Hang Gliding and Paragliding Association of Canada
Association Canadienne de Vol Libre

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Abbotsford, British Columbia. V2S 6B7
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Airspace/Aero Club: Stewart Midwinter
444 23rd Ave N.W., Calgary, Alberta. T2M 1S4
home; (403) 230 7769

FAI/Records: Vincene Muller
R.R. #2 Cochrane, Alberta. T0L 0W0
home; (403) 932 2759

Paragliding: Armin Frei
4283, West 15th Ave, Vancouver, B.C. V6R 3A5
home; (604) 224 5493

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home; (519) 742 5744

Safety: Fred Wilson
504, Windthrop Rd, Victoria, B.C. V9C 3B5
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Instructor Committee; Chairman: Ron Bennett
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home (403) 239 7378; fax (403) 221 6950

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Front cover:
Mia Schokker towing behind Martin Henry's (her husband) tow rig just west of Chelan. Photo by Barry Berto. .....

PROVINCIAL ASSOCIATIONS

Hang Gliding and Paragliding Association of British Columbia
1846, Vine Street, Vancouver
British Columbia, V6K 3J7

Alberta Hang Gliding Association
Box 2001, Stn M, Calgary,
Alberta, T2P 2M2

Saskatchewan Hang Gliding Association
303 Main Street South, Moose Jaw,
Saskatchewan S6H 4V8

Manitoba Hang Gliding Association
200, Main Street, Winnipeg,
Manitoba R3C 4M2

Ontario Hang Gliding and Paragliding Association
1220 Sheppard Avenue East, Willowdale,
Ontario M2K 2X1

L` Association Quèbècoise De Vol Libre
4545 Pierre de Coubertin, C.P. 1000, Succ, M,
Montréal H1V 3R2

Hang Gliding Association of Newfoundland
16, Woodbine Ave, Corner Brook
Newfoundland A2H 3N8

HPAC/ACVL President's Report

HPAC/ACVL Elections

At this years AGM, the HPAC/ACVL did not have elections. The start of a dictatorship you ask? No, we simply ran out of time!

In order that this slight democratic oversight be addressed the HPAC/ACVL intends on a full election for the 1994 AGM (location to be announced).

All National positions will be open for contention. If you are a member and could find the time to serve your association please step forward and submit your name. All that is required is a open mind, a willingness to provide ideas and a commitment to further the development of the HPAC/ACVL.

All resume should be filed with your Provincial Association and copies forwarded to the HPAC/ACVL Administrator.

Martin Henry
President HPAC/ACVL

Élections

Aucune élection n'a eu lieu à l'AGA de la HPAC/ACVL cette année. Est-ce le début de la dictature, demanderez-vous ? Non, c'est simplement que le temps a manqué.

Afin de remédier au petit accroc ainsi fait à la démocratie, la HPAC/ACVL se propose de procéder à des élections complètes lors de l'AGA de 1994 (emplacement à être annoncé).

Tous les postes nationaux pourront être disputés. Si vous êtes membre et pourriez trouver le temps de servir votre association, soumettez votre nom et présentez-vous. Il s'agit simplement d'avoir l'esprit ouvert, d'être disposé à fournir des idées et d'être sincèrement désireux de contribuer à l'évolution de la HPAC/ACVL.

Faites parvenir votre CV à votre association provinciale et envoyez-en une copie à l'administrateur de la HPAC/ACVL.

Le président de la HPAC/ACVL
Martin Henry

"Experience comes from Bad Judgement,
Good Judgement comes from experience"
Wise Ole Owl

HPAC/ACVL Information Bulletin: May 8th 1993

The HPAC/ACVL is pleased to announce the appointment of Mr. Armin Frei (604-224-5493) as the HPAC/ACVL Paragliding Director.

Armin's first project as the Paragliding director is to chair a Paragliding Ratings Committee.

The Paragliding Ratings Committee will be reviewing the present rating system, other national rating systems, and a two level rating system that was proposed at this years AGM.

The purpose of this Committee is to formulate a new and revised rating system that is coordinated with the IPPI (Safe Pro) in time for approval at the 1994 AGM.

Any persons willing to make a contribution to the committee are asked to contact their Provincial Associations Paragliding Director for more information on the Paragliding ratings committee.

The HPAC/ACVL encourages that all interested parties should try to make their opinions known.

The response received by September 1st will be used to determine the necessary size of the Ratings Committee.

To obtain a copy of a Ratings Committee Questionnaire, Provincial Paragliding Directors should mail in a request directly to Armin Frei c/o the HPAC/ACVL National address;

HPAC/ACVL
3595 Old Clayburn Road,
Abbotsford B.C. V2S-6B7.
(Fax or Phone) 604-882-5090

Martin Henry. HPAC/ACVL (President)

Bulletin National

Communiqué de la HPAC/ACVL en date du 8 mai 1993

La HPAC/ACVL se fait un plaisir d'annoncer la nomination de M. Armin Frei (604-224-5493) au poste de directeur du 'paragliding' à la HPAC/ACVL.

Le premier projet d'Armin en sa capacité de directeur sera de présider un comité d'évaluation du 'paragliding'.

.....continues

HPAC/ACVL Directors Reports & Updates

Hang Gliding & Paragliding Schools

I am currently compiling a list of all schools in Canada for Hang Gliding and Paragliding. This list will be made available to anybody contacting the HPAC/ACVL requesting information regarding lessons and instruction.

To make this list as complete as possible I'm asking **all schools** to respond as soon as possible (I'm already getting lots of inquiries) so that I can start providing this service to potential pilots.

The information I require is:

- Name, address and tel/fax# of School
- Owner of the school
- Type of instruction available (hang gliding, paraglidng or both)
- Method of instruction available (Foot launch, Tow launch, Tandem).
- Name of Chief Instructor; Hang Gliding
- Name of Chief Instructor; Paragliding
- List of all other instructors, HG
- List of all other instructors, PG
- List those instructors who are/are not currently HPAC/ACVL certified.
- Does the school carry HPAC/ACVL liability insurance.
- Number of gliders available for instruction
- List any advance courses available.
- Any other pertinent information.

Barry Bateman
HPAC/ACVL Administrator

continues.....

Ce comité passera en revue le présent système d'évaluation, les autres systèmes d'évaluation nationaux et le système d'évaluation à deux paliers qui fut proposé à l'AGA de cette année.

L'objectif de ce comité est de formuler un système nouveau et révisé d'évaluation qui soit coordonné avec celui de l'IPPI (Safe Pro) dans un délai tel qu'il puisse être approuvé à l'AGA de 1994.

Quiconque aimerait apporter sa contribution au comité est prié de communiquer avec le directeur du 'paragliding' de son association provinciale afin d'obtenir des informations supplémentaires sur le comité d'évaluation du 'paragliding'.

La HPAC/ACVL invite toutes les parties intéressées à faire connaître leurs opinions.

Les réponses reçues d'ici le 1er septembre détermineront combien de membres le comité d'évaluation devrait avoir.

Pour obtenir un exemplaire du questionnaire du comité d'évaluation, les directeurs provinciaux du 'paragliding' devraient faire parvenir leur requête par la poste directement à Armin Frei, a/s de l'association nationale, c.à.d. HPAC/ACVL, 3595 Old Clayburn Road, Abbotsford, C.B. V2S 6B7.

Le président de la HPAC/ACVL,
Martin Henry

THE HAGAR EXAM & RATINGS

Currently the HAGAR exam is being conducted by Transport Canada and as yet we, the HPAC/ACVL have no way of knowing who has or has not taken, and more importantly, passed the exam.

As it is possible that in the near future, having passed the HAGAR exam may become a requirement to enter sanctioned competitions, it is essential that the HPAC/ACVL record all those pilots who have passed.

To this end I am starting to compile a list, which will be appended to the ratings list, of those pilots who have taken and passed the exam.

What I will require for verification of you having passed the HAGAR exam is a photo copy of the Transport Canada (TC) letter that you received from TC which contains your TC file# (6 digits beginning with the #4) and your pass mark or, if you're the holder of a current pilots licence, a photo copy of your pilots licence.

Send/fax it to;

Rick Miller
HPAC/ACVL Ratings Officer
10435 79th Ave, Edmonton, Alberta. T6E 1R7
home (403) 461 3592; fax (403) 433 0170

HPAC/ACVL RATINGS

I've had several inquires by members who are concerned that they do not their HPAC/ACVL rating listed on their HPAC/ACVL membership card. Don't panic, it doesn't mean you're not rated.

Due to the lengthy process of the administration office start-up, coupled with an already functioning rating system, the inclusion of every known rated pilot in Canada into the HPAC/ACVL database was felt to be something that could be left to a later date.

By the 1994 membership year it will be in place and your rating will appear on your membership card. Until then the green HGAC rating card which you should have is still valid and should be carried with you when visiting new sites.

If you're not sure if you have a HPAC/ACVL rating, contact Rick Miller at the address/phone on the inside front cover.

Barry Bateman
HPAC/ACVL Administrator.

HPAC/ACVL PARAGLIDING INSTRUCTORS COURSE

May 1 & 2 1993
Cochrane, Alberta

The agenda was followed and completed except for the practical teaching presentation by each participant which was cancelled due to unfavourable weather conditions. The course was completed at this time and a "round table" discussion replaced the session.

Participants are reminded that in order to maintain instructors certification it is necessary to comply with the "conditions of certification".

Appropriate reports are to be sent to Ron Bennett, Chairman, HPAC/ACVL Instructors Standards each year (to be received before Jan 31st, 1994). Ron can therefore have his list current to present at the HPAC/ACVL Annual General Meeting (usually held in March) of each year.

Willi Muller, Course organizer.

HPAC/ACVL Directors Reports & Updates

NEW HPAC/ACVL LOGO

Due to the busy schedule that I was under when I produced the last issue of the National Newsletter, I neglected to inform the you of a contest to design a new HPAC/ACVL logo.

Those of you who read through the minutes of the last AGM would know that the modified logo currently being used is a temporary one until the next HPAC/ACVL AGM when the directors will vote on a permanent logo.

Therefore, all you budding graphic designers out there, this is your chance to show your stuff. The logo needs to reflect both hang gliding and paragliding, reproduce well in black and white and incorporate both French and English.

The winning design will become the property of the HPAC/ACVL and the winner will receive a years free membership in the HPAC/ACVL along with clothing bearing the new HPAC/ACVL logo. (Subject to the HPAC/ACVL directors approval)

Send your submissions to:
HPAC/ACVL Administration Office
21593, 94A Ave, Langley, B.C. V1M 2A5

PARAGLIDING FATALITY

Edward J. Wilding died April 11th 1993 while paragliding on Slocan ridge in the south central BC interior. Two pilots hiked 2000 ft up the corner of the ridge where the three valleys converge and took off from a 200 ft vertical cliff. The first pilot, reportedly on his first high flight, flew out successfully, but Mr. Wilding experienced a canopy collapse shortly after takeoff and crashed into the burn area below. Few other details are available at this time. We do know that there was stormy weather that day in the valley with a succession of snow squalls and 30 MPH winds gusting north and south. Mr. Wilding did not have a HPAC rating or membership in the HPAC.

Fred Wilson; Safety Director

Notice to all Pilots - Hang Gliding or Paragliding

If you are interested in attempting Canadian Records or obtaining Delta, Silver or Gold (hang gliding); Eagle, Silver or gold (paragliding) you need the following before the season starts:

- Membership in a Provincial Association which is a member of the Hang Gliding & Paragliding Association of Canada
- FAI Sporting Licence; Cost $15 + $1 postage & handling
- Barograph

Application Forms for 'Sporting Licences' are available from:

Vincene Muller;
HPAC Records and Statistics
RR#2 Cochrane, Alta, TOL OWO

Cost of the Sporting Licence is $16.00

If you want information on Records and Badges you can also get the Record/Badge Information Package from Vincene Muller.

This includes:

- HPAC Guide to Records and Badges
- Current list of Official Observers
- Current list of Canadian and World Records (and records pending)
- Task Declaration Form
- Sporting Licence Application Form
- *Official Observer Form
- FAI Sporting Code

This package of information cost $10.00 (add $1 for postage and handling)
Make cheque or money order out to:

The Hang Gliding & Paragliding Association of Canada

If you have any questions, write Vincene Muller or phone or fax (403)932-6760.

Remember:

- To apply for a World Record or represent Canada at a World Championship it is necessary to have an FAI Sporting Licence issued by our National Aero Club.
- A record attempt is not valid unless the Aero Club has issued the licence before the attempt!
- A sporting licence is valid January to December and should be renewed yearly.
- It is necessary to be a member of a Provincial Association and the HPAC before the Sporting Licence is applied for.
- To apply for badges a sporting licence is not necessary. (However it would be a shame to make a record flight with a barograph and not have paid for the sporting licence!)

*Please ensure that any Official Observers that you appoint are familiar with the Sporting Code and the Study Guide. If you have a good observer they will make sure that all the paperwork is completed correctly.

Vincene Muller.
HPAC/ACVL
Records & Statistics

NOUVELLES CERTIFICATIONS PARAPENTE

Quiconcque désire contribuer des idées, des suggestions et des bauques de questions es prié de les faire parvenir à:

Armin Frei
c/o Martin Henry
3595, Old Clayburn Road
Abbotsford, B.C.

Thanks!/Merci!
Armin Frei
Paraglidng Committee/Comité Parapente

NEW PARAGLIDING RATINGS

Anyone willing to contribute ideas, suggestions and question banks is cordially invited to send them to:

HPAC/ACVL Directors Reports & Updates

HPAC/ACVL INSTRUCTORS STANDARDS

Last year I put an open letter in the National Newsletter inviting input to the process of revising our instruction standards. From that I received a reasonable amount of feedback and proceeded to revamp the structure and criteria for hang gliding certifications as well as adding endorsements for two levels of tandem ratings. Part way through the year I had a request from the paragliding Committee to undertake the writing of standards for them as well. With some input from the paragliding community at large I came up with a set of standards which closely parallels the hang gliding standards. In fact, the structure is identical and the criteria is similar except for the differences in the two disciplines.

All that went to the Board of Directors, and the new standards were adopted at the AGM in March. This is the first revision we've made since 1988.

So, how does it all work? Well, the mechanics are fairly simple. The Board appoints Sr. Instructors and awards Tandem II Endorsements; Sr. Instructors run seminars and recommend new certifications; Tandem II Instructors run Tandem seminars and recommend new Tandem I endorsementsl; the Instruction Standards Committee Chairman (me) keeps the records and advises new certifications; and the HPAC/ACVL Administrator issues updated membership cards showing the new certifications/endorsements.

What's next? I think the area needing the most attention is that of standardizing the course content for the Instructor/Tandem seminars across the country. Over the next year I'll be working with the Sr. Instructors to insure that some key topics are being covered in their seminars such as instructional techniques and pilot decision making. Another area of concern is towing. I'd hoped to include some standards with this current revision, but I found the scope of subject to be fairly broad given the diversity of techniques in use. However, we'll want to come up with some minimum criteria to define what's acceptable to the HPAC/ACVL.

Underlying all of this effort on the part of the HPAC/ACVL towards self-regulation is safety, for the pilots and for the public. If we don't do it, Transport Canada will surely do it for us.

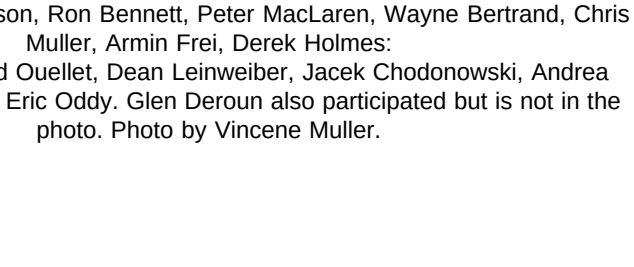
If you have any questions or concerns about instruction standards, please don't hesitate to call or write.

Ron Bennett, Chairman
Instruction Standards Committee
339, Hawkhill Place N.W.
Calgary, Alta. T3G 3H7
Days (403) 221 6811
Eves (403) 239 7378
Fax (403) 221 6920

(Turn to page 31 for a complete list of current HPAC/ACVL rated Instructors)

In the beginning was the Plan.
And then came the assumptions.
And the assumptions were without form,
and the plan was without substance; and darkness was upon the face of the pilots. And they spoke among themselves: "It is a crock of shit and it stinketh". And the pilots went to their Club Directors and said, "It is a pail of dung and none may abide the odour thereof." And the Club Directors went unto the Provincial Directors, saying, "It is a container of excrement and it is very strong, such that none may abide by it." And the Provincial Directors went unto the Provincial President saying, "It is a vessel of fertilizer, and none may abide its strength." And the Provincial President called the other Provincial Presidents and they spoke among themselves, saying to one another, "It contains that which aids plant growth, and it is very powerful." And the Provincial Presidents went upon the National Directors, saying unto them, It promotes growth, and it is very powerful." And the National Directors went unto the Almighty Emperor, saying unto him, "This new plan will actively promote the growth and vigour of the association, with powerful effects." And the Almighty Emperor looked upon the Plan, and saw it was good.
And the plan became policy.
And that is how shit happens.

BY: CAN PARA



Participants in the **Paragliding Instructors Course** held at Cochrane Alberta, Left to right, back row; Max deJong, Sean Dougherty, Daryl Sawatsky, Murney Luchicia, Charles Smith, Scott Nicholson, Ron Bennett, Peter MacLaren, Wayne Bertrand, Chris Muller, Armin Frei, Derek Holmes:
Front row; Richard Ouellet, Dean Leinweiber, Jacek Chodonowski, Andrea Gacel, Willi Muller, Eric Oddy. Glen Deroun also participated but is not in the photo. Photo by Vincene Muller.

Re: Safety Report by Stewart Midwinter

On January 30, a close friend of mine, Richard Gibson, was involved in a serious accident at a local Alberta site. Richard's condition was critical, and a long night and following day was spent at Richard's side with family and friends. Because of the sensitivity and gravity of the situation, (and Stewart's past conduct), I called Stewart and asked him on behalf of the family and friends, to not print his version of this accident. We had agreed that the League members and pilots that were present would send in a report. Stewart's reply was that he would certainly respect our wishes and that anyway, he didn't print a report unless he received one.

Well, when the March newsletter came out there was Stewart's Safety report regarding Richard's accident. I guess I shouldn't have been surprised that Stewart had lied to me. It did bother me that the HPAC would print this crap especially when an official report was received from the League. I was not aware that Stewart was the official Safety Officer of Alta. (Poor choice.). Safety reports which appear as a regular feature in our newsletter lead one to believe that it is an official report of the Canadian Association. These should be professional, and pettiness should be set aside. I have seen other personal or political battles going back and forth in this newsletter between Stewart and others and really don't think that the National newsletter is the time or place. I am glad that Fred is back and hope that Stewart has the integrity to disappear.

Well Stewart is at it again and I feel I must defend our position. There have been two more accidents in Alberta in the past two months. Both pilots did not fly very often and did not have a group of buddies to fly with. The League assures that this will not happen, and there is always a higher level pilot present who is more than willing to help you develop your flying skills. They have even been known to accompany Level One pilots to the training hill, video taping our flights and critiquing them later. Unfortunately we don't have a great reputation thanks to others who seem to have a problem with another club in the area. It's the pilots that don't get into a group like this that end up flying alone and getting hurt. You would think that the safety officer would have figured this out and encouraged new pilots to give us a try. NOT.

I fly with a great group of League Pilots, and feel honoured to have them as my friends. If others don't like them, well try minding your own business.

By the way, Richard is doing great. His recovery is steady and things are looking good, thanks to the daily visits, support, and encouragement from family, friends and League Pilots.
Karen Keller

RESPONSE TO STEWART MIDWINTER

I have recently read Stewart's accident report in the National Newsletter. His gross misrepresentation of the actual events that day have compelled me to respond.

The accident in question occurred on January 30, this year at Longview. It involved a good friend of mine, Richard Gibson, and I was there. I will mention the areas of Mr. Midwinter's article that I have problems with, and give you an accurate account of events that day.

It had been a day where the wind direction was perfect, but not strong enough to be soarable. Late in the day most pilots decided to go for a sled run. The first few pilots sank out and two more pilots launched getting a few hundred feet above launch. I was the second last to launch , leaving Richard to be the final pilot. I had no luck and was soon in the LZ. Everyone was in a hurry to break down, the field was a quagmire of mud. No one was "relaxing in the landing area" as stated by Stewart. Everyone was aware of the fact that Richard was still on launch, and everyone kept looking at launch while breaking down. Stewart's assertion that some "buddy rule" was broken is not realistic. It is common at most of our sites for someone to be last off. How many times have you flown Canmore and left a pilot on launch to be last off Stewart?

After a short time I saw Richard in level flight right after he launched. Everything looked fine. I said "Richard's in the air" and looked away. Immediately after, Rick Lecoupe looked up and said "well, where is he?". I looked back at launch and saw something that looked like snow on the side of the hill. It turned out to be Richard's glider.

Robin, Bruce, Alex and Jeff immediately drove up the hill to check on Richard. I remained behind with my radio, ready to phone for help if needed. When they arrived, Jeff radioed down to call an ambulance and STARS. I radioed to Rick to call from the Esso and an ambulance was immediately dispatched from Black Diamond. Stars can only be dispatched if a call is received from the paramedics on site.

With the ambulance on the way, I walked up the front of the hill. Richard was covered and his fellow pilots were by his side, conveying medical information to the paramedics.

(These 2 letters arrived late and therefore couldn't be placed in the "Airmail" section where they belong. Ed).

A few minutes after I arrived so did the ambulance. Jeff met them with his 4 X 4 which was used to transport them up the hill due to the condition of the road. The paramedics immediately requested STARS and had Richard up the hill and ready to be transported as soon as STARS arrived. Richard arrived at the hospital 1 1/2 hours after his accident.

As you can see, everything was done that could be done, in the shortest possible time. Stewart's statement that a local helicopter fund could have saved time is stupid. The League members discussed at length the possibility of contributing to the helicopter fund at Golden. It was decided that we would consider such a contribution if and when an acceptable method of administering such a fund was in place. There was nothing in place at the time. Also Stewart, the RCMP would never deny us access to a rescue helicopter. The helicopter pilot under RCMP contract may deny us direct access. They would require a request from the RCMP anyway. So really Stewart, what would the rescue fund be truly used for? The League has in the past and will continue to donate to the STARS air ambulance service, here in Calgary. This fund was started when STARS transported Glenn Dagenais from Golden to Calgary.

Stewart also mentioned a First Aid Course organized by Muller Hang Gliding. According to the AHGA Vice-President this was an AHGA sponsored event although it was held at Cochrane. Is this just more propaganda Stewart or are you really that misinformed?
In February the League also held a CPR and First Aid course specifically geared to injuries that may occur in our sport. It was an excellent course and focused on CPR, neck and spinal injuries, and stabilizing and transporting injured pilots.

I feel that Stewart used this opportunity to further his personal vendetta against the League and it's members. It is also obvious to me that Mr. Midwinter is an inept, incompetent and extremely biased reporter. He does not verify his facts because that might alter his opinion on the subject.

I feel that Stewart is a petty, small minded, pitiable little man that has no business offering his opinion on any subject in the National Newsletter. He can print what ever garbage suits him in his Wednesday Club rag, but I feel that the editor should carefully screen anything submitted by Stewart from now on.

Ken Shackleton. President Rocky Mountain Hang Gliding League.

STRUCTURAL SAFETY IN HANG GLIDING

BY BILL MOYES

REPRINTED FROM HGFA MAGAZINE,
"SKY SAILOR"

I would hope that all pilots realise that a hang glider is a minimum aircraft and there is not one bolt, pin or cord that the glider's performance will not be adversely affected by if in poor condition. The number one cause of fatalities always has been suspension, hang loop, carabiner, harness or simple failure to hook in. You must take personal care of this item.

The glider has a dacron sail on a wire braced tubular frame.

SAIL:
Seldom fails, as deterioration is obvious as its main enemy is ultra violet deterioration. The method that the sail is anchored needs attention. Screws, eyelets and on the 'XS' the tip strings; otherwise every 100 hours a visual inspection for stitching and wear points and stretching.

"The purpose of this detailed description of the materials commonly used is to advise that a 100 hourly inspection is not enough,....."

WIRES:
Stainless steel cables will appear to be new in 1000 years time. Stainless steel is the wonder metal of this age and has defeated corrosion. Stainless contains a percentage of chromium and nickel that gives it its corrosion free properties, but the negative side is that it work hardens and becomes brittle enough to break. The rule of thumb is to use wire with the highest number of strands where work hardening is a problem.

Wire is woven into seven strand clusters or nineteen strand clusters. This is because those numbers form a neat circle. The available wire for our purpose is:

1 cluster of nineteen strands =
1 x 19 = 19 strands
7 clusters of seven strands =
7 x 7 = 49 strands
7 clusters of nineteen strands =
7 x 19 = 133 strands

Yachts use rigging of 1 x 19 as this wire is the strongest for a given diameter and has the least air drag. We use this wire in race gliders for competition pilots. The strands have a larger diameter and will work harden faster than the other two. We recommend that they be replaced each 50 hours of hard flying.

The flying wires on a hang glider do not carry an equal load. The two side wires carry 70% of the wire load, while the four fore and aft wires carry 30% between them.

The condition of the side wires should receive more attention with respect to age, damage or hardening and kinking.

We recommend that non competition pilots order 7 x 19 side wires with their new gliders or replacement wires (7 x 19 will last in excess of 100 hours). The negative or kingpost wires do harden at the kingpost top and should be checked for broken strands. Aerobatic pilots should keep their negative rigging in good order in case of an inversion. If the protective heat shrink hampers inspection, remove it after 50 hours.

TUBING:
Hang gliders are built of 3 main groups of alloy tube. Tube is drawn through a die and over a mandrill. The drawing process hardens the tube through work hardening. It is finally temperature treated for final hardening.

The Australian Mills use an alloy 6106 and it is drawn from an extruded tube. Though it is not seamless tube, it is of good quality.

The American Mills have better equipment to supply their vast aircraft industry and are able to draw a harder alloy 6061 (same numbers in a different order). They have the facilities to draw from a solid and the tube is seamless and is of aircraft quality.

The Swiss and Germans have equipment that can draw a harder alloy again and they draw 7075 seamless tube. This tube has a higher zinc content, and the European equipment can accurately draw the tube to 0.9mm wall thickness. They are the only supplier who actively encourage hang glider manufacturers to use their product, as they are obviously confident of the product.

The tube fails when it is stretched to the point where it won't spring back to its pre-stressed shape.

Alloys are tested by taking a section of the metal and imposing a load till it elongates. The U.S. system is to take one square inch and apply a force till it yields. This is approximately 46,000 lbs for 6061 alloy.

The Australians take one square centimetre and measure the force in mega pascals (MPA) and for 6061 it is 250 MPA.

The Europeans take one square millimetre and measure the force in kilo pascals.

I prefer the European system for two reasons. The first reason is that one millimetre is the wall thickness of our tube and second is the numbers are smaller and easy to compare with another alloy. The yield on 6061 is 25 - 28 KP.

The properties of and advantages of all three tubes:

Origin	Alloy	Temper	UTS
Australian	6106	T6	22 KP
American	6061	T6	25 - 28 KP
Swiss	7075	T6	53 - 64 KP

The Australian tube 6106 is less affected by electrolysis and is less expensive.

The American tube 6061 has good resistance to corrosion, is milled to a finer tolerance and is seamless. It is twice as expensive as the Australian tube and only available in 12ft lengths from stock. It is considered aircraft quality.

The Swiss and German tube 7075 - T6 has a high zinc content and a poor resistance to electrolysis. It must be kept free from salt water or any other electrolyte and it is five times the price of American 6061.

I have seen a case where the tube was eaten through in 4 days of salt water immersion.

An electrolytic scale has been developed to identify a metals potential to react to electrolysis. Those close together on the scale will not react too adversely in an electrolytic condition, but our copper swages and zinc in the tube are far apart on the scale. I have seen a case where the tube was eaten through in 4 days of salt water immersion.

Airmail.....

Hello Barry,
Something you already know is that what the newsletter needs is more audience participation. To this end, I would like to suggest that anew column be started in the national Newsletter. Perhaps it can be called *"There I Was"*, but instead of scary stories, it would be for unofficial records.

It would be a regular column, for short form interesting stories. The theme can be *"Unofficial Records"* or simply *"Local Records"*.... no barograph required, something recreational pilots can participate in, without expensive gadgets, incredible minimal flight requirements, etc.

So, as a first offering to *"There I Was"*, I would like to claim the **"Canadian Altitude Record for March"** .

Pilot: John McClintock
Site: Oscars (Deadmans, Savona, BC)
Date: March 28 1993
Maximum Altitude:
10,820 ASL (Beat that!)

Oscars features early access after winter. An incredibly dry air mass this particular day provided a high cloud base, and minimal moisture content above cloud base. Departure from a high moisture concentration area was exciting - the ice crystals on my black jacket made me look like a rock star! And **"THERE I WAS"**, grinning profusely.

John McClintock, Savona, B.C.

Dear Willi, Vincene, Chris and fellow pilots. Greetings from the land of Dried Camel Dung! Yes, here I am in Africa. Since I left Calgary last summer, I have been living in Kenya, flying food to all the staving Sudanese. I'm living in a camp called Lokichokkio. It's a U.N. tent camp, lots of dust. Pretty boring, although the locals have periodic shoot-outs with one another.

Oh yes, once in a while we stumble across to the Red Cross Camp. (**Nurses!**) The hard part is finding one's way back through the Turkana village in the dark. It is not unheard of to get lost in a camel pen, with a bunch of horny camels!

Well, I can't see my way to Calgary any time soon. Here's wishing you a good flying season. I'm looking forward to when I can get back on the training hill.

Take care, Andy Burton, Kenya.

Dear Barry,
Thought you may want to know what sort of clothes paraglider pilots wear when they're not out flying and all dressed up in bright fluorescent colours.

I'm sure he will kill me for sending it but the enclosed photo shows **"Dr."** Sean Dougherty and his girlfriend Audrey Perry on their way out to "dinner". We don't believe they dinned at "McDonalds" but we can't confirm this.

So maybe all that "flashy fluorescent gear" is all show after all. I mean, if you can't go faster than 42kph at least you can look like you can.

Vincene Muller, Cochrane, Alta.

Moyes have refrained from taking advantage of the lighter tube for this reason, as Australia has 12,000 miles of coastline, and salt is always present, but the Europeans are building lighter, more desirable gliders with 7075 tube and are not experiencing failures. The positive side of 7075 is that the tube is drawn thinner and is an exact fit on the next size for sleeving. This alloy has a UTS almost 2.5 times that of 6061 and it has a performance advantage in leading edges that must flex under flying loads. It is difficult to anodise and must be protected internally with Linseed Oil.

I've given you all the negatives on 7075 as this article is about maintenance and safety, and you may be surprised to read that Moyes gliders will be available with 7075 in 1993. as the weight and performance advantage are too great to resist.

The purpose of this detailed description of the materials commonly used is to advise that a 100 hourly inspection is not enough, nor is replacement of side wires at 100 hours enough to guarantee that the owner or pilot has taken sufficient precaution to keep a glider safe.

A glider owner should take care to protect the sail from abrasion and sunlight or ultra violet radiation. And should take care to fold and assemble the glider without kinking wires. The wires will fly for many hundreds of hours if there is no cause to harden the stainless.

Check swages and thimbles and anchor points frequently for wear and tear. Protect tubing against transport damage by padding racks and against stresses and wind loads whilst on the ground, as tube will work harden also and finally, store the glider in a ventilated dry environment to retard electrolysis.

If you wet the glider in salt water, it should be dismantled and washed out and oil with Linseed Oil or WD40. The plating on the nuts and bolts will disappear overnight if left wet with salt.

BOLTS AND NUTS:
Are normally A.N. aircraft bolts and are made from chrome molly steel. Their capacity is probably 10 times greater than any force that they may experience, but corrosion and electrolysis are their greatest enemies. A drop of WD40 or oil will protect them if they have lost their cadmium plating. Replace them if you are in doubt.

I am reluctant to recommend a replacement kit at 100 hours as it could lead a pilot to believe that a part showing wear at 70 hours should last till 100 hours. I would rather recommend that a glider be constantly maintained.

If you develop a routine of protecting all the parts and material from damage, you will have gone a long way to ensuring that you are flying as safely as possible.

THE 1993 SAVONA EASTER MEET

BIG SPRING AIR

BY STEVE BEST, B.C.

The Easter Meet is more than a long-running tradition. It is like an annual reunion, as pilots from across B.C. and Alberta gather in Savona, B.C. to dust off their gliders, and their cross-country flying skills, in big spring air, and to renew acquaintances which had languished over the winter. This year's weather conditions were exceptional, with some awesome displays of an atmosphere in turmoil, and the Kamloops Valley Racers put on three days of excellent cross-country competition.

Day One, Round One.
Task: Deadman's launch, Basil's Bump, & return. 55.25 km.
Good Friday dawned sunny. Thirty-four pilots registered in the community hall and then headed up Deadman's for a pilots meeting on launch. Meet Directors Dave Wagner and Brent Carter called the task, and explained that a tarp start would be used throughout the meet. At 1:30 pm the tarp was opened in the meadow where the vehicles were parked, and the race was on.

Conditions over the mountain were not easy, and gaggles would form in the occasional thermals, with a few pilots in each gaggle managing to get high enough to leave. Pilots who left too low ended up scattered along the highway on the far side of the gap. Others, who got around the corner onto the rock bluffs, managed to stay up and scratch their way along the ridge toward Basil's. Roger Nelson and Chris Muller were way ahead of anyone else, and Chris had a number of low saves as he was sinking out and headed for a landing.

As Roger and Chris got the turnpoint (the road just west of Basil's Bump) and headed back, the southerly flow turned into ridgelift. Later pilots had ridgelift in both directions.

A total of six pilots completed the task. Roger Nelson was the first to make it back, with a time of 3 hrs. 40 min. Chris Muller was 9 minutes behind him for second place. Third place went to Barry Berto, 46 minutes behind Chris. The slowest pilot to make goal had a time of 6 hrs., landing at 7:30 pm (time was taken from tarp opening, not launch).

Day Two, Round Two.
Task: Deadman's launch, Loon Lake turn-off, and return. 88 km.
Saturday brought with it the best cross-country conditions of the weekend, and the Meet Directors called a good long task. The tarp was opened early, at 12:30, and pilots thermalled up and headed out. Some of the early launchers, who were in the air when the tarp opened, burned out early and hit the ground along the course. Peter Warnes tried going back to the Pass Valley, one valley back where there were better clouds. Peter landed beside a small lake in the only landing field for a long, long stretch, about 3/4 of the way to Basil's. Peter's radio couldn't transmit out of the back valley, and he had a long hike out to the highway.

Chris Muller hit the ground about halfway to Basil's, did an ultra-fast breakdown, and screamed back up the mountain for another flight. Chris and your author crossed paths at Cache Creek as I was on my way back from the turnpoint. We were at cloudbase at 9000', flying down a corridor with walls of virga hanging down on either side. We passed in opposite directions, bars stuffed and varios reading up. Chris had flown north from launch to Split Rock, about seven miles, and had flown the cloudstreet up the back valley. As I looked behind me, the cloudstreet stretched to the turnpoint, where there had been a blue hole before.

Nineteen pilots made the turnpoint, and conditions had really turned on, with big pumping cu's all the way to goal. Pilots who played it safe on their final glides found themselves arriving with gobs of altitude to burn off. Reigning Canadian champion Mark Tulloch was fastest to goal with a time of 3 hr. 24 min. Chris Muller's dad Willi was second, 16 minutes behind Mark. Mike Harrington was third for the day, 9 minutes behind Willi. A total of ten pilots made goal, with the slowest time being 4 hr. 35 min, landing at 5:05 pm. The tarp start certainly made for an exciting finish, with pilots racing into goal, their landing order being their actual finish order.

Roger Nelson's fourth for the day allowed him to hang on to first overall, Barry Bateman had a fourth and a fifth to move up to second overall, Chris Muller's ninth dropped him to third overall, and Mark Tulloch's win moved him up to fourth.

Day Three, Round Three.
Task: Deadman's launch, south to Savona Mtn. microwave tower, north to Spit Rock, and return. 45.8 km.
After the fabulous conditions on Saturday, Easter Sunday promised to overdevelop early. The Meet Directors called a short task, and opened the tarp at 11:30 am. Many pilots were hesitant to launch as they watched the overdevelopment across the Deadman Creek valley spread toward launch. Seventeen pilots did manage to get off before launch was blown

out. The rest were unable to launch until after the window had closed.

Conditions were like a replay of the '92 Easter Meet, as pilots climbed out to the south of launch beside a growing storm cell. Pilots darted back to the north under the cloud to get their tarp photos, and then moved back to the south to climb again.

Two pilots sank out to the International Field, and three arrived low after crossing the Thompson River, and landed on the benchlands below Mt. Savona. The rest managed to get up again in the vicinity of Mt. Savona. Martin Henry arrived low over the Mt. Savona landing field, hooked a boomer, and climbed out. Your faithful scribe spotted Martin from halfway across, and made a beeline to join above him. Cloudbase around Mt. Savona was at 8000', and thirteen pilots got their turnpoint photos of the microwave tower and headed back toward Deadman's launch, and an awesome wall of cloud. A corridor led back to launch with skirts of virga hanging down each side.

With an intimidating low cloudbase, rain up the valley toward Split Rock, and reports of strong gusts in the landing field, nine pilots elected to head down to the landing field and relative safety. Only four pilots headed up "the valley of the shadow" toward the turnpoint at Split Rock. Mark Tulloch and Chris Muller had been among the early launchers who got off before the tarp had opened. With strong winds and the whole valley in shade, they did not find much in the way of lift. Chris went down at the turnpoint, and Mark, who still had a bit of altitude, glided halfway back to goal.

Your author had spent the evening before renewing his acquaintance with his old buddy Jack Daniels. At that point I didn't much care whether I lived or died, and I headed up the valley with Martin Henry. The winds had eased off a bit, and we scraped along the ridge low, stopping for the occasional weak, fast-drifting thermal. When we arrived low at Split Rock, the ridge beyond to the north had come into sun. We carried on past the turnpoint, and scratched around in the textured air that marked the beginnings of a thermal. After about ten minutes of scratching, going from burbble to burbble, Martin finally found a working core. Your faithful scribe did not get back far enough underneath him, and blew it, sinking out and landing beside Chris, tieing for third for the day. We watched from the ground as Martin's thermal carried him up to 9000'. As the overdevelopment began to dissipate, Martin was able to glide back and win the day, the only pilot to make goal. Second place for the day went to Mark Tulloch.

* * *

Having made goal on the first two days, and finishing third on the last day, Chris Muller won the meet with a 139 point lead. Barry Bateman hung on to his second place overall position. Roger Nelson had sunk out at the base of Mt. Savona on Day 3, dropping him from first overall to third for the meet. Mark Tulloch's second on the last day was not enough to move him up from fourth overall, and Martin Henry's win on Day 3 moved him up to fifth for the meet.

Once again, Savona, B.C. came through with excellent cross-country conditions, and the Kamloops Valley Racers came through with a well run meet. Thanks go to Meet Directors Dave Wagner and Brent Carter, and to organizer Brent Vollweiter and scorer John McClintock. And a special thanks to John and Arlene McClintock's kids for their food concession on launch and in the L.Z.

Opposite page, Mia Schokker watches George Borradaile's 14 year old son Tyler prepare for launch while Martin Henry waits on the other launch; Above left; Your editor, Barry Bateman receives his second place trophy from Meet Director Dave Wagner; Above right; Gary Popoff (yes, that's his real name!) Receives his 1st place, Level III trophy from fellow club member Dave Wagner. *(It's not my ego that pre-empted a picture of 1st place Chris Muller, I just didn't have one. Honest! Ed)*

1993 SAVONA MEET RESULTS

1 Chris Muller
2 Barry Bateman
3 Roger Nelson
4 Mark Tulloch
5 Martin Henry
6 Steve Best
7 Rick (Sparky) Hines
8 Mike Harrington
9 Willi Muller
10 Ken Nicholson
11 Fred Wilson
12 John McClintock
13 Barry Berto
14 Peter Warnes
15 J.C. Hauchecorne
16 Michel LaBerg
17 Ross McEwan
18 Don Glass
19 Bob Newbrook
19 Guy Reynolds
21 Gary Popoff
22 Leo Salvis
23 Rik Bouwmeester
24 Jim Snell
25 Mia Schokker
26 Charles Mathison
27 Serge Lamarche
28 Darryl Staples
29 George Borradaile
30 G. Host
30 Richard Ouellet
30 Jack Schaule
30 Stewaet Trowsdale

The Alberta
Hang Gliding Association

1993 ALBERTA CHAMPIONSHIPS

BY VINCENE MULLER

Every second year the Northern Lights Hang Gliding Club host the Alberta Championships at Kelsey, Alberta - this site, near the Camrose flying site, host a tow meet. The odd year out is when they put on a demonstration at the World Famous Namao Airshow in Edmonton.

This year, meet Director, Ross Hunter lowered the entry fee to $25 and told competitors that they had to make their own arrangements with tows and retrievals. Despite apprehension regarding being able to get a tow, it worked well. At times there were six tow systems lined up, but this dwindled down to four as they seemed to handled the traffic very well. Pilots meetings and breakfast (included in the entry fee) was at the nearby Double Dam private golf course which also provided the telephone for retrieval messages.

Weather forecasts were not good for the whole weekend, it rained in both Calgary and Edmonton, however at Kelsey, while conditions were not perfect on the first two days, two valid rounds with over a dozen pilots making XC flights were completed. Cloudbase was low and conditions were extremely challenging. The first two days were open distance.

The first day nobody rushed to setup however with the help of many hands to assemble his glider, Jonathan Clark had the first tow of the meet on the infamous 'lazer launcher'..... and then headed off XC. Then suddenly there was a rush to setup! Day one saw Doug Litzenberger have the longest flight (what else is new!) with 43 miles. Chris Muller was second and Rick Miller third.

Day two saw meet director, Ross Hunter with the longest flight with Roger Nelson second and Willi Muller yapping at his heels. This left Doug in first place with Ross Hunter edging Chris Muller into third.

Day three looked great. Ross called a race to goal at Sedgewick/Killam airport. If a pilot overflew goal they would receive a maxim of 700 points for distance and no time points (out of 300). Doug of course fired up his barograph - it was looking a like a great day!

This day provided the only 'incidents' of the weekend. Roger Nelson was a little slow deciding when to launch so his glider decided it was 'ready to fly' and made two flights without him (added to the one on Saturday Roger scored more flights than anybody). On top of that he had a tow where he sank rather than rose up and could hardly make it back to launch. Maybe a special award for hard luck stories could be provided in the future? Kevin Caldwell tried to beat Stu Cameron's 1991 record of most tows to get away (he had 8 one day) but finally got away on his fourth attempt. The only disturbing incident of the weekend was the sight of a small plane that gave a little

Photo's clockwise from top left: Johnathan Clark makes the first tow on Saturday and heads of XC. Note that no other gliders are set up!; Roger Nelson staging on "Canvas Castle", a tent trailer which doubles as a tow platform; Ron Bennett'slanding witnesses on Sunday at the Huddderite colony. Note the absence of girls!;; A team named "DESIRE", the foil team of Roger Nelson, Kevin Caldwell, Willi and Chris Muller.

HOW TO CHANGE A BATTERY

By John McClintock

The Casio altimeter watch was perhaps the first time I was the 'first kid on the block' to have one, so perhaps I am also one of the first to have to replace the batteries. The exercise took many weeks, but I'm sure it will be easier for those living closer to a large selection of merchants.

This toy still has it's manual within finding distance, but it might as well have been lost. There were pictures of three different fastening systems for the watch back, but all the removal techniques were inapplicable. Not letting the four little screws stop me, the next discovery was a metal cage surrounding the innards, which also made up part of the electrical circuit. No such part is mentioned or depicted in the manual. The fancy flexible connector to the pressure sensor overcame my curiosity to poke further. I will poke further fun at Casio's manual, such a sophisticated watch but they can't even tell us about it - the manual shows one battery but there are actually two.

The next stop was Woolco. While waiting, I helped myself to the tools, and had the back off by the time a smiling grandmotherly attendant appeared over the parts and whisked them off to a better focal point, about an arms length below her nose. Fearing for my prized toy, I started to explore her familiarity with such a rarity, but before I could recover the parts a quick jab with a dentist-like-device had one battery on the mat. A replacement was in stock and I got her busy with the bill while I recovered the watch so as to attempt installation elsewhere.

Weeks later I was near the Langley Bay store, and they even sold the particular model I had. No, they wouldn't install the batteries, they would send it downtown (Vancouver) and that would take days.

OK, Bay Kamloops. They've never seen it, go try the repair man at the jewellers. He's out for coffee, just leave it. Came back, the lady starts telling me it must be something else, better send it to Casio. No, interrupts the repair man, as he starts telling me the battery has .5 volts, but sometimes that's not enough, he replaces it and still it doesn't work..... so I told him about the other battery..... he put in the second battery, and the watch came back to life.

Finally, story over. Hope that helps when it's your turn!

'fly-by' west of the tow side and came around and circled around the two gliders towing up on the road - one wondered whether the pilot was aware (or could see) the two ropes attached at that time!

Some pilots got away on the first tow, others needed two. Some pilots thought that it looked such a good day that they would overfly goal and keep going. Willi Muller was first at goal and said it was a hard decision on whether to land or keep going. Chris was soon to join him followed by Kevin Caldwell, Roger Nelson and Rick Miller. In the meantime Darcy Lalor couldn't find the airport and tried to come back but was a mile short. Ron Bennett got really lost and was way too far south and also tried to come back without luck.

In the meantime, Ken Holman cracked off the 'flight of the meet' landing in Saskatchewan 135 miles from the tow road. It should be noted that Ken had his longest flight the weekend before the meet and that was 55 miles. Doug Litzenberger was just short of 100 miles, Mario Rocchio and Stewart Midwinter flew just over 100 miles. It was a good day!

Best line of the meet.... Willi Muller at goal on Monday *"Well, Rick, all the Foils are here!"*. Rick Miller *"Yes, Willi, and so are all the K4's"* (There were 4 Foils in the meet and Rick pulled the only K4 in the meet out of his golf bag for Monday's flight).

RESULTS

Award for the;
"Longest Flight of the Meet"
(Terry Jones Memorial Trophy)
Ken Holman, 135 miles

1	Doug Litzenberger	Airwave Kiss
2	Chris Muller	Enterprise Wings Foil D
3	Rick Miller	Various Airwave Gliders
4	Roger Nelson	Foil D
5	Kevin Caldwell	Foil D
6	Willi Muller	Foil D
7	Ross Hunter	Wills Wing HP AT 158
8	Serge LaMarche	Wills Wing Sport 167
9	Ron Bennett	Airwave K2 145
10	Darcy Lalor	Airwave K2 145

TO RACE OR NOT TO RACE ..... THAT IS THE QUESTION!

BY RACHEL ALEXANDER
REPRINTED FROM THE NZHGPA *"AIRBORN"* MAGAZINE

The old adage of `get high, stay high' is still applicable in NZ conditions, but in Europe it's long gone; racing is in vogue. There are days in NZ when this philosophy can be applied - I'm not talking about `ridge racing' about which I still have a lot to learn. I mean getting to goal first. Who better to ask about it than the pro's themselves

FLYING THROUGH THERMALS
First I talked to Robbie Whittall, a pilot who either wins or hits the deck because he races so fast. I'd heard other pilots say:

> *"I saw Robbie coming and I thought great! I'll stay on his tail! He joined me in the thermal and we set off together at 5000 ft. We flew through at least two reasonable thermals but Robbie didn't stop - he kept ploughing on. At 1000', I a weak thermal to stay in the air, and watched Robbie fly straight past me. At 500' he cored a boomer and reached goal 45 minutes ahead of the next pilot."*

So that was my first lesson:
Fly through good thermals with confidence that you will find better ones, based on your evaluation of the day.

This led to some confusion in my mind. What about the value of gaggle flying and searching for thermals as a group? "I thought you weren't supposed to lead off a gaggle, but I've seen you race away first! Isn't that risky?" I asked Robbie.
"It's simple - you can catch up on the lead gaggle and get a better time".

Robbie had confidence in his ability to read the air ahead, and this gave him the confidence to search alone and take more risks.

FLYING IN THE BEST VERTICAL LIFT BAND
Next I talked to Mark Chick, last year a close second in the British League.
"The first twenty minutes of your flight is the most important, because it's then that you judge the conditions of the day."

So I learned to make a quick judgement on the climb rates of the day, and not to accept less than the average if conditions were strong. I learnt to leave thermals well before cloudbase if they began to get weaker, and to accept thermals only above the height where they were stronger. This was the second important lesson.
Stay in the best vertical lift band.

Also I investigated searching patterns to help me find the best core, gaining confidence to leave the core if it was below the average for the day (an averager on your vario is invaluable here). If you are flying downwind and are not running into thermals, try a cross-wind track.

WEAVING YOUR WAY TO THE FRONT OF THE GAGGLE
Before you can catch up on the other pilots, it is important first not to be dropped by the gaggle you are with. Darren Arkwright from Solar Wings says:
"Inevitably if you are at the rear of a gaggle, you have most pilots above you making it difficult to see where the cores are, and you are in the weakest part of the lift. Sooner or later you will arrive too late to discover the thermal has died. About 5% of pilots are dropped from a gaggle by this manner in each thermal."

"Once in a gaggle, you should always aim to be at the front of it. Whether you set off first, flying slowly and letting the others overtake you to help you in your search (Pepe Lopez was famous for this tactic), or whether you set off in a line of three or four, the only way you can be dropped from the gaggle is if you are at the front and the others behind you find something off to the side."

To weave your way through, you must recognise stronger cores and switch into them before the rapidly catching pilots below get above you, and be prepared to leave them the moment they start to weaken.

"The first twenty minutes of your flight is the most important, because it's then that you judge the conditions of the day."

By choosing the best cores and climbing well you can weave your way to the front of a gaggle.

CATCHING THE NEXT GAGGLE
Once at the front of the gaggle, you must time carefully the decision to catch the next gaggle. Wait until the gaggle in front is stuck, struggling, within reach and your gaggle is going slowly. When you leave, you have to be the highest of your gaggle or else others will simply come with you and you will not have gained at all on the other pilots in your gaggle.

Some gaggles will be hard to catch, but generally the good pilots catch up and when they have joined the front gaggle it will start to move more quickly. This only makes it more difficult to catch! It is important therefore, to work your way to the front of the gaggle to be ready to make the move at the right time.

SPEED TO FLY
Later I started to read about Speed to Fly, the latest rave in the US Hang Gliding magazine. I had some basic polar information about my glider, and had developed a feel for the best speed in light, moderate and strong sink and wind directions. Generally best glide seemed to be at around 28 - 30 mph - read `Hang Gliding' for more details. Better still, practice this against other gliders.

Depending on the frequency of the thermals, the gap between clouds (Bradbury's formula; the average intercloud spacing is 3.5 times the convection depth), the degree of sink, and whether you will reach the next thermal while it is still alive, your speed will vary.

Fly at the speed which is appropriate for the conditions: if you are confident of finding a good thermal well before leaving the best lift band, you can fly faster than best glide. If conditions are marginal or you are at a difficult point, fly conservatively.

USING THE BEST OF THE DAY
Next I realised that racing also affected the

time to take off, as you can race much faster in the peak period of the day. On one hand, you want to be off when conditions seem best at take-off so you don't risk bombing, but on the other hand if you have a long task, you need to ensure you can complete the task before the day dies, or before the sea breeze/westerly wind cuts short your path. *(Read; easterly winds for the northern hemisphere. Ed)*

For example, if the task is 100km and you are flying at 25km (calculate the speed from the number of hours taken to complete cross country flights), you will need four hours to complete the task. If the sea breeze arrives at 4pm, you must be off before 12 o'clock. This may be riskier than taking off at 1 o'clock if that is the strongest time for that site.
Not only does if affect your take off time, but your take off order.

Thomas Suchanek, 1991 World Champion, was reputed to have said that 15 was the magic position to take off. Others say halfway through the second gaggle, others at 40%. But I've seen Thomas taking off 60th in a field of 100, racing through the field to make goal in 2 1/2 hours, the rest finishing in four hours.

Pay attention to wind gradient and wind shears: between certain heights the wind may be more favourable for downwind legs; if there is a strong wind aloft then on an into-wind leg you would be better to stay low, and on a downwind leg you will glide faster if you stay high.
Don't waste time getting high in a head-wind if the wind gradient is strong.

DECIDING WHEN TO RACE AND WHEN NOT TO
This year I've been in another region where I've been able to practice flying quickly. I was second to goal with a fast time on the 3rd task at the Spanish Nationals in a field of 117 pilots. At last, I thought, at last things are starting to fall into place!

But ego is a funny thing - no sooner is it inflated than it is punctured again. A few days later I was on the ground before the first turnpoint with a huge number making goal. Christian Lacroix, a top Swiss pilot and winner of this year's Spanish Nationals said :
"Yes Rachel, I think you tried to cross the difficult point alone".

I had not recognised a strategy which I had already read lots about. Tony Burton said in US Hang Gliding that:
"The strategy which helped me to succeed was knowing when to change my speed of flying for different conditions."

This applies not only at the end of the day when conditions are weaker, but during the flight when there are difficult points to cross or you find yourself below the top. Quico, the Spanish National Champion said to me about one flight:
"There were only two places you needed to get height during the entire flight."

You have to choose when you can race, and know when you have to slow down and be patient.

Quico has been seen racing through all the pilots, and then waiting at a difficult point watching pilots bomb for more than two hours before attempting to cross.

I had set off towards the next cloud, leading off the gaggle in the hope they would follow, only to find the whole street dissipating. If instead I had flown as a 'team' with the gaggle (or evaluated the cloud's life cycle better), I might have stayed in the air. Instead I was an indicator that directed them not to come this way to the second turnpoint.

BALANCING THE RISK OF RACING AGAINST MORE CONSERVATIVE FLYING
To some extent, racing also depends on the scoring formula - whether it places value on speed or if it is more important just to stay in the air and go for distance.
You must also balance the risk of racing against more conservative flying.

Your strategy may change towards the end of a competition when racing may jeopardise your position, or give you a chance to leapfrog a few places when you have nothing to lose.

To race of not to race depends largely on conditions, and if you want to spend time enjoying the scenery. But check your map carefully before the task - there are bound to be sections where you can fly at top speed and others where you will have to be patient or risk landing out.

Using these skills I was able to win the Ager Challenge finishing the longest task in the fastest time.

From Across the Country.....

They say sometime pilots are like Lemmings on launch. Well it would appear that when it comes to landings they are like sheep (Baaaaa).

On Day one of the Savona Meet, the "Emperor" (Martin Henry) led a merry band of pilots to land at Juniper "Beach" Provincial Park. Did he know or was it fate? This desolate 'park' (right beside the Trans-Canada Hwy) between Savona & Cache Creek is a rattlesnake & bullsnake preserve! No wonder Martin packed up so quickly and carried his gear out to the road to wait for his pick-up. After finding out where they had landed, the other pilots quickly rushed to join him. There's a moral there somewhere.....

Heard of another competition of sorts.... Last Thurs. 27th May, Ward Clapham's wife Carlene, who was due to give birth in mid June, gave birth to a son (peanut!). Ward, who flies with the Cochrane Club, was overjoyed and promptly called around to let everyone know. One of these calls was to Rick Miller in Edmonton. Rick in turn calls up his hang gliding partner Jeff Marler, whose wife Patti was also pregnant and also due in June, and gave him the news. Patti then immediately goes into labour and on Friday 28th May also gave birth to a boy. I guess the Cochrane Club beat the Edmonton Club yet again!!!

For most of us, when we take the HAGAR exam, we have to go down to a Transport Canada office which is usually downtown with no parking available. Hang around and wait for who knows how long before you actually take the exam whilst being glared at like your some kind of second class citizen because you fly one of them damn Hand Gliders or parachutes.

Well the Cochrane Club likes doing things the easy way. Jami Roth, Transport Canada Civil Aviation Inspector, Flight Training Standards, Aviation licensing, also happens to be an ex hang gliding pilot, so instead of Mohammed going to the mountain, Mohammed brings the mountain to him. In other words, Jami turns up at Cochrane with a pile of HAGAR exams and 16 pilots sit down and write it. Tough Eh!!! Don't know how many of them passed as he had to take them back to TC to be checked.

Jami's work apparently involves going around checking out Flight Training Schools. He informed us that soon he will be going around checking out Hang Gliding and Paragliding schools! Is this a sign of what's to come in the future..... We'll let you know

Barry Bateman

Manitoba Hang Gliding Association

Making a dent in winter

(a medium sized one)

BY BULLET BOB;
MANITOBA

A story is in the making. I can feel it in my bones and in particular, in the sacro-lumbar region.

Now after what I went through today, it is small wonder that various aches and pains afflict certain parts of my anatomy, and physiology. You see, at my age and condition it would probably be more fitting to take up basket weaving or juicing it up (at Puerto Vallarta) or countless other things such as darts and cribbage at the legion or chasing around with older type divorcees (also at the legion). However, instead of all these options, I went flying at Kimberley hill. This in the middle of winter, January 12, 1993, when most sane people would rather be sitting in front of a warm fireplace and drinking hot toddies. (Recipe available on request).

This is where the story really begins, except for the part where I went over to "4 Almond Bay" (Barry Morwick's place) and finally took delivery of my very own, slightly used Gemini "184". (Boy does that thing fly)!

Barry supplied me with enough webbing and we tied the glider to a somewhat rickety looking roof rack that I had fashioned out of an old wooden ladder and various other odds and ends and two by fours. Then I was on my way to the hill to meet Mike and then some flying, I hoped.

As I went tearing down Lagimodiere in my almost new Lada (with dual overhead cams), I could not help but notice on the numerous flags flying along there that the wind had shifted to the north. Also it was snowing and somewhat blizzardy looking. But this was not the time to start worrying about trivia, even though conditions had been much better a little while before.

This was to be a flying day at Kimberley hill and not just an ordinary flying day neither. You see, I finally had everything all together; my rating, my roof rack, glider, a hill, -10C and a nice gale... I mean wind from the north, and if that were not enough, my almost new Lada.

Now as everyone knows, the training hill is not to be sneezed at, not something to be taken lightly, and I myself have grown very fond of old "Kim". Glider pilots are created in this environment, so it is good policy to go back there once in a while. Besides, where else can you go conveniently and do a little flying at this time of the year? (Don't answer that question).

Anyway, like I was saying, the training hill can be quite awesome at certain times, such as when the north wind blows strong and certain other phenomena exist, like the denser or thicker air caused by the low temperature.

I suppose it would not be accurate to compare this difference in air density to the difference in floatability between fresh water and sea water, but since I have swam in both, I can say that this comparison does have some validity.

Except for slightly frozen fingers, getting set up wasn't too bad. The -10°C felt almost comfortable compared to -35°C and windchills down to 2200 or so like we have been getting lately. However, getting the gliders to the top of the hill was quite another matter. We struggled through deep snow, trying to keep the gliders pointed into the wind while pushing, dragging and carrying sideways in a westerly direction across the field, fighting the wind and finally making it to the top. As is usually the case, the wind at the bottom was just a preview to what it was going to be at the top.

Mike went first. At least it looked like he was going to go, all hooked in and waiting for a lull, he was. Fat chance, anyways, down he goes. Correction I mean up he goes, a good launch, off the ground in one or two steps and the lift carrying him straight out into a nice long, stable flight and into his landing approach..... but how about we discuss the landing later, kind of leave him up there for a while.

But he does make it look easy on that nice new Vision Pulse of his. Kind of makes me wish I had one sometimes. So now it is my turn. The wind seems quite strong as I stand there hooked in. Too strong to do a hang check but I do one anyhow. Now I can see why Mike took a while to launch, and I also wait for a lull. None is coming so I pick up the glider, adjust the angle of attack, and try to balance the wing..... the same routine as always, except for one thing, we are doing this alone, on our own, the first time by ourselves..... then yell "clear". But there is no one there to hear.

Yell "clear" anyhow, and burn rubber. I shift my grip almost immediately as the glider was just about flying anyhow and consequently get a nice low grip on the down tubes. I also notice that the right wing is high so I pull in a fair amount and run to the high side. The wing corrects and I leave the ground about the same time, from almost the top of the hill. I am airborne for quite a while, 15 seconds anyway, likely a bit more, the air is nice and smooth, it feels like it is holding me up better, a comfortable, secure feeling. Of course, this is somewhat a result of the denser air and lift, which is superb - it really is noticeable. It is quite a high flight, maybe 35 feet and the glider seemed to want to stay up. Of course I had just about the full potential of the hill for altitude. Seemed like I could have flown further, but this is the training hill and there is a big high fence there, looming up ahead. So I pull in the bar and set up for landing. Mike told me later that it was also a straight flight so the lower grip helped.

Oh yes, that reminds me, now we go back to Mike's landing and more phenomena. Not exactly sink, but..... remember when he was coming in before, quite nicely, I saw his glider sink sharply. He had hit the area of shadow caused by the big fence and buildings. Consequently the nice lift expired and caused the glider to drop a little, but not too much of course, and therefore a wheels landing resulted.

Now I encounter these same forces too and although I try to anticipate what is going to happen and try to flare, I am in still air with lift gone (shadow) and the flare doesn't amount to much more than a fart in a windstorm. Very likely, the problem with flaring here is compounded by making the transition from the area of strong wind and lift and into the shadow so abruptly that we did not react in time with a strong enough flare.

Again getting back up the hill was a feat comparable in exertion to something that most people would not do for pay, not to mention some welfare recipients that I know. However it is worthwhile mentioning that following trips up the hill became noticeably easier as we got our second wind.

After four or was it five flights and wind conditions worsening, blowing snow and landing in turbulence coming around the corner of that fenced housing complex with wind now coming from NNE, we decided to bag it.

Although Mike had a couple of flared landings and one real good one, I must admit that I didn't, but I have some dandy excuses and I have always felt that a good excuse is better that a not so good one. Actually, I have always experienced some difficulty landing with wind NNE because of the way this turbulence expresses itself. When you are coming in low and just about ready to flare the right wing lifts all of the sudden and you can flare only at the risk of a damaged tube. Although I can recall a few times when I corrected by flaring and throwing my weight over sharply at the same time and it worked. I can also remember a few times when it didn't work and I came down hard on one wheel and changed the shape of the control bars. Landing in the SSE direction is actually worse... or maybe better to say more challenging. This, of course, is not always so, but just when the wind is fairly strong. Therefore with all these variables taking place, I find it is a better choice and easier to correct for the unwanted bank by keeping the nose down and landing on the wheels. Actually it is more economical this way too, once you have your own glider.

After struggling back through the snow, breaking down the gliders, and loading up, we were getting tired, bordering on pooped (exhausted). So then it was nice to have two coffees at Muffin Break. Mike got the first round and since refills were $.00, I volunteered to get the second one.

In discussing the day's events with big Mike over coffee, we came to the following conclusions:

a: That although conditions were a bit tough, it was well worth the effort to be able to get in more than just a few, dandy flights.

b: Once you make your first flight, the cold is no longer a factor. Be it circulation, exhilaration or coming out of hibernation, you no longer feel the cold.

c: Doing this keeps you in shape to do it some more.

d: If you can do five flights followed by five hill climbs through deep snow and winter conditions, it should be possible (to do)

.....continued on next page

The 1993 Regional One Championships

BY DAVIS STRAUB, MEET ORGANIZER

Why do we put on these meets at Chelan?

Because all of us pilots have a hell of a lot of fun flying together at Chelan. The flying is great with lots of our fellow pilots out there on the course to help us find the next thermal. This is prime time for Chelan Cross country flying, with cloud streets setting up every afternoon.

We organize the meet so that pilots can get back to Chelan for a late afternoon dip at the lake. Chelan originally became a hang gliding site because pilots went there to recreate at the lake. The Butte, right above the town, turned to be a great place to fly, with launches in all directions. The tasks at the regionals are out-and-returns or triangles of about 40 to 60 miles, so your drivers won't even have to leave the Lakeside Park. Even if you go down, they won't have to go very far to find you. If you don't have a driver, odds are real good that you can get a ride back with other pilots.

We've always had good conditions for the regionals with cummies providing the sign posts for our pilots. The thermals at Chelan are wide and strong, but the base altitudes at Chelan are low enough so that oxygen is never required. Triangle tasks keep the pilots near major roads for easy retrieval.

This is your opportunity to get in some great cross country flying with a lot of friendly pilots. We'll be flying for three days in June, Friday the 19th through Sunday 21st. Low cost camping is available at the Chelan Airport. Join us.

You must be a Hang III pilot with TUR, RLF, XC and FSL sign offs.

three times that much on summer grass and with much less effort.

e: **WE** could have used an assistant.

f: That we were going to fly again as soon as weather permitted, or sooner.

So considering the long and short of it, this way you will be able to get a jump on the season. Start really flying, at the Pembina valley, Qu'Appelle, Minnedosa and other good places which are in the frying pan, so to speak, as soon as it warms up enough in late March or April and actually sooner. This as compared to coming back to the hill in May and trying to make up for lost time, in the midst of new students and time consuming repetitions required for re-learning what you've lapsed. Not to mention loading down Barry's busy schedule and amalgamating students of varying levels. Further more, it isn't just a matter of reviewing, like for an exam, as a lot of the motions required for hang gliding must be carried out in a manner of instinctive reaction. This is to say, you don't have time to go over a mental check list while you are in the air and there is no point in taking a printed one. These things must be programmed over a period of time. Believe me, I found out.

In these incoherent ramblings, I have hinted about other things and in particular other flying sites where we have been developing. Also of Barry's ongoing weekend flying classes for current students. Our last good turn-out was on December 12, 1992. There was quite a few students, some new gliders and everything. The snow was packed down pretty hard from the kid's sliding and so the going was pretty easy. At this time, I got in eight flights and some were as high as twelve. Since then it has been really too cold but with a little bit of luck, the weather will soon be on the mend.

All good stories should have a suitable ending, but this one won't.

It's ending will be another beginning. A beginning of a new era of MHGA flying... fly all winter, start earlier in the spring, fly all through the fall, make hay while the snow flies. This sort of thing. After all, skiers do it, so can we.

Your Observant Servant
Old Bob
Alias "Bullet Bob"
Maybe even "Training Hill Bob"!!!

P.S. Maybe somebody could do a write up on some of this new flying site activity.

VFR and Collision Avoidance!

BY MARTIN HENRY

Many soaring pilots have, over the years, developed a misconception about "rights of way". Too many times I've heard the comment "listen you #*!!#?, you cut me off!" (admittedly on occasion directed at myself) often these comments are defended with so called "rules of the air".

Well, for those who may not be aware, "rules of the air" and VFR (visual flight rules) are not the same!

"Rules of the air" (glider right of way in, thermals, ridge and approach) is a loosely defined set of courtesies that are generally accepted world wide. In essence, they are a form of airmanship. The use and understanding airmanship improves safety when used under most conditions. Unfortunately use of these "rules" have on occasion been interpreted as a method of defining legal "right of way".

Keep in mind, traditional "Rules of the air" have their place and if used correctly will improve safety. Before a pilot applies these rules he or she, should read and understand completely, the basics of the Laws that govern "rights of way". These laws are laid out clearly by Transport Canada as VFR, visual flight rules.

(The following material can be found in the,)
ULTRA-LIGHT AEROPLANE AND
HANG GLIDER INFORMATION
MANUAL (TP 4310 E)

Visual Flight Rules and Flight Planning:
When operated in accordance with Visual Flight Rules (VFR), aircraft shall be flown with visual reference to ground or water.

Rules of the Air and Operations:
- When two aircraft are converging at approximately the same altitude, the aircraft that has the other on its right shall give way,

- Where an aircraft has the right-of-way, the pilot-in-command shall maintain its heading and speed, but nothing relieves the pilot-in-command of any aircraft from the responsibility of taking such action as is necessary to avoid collision.

- Where any aircraft is required to keep out of the way of another aircraft, the pilot-in-command shall avoid passing over or under, or crossing ahead of the other aircraft unless passing or crossing well clear of it.

- When two aircraft are approaching head-on or approximately so and there is a danger of collision, the pilot of each aircraft shall alter his heading to the right.

- An aircraft that is being overtaken has the right-of-way and the overtaking aircraft, whether climbing, descending or in horizontal flight, shall keep out of the way of the other aircraft by altering its heading to the right. No subsequent change in the relative positions of the two aircraft shall absolve the overtaking aircraft from the obligation to alter its heading until it has entirely passed and is clear of the other aircraft.

These "laws" preclude the traditional interpretation of "rules of the air".

Many of the "rules" and "laws" when compared are similar and or the same. If you read the last paragraph of the VFR sample provided, there is one very important issue that is often overlooked by many soaring pilots who use the traditional "rules of the air".

"No subsequent change in the relative positions of the two aircraft shall absolve the overtaking aircraft of the obligation to alter its heading until it has entirely passed and is clear of the other aircraft."

Far too often pilots assume "right of way", and put the responsibility to avoid collision in the hands of the pilot of the overtaken aircraft, this could be a extremely dangerous mistake to make.

When flying VFR, never assume:
- The pilot of another aircraft knows or even understands your intent.
- The other pilot is aware of your position or,
- is aware that you are in the vicinity or,
- is aware that other air traffic even exists.
- That the other pilot is capable of making a course correction.
- That your intended flight path is guaranteed.

Making any of the above mistakes could ruin your whole day, maybe your life! To avoid getting trapped in a potentially dangerous situation think about the following ideas:

- Make sure your in flight planning includes options.
- Have a way out.
- Avoid tricky situations.
- Maintain safe aircraft separation,
- If in doubt take action.
- Practice collision avoidance.
- Learn and understand visual scanning techniques.
- Know your own limitations and responsibilities.
- Know and understand "VFR"
- demonstrate and practice good airmanship
- never assume "right of way"

The saying "being prepared" is the golden rule. Remember with collision avoidance, "rules of the air" and VFR, all pilots must be responsible for the results of their actions!

So, next time your at your local flying site, try implementing some of the rules and ideas listed above. If not for the safety of your fellow pilots and or your own safety, then just for the idea that if you practice what I preach you may keep your new $5000 blade wing in one piece.

A PILOT'S PARADISE

By Mike Solaja; Ont

Driving along the shoreline of Lake Michigan, I felt like I was on the Pacific Coast. I kept thinking to myself, "if you were dropped from a plane and landed on this vast expanse of beaches and sand dunes along this body of water, you would probably conclude you were on some coastal shoreline." When I arrived at the "Sleeping Bear Sand Dune National Lakeshore", I would have been jumping out of my pants if it wasn't for the wind blowing through my hair at over fifty kph.

Standing at the top of the four hundred foot sand dune I wondered how wide the beach at the bottom really was? So I decided to find out, and catapulted myself down the 45 degree slope of sand. The surprising distance soon became overwhelming as I ran down at full speed. Realizing my fatigue might do-me-in I started to zig-zag, slowly increasing the distance from turn to turn. Finally, I felt the beach grow in size as my patience started to collapse. The climb back up would be very unpleasant.

At the top I visualized the climb with a paraglider or hang glider on my shoulders, then I decided to think of more pleasant thoughts, like flying the ridge.

For now, off to the campgrounds of the "Green Point Flyers Association" (annual membership $30), just outside of Frankfort, Michigan. Its about 5 hours drive from Sault Ste Marie or Sarnia, so for golden horseshoe pilots its a full 8 hour drive. If you were to go for a long weekend, its well worth the drive to..... Benzonia? This is pilots paradise! If you are not up for camping then you can drive a few k's to the outskirts of Elberta and stay at the pilots apres-paradise, the Bay Valley Inn. This place has special rates for pilots and with whirlpool, rec room, in suite microwave, minifridge, TV, VCR and free movies it will make it hard to get any rest for flying.

I awoke the next day to a big contrast to the previous day. The air was still, the birds were singing and the butterflies were dancing. At first I thought I would only be doing sled runs but since I hadn't flown in over two weeks and without my emergency chute I was very anxious to set my spirit free, even if it meant a twenty minute hike up loose sand.

There I was, standing at the top of the 370' high sand dune with harness on, canopy spread and my face in the wind. Not knowing the width of the beach, the wind crossing the ridge between 30 and 45 degrees and no life jacket to give me the slightest assurance in front of the massive body of water, I inflated my canopy. The glider wanted to fly, but I was still apprehensive, alone and wondering why I left Centennial Hill in the first place. Just at that moment a butterfly danced joy and easiness in front of my flight path so I said to myself "if an insect can soar here then so can I". One step later ... "whoosh"!

Millions of calculations per second - "new site, where to land, I need lift, there's the water! Okay, turn now and again and again. This is taking forever - definitely not Centennial or Scarborough Bluffs". After that first flight I climbed back up the dunes for three more. I even ventured near the shoreline and did a 360 - no problems - until my thirst picked up with the wind and I decided to break for lunch.

> ***so I said to myself "if an insect can soar here then so can I"***

Even after those four morning flights I wasn't converted to big ridge soaring and had my mind and wallet looking forward to the garbage heap!

But home is sweet only until you see and experience thermal flight. So after lunch and conversations with a few local pilots (even several from Switzerland), the group was joined by local flying school owner Bill Fifer. He was very excited about his new paraglider which just arrived hours before. After paying my dues to the club ($30) we decided the Swiss pilots should go first. He was on a Paratech 28, Bill was with his new Diablo 24 and myself with my Trilair 26 by Ailesde.

The Swiss pilot was unfamiliar with high wind takeoffs, because of his high mountain flying experience and was overwhelmed when trying to inflate at launch. Even I was sceptical of the canopy selection for the pilots weight and the wind speed. So we all jumped to assist and before we knew what had happened, he was racing away from the slope and away from our shouts to stay closer to the hill. When he turned back my heart was racing for my glider. But there was still Bill with his Diablo to launch. So after his crisp new canopy was taut with pilots tension, I found myself floating on air with excitement in every step back to my van to get my glider. The other Swiss fellows help me launch and I was soon soaring the 5 mile long ridge.

The incredible blue lake, blue sky and hot sand with the smoothest wind coming across the lake. However, we all had some trouble staying up due to the cross wind and we exchanged positions in altitude frequently.

Then my heart stopped and missed a beat as my left wing tip alerted me of some turbulence. I was flying south into the wind and I decided to turn into the hill. Then I made a quick 180 and suddenly I realized what flying is all about! Whoosh, "yahooooo"! "Thermal"!!! Up, up and away!

If you can remember your first thermalling experience they you know how I felt as I looked down at the inland scenery behind launch. What beauty! "Is this what it feels like to be a bird? Nice".

That day I completely went all out, even when the wind eased off. I flew out over the water and spiralled down to the beach and stopped only long enough to position my canopy so that I ran, yes run-sailed up 300' of sand dune. I was on such a high that I must have done that for two hours until the wind was almost crossing the hill before I stopped. Boy did I ever sleep good that night.

I returned a week later to find myself among a hoard of local hang glider pilots. Although a few paraglider pilots did show up, they didn't have the experience and equipment to get up and soar with the hang gliders, and it was hard for me to convince the locals that the "para panties" (what they call them) would take over in a couple of years. My misunderstanding about their attitudes was soon explained to me, because until I showed up they had never

SITE CLOSURE

Due to a recent accident at Longview, Alberta, the landowner has permanently closed the site.
In mid April, Wayne Slater crashed at Longview, nearly hitting Mr. Gallup's garage and ending up in front of his house. Mr. Gallup was at the scene and was quite upset.
I spoke with Gaille the following day. His words were: " It really pissed me off. Someone is going to get killed here and we don't want that to happen". He made it clear that the site was permanently closed. He did however voice his regrets for having to do so, saying that he had no problems with the regular pilots (most of which were League members).

There were no other pilots at Longview that day and very little is known about the accident, as no one seems to know who this pilot is. Mr. Gallup did ask him if he knew any of the League pilots and he said that he did not.

This is a typical example of an "every once in a while" pilot going out by himself and getting hurt. In this case it caused the closure of our best ridge soaring site.

Doug Keller

seen a paraglider soar as high as I did over the ridge. I can assure you that I did tell them to expect countless new pilots of all types as news spreads of this amazing flying site.

These dunes are ideal for any type of pilots, from beginner to expert. You can even join some locals who soar over the water in big smooth thermals - you have to see it to believe it! Even without a vario I was able to get 500' over launch. The second day I was accused of buying good airtime with cheap Canadian money. This is an amazing place to get some fun hours of soaring in a short period of time.

Bill Fifer in Traverse City would be happy to give anyone directions and information - (616) 922 2844 or call me at (416) 620 0115. From beginner to expert, and perfect ridge soaring without thermals experience - this area really is a Pilot's Paradise!

New Season.... First Flight!

BY MARTIN HENRY (PRES.)

(note: This article was intended the March issue of the National newsletter, we just ran out of room!)

For those who have spent the winter hibernating or trying to forget about flying until the temperature warms up, listen up...

If your going out for your first flight of the year ,

"GIVE YOUR HEAD A SHAKE!"

Are you ready for that first of the season excursion into the wild blue yonder? Have you checked your equipment, conditions, your preparedness?

If you haven't, and your now standing on launch (not likely if your reading this),

PUT YOUR GLIDER DOWN, BACK OFF LAUNCH, AND MAYBE SPEND SOME TIME THINKING ABOUT WHAT YOUR ABOUT TO DO!

One of the lousy privileges that I get as President of the HPAC/ACVL is I get to hear first hand some of the accident that happen in our sport. It seems that the first of the season accidents are the most tragic.

Last year it was the fatalities and quite frankly I love my sport but I don't need that kind of B.S.!
This year has started with an Alberta pilot calling me up to ask for HPAC/ACVL full membership form. It was Friday and he asked me to fax it out to him on Monday as he expected to be out flying in the near future. Well, Monday rolled around I faxed off the form (to his business). An hour later I received a fax back asking me to call his office.

You guessed it, bad news! A co-worker informed me he was in critical condition in hospital after suffering a very serious accident on the weekend. A report has yet to be filed but the co-worker informed me that conditions where gusty, and it may have been his first time out for the season. (Three months latter and this pilot is still in hospital.)

Another example, I arrive back from the AGM to be told a friend of mine (almost an ex friend) was making his first flight of the year at the local site and failed to clip in! The results, glider left without pilot, a little scuffed up by a surprised return to earth, glider suffered minor damage. (Sorry Steve, failure to clip in, glad your OK. but you would probably agree, stupid, stupid, stupid, stupid!)

When I say,
PUT YOUR GLIDER DOWN, BACK OFF LAUNCH, AND MAYBE SPEND SOME TIME THINKING ABOUT WHAT YOUR ABOUT TO DO!
I mean make sure your ready for endeavour your about to take.

That expression that says "If God had wanted man to fly he would have given him wings" Is best answered with the statement "maybe so, but God (or who ever your belief dictates) gave us the brains that make it possible to fly. It's up to us make sure we use our brains to do it right!"

Please, for yourself, your family, your friends, and your sport have a safe and successful flying season!

DID YOU CONTACT YOUR LOCAL FSS BEFORE FLYING?

The 1993 Chelan Cross Country Classic

BY DAVIS STRAUB, MEET ORGANIZER

The Classic combines both high level competition and one fun flying experience at a very low cost. Add Lake Chelan and the pilot friendly town of Chelan and you've got a good time both for you and your family and friends. No more having them sit out on some overheated dry desert crossroads wondering where you are after your radio goes out.

The Classic has been held for years every July with between 60 and 100 pilots. In 1985 and 1986 Chelan was the site of the US Hang Gliding Nationals and we are continually asked to run the Nationals again because so many top pilots want to come back here to fly. Why? Because the town, the lake, the beaches, the water slides, the rental jet skis and bicycles, and the mountain trails provide a good time for the whole family.

Chelan Butte is located right above town within a fifteen minute two wheel drive to the top. There is space on top to set up over a hundred gliders with launches in all directions. Every late morning the thermals set up and allow pilots to climb as high as 10,000' at the Butte before heading across the Columbia River toward farm lands to the east, or north toward Canada.

Want to know where the lift is? Just look out across the flats and you will see hundreds of dust devils that rise out of the fine powder soil of the Eastern Washington wheat fields. You always know where the next thermal filling station is.

The Classic has an unusual format that allows the pilot to choose his or her course before the flight and then change it while on course to better match conditions. There is a multiplier for triangular and out-and-return flights, so pilots are encouraged to make it back to the lake in time for a late afternoon dip.

If you want to go long distance, there is always a day or two when the west winds set up so that is the best choice. Last year a number of hang glider pilots went over 130 miles, making it almost to Idaho. The longest paraglider flight is over 25 miles.

We provide low cost camping and showers at the high school football field. There are plenty of motels and other camping areas, but you will need to make reservations.

Come join us July 3rd through the 8th. Send your $65 and name, address, phone number, rating, USHGA number to;

Davis Straub, 747 16th Avenue East, Seattle, Washington, 98112.

Hang Gliding Association of Newfoundland

ALTIMETER

BY AL FAULKNER; NFLD

Pursuant to subsection 5.9(2) of the
Aeronautics Act
exemption to paragraph 6(b) of
Air Navigation Order, Series V, No. 24
"The Hang Glider and Ultralight Aeroplane Operations Order"
says (amongst other things) we are required to carry an altimeter to enter into class "D" Airspace.

Around the country I have noticed that there seems to be a bit of confusion as to what the proper usage of an altimeter is. It is a very simple device and tends to be one of the few, if not the only instrument that we have used all along. However despite it's inherent simplicity, there are a few things that you should know about, particularly now that in the exemption that we received, it states that "the pilot should be familiar with it's proper usage".

I assume that the only reason Transport Canada stated that "thou shalt carry one", has to do with the fact that at certain altitudes you should be on the lookout for traffic coming at you from certain directions. In order to properly understand just exactly what altitude you are at, you must understand what possibilities exist. The possibilities are;

- **Altitude above ground level. (AGL)**

This is useful when bragging to your buddies, however means nothing to a powered aircraft except for the fact that the "Aircraft Cruising Altitudes Order" has a threshold of 3000' AGL.

- **Altitude above launch**

Also useful when implementing braggadocio

- **Pressure altitude**

This altitude is sorta useful, Depends where you are. If in North America, you are at 18,000 feet or above, (first of all you are mixing with aircraft that for the most part go a minimum of two hundred and fifty MPH and secondly in Canada you are [probably illegally] in Class "B" airspace and thirdly if you are in Canada, odds are you are on a hallucinogen, or at least in a CB) then all aircraft set their Kollsman window (see explanation later) to 29.92, thereby giving them Pressure Altitude so that all aircraft are using a common Altimeter Setting **(AS).** Also if you are flying in a northern section of Canada known as the "Standard Pressure Region", (See AIP RAC 2-20 Figure 2.11) then powered aircraft use this setting, mainly due to the fact that airports are few and far between that can give enroute altimeter settings **(AS)** (see explanation later) Other than this, PA is useful for computing true airspeed and other wonderful things to do on a rainy day.

- **Metres above anything**

Will certainly make you appear intelligent, to your buddies at least, but we have an invisible (to aviation) border here in North America and thank you know who, we haven't gotten insane enough to use Metres for aircraft altitude measurement.

- **QNH (Query Nautical Height)**

A word not very often used here in North America, however if anyone slips it by you it means the local current pressure reading at sea level. Gotta be a queer or a steer in front a ya!

- **QFE (Query Field Elevation)**

Means the AS that gives you a reading of zero on your altimeter at the take-off field. (I admit that I sorta guessed at this one because nobody I fly with and none of my books, knew it for sure. Anybody out there sure?)
(I do, I do,.... move to the top of the class, your assumption is correct. There is also one other metric reading, QNE, a description of which follows. Ed)

QHE (Query Notational Elevation)

This is an altitude that is shown when the altimeter is set to 1013.2 mb and aircraft are flying by "Flight Levels" and above Transition Altitudes. (The International Pressure Setting of 1013.2 mb is used everywhere as a vertical position and is referred to as a "Flight Level"). This avoids the inconvenience of the pilot having to change his altimeter to each regional QNH setting.

- **True Altitude.**

Pressure altimeters are calibrated to indicate true altitude (Above Sea Level ASL) under ISA conditions. However ISA conditions are an absolute and in order for you to get an actual altitude above sea level, you read your altitude from your altimeter which is set to a proper "AS" as given by a ground station, then you use the same ground station's outside air temperature and apply it to a chart called the "Altitude Correction Chart". Forget I even told you this stuff, as this is only used by IFR pilots when it is extremely cold, as your altimeter could be out enough to cause you to contact terra firma when you thought you were nowhere near it! The reason being, is that in extremely cold weather, the air is actually more dense and since the AS is generally taken from inside cosy warm buildings, the colder denser air outside, weighs more and therefore since the altimeter is essentially just an Aneroid Barometer, it tells you that you are lower than you actually are. For anyone who likes to have a mind full of trivia, here is how you figure it out; You get an AS from a nearby airport, and set your altimeter. Then you get your present altitude ASL above that AS source. Say you are on top of Ole Smokey, at 4000'ASL and the nearby airport, that gave you the AS is at 1000' ASL, You subtract and get 3000' difference. Next you get their temperature of say -10 C and you arrive at (by looking at an Altitude Correction Chart) 260'. You are actually at 4000-260 = 3740' ASL. If you were a real hero flying in -40° there would be a 620' difference. At 15 C (59 F) there is no difference. (Source Canada Air Pilot, AIP and Jeppeson Flight computer.)

Now after learning all of this, are you truly safe on an airway supposing you do know that traffic should be obeying the rules that state that you should travel at odd altitudes going east and even going west ? Well of course not! For starters if an aircraft is VFR, it is at the appropriate altitude plus 500', and if IFR, they are at the proper altitude and this only applies above 3000' AGL. Next reason is that "what says his altimeter is calibrated correctly?"

Next thing is that if the guy is not on autopilot with altitude hold, odds are he may drift up and down from his assigned or selected altitude. He could be climbing or descending to a better altitude due to winds etc.. Maybe he's busy trying to impress his girlfriend, (or boyfriend) who knows, assume the worst, keep your eyes on the fries.

When I flew down near Chelan Washington last year on the flats near Mansfield, there was a "747" sharing our airspace, presumably doing pilot training, as Seattle is not that far away, where they build the behemoths. The "Cruising Altitudes Order" is also only applicable at altitudes at least 3000' AGL. Of course if you manage to get up to 60,000' or above, the "Cruising Altitudes Order" does not apply. Just keep an eye open for British Airways "Speedbird one, two or three" (Concorde)

So OK forgetting all of this, you are about to fly, so what do you need to operate your altimeter correctly? There are several answers to that question and the one that is right for you, depends on what equipment you have.

♦ If you have an altimeter only with no AS window (Kollsman Window or electronic equivalent) then you simply set it to the altitude (ASL) of the launch or your present position's altitude (ASL). As time goes on, you must reset it slightly, as the AS changes, so ideally you set it just before you get your Hang Check. You do of course do a Hang Check... If you are up for a long flight (distance and time) (lucky scum) the AS will of course change, although less if you are proceeding north-east, because pressure systems tend to move that way

♦ If you have an altimeter that has a Kollsman window or an equivalent place to set the AS, then you obtain an AS from the closest airport, preferably by radio, so it is up-to-date. This is the normal fashion in a powered certified type of aircraft.

♦ If you have a European style vario/altimeter as I do, Aircotec - Alibi, then you have to have the AS converted to metric or Kpa.. Don't expect a lot of quick action from a Flight Service Station if you request an AS in metric, as it may be the only time in their career that they will have to answer such a request.

Altimeters do not suffer from a lot of problems, unless you happen to wrap your lips around (it's source of static air) it and blow or suck. It is a delicate instrument, and so putting it in a place where it is likely to suffer the slings and arrows of outrageous handling, may gain you an ungainly piece of junk. Moisture can damage the very sensitive aneroid barometer and electronic gear inside. If it gets wet, immediately dry it out. If it gets salt water in it, good luck! I would personally dry it out as much as possible with tissue and consider rinsing it with fresh water or alcohol (The non-flavoured variety) Some people have been known to use a hair dryer to dry out the instrument. Just be careful not to turn it into a volcano of erupting hydrocarbons, by relentlessly drying it at high heat.

Altimeters are essentially just an aneroid barometer. It doesn't care about altitude. So therefore it has one inherent weakness. This weakness probably won't do you any damage but is none the less there.

On a powered certified aircraft that requires an altimeter, the placement of the probe that gives the altimeter it's ambient (static) pressure, is very critical. Putting it in a bad spot can give you erroneous readings. For instance, if you put in on the front of the nose you will get ram air pressure and therefore too low a reading. The altimeter will be more like an airspeed indicator. If you put it on the tip of the tail you will get vacuum and therefore a too high reading. If you put the static air source on the side of the aircraft, the outside air may actually cause a venturi effect and suck the air out of the altimeter, so it would read too high. (The faster you go the more climb it would show) So you have to find a spot that gives you ambient air pressure (even in a yawing situation).

To understand this better turn your vario/altimeter on and let it stabilize. Then drive down a relatively level, flat road and notice what happens when you accelerate. The air in the vehicle will be sucked out of the car, most likely and this will be exacerbated by opening up a window or even more by opening a sunroof (Will most likely show a climb). Then get a good grip on it, or better still stop the vehicle and affix the V/A to say a rear view mirror. Then do the same thing. You will probably see a climb in the altimeter. Now stick your hand out and move the V/A so it's air inlet is in a different position. Keep doing this at different speeds, till you see what I am getting at. I saw everything from a 150 foot climb to a fifty foot descent, depending on the orientation of the probe to the relative wind.

.....continued on page 29

KOLLSMAN WINDOW

Way back when, Mr. Kollsman invented an improvement to altimeters, that made them suitable to be trusted on a long flight through cloud, where ground contact is prevented. Thus aircraft could safely descend, provided that they knew their approximate location. He invented an easy simple way of correcting altimeters for the daily constant variation in atmospheric pressure. All he did was make a doodad that had a knob, and a place to look at, with numbers on it. All the pilot had to do was to have a person on the ground below him read out an AS and he would turn the knob on the doodad, (doodad is similar in construction to a whatchamacallit) which would automatically recalibrate the altimeter. Modern varios have generally have an electronic means of recalibrating an altimeter.
So now you know

ISA
International Standard Atmosphere

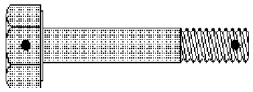
An internationally accepted model of an average atmosphere. It defines the average change of pressure and temperature (and therefore density) with altitude, and it tops at 100 KM. At any given time the average is within 30% of these figures:

Sea Level temperature =	288 Kelvin or 15° Celsius or 59° Fahrenheit
Sea Level pressure =	1013.25 Kilopascals of Mercury or 29.92" of Hg
Lapse rate =	6.5 degrees per Km

These numbers are accepted by ICAO (International Civil Aviation Organization) and therefore used by all powered aircraft.

"Woody's Workshop"

*Part I..... **getting down to the***
Nuts and Bolts
of your glider



PART # AN4H-16 (?)

BY CRAIG JANES; NFLD

Hi, I'm Woody! I was not born a woody. This is a name I picked up later in life due to my ability to land in trees. Not just any tree, but every tree! Wait it gets better ... I'm going to try to tell you something you don't know about hang gliding. No, really! To be more exact I'm going to tell you about your glider. I could tell you about mine but it's broken again.

Hey, you ask, what does a guy named Woody know about my glider? Answer: I have been an aircraft mechanic for the past five (5) years, I read a lot and I am the only one who volunteered.

For those of you still reading I have a question. What makes up less than 1% of the cost of your glider but you can not to without? If you said aircraft hardware you win the prize.

In 1977 the United States Hang Gliding Manufacturers Association was formed and a set of standards was set up for glider certification. One of the standards was for the use of aircraft hardware for all structural attachment points. This means that your certified glider is equipped with aircraft hardware.

To understood why aircraft hardware is so great we have to talk about mil specs (military specifications). Mil specs determine the material and manufacturing process used on a aircraft part. It also determines size, usually to the nearest .01" of an inch or less. The Mil specs for a simple flat aircraft washer would take up a full page of this article. This means when you buy a certified aircraft part you can look up the mil specs and know the exact capabilities of that part.

Aircraft hardware is identified by their part number prefix. The three most common are: **AN** - Army Navy, **MS** - Military Standards and **NAS** - National Aerospace Standards.

Non-corrosive steel with a cadmium (CAD) plating is the most common material used. CAD is a golden bronze colour and is one of those metals that does not rust. This combination provides for a strong part that is rust resistant until the CAD is worn off. Corrosive resistant steel is also available but is not required unless you leave your glider set up in your back yard over winter.

BOLTS

The basic parts of the bolt are the **head**, **grip**, and the **thread**. The head is six sided to fit a wrench and has identifying marks on top. The two most common are the **X** to identify non-corrosive steel or a - to donate corrosive resistant steel. The grip is the unthreaded potion, this is where the shear load is taken. Most glider bolts use Unified National Fine threads (UNF). This means there are more threads per inch than on a Unified National Course (UNC) thread. This provides greater holding area on the nut. Glider bolts should also have a hole drilled in the threaded portion for a locking device.

The four most used bolt diameters are;
AN3, which is $^{3}/_{16}$" diameter,
AN4, which is $^{4}/_{16}$" (or $^{1}/_{4}$") diameter,
AN5, which is $^{5}/_{16}$" diameter and
AN6, which is $^{3}/_{8}$" diameter

The next section of the part number gives grip length in $^{1}/_{8}$". For example; 3-13 is $^{3}/_{16}$" diameter, 1" long grip and $1^{13}/_{32}$ in length. There are sometimes additional letters added to the part number depending whether it has locking holes drilled in the head or shank.

NUTS

Fibre lock nuts are most commonly used. These are nuts with an unthreaded nylon portion that becomes threaded with use and grip the threads of the bolt. They come in regular or low profile for different applications.

Regular profile come under part numbers:
AN 365-???, MS 20365-???, NAS 1021-??, or MS 21044-??.
Low profile nuts come under part numbers:
AN 364-???, MS 20364-???, NAS 1022-?? or MS 35426-??.

The last 3 or 4 digits in the AN and MS series refer to the diameter (in $1^{1}/_{16}$" and the thread in Threads Per Inch. (See chart)

Aircraft wing nuts are sometimes used on frequently removed bolts. They come under the part numbers:
AN 350-?, and MS 35426-??.

The last section of the part numbers denotes the thread diameter and threads per inch.

WASHERS

Washers are used under the head of the bolt and/or nut to prevent damage to the bonded part. It can also be used as a spacer on a bolt that is slightly to long. The part number for a plain flat washer is AN 960-???. If a thinner washer is required, a "L" is added after the part number.

Some tips to use working with aircraft hardware are:

- Aircraft bolts have their threads rolled instead of cut. The difference is that in a rolled thread the metal is displaced into ridges and valleys. On a cut thread a die is run over a blank and metal is removed. If you run a die over a aircraft bolt to shorten the grip and lengthen the thread, you will remove steel and CAD along the total thread length. This means the nut will no longer hold as well and the threads will rust quickly.
- The gip of a bolt should take the shear load. To achieve this the very end of the grip should be visible before the washer and nut are installed.
- Aluminium and brass aircraft hardware is available but should never be used. It has only 50% of the shear and tensile strength of steel.
- As a rule of thumb, bolts should be installed in a **down** or **aft** position. (ie: The head should be on top or facing forward)
- When bonding aluminum tubing be sure not to over tighten because the aluminum will distort and be weakened.
- Fibre lock nuts should only be used once, especially when no other locking device is used.
- At least two full threads should show past an installed nut. If not, use a longer bolt or a low profile nut.
- If you use wing nuts, always use a locking device.
- For ultimate safety use both a fibre lock nut and a safety ring.

(For detailed descriptions of part numbers and bolt lengths refer to the chart opposite).

☞ Copy this and hang it in your workshop

AN NUTS, BOLTS and WASHERS

Dash	AN3-		AN4-		AN5-		AN6-	
No.	Grip	Length	Grip	Length	Grip	Length	Grip	Length
10	5/8	1 1/32	9/16	1 1/32	9/16	1 3/32	7/16	1 5/64
11	3/4	1 5/32	11/16	1 5/32	11/16	1 7/32	9/16	1 13/64
12	7/8	1 9/32	13/16	1 9/32	13/16	1 11/32	11/16	1 21/64
13	1	1 13/32	15/16	1 13/32	15/16	1 15/32	13/16	1 29/64
14	1 1/8	1 17/32	1 1/16	1 17/32	1 1/16	1 19/32	15/16	1 37/64
15	1 1/4	1 21/32	1 3/16	1 21/32	1 3/16	1 23/32	1 1/16	1 45/64
16	1 3/8	1 25/32	1 5/16	1 25/32	1 5/16	1 27/32	1 3/16	1 53/64
17	1 1/2	1 29/32	1 7/16	1 29/32	1 7/16	1 31/32	1 5/16	1 61/64
20	1 5/8	1 1/32	1 9/16	1 1/32	1 9/16	1 3/32	1 7/16	1 5/64
21	1 3/4	1 5/32	1 11/16	1 5/32	1 11/16	1 7/32	1 9/16	1 13/64
22	1 7/8	1 9/32	1 13/16	1 9/32	1 13/16	1 11/32	1 11/16	1 21/64
23	2	1 13/32	1 15/16	1 13/32	1 15/16	1 15/32	1 13/16	1 29/64
24	2 1/8	1 17/32	1 1/16	1 17/32	1 1/16	1 19/32	1 15/16	1 37/64
25	2 1/4	1 21/32	1 3/16	1 21/32	1 3/16	1 23/32	1 1/16	1 45/64
26	2 3/8	1 25/32	1 5/16	1 25/32	1 5/16	1 27/32	1 3/16	1 53/64
27	2 1/2	1 29/32	1 7/16	1 29/32	1 7/16	1 31/32	1 5/16	1 61/64
30	2 5/8	1 1/32	1 9/16	1 1/32	1 9/16	1 3/32	1 7/16	1 5/64
31	2 3/4	1 5/32	1 11/16	1 5/32	1 11/16	1 7/32	1 9/16	1 13/64
32	2 7/8	1 9/32	1 13/16	1 9/32	1 13/16	1 11/32	1 11/16	1 21/64
33	3	1 13/32	1 15/16	1 13/32	1 15/16	1 15/32	1 13/16	1 29/64
34	3 1/8	1 17/32	1 1/16	1 17/32	1 1/16	1 19/32	1 15/16	1 37/64
etc	etc	etc	etc.	etc.	etc.	etc.	etc.	etc.

NOTE:
- There are no dash numbers ending in 8 & 9
- Length does not include bolt head

Description	**Part No.**	**3/16" dia**	**1/4" dia**	**5/16" dia**	**3/8" dia**
Regular profile nut	AN365-	AN365-1032	AN365-428	AN365-524	AN365-624
Low profile nut	AN364-	AN364-1032	AN364-428	AN364-524	AN364-624
Wing nut	AN350-	AN350-3	AN350-4	AN350-5	AN350-6
Washer regular	AN960-	AN960-316	AN960-416	AN960-516	AN960-616
Washer thin	AN960-	AN960-316L	AN960-416L	AN960-516L	AN960-616L

Add "C" before Dash number for corrosion resistant steel bolt.
Add "D" before Dash number for Aluminum Alloy bolt.
Add "A" after Dash number for undrilled bolt.
Add "H" before Dash number for bolt with drilled head and shank.
Add "H" before Dash number and "A" after dash number for bolt with drilled head only.

Examples of part numbers:

AN4D-15 = 1/4" Aluminum Alloy bolt 1 21/32 long, 1 3/16 grip with drilled shank only.
AN4C-15 = 1/4" corrosive steel resistant bolt 1 21/32 long, 1 3/16 grip with drilled shank only.
AN4-15 = 1/4" non-corrosive steel resistant bolt 1 21/32 long, 1 3/16 grip with drilled shank only.
AN4-15A = 1/4" non-corrosive steel resistant bolt 1 21/32 long, 1 3/16 grip with undrilled shank and head.
AN4H-15 = 1/4" non-corrosive steel resistant bolt 1 21/32 long, 1 3/16 grip with drilled head and shank.
AN4H-15A = 1/4" non-corrosive steel resistant bolt 1 21/32 long, 1 3/16 grip with drilled head only.

And now for something completely different.....

From the mouths of babes come the darnedest things

By Harold Dunn,
St. Louis, Missouri.

'Back in 1924, eight men tried to fly aroundtheworld,but they only ended up where they started.'

- Have you heard that the first lady aviator was named Kitty Hawk? That Roger Wilco invented the "language of communication"? Or that "one of the chief by-products of aviation is going places"?

This information has been gleaned from essays, examination papers and classroom reports during the more than 30 years that I taught elementary school youngsters.

Kitty Hawk and Roger Wilco may have their admirers, but Baron von Richtofen, the German ace of World War 1, has also come in for his share of adulation. A 10-year-old girl summed up her feelings like this: "In a uniform or not, Baron von Richtofen was a dashing figure."

History may repeat itself, but it usually does so with some unexpected twists when grade school pupils tell the story. Five examples:

"Mr. Euclid thought out how to make geometry help people learn to fly. He was born in the 300s and died in the 200s. That is another thing he thought out how to do. He thought out how to do it by using the BC method."

"Spinning jeans were flying jennies that did not work."

"During the `20s people started walking on airplane wings and things like that. I know it was crazy but this was before television or anything so there was not much else to do."

"Back in 1924, eight men tried to fly around the world, but they only ended up where they started."

"Floyd Bennett comes from the year 1926. He is a famous aviator few people have ever heard of."

From the pencil of a nine-year-old came this lament: "The history of aviation is getting longer and harder all the time."

Members of the grade school set have a knack for discarding everything but what they consider to be the most essential information.

After studying the history of aviation for a week, one chap brusquely wrapped up all of his information in this neat one-sentence package: "In aviation history there was first the Wright brothers, then Lindbergh, then on to now."

Additional thoughts on the subject on the Wright brothers:

"Orville Wright was born in 1871, supposedly on his birthday."

"The Wright brothers first flew on a Kitty Hawk."

"When it came to mechanical things, the Wright brothers showed they had smart heads up their sleeves."

"The Wright brothers are two of the four fathers of aviation."

When they turn their attention to the subject of Charles Lindbergh's accomplishments, "youngsterisms" come as quick as chalk dust. Here are three of my favourites:

"Iknowwhat a sextant is but I would rather not say."

"Charles Lindbergh was the first to fly to Paris. He did it by the airplane method."

"In just a few short years he became a sensation overnight."

"A straight line is the shortest distance between two points unless you are going with Lindbergh to Paris. Things are different then."

In commenting on the duties of a navigator, a lass who claimed she was one of aviation's "starchest supporters" wrote: "The navigator figures out the latitude and longitude. Latitude tells where they are and latitude tells how long they can stay there."

Her best friend once concluded: "Three main crewmen on a plane are the pilot, navigator and percolator."
If any of their definitions have caused Webster to turn over in his grave, he would have to do it with a smile. Here's what I mean:

"There is a group of people called the CAA. They make safety rules about airplanes. Some of their rules have advanced to the point where they are no longer understandable."

"Lift in an airplane is the same as thrust, only just the opposite."

"Navigators look something like people."

"When anybody says plane, what he is saying depends on whether he is saying it to a pilot or a carpenter."

"Until it is decided whether ramjets are rockets or jets, we must continue to call them ramjets."

"Rpms are how fast airplanes are going when they can no longer be measured in miles per hour."

"I know what a sextant is but I would rather not say."

"A visa is a passport permitting an airplane to leave the country. For round trips you need a visa versa."

Here's one with the urgency of a 3am phone call: "I need the words to up we go into the wild blue yawnder flying high into the. Start there. Hurry I am still waiting."

These next explanations are not really wrong;

it's just the way they express them that makes their teacher laugh:

"Jet planes can fly faster but helicopters can fly straight up and down, so it is about six of done and one for all."
"Airplane has a plural known as squadron."

"100 yards = 1 altitude."

"Propellers are so long and heavy they are really not good for anything except being propellers."

"When pilots do not have enough time to say revolutions per minute, they can say rpms."

I get a dizzy feeling every time I read another tyke's instructions: "Go find a jet plane and look at it. Does it have a propeller? Then it is not a jet plane you are looking at."

When youngsters read facts they do not understand, they often let their imaginations take over. I came across the following "imaginary facts" about jets in a fourth grade classroom:

"Jet planes have airplane mothers and rocket fathers."

"Much of the world's supply of jet planes goes into the making of booms."

"In order to learn how jets work, I only need to blow up a balloon and let it fly into the air. Somehow this explains it to me."

"Another name for a jet engine is a reaction engine. But I think I will just stick with the first name and learn it good."

Oliver Wendell Holmes once observed: "Pretty much all the honest truth telling there is in the world is done by children." These next comments proved to be unexpected, unconventional and undeniably true:

"One thing you should always do when you get ready to find directions from the north star is hope it is night time."
"The main value of stalling in an airplane is yet to be discovered."

"An elevator is on a plane when it is not in a building."

And I couldn't argue with the young lady who confided: "The rudder is very useful in flying an airplane."

No one looks to the future as eagerly as children do. Three years ago I received these predictions about future air travel:

"Even better aircraft are to be found. Where they are bound to be found is in the future tense."

"So far, planes have only been able to fly in circles with no more than 360 degrees. This could be the next big breakthrough in air travel."

Much of the juvenilia that I've collected had been devoted to an explanation of the action-reaction principle. When force is exerted in one direction, the rocket travels in other. Or, as a boy named Todd put it: "Anytime there is a force pushing one way, there is another pulling the other way. Only rockets can understand this well enough to make it work for them."

By referring to balloons, here is the way a couple of his classmates failed to explain it:

"Get a balloon. Blow it up. Let it go through the air. Wow, because now you understand how jet engines work."

"One of the main things we have learned through research is why blown balloons act that way."

Here's one as charming as childhood itself: "How they figured out how to make jet planes work is just to admire, not to really understand."

And so it is with the mind of a child, a mind with such tremendous potential it is just to admire - not to really understand.

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"General Aviation News & Flyer"
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ATTENTION
WESTERN CANADIAN SITE GUIDE. UPDATES

It has been 5 years since this publication was produced and some of the information has become out of date. The guide is in the process of being updated but in the meantime please note the following amendments:

PUNCH BOWL, Savona, BC
There is absolutely no more flying allowed at this site. Do not even attempt to fly, you could be shot!

SICAMOUS, Sicamous, BC
The ball park is not to be used for any landings. Contact the locals for the LZ currently in use.

As mentioned, the site guide is being updated but current information is required to ensure that it is current. Take five minutes to check through the guide and make notes of all changes and send them to:

Barry Bateman
21593, 94A Ave Langley B.C. V1M 2A5
res (604) 888 5658 fax (604) 882 5090

Don't assume your club directors have done it, they probably have assumed someone else has!

continued from page 25.....

The object of this little game is to get you to realize that your altimeter is affected by your airspeed and it's orientation to the relative wind. The faster you go, the more the effect. In certain situations, accelerating your glider may show a climb or descent depending on your source of static air, relative to the ambient airflow. This naturally also will affect your vario. This is not alleviated by total energy compensation. It is a function of one a dem tings, bye. Essentially when you start accelerating for takeoff, your altimeter starts telling you little lies, and doesn't stop until you stop.
Sound familiar? you ole dog you!

Trivia time. If your altimeter is set to 29.92, and you receive an AS of 30.02, then your altimeter when reset, will read 100 feet higher than before. By gollee sleep will come easy tonight, now that you know that!
One last piece of trivia: If you fly from a high (pressure system) to a low, look out below! This means that your altimeter will think you are higher than you actually are. If you have flown far enough for this to matter, you are probably so ecstatic, that trivia is far back in your mind, so folks, as "Prince" is known to have said,

"Don't let the elevator get you down !"

1993 COMPETITION SCHEDULE

DATE	PROV	COMPETITION
April 9-11	BC	**SAVONA EASTER MEET: (1st** - Chris Muller, Alta; **2nd** - Barry Bateman, BC; **3rd** - Roger Nelson)
April 17-18-	BC	**WEST COAST SOARING CLUB XC SERIES:** (Rained out)
May 17-21	Alta	**CRAIK QUEST '93: (Non-valid meet)**
May 22-24	Sask	**SASKATCHEWAN OPEN TOW MEET: (No results)**
May 22-24	BC	**1993 CLUB CUP: (1st** - John McClintock; B.C.; **2nd** - George Borradaille, B.C.; **3rd** - Tony Schmidt, B.C.)
May 22-24	Alta	**ALBERTA CHAMPIONSHIPS: (1st** - Doug Litzenburger, Alta; **2nd** - Chris Muller, Alta; **3rd** - Rick Miller, Alta.)
June 5-6	Nfld	**1st WESTERN NEWFOUNDLAND FLY OFF** Location ? Open distance cross country competition. For more info contact: Chris Walters (709) 785 2697
June 19-20	Alta	**21st ANNUAL COCHRANE MEET** Cochrane, Alta. Task will be flight to goal for hang gliders and paragliders in weather is suitable and points will be applied for. If unsuitable then it will be target landing. (No points applied for). Free camping available at flying site. Contact; Vincene Muller, (403) 932 6760
June 19-21	USA	**#1 REGIONALS** Chelan, Wash. Triangle task with aerial start. Entry fee $40 (pre-reg $35) Contact Davis Straub (206) 322 1184
June 25-July 10	USA	**WORLD HANG GLIDING CHAMPIONSHIPS** Owens Valley, California. Canadian Team selected by '91-'92 Canadian points standing. Contact J.C. Hauchecorne for further information (604) 521 1559)
July 1-4	BC	**BC CHAMPIONSHIPS** Sicamouse, BC (Skyline 3200ft ASL, 2 wheel drive to top). XC task. Entry fee: $75 which includes camping, a BBQ and possible 2 breakfast. Must have HPAC insurance and 35 mm camera. Pilots meeting Thur 1st, 10:00 am sharp at Crystal Sands Resort. (South end of Mara lake) Contact: Emil Segeren (403) 241 0133
July 3-8	Wash	**CHELAN CROSS COUNTRY CLASSIC** Washington, USA. Pilot called task based on out and returns and triangles and open distance, Entry fee $70 (pre-reg $65) Contact: Davis Straub (206) 322 1184 for more info.
July 17-24	BC	**GOLDEN CLASSIC** Golden BC. Race to goal with and without turnpoints. 35 mm camera's required. Accommodation available at the campground or in Golden. Entry fee $35 Contact: Roger Nelson (Calgary) (403) 271 7938 or JC Hauchecorne (Vancouver) (604) 521 1559
July 23-25	Nfld	**ATLANTIC HANG GLIDING CHAMPIONSHIPS** Huges Brook, Corner Brook, Nfld. Task will be race to goal or open distance. Entry fee? Contact Chris Walters (709) 785 2697
July 26-30	BC	**FLY WEST XC CAMP** Golden, BC. Task include racing to goal and out and returns. Entry fee ? For more information contact: Rod Porteous res (403) 235 2440 fax (403) 272 0450
July 29-Aug 2	BC	**CANADIAN NATIONAL PARAGLIDING CHAMPIONSHIPS.** Golden, BC. Task race to goal (?) Entry fee ? More info from Stewart Midwinter (403) 230 7769
July 26-30	BC	**7th ANNUAL FLY WEST XC CAMP/COMPETITION** Golden, BC (Tentative) XC goal and out and return racing. Entry fee ? Contact Rod Porteous (403) 235 2440
July 31-	Alta	**WESTERN CANADIAN HANG GLIDING CHAMPIONSHIPS** Golden, BC (Tentative) Individual and Team competition. XC
Aug 2		goal and out and return racing. Sponsored by the Rocky Mountain Hang Gliding League. Entry Fee ? Contact; Rob Sivell (403) 569 2837
July 31-Aug 2	BC	**SALT SPRING FLY IN** Salt Spring Island, BC. Fun meet based on duration and pylon task. Contact Victoria HG Club c/o Les Sainsbury (604) 7373819
July 31-Aug 7	USA	**US NATIONALS** Lakeview, Oregon, USA. No further info available. Contact: Russ Locke (408) 737 8745
Aug 14-22	BC	**CANADIAN NATIONALS** Vernon, BC. Flying from Skyline, near Enderby and Bolean, Faulkland, both 25 min from Vernon. Level III + IV Out and return racing with and without turnpoints. 35 mm camera required. Head quarters is the Squire Four Pub with the LZ almost next door! Pre-registration Friday 13th 7-9:00 pm in the Squires Four Pub, or Sat in the LZ. (Nth of Vernon on Hwy 97 (nr McDonalds)) Camping available at Mara lake and Swan lake. (Information and booking can be made through Vernon tourism 1-800-665 0795). Entry fee: $85 (pre-reg $75) Contact Chris Florkow (604) 542 5961 or 2203 43rd Ave, Vernon, BC, V1T 3K7
Aug 28-29	BC	**GROUSE MOUNTAIN FLY IN** Vancouver, BC. Must be a GMFT member or an approved guest. Paragliders and hang gliders both welcome. Party and awards in the beer garden Sunday afternoon. Contact Doug McNaughton, (604) 922 4899 or Cameron McKenzie (paragliding) (604) 980 7479
Sept 4-6	BC	**TEAM MEET** Cache Creek/Clinton BC. XC racing task. 4 man teams. Meet will be based out of Cache Creek with flying from Clinton, Cornwall, Basils and Savona. (All within 45 min of Cache Creek) Discount camping available at the Cache Creek Campground. The best flying in BC this time of the year. Treat your lady or driver to the food and pies in the cool, shady, civilized Ashcroft Manor, whose LZ is also goal! Entry fee $25 ($10 for those who signed up last year!!!!) Contact Barry Bateman (604) 888 5658
Sept 4-6	Sask	**QU'APPELLE VALLEY XC CLASSIC** Qu'Appelle River Valley, Sask. Open distance, race to goal ridge run and spot landings. Hang drivers competition. Contact: Vince Idone (204) 885 5871
Sept 4-6	Nfld	**AVOLOM FLY IN** Saint Jonhs, Nfld. Open distance task. Contact Chris Walters (709) 785 2697
Sept 5-15	Fr	**PARASOL 93** (Paragliding World Cup Final + French Hang Gliding Classic) Contact: Christian Savy tel 33-92-32-38-51; fax 33-92-32-39-44
Sep 28-29	USA	**CAN-AM** Maple Falls, Wash. Friendly fly in between the Americans and Canadians. Great socialising. Sponsored by the West Coast Soaring Club. For more info contact: Randy Desnoyer (604) 599 1187

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

HPAC/ACVL CERTIFIED INSTRUCTORS

Name		HG/ PG	Rating	Endorse-ment	Expires Dec. 31,
Allard	Jean	HG	Instructor	Tandem	1994
Baker	Chester	HG	Instructor		1994
Basque	Daniel	HG	Instructor		1994
Bahlsen	Alex	PG	Instructor		1995
Beaudry	Jules	HG	Instructor		1994
Beckingham	Doug	HG	Instructor		1995
Bernard	Gilles	HG	Sr. Instructor		1994
Bertrand	Wayne	PG	Instructor	Tandem I	1996
Blanchet	Normand	HG	Instructor		1994
Bouchard	Gilbert	HG	Instructor		1994
Copithorn	Rocky	HG	Instructor		1994
Dales	Art	HG	Instructor		1994
de Jong	Maxim	PG	Sr. Instructor		1996
Derouin	Glen	PG	Instructor	Tandem I	1994
Dorge	Gerry	HG	Instructor		1995
England	Chris	PG	Instructor		1995
Fiset	Claude	PG	Instructor		1995
Fleury	Christian	HG	Instructor		1994
Fontaine	Jacques	HG	Sr. Instructor	Tanedm II	1994
Frei	Armin	PG	Instructor		1996
French	John	HG	Instructor		1993
Gagel	Andrea	PG	Instructor		1996
Hefti	Heinz	PG	Sr. Instructor		1995
Holmes	Derek	PG	Instructor		1996
Houghton	James	HG	Instructor		1994
Ilman	Stephan	HG	Instructor		1994
Klassen	Hans	HG	Instructor		1995
Laplante	Pierre	PG	Instructor		1995
Leiweiber	Dean	PG	Instructor		1996
Luchia	Murney	PG	Instructor	Tandem I	1996
Mackenzie	Cameron	PG	Instructor	Tandem I	1995
MacLaren	Peter	PG	Instructor	Tandem I	1996
Midwinter	Stewart	HG	Instructor		1994
Miller	Rick	HG	Sr. Instructor	Tandem II	1994
Montminy	Michel	PG	Instructor	Tandem I	1995
Morwick	Barry	HG	Instructor	Tandem II	1995
Moschard	Janet	PG	Sr. Instructor		1995
Moschard	Joris	PG	Sr. Instructor	Tandem I	1993
Muller	Willi	HG	Sr. Instructor		1994
Muller	Willi	PG	Instructor		1995
Noel	Richard	PG	Instructor	Tandem I	1995
Ouellet	Richard	HG	Instructor		1994
Ouellet	Richard	PG	Instructor		1996
Pankew	Randy	HG	Instructor		1995
Porteous	Rod	HG	Instructor		1994
Robertson	Michael	HG	Sr. Instructor		1995
Rupic	John	HG	Instructor		1994
Sawatsky	Daryl	PG	Instructor		1996
Smith	Charles	PG	Instructor		1996
Solomon	Michel	HG	Instructor		1994
Themien	Jacques	HG	Instructor		1994
Thibideau	Phillip	HG	Sr. Instructor	Tandem II	1995
Thompson	Kevin	HG	Sr. Instructor		1994
Tremblay	Bonoit	PG	Instructor	Tandem I	1995
Tulloch	Mark	HG	Sr. Instructor	Tandem II	1995
Vollweiter	Brent	HG	Instructor		1995
Warnes	Peter	HG	Instructor		1995

Ron Bennett, Chairman. Instruction Standards Committee. June 1993.

Classified

For Sale

BRITISH COLUMBIA

Pod Harness Sky Systems Supp (blue) Lots of storage space and the maximum in comfort. Call; Steve Best (604) 958 8521

Wills Wing HP 1.5 Needs work, priced to sell $275 Call Guy Reynolds; (604) 531 5136

For sale or trade: **Wills Wing HP 1** Rainbow lower surface, white mainsail. Also; Martin Henry **cocoon harness** with modified rigging plus **Bell helmet**. In addition, one **Ball Vario 651**. The price for this package? **NEGOTIABLE!** Call; Dan Kowaski (604) 463 6709

Wills Wlng 158 HP AT Only 60 hours of airtime. Pro orange leading edge, white main body. EXCELLENT CONDITION!!! Also:
Wills Wing 167 Euro Sport
Again, great condition, and this one is priced to sell. For more info call; Peter Warnes (604) 547 2169

Wills Wing 160 Duck Very good condition. Lady driven Approximately 80 hrs. Call;
Lyn Fuessel (604) 467 7048

Fly the most visible glider in BC. The Golden "Kodak" Special. **Magic IV.** Flown mostly at Grouse Mtn by top notch pilots. Still in great shape, with spare downtube. Only $950 Call;
Steve Wodz (604) 9882072

Magic IV 177 Good glider, great price. $700 Call; Don Glass 604) 765 6919

.....continued on next page

UPHILL TRANSPORTATION IN GOLDEN

Planning of flying Golden this summer? Don't have a driver? Need a ride to launch? Well, never fear, Wayne Houlbrooke will once again provide hang glider and paraglider pilots with rides this year:

4x4 Vehicle with Hang Glider Racks
WAYNE HOULBROOKE
GOLDEN, B.C. (604)344-6012

Rates are $10 per pilot (including equipment) for a minimum load of five (5) (Easier than trusting your expensive vehicle to an inexperienced driver..... ESPECIALLY when the road is wet - then driving down becomes a 'FREE-FALL')