing forms the distances were calculated automatically. To make it easy to find the landing point grid references a 2 cm. scale with 1 mm. graduations was printed on each landing form so all that was needed was the correct map and a landing form. Considering it was a new concept there were no major problems and was accepted by the pilots pretty well. It was especially easy for two of the pilots to get their grid references because they were flying with the Trimble Flightmate GPS Receiver. One of the optional outputs of the Flightmate is the UTM Grid.

There is one drawback to the UTM Grid that I'm aware of. Because it is a square grid projected on a spherical surface there are correction lines on the Grid. If a flight crosses one of these correction lines it may not be possible to use this method for distance calculation. Fortunately these correction lines are quite far apart so normally are not a problem. The only one I know about is along 114 deg W longitude, which runs north/south through Calgary. A little more investigation into this problem is necessary.

I would like to thank Wayne Blumstengel, the League's resident Geography Guru, for his help in understanding the UTM Grid and the pilots at the competition for being the guinea pigs for this new method.

The UTM Grid will be used again at the Western Canadian Championship in Golden this year. If you would like more information or a copy of the spreadsheet files in Microsoft Works format call me at (403) 293-4008.

One last point. In the Report on 1993 Canadian Points Standings by J.C. Hauchecorne in the last issue, J.C. made the mistaken statement that there were only two excellent meets in Canada last year. At the Western Canadian Championship all three scheduled days were valid XC days with good weather and a total of over 1540 km flown by the 16 pilots attending. Ask any of the pilots that were there and I think they will tell you this was an excellent meet.

This is not unusual though, we have had good luck for the past several years on this weekend in Golden. If your looking for a well organized meet combining a relaxed, fun atmosphere, challenging tasks and high calibre competition consider attending this year, July 30 - August 1, in Golden, B.C.

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# 1994 COMPETITION SCHEDULE

<u>DATE</u>	<u>PROV</u>	<u>COMPETITION</u>
<b>Feb 18-25</b>	Brazil	<b>PARAGLIDING WORLD CUP</b> Governador Valadares, Brazil. (1st Harry Buntz, (D) Nova; 2nd Patrick Holmes (GB) Edel; 3rd Bruce Goldsmith, (GB) Airwave)
<b>March 17-27</b>	Japan	<b>PARAGLIDING WORLD CUP</b> Kitakkyushu, Japan. (1st Hans Bollinger, (CH) Advance; 2nd Richard Gallon, (F) UP; 3rd Stephan Stieglaiar (A) ?)
<b>April 1-3</b> April 9	BC BC	<b>SAVONA EASTER MEET:</b> ( 1st Don Glass, (BC); 2nd Jack Schaule, (BC); 3rd Kevin Caldwell, (Alta) Desire) <b>5th ANNUAL BLACKCOMB PARAGLIDING MEET:</b> (1st Ray Kehl, Seattle; 2nd Derek Hutchinson, (Nth Van); 3rd Mike Roberts, (Lasqueti Island))
<b>April 16-23</b> April 21-25	TN Ca	<b>EAST COAST CHAMPIONSHIPS:</b> <b>TORREY PINES AIR RACE:</b> (1st Brian Porter, 2nd Jeff Williamson, 3rd Chris Muller)
<b>April 30-</b> <b>May 21-23</b>	BC BC	<b>WEST COAST SOARING CLUB XC SERIES:</b> (1st J.C. Hauchecorne, 2nd) <b>1993 CLUB CUP:</b> (1st Geoff Dossetor; 2nd 3rd)
<b>May 24-29</b> <b>June 1-5</b>	CH Aus	<b>PARAGLIDING WORLD CUP</b> Grindelwals, Switzerland: <b>PARAGLIDING WORLD CUP</b> Zillertal, Austria: (1st Hans Bollinger (CH); 2nd Armin Eder, (A), 3rd Oliver Neff (CH) 22nd Chris Muller (Can))
<b>June 4-5</b> <b>June 5-12</b> June 25-26	Que NM Alta	<b>THETFORD MINES</b> Contact Francois Dussault (418) 338 6798 <b>SANDIA CLASSIC</b> Albuquerque, New Mexico <b>22nd ANNUAL COCHRANE MEET</b> Cochrane, Alta. Race to goal and/or target landings for hang/paragliders. Pilots meeting 10:30 am on 25th Free camping. Entry fee \$35. Contact Muller Hang Gliding (403) 932 6760
<b>June 17-29</b> <b>June 24-26</b> <b>June 27-</b> <b>June 29-</b> <b>July 4</b>	USA Que SP Wash	<b>#1 REGIONALS</b> Chelan, Wash. Contact Davis Straub (206) 322 1184 <b>MONT YAMASKA</b> Contact Claude Fiset (418) 826 0882 <b>1994 PRE WORLDS</b> Ager, Spain For more details contact J.C. Hauchecorne. <b>CHELAN CROSS COUNTRY CLASSIC</b> Washington, USA. Contact Davis Straub for details. (206) 322 1184
<b>July 1-10</b> July 6-22	Que BC	<b>FESTIVAL MONT SAINTE-ANNE</b> Contact Claude Fiset (418) 826 0882 <b>NATIONAL FLY-IN</b> Mont Kobau, Osoyoos Contact Wayne Bertrand (604) 765 2359, Fred Wilson (604) 474 5784 or Rick Hunt (604) 767 6717
<b>July 9-10</b> <b>July 16-17</b> <b>July 5-15</b> <b>July 17-24</b>	Que Que Wash BC	<b>CLUB OUTAOUAIS</b> Contact Jacques Champagne (819) 827 3764 <b>MONT EDOUARD</b> Contact Carl Girard ( 418) 545 3932 <b>WOMENS WORLD CHAMPIONSHIPS</b> Chelan Washington. Contact J.C. Hauchecorne (604) 521 1559 <b>CANADIAN NATIONALS (HANG GLIDING)</b> Golden BC Race to goal & out and returns. Entry fee \$50 Pilots meeting at 9:00am on 17th at municipal campground. Req; HPAC/ACVL insurance, helmets, parachutes, 35 mm camera. (Rides available for \$10 per pilot, contact Wayne Houlbrooke) Contact J.C. Ron Bennett Meet Director (403) 239 7378
<b>July 16-22</b>	BC	<b>THE GREAT FLYIN</b> Oliver BC For paragliders and hang gliders. Contact Fred Wilson or Wayne Bertrand for more details (604) 474 5785
<b>June 23-29</b> <b>July 23-</b> <b>Aug 7</b>	BC Que	<b>BC PARAGLIDING CHAMPIONSHIPS</b> Mont Kobau, Osoyoos Contact Wayne Bertrand (604) 765 2359 <b>MONT ST-PIERRE</b> Contact...?
<b>July 24-30</b> <b>July 30</b>	Spain BC	<b>PARAGLIDING WORLD CUP</b> Pedrahita, Spain. Part of the World Cup series. Contact Vincene Muller for details. <b>CANADIAN NATIONALS (PARAGLIDING)</b> Golden B.C. Race to goal & out and returns and open distance. Registration at 8-9:00 am at Nicks Restaurant (9th & Hwy 93) Req; HPAC/ACVL insurance, helmets, parachutes, 35 mm camera. (Rides available for \$10 per pilot, contact Wayne Houlbrooke) Contact Muller Hang Gliding (403) 932 6760
<b>Aug 1</b> Aug 1-3 <b>Aug 16-2</b> <b>Aug 6-13</b> <b>Aug 28-</b> <b>Sept 4</b>	BC France CO France	<b>SALT SPRING FLY IN</b> Salt Spring Island, BC Contact Les Sainsbury (6704) 727 3819 <b>PARAGLIDING WORLD CUP</b> Avoriaz, France. Part of the World Cup series. Contact Vincene Muller for details. <b>US NATIONALS</b> Mt Princeton, Colorado. Contact Jim Zeiset (719) 539 3335 (Dates/location tentative) <b>PARAGLIDING WORLD CUP</b> Chamonix, France. Final comp in the World Cup series. Contact Vincene Muller for more details.
<b>Sept 2-4</b> <b>Sept 3-5</b>	Que BC	<b>ROUGEMONT</b> Contact Victor Noel (514) 674 7184 <b>TEAM MEET</b> Cache Creek, BC. XC racing task. 4 man teams. Based out of Cache Creek with flying from Clinton, Cornwall, Basils and Savona. (All within 45 min of Cache Creek) Discount camping at the Cache Creek Campground. The best flying in BC this time of the year. Treat your lady/driver to the gastronomical delights of the Ashcroft Manor, whose pasture is the LZ and goal! Entry fee \$25 Contact Barry Bateman (604) 888 5658
<b>Sept 23-25</b> Sept	Que USA	<b>MONT SAINT ANNE</b> Contact Claude Fiset (418) 826 0882 <b>CAN-AM</b> Maple Falls, Wash.

(Meets with dates in bold are eligible for sanctioning. Questions? Contact: J.C. Hauchecorne, HPAC/ACVL Competition director)

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