1/99
Feb/Mar

free flight · vol libre

Liaison

Recruiting Sell 'six packs'? NO!, I am not advocating cross-promoting soaring with your favourite brewery; however, that could work like gangbusters. I'm relating to a practice used successfully by clubs. Rather than advertising for 'joy rides', they advertise a package consisting of a few instructional flights (usually from 5 to 10) and a log book. It gives an opportunity for the potential member to have a good sampling of the sport and of the club. For many individuals who will not commit sight unseen to a full year's membership, this is a winning strategy. The clubs that use this recruiting technique find that it is far more profitable than many other activities, like mall exhibits, etc. etc. They find that 80% of the 'packages' get converted to full year membership.

Badges and goal setting In most clubs, but not all, once you get solo and a little while later licensed, you are cut loose and left to your own devices in managing your soaring career. Outside of your annual checkride and the occasional checkride in a more performing glider, there is zippo! A few will get involved in instructing, fewer still will get the cross-country bug. Most will do as my colleague at Kodak, Tony Lowatchee does; they will get bored stiff a thermal away from their home field, unsure if they want to cut the umbilical cord with the landing strip. Flying beyond the gliding perimeter of your field is tough.

What every club needs is a good cross-country program. It needs the cooperation of the more seasoned cross-country pilots to promote that activity. One way to do it is to shepherd one or two novices on a short triangle around the local area. For many of us, it is all that it takes to break the cord.

I would also encourage the clubs to use the FAI badges as goals for your members. We have in stock A, B, and C Badges. They are inexpensive and a motivational booster. Once you have a member working away at the badges, you have a dedicated member for years to come.

Statistics show that we are on a membership plateau at slightly above 1300 members. Jim tells me that every year 300 members go off our list, 200 of these are first year members who do not come back. Why? We need to find out because, collectively, we are bleeding away our resources. Comfort in soaring comes when clubs are at the 60+ members range. At that level, you get good utilization of assets, and the per member costs are low while allowing the club to give good service to its members.

P.S. Having read the above, one will figure out that I have no love for passenger rides. You are right! In most clubs, they divert assets from the members, make 'earth' time between flights longer for them, and turn them off as they feel they are wasting their time away. That could be one reason why 200 people stay in the sport one season only. Just think what cutting that number by 50% would do for the good of our clubs!

J'ai été attristé d'apprendre le décès de Pierre Rochette. Pierre a été une dynamo pour ce sport. Il n'était pas de ceux qui se contentent de jouer sans s'impliquer. Pierre a été très actif au club de Québec dont il a été président.

Je ne reprendrai pas l'essentiel de mon texte plus haut. Depuis deux saisons au moins, les clubs du Québec ont eu une performance supérieure à cet égard. Québec et Champlain ont connu des années record. MSC a des plans agressifs pour 99. Et je suis sûr que nos amis des Outardes, relocalisés à Bromont vont eux aussi reprendre du membership.

Je compte d'ailleurs réunir les présidents des clubs du Québec fin mars, début avril. L'objectif est de créer un forum permanent dans le but de mettre en commun notre expertise et nos activités.

A bientôt.

Pierre Pepin president

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Le journal de l'Association Canadienne de Vol à Voile

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Cover

Here is a spectacular photo of Mount Robson and its banner cloud taken by Joe in his ASW-20 during the Valemont soaring safari last summer. Robson, at 3954 m (12,972 feet) is the highest peak in the Canadian Rockies. The first complete ascent was in 1913 and it is now climbed by several very challenging routes.

Photo: Joe Gegenbauer

Safety Audit updated

Ian Oldaker
Chairman, Flight Training & Safety committee

A Safety Audit checklist was first introduced to SAC clubs in 1992. The list was compiled to assist clubs who wished to perform an in-house safety audit. Some clubs have sent a copy to SAC and this has allowed us to improve the checklist. The updated audit is now being reviewed by our committee prior to being sent to all clubs. It will also be posted on the SAC web page. Why an audit you ask? The following is the background and some of the good reasons for performing an audit at all clubs.

Introduction Operations or Safety audits have been used for many years in industrial companies to assess their performance in safety and operational areas. The Safety Audit is often used in inter-company competitions. SAC does not have a formal audit of gliding clubs, nor does it intend to. However it has had a form of "audit" in place for new clubs for several years. It is the purpose of these notes to reinforce its concept with your club and, if you wish, to allow your club to perform an audit to assess how your club would rate from a flying safety viewpoint. The benefits will depend upon how the audit is applied, and how the club members view the audit. The audit can be used, for example, to enhance safety awareness at a club, and to help (particularly a "young" club) to assess its organizational structure as it pertains to the flying operation and ultimately to safety.

Background Safety is not only up to the pilot as he or she climbs into the cockpit, but is a continuing concern for us all, or should we say, "should be"? Whether or not we believe that the pilot is the person responsible for the flight, how can all pilots have an influence on the maintenance of the aircraft, of the runways, and even of the standards to which the new pilots are taught? These and other facets of our sport can be verified and checked through an organized examination of the safety of the operation, of the many activities that go on at a club, and of the club organization too because this also affects safety. We may have just had a "good" year for insurance claims but overall, accident rates in gliding are not good, and the record is spotty. Is this because of a poor attitude generally within clubs, or is it because of long winter layoffs? Is it due to relaxing standards "enforced" by Chief Flying Instructors and by the club executives through the CFI? Perhaps it is a combination of some of these factors. On the basis that we can improve, whatever the current reasons for our incidents and accidents, it has been shown that an internal audit within a club will help improve safety awareness and ultimately safety itself. It is also a wonderful record that the members have examined their operation, and it has been found to be a great way to identify items that have slipped by, but that should be addressed now to improve safety. Following completion of an audit, it would be difficult to say that its members and hence the club was negligent, so far as safety is concerned.

The checklist itself is not given here because it goes to many pages! If your club does decide to do an internal audit, it is suggested that you keep a copy signed and dated, and keep it in a safe place. Also, it is very strongly recommended that a good number of pilots take part in the audit at the club. If it is restricted to one or two people, they alone might benefit. The balance of the club's pilots may or may not benefit depending on how aware they are of the audit and whether or not they are "buying-into" the audit in the first place! Hence it is important that the leaders and executive of the club promote the audit in the first place, and actively support its completion. The "auditors" should be asked to form a team and could even include a person from another club, or perhaps someone familiar with the audit concept but who is not necessarily a glider pilot. This is entirely up to the club concerned. The team would look at the various aspects of the operation, providing assistance to each other and receiving assistance from other club members as needed.

If an "outsider" were giving assistance, the audit would best be done during normal club flying so that the "normal" mode of operation would be seen. As a team member visited the different areas of the club, the safety equipment and general layout of the hangars, tie-downs, etc. would be viewed. The runways and their approaches would be given close attention (this is suggested because the takeoff and landing phases of flight are ⇨ **p18**

The
SOARING ASSOCIATION of CANADA

is a non-profit organization of enthusiasts who seek to foster and promote all phases of gliding and soaring on a national and international basis. The association is a member of the Aero Club of Canada (ACC), the Canadian national aero club representing Canada in the Fédération Aéronautique Internationale (FAI), the world sport aviation governing body composed of national aero clubs. The ACC delegates to SAC the supervision of FAI-related soaring activities such as competition sanctions, issuing FAI badges, record attempts, and the selection of a Canadian team for the biennial World soaring championships.

free flight is the official journal of SAC.

Material published in *free flight* is contributed by individuals or clubs for the enjoyment of Canadian soaring enthusiasts. The accuracy of the material is the responsibility of the contributor. No payment is offered for submitted material. All individuals and clubs are invited to contribute articles, reports, club activities, and photos of soaring interest. An e-mail in any common word processing format is welcome (preferably as a text file), or send a fax. All material is subject to editing to the space requirements and the quality standards of the magazine.

Prints in B&W or colour are required. No slides or negatives please.

free flight also serves as a forum for opinion on soaring matters and will publish letters to the editor as space permits. Publication of ideas and opinion in *free flight* does not imply endorsement by SAC. Correspondents who wish formal action on their concerns should contact their SAC Zone Director whose name and address is listed in the magazine.

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L'ASSOCIATION CANADIENNE DE VOL À VOILE

est une organisation à but non lucratif formée d'enthousiastes et vouée à l'essor de cette activité sous toutes ses formes, sur le plan national et international. L'association est membre de l'Aéro-Club du Canada (ACC), qui représente le Canadaau sein de la Fédération Aéronautique Internationale (FAI), laquelle est responsable des sports aériens à l'échelle mondiale et formée des aéro-clubs nationaux. L'ACC a confié à l'ACVV la supervision des activités vélivoles aux normes de la FAI, telles les tentatives de record, la sanction des compétitions, la délivrance des insignes,ainsi que la sélection d'une équipe nationale pour les championnats mondiaux biennaux de vol à voile.

vol libre est le journal officiel de l'ACVV.

Les articles publiés dans *vol libre* proviennent d'individus ou de groupes de vélivoles bienveillants. Leur contenu n'engage que leurs auteurs. Aucune rémunération n'est versée pour ces articles. Tous sont invités à participer à la réalisation du magazine, soit par des reportages, des échanges d'idées, des nouvelles des clubs, des photos pertinentes, etc. L'idéal est de soumettre ces articles par courrier électronique, bien que d'autres moyens soient acceptés. Ils seront publiés selon l'espace disponible, leur intérêt et leur respect des normes de qualité du magazine.

Des photos en couleurs ou noir et blanc seront appréciées, mais s'il vous plaît, pas de négatifs ni de diapositives.

vol libre sert aussi de forum et on y publiera les lettres des lecteurs selon l'espace disponible. Leur contenu ne saurait engager la responsabilité du magazine, ni celle de l'Association. Toute personne qui désire faire des représentations sur un sujet précis auprès de l'ACVV devra s'adresser au directeur régional, dont le nom et l'adresse sont publiés dans le magazine.

Les articles de *vol libre* peuvent être reproduits librement, mais le nom du magazine et celui de l'auteur doivent être mentionnés.

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letters & opinions

All about Diamants

I read with interest Pierre Pepin's *Diamant meets Diamant* story in *free flight 5/98*. Like many glider pilots, I log more time talking about flying than I do actually soaring. Driving long distances and meeting people to discuss flying often takes the place of actual cross-country flying. I therefore felt some empathy with you for your long drive to a rain-soaked Bald Eagle Ridge, where you were lucky enough to meet a fellow Diamant owner and pilot.

Your article has piqued my curiosity about the much-revered Diamant. Your slogan is, "We fly like kings but pay like bums". Does this mean that if I could fly a Diamant, I would feel like a king? Or does this mean that my skill level would magically become more regal? I can use all the help I can get.

I'm a SOSA member. You noted that a Diamant is gathering dust at our field. In our defence, and since we have been around for 50 years, it behooves me to mention we have lots of things, including people, gathering dust at SOSA. We do have a slightly more relaxed culture than those energetic clubs like Champlain, which even has its own swimming pool so the members can keep busy while talking about flying. I suppose SOSA could get the dust off some of its members if we dunked them in a *piscine* — it might wake them up, too.

The other question I have is prompted by a letter I saw in SOARING magazine, December 1972. (Yes, 1972. At SOSA, even our library gathers dust — the culture is all-encompassing.) There was some controversy over whether or not all published pictures of Diamants are required to include a half-naked female à la Madison Avenue advertising. According to the letter, it seems to be mandatory, even if "the extremely ill proportioned belly-button bearer ... blocks the view of a noble sailplane". Why did you not include a photo with your letter? Note that the complainant describes the craft as "noble", which supports your 'fly like kings' theory. Is this tradition of photographs the origin of the phrase,"Diamants are a girl's best friend"? Our political system being what it is, I'm striving to fly like a Prime Minister. In the meantime, I remain, your humble scribe,

Doug Scott

Well Doug, Pierre actually did send me a photo (see below), but I didn't have room to include it in the magazine; besides, the composition and content weren't all that good as there was a tow car growing out of his head and he had too many clothes on ... perhaps it's just as well he wasn't blocking the view. editor

Photo credit error

Thanks very much for printing my article, *Catchin' the Big Kahuna Express*, in the last issue. However, the credit for the photo attached to that article should go to the other pilot with me on the flight, Hicham Hobeika.

Behzad Schroff

More Pratt-Read history

I was intrigued by the article on Pratt-Read gliders in the last issue. John Agnew and others bought two P-Rs prior to 1946 when the Montreal Soaring Council was incorporated. There is a record of "a Pratt-Read two-seater, type LNE-1" mentioned on 8 July 1946. On August 17, I believe, P-R #31519 was aerotowed by a Puss Moth at St Jean, QC.

One of the two MSC P-Rs, CF-ZAN was traded for a Tiger Moth (I don't know its serial number). The other one was CF-ZBJ which was still at MSC in 1956-57, or perhaps 59. It had serious damage to the rear fuselage, was left outside, deteriorated, and was written off. Gatineau GC had a couple of P-Rs in the 50s-60s. Leo Schober bought one of them and had it at MSC for a season. The Quebec club also had one which they called, "La Baleine" (the Whale).

Bob Gairns

photo not available for pdf file

Flying in the Gap

Frank Pennauer, York Soaring

For many years I have made three week trips to Europe to soar in the southern French Alps. Fayence is my usual destination, but I have also flown in Sisteron, St. Auban, La Motte and Sondrio several times.

Then I read in the *Aerokurier* of Klaus Ohlmann's record-breaking alpine flights originating from Serres into Austria/Italy and back. Contacting his company, Quo Vadis International, I was able to secure a week in September '97 and again in September '98. Meeting Klaus and flying with him is very rewarding; he is one of the most dedicated glider pilots I have ever met, a true renaissance man of soaring. Flying in the French Alps for twenty years, he is considered by the French as one of the best.

The Quo Vadis operation is at the aerodrome La Batie-Montsaleon, three kilometres north of Serres, 34 kilometres north of Sisterone on Highway N75.

Klaus flies a side-by-side Caproni Calif and has LS4s for rent, although the majority of Europeans bring their own gliders, and two 235 hp Ralleys complete the equipment.

I would like now to report on two memorable flights this year in the Calif. In my last phone conversation the day before heading to Serres I gave Klaus my estimated time of arrival at the field — he said simply, "I wait for you". A tip persuaded the bus driver to let me out 3 kilometres past Serres at the base of the elevated plateau on which the airfield is situated. It was now 12:40 pm, walking up the steep hairpin-curved path, I quickly abandoned my heavy suitcase in the bushes. As I reached the top I saw gliders being launched and the Calif at the end of the lineup literally waiting for me. Within 15 minutes of my arrival Klaus and I were in the air. Flying conditions were a little tricky since we had an easterly wind regime which modifies and often degrades the well known lift source locations.

Tracking along at less than the higher ridge heights and tanking altitude whenever possible, we finally found super conditions at Briançon in the upper Durance valley. Flying west in the Guisane valley towards Grenoble we could fly 160 km/h without height loss at cloudbase. On radio checking with the other pilots flying with us, Klaus decided he had to go back to assist one who had lost too much height. Using the most direct route we crossed the Ecrins by passing Mt Pelroux (4000 m). Getting close to our struggling glider we found ourselves as low surprisingly fast! The location was just east and adjacent to the St. Crepin paved airport, where normally with straight-on sun good lift is expected. It was not the first time that I had participated in a struggle to stay airborne at this same spot with Janus C or Duo Discus with very experienced pilots under an easterly wind environment. The proposition had become simply either climb here or land. Pressure concentrates the mind, especially when a safe landing was there right at your feet. The solution was to find "micro locations" where the "easterly devil" could not destroy the lift. This was of course extremely wasteful in time; nevertheless every 100 metre gain was building hope. It was by now late enough in the day to expect some reversal of the airflow from shaded slopes to create some upward tendency in the middle of the valley.

There were two more likely slopes on the way home to make some height gain that late in the day. We managed to achieve very little sink flying to our next "source" but we found very feeble lift and gave up after gaining only 200 metres in ten minutes. Arriving at our "last chance" slope we found nothing better than the earlier spot. In a lucky move we flew deeper into the side valley and to our surprise found a steady 1/2 metre which allowed us to gain enough height to commence the final glide with some confidence. Crossing the large flat area around the city of Gap it became clear that flight height was now predictable. As we entered the valley toward Serres, we encountered only reduced sink which in turn allowed us to fly toward the home airfield at high speed and still land in daylight. Our struggler (straggler?) did land out at Taillard (Gap) and was retrieved in short order.

On the last day of my stay the gliding forecast from St. Auban was rather negative. Two of our glider pilots from Germany decided to go home, but Klaus and I gave it a try; sure enough after 25 minutes we were back at the field. Since there were low expectations we were not dressed for height and I did not take the camera along. On our next try we were encountering more turbulence than before; net gain was hard to achieve and we were kept on our toes by the cacophony of vertical currents. We had on board the latest GPS integrated flight director by Franz Poeschle which gave us wind direction and strength in almost real time, indicating strong variations in both components. We soon realized that thermal lift and wave above were in conflict. This "rotor rodeo" went on for hours rather aimlessly except for staying aloft. We had by now overflown many gliderports and could not detect any activity.

We ran suddenly into unadulterated smooth wave and climbed easily. As soon as we had enough height we went for the famous Mtg. de Lure wave. There we climbed to 4500 metres. At St. Auban right under us we could make out two gliders circling up. Suddenly a Duo Discus with German markings sat right beside us and we acknowledged each other. The view towards the low sun was so fantastic that nothing I have seen in gliding publications could compare to it. To the left well below us a puffy rose-hued cloud deck and to the right of us a double decker long submarine lenticular cloud along its edge which we shot at high speed.

We were by now quite cold and spontaneously "boxed" each other for joy and may7be warm up a bit. Taking in the scene we shot along towards Mt Ventoux 50 kilometres west of St. Auban where strong wave brought us back to height. Checking time we realized we had to race home to land before nightfall. In fairly calm air we zoomed along up to 240 km/h making sometimes near vertical "zoomies" to a stillstand. Arriving over our homeport with an extra 1500 metres in hand we activated the Calif's 18 feet of trailing edge divebrakes for a high speed dive landing within legal daylight. ❖

The elements of handicapping gliders

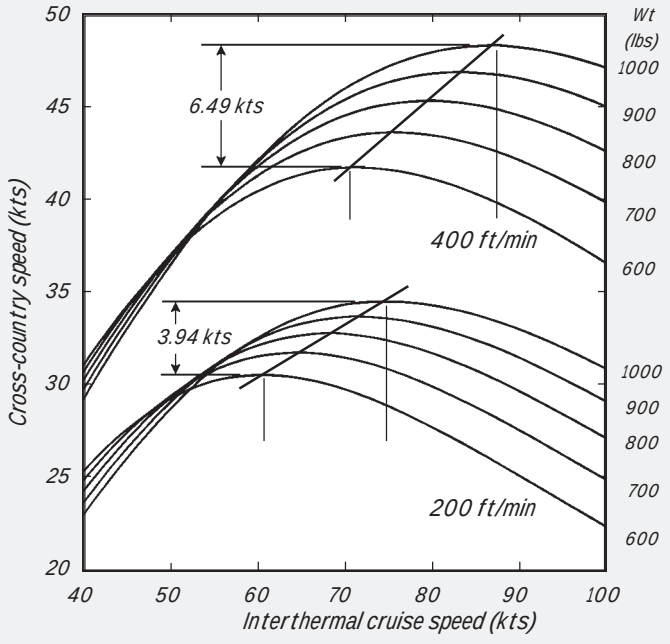
Part 5 The impact of changing weight on MacCready speeds

Carl Herold
from *WestWind (Pacific Soaring Council)*

Part 4 developed a glider cross-country model with many idealized assumptions. One of those assumptions was that each glider model flew with a fixed weight. This chapter will show the impact of changing weights on the MacCready cross-country speed and will summarize the weight impact on the handicap and the options for selecting a handicap derating factor (not penalty) for overweight gliders for a range of soaring conditions.

Figure 1 shows cross-country speed contour plots for glider weights ranging from 600 to 1000 pounds. These contours are for a Standard Cirrus with an idealized lift rate of 200 ft/min and 400 ft/min respectively. These plots show the dramatic shift of the best MacCready speed-to-fly as the weight and/or lift increases and the corresponding achieved cross-country speed increases. This figure shows that a 400 pound weight increase for 200 ft/min and 400 ft/min rates of climb amounts to a 3.94 knot and a 6.49 knot cross-country speed increase respectively. In other words, the cross-country speed benefit increases with increasing rate of climb as well as the increasing weight.

Figure 1 Best speed to fly over a range of weights for a Std Cirrus – for 200 and 400 ft/min rates of climb



The two sloping lines show that adding 400 pounds to a 600 pound Cirrus will increase its idealized achieved cross-country speed by the fractional rate of 3.94/400 = 0.00985 knots increase per ft/min climb for the 200 ft/min thermal. This slope increases to 6.49/400 = 0.01622 knots per ft/min climb in a 400 ft/min thermal. An easier way to relate to this is to multiply the slope value by 100 which results in changing the units to show that the speed increase is nearly 1% per 100 pound increase in weight for 200 ft/min lift and 1.6% for 400 ft/min lift. These percentages will be different for each glider and its assigned weight. Figure 1 uses the same idealized assumptions given in Chapter 3.

By the mid-80s, Sports class contests implemented an assigned weight for each sailplane to eliminate the dramatic impact of weight on handicapped racing, and this initiated the weighing of gliders at these contest. A handicap adjustment (not penalty) was required for those gliders exceeding their assigned weight. Figure 2 shows a quick analysis performed in 1989. This figure shows that the decimal cross-country speed impact of adding weight to assigned glider weight varied from 0.00015 to 0.0003 decimal increase in cross-country speed per pound of weight increase for the assigned weight for the 200 and 400 ft/min lift cases.

Another way to explain this data is say the 0.00015 can be converted to indicate a 1.5% increase in cross-country speed per 100 pound weight increase from a base weight. You will note the suggested trend for lower derating for longer span high performance gliders. For the first few years, 0.00025 was conservatively selected for the handicap derating adjustment for "overweight" sailplanes. This handicap derating number was reduced (with concerns) to 0.0002 in the 1994 Sports class rules.

Since developing a large family of closed form analytical expressions from flight test data for over 100 gliders, I have been able conduct a more exhaustive analysis of the overweight and varying thermal strength impact on handicaps. This analysis takes into account the aerodynamic and materials technology impacts on the decimal weight impact on MacCready cross-country speeds. Figure 3 shows a recent study of a technology range of nine selected gliders ranging from the 1-26 to the high-end Nimbus 3DM for thermal climb rates ranging from 200 to 800 ft/min. The vertical scale is the fractional speed increase rate of the handicapped speed change relative to the assigned weight. These results are sensitive to the weight change and the thermal strength change shown in Figure 1.

Notice that all of these gliders have different characteristics that can fall into technology groups. You will see

that the Nimbus 3DM rises to less than 0.00012 (1.2% MacCready speed increase per 100 pounds) to 0.000167 (1.67%/100 pounds) in spanning the 200 to 800 ft/min lift rate region. The L-23 Blanik is the next lowest, running from 1.88% to 2.65% for thermal lift spanning from 200 to 800 ft/min respectively. This medium performance trainer has a low derating factor as its weight is high for its moderate basic cross-country speed performance. The Ka6CR ranged from 3.26% to 4.33% speed increase per 100 pounds increase in weight.

The analysis of many more gliders shows that these gliders can loosely be grouped into technology groups. Not surprisingly, the very light weight, low cost PW-5 was the most sensitive (for the range of glider studied) to weight increases spanning from 3.38% to 4.47% for the 200-800 ft/min lift rates respectively. Figure 4 shows bar charts giving a more detailed breakdown for 16 gliders at assigned weights for 200 and 400 ft/min achieved rates of climb respectively. These gliders are listed in order of increasing performance. Note the difference between the low weight 1-26A and the more heavy 1-26E. There is a noisy trend of 0.00032 for the 15 metre gliders and 0.00014 for the very heavy super-span gliders.

The data set for 400 ft/min climb (dark grey bars) shows that the fractional speed per pound for the 15 metre or lower performance gliders increases from 0.00032 to 0.00038, but the large span gliders have a limited increase from 0.00014 to 0.00016. The implications for 100 ft/min lift suggest a derating range of 0.0001 to 0.0005 be considered by weight and technology groups. More on this subject in a later part.

The real world of cross-country flying encounters changing lift strengths and lift gaps along the course line. We will study these impacts, summarize and compare them with real national, regional, and Sports class contest results and soaring sites in a future part.

The MacCready cross-country speed ratio doesn't include start, finish, and altitude factors, task distance or wind, but does include the more detailed cross-country model assumptions stated in Part 3. Figure 3 in Part 3 *(ff 6/98)* provided the handicapped speed ratios against a Standard Cirrus for a wide range of climb rates for seven fixed weight gliders. Figures 3 through 5 in Chapter 4 *(ff 6/98)* showed the dramatic range of fractional cross-country speed increase with rate of climb for a wide range of nine to sixteen gliders.

Figure 5 compares the MacCready speed ratios for six gliders, each at two flying weights: at their all up weight (AUW), and at AUW-plus-100 pounds. The speed ratios are referenced to the Standard Cirrus at 744 pounds AUW.

Each additional 100 pound increase will shift the curves at nearly the same increment higher (or lower) for speed ratios greater than 1.0 (or less than 1.0). You will also notice that for lowering climb rates the low performance glider MacCready

Figure 2 *Best speed to fly increase with increased glider weight*

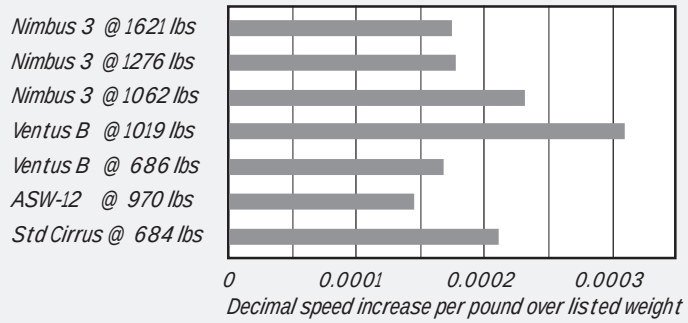


Figure 3

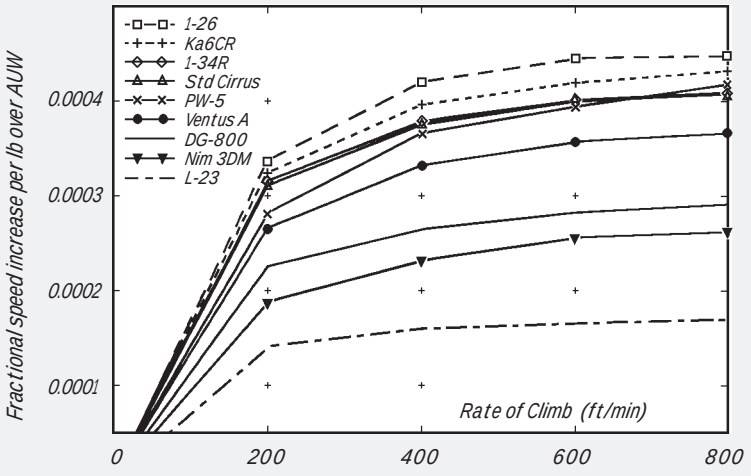
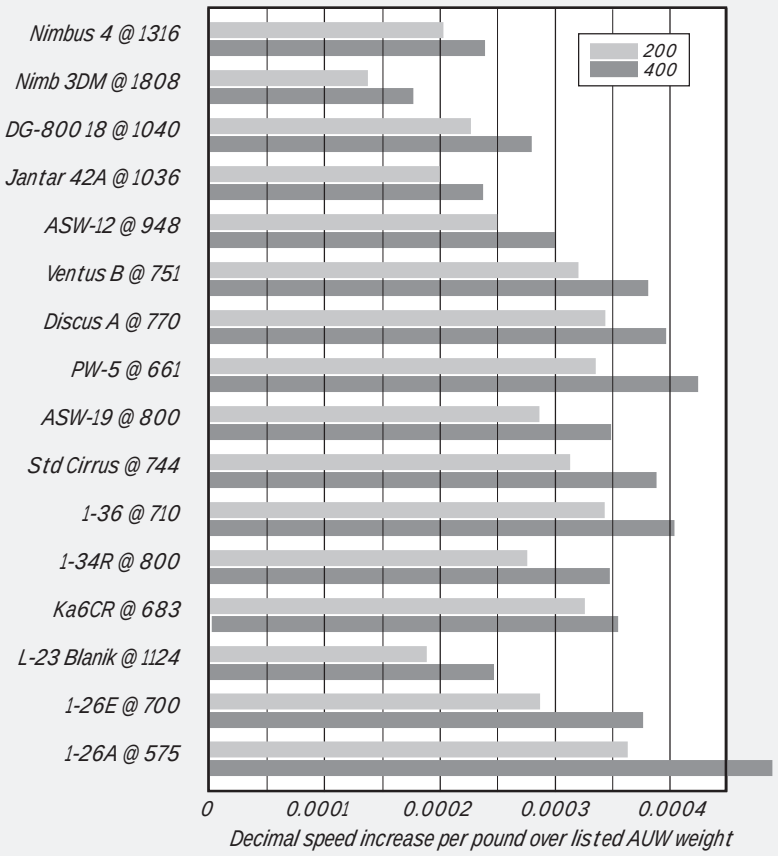
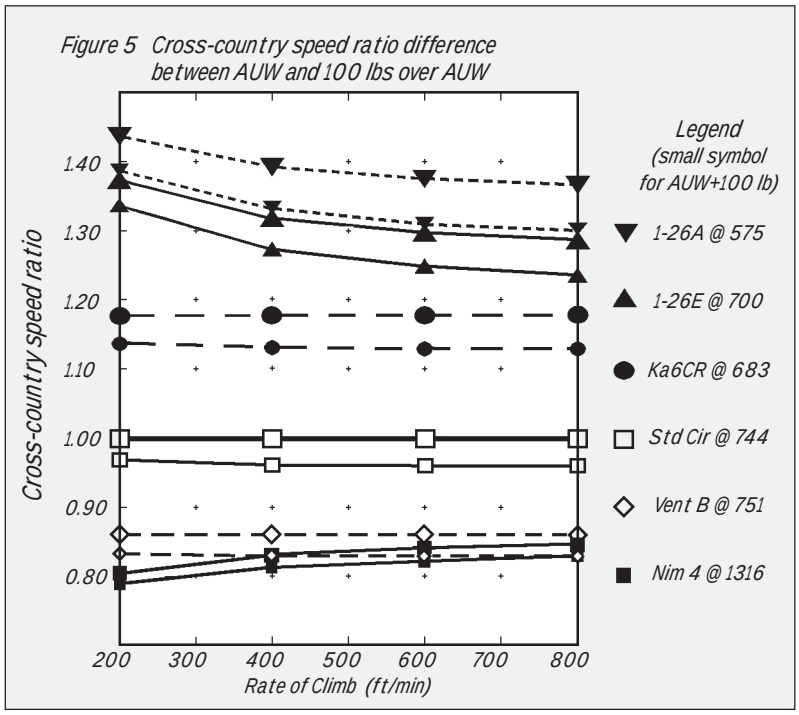


Figure 4 *Fractional speed increase per pound above glider AUW for 200 and 400 ft/min average rates of climb*





speed ratios arc upward and the higher performance gliders arc downward. You will also note that, for strong uniform soaring conditions, the speed ratios become nearly flat. Speed comparisons for less than 200 ft/min climb rates will be discussed in a later part covering weak soaring conditions. Figure 5 and the above referenced figures show the benefits of adding ballast to gliders for increasing achieved cross-country speeds for many soaring tasks in addition to racing. In the last thirty years, gliders with ballast have demonstrated an enormous performance benefit in strong soaring conditions.

What is the AUW and how is it determined?

In 1966 Region 11 (Pacific Soaring Council), and subsequently the SSA Contest Board and a few SSA Directors, started the investigation and demonstration of non-sanctioned handicapped contests. In 1971, Region 11 and Region 10 (Texas Soaring Association) began non-sanctioned handicapped contest trials. In 1975, SSA approved Regional handicapped contests, including an allowance for ballast-capable gliders. As a result of these contest results, in 1991 Sports class pilots moved to incorporate a weight limitation to all gliders to improve fairness. This weight limit was defined as the "All Up Weight" (AUW). The AUW is made up of the empty weight of the glider (without parachute, batteries, and oxygen) plus an allowance for pilot, oxygen, batteries, and parachute of 250 pounds for a single place glider and 450 pounds for a multiplace glider. There was no AUW limit for multiplace gliders. The rationale was to encourage passengers getting an introduction to the less competitive Sports class environment as a means to develop new contest pilots and increase interest to improve glider pilot growth and retention.

Due to increasing pilot concern, the AUW was revised for 1998 by adding another 15 pounds to the AUW below 1000 pounds, and 25 pounds for gliders above 1000 pounds AUW. In addition, a 30 pound fuel allowance was provided for motorgliders which in 1996 were allowed to self-retrieve from a landout. This process required a major recomputation effort for most of the gliders on the handicap list to fit the new AUW weights.

A more complex component of this last AUW change was the determination of the glider empty weight. The actual empty weights from weight and balance data produced dramatic variations from the advertised data sheets. Early production runs of gliders could be 50 to 100 pounds heavier than the data sheets. Later production could be reduced by up to 50 pounds from original advertised weights. In addition, later data sheets tended to revise the empty and gross weight upwards over time. For Standard class gliders this empty weight variation (neglecting oxygen, parachutes, and batteries) was a min/max range of 80 pounds — up to nearly a pound per square foot in wing loading. For 15 metre class gliders the range was up to about 120 pounds for 98 to 115 square foot wing area gliders, over a pound of wing loading.

In producing the most recent handicap list (CH-98), a big effort was made to minimize the number of complaints from many pilots owning gliders which exceeded the AUW because their empty weight was higher than the AUW allocation. The empty weights published in the SSA Soaring Directories over the years tended to retain the original factory estimates (this is especially true for all *OSTIV, Technical Soaring*, and *Janes* publications). Further, these publications have tended to blur all the variants over time. The SSA Directory was never meant to be used in this manner; it can be a very misleading document and is not the bible it once was. The flight test reports published over the years by Zacher, Johnson, Bikle, the Akafliegs, and a few others have been a key resource for accurate and up-to-date glider performance data.

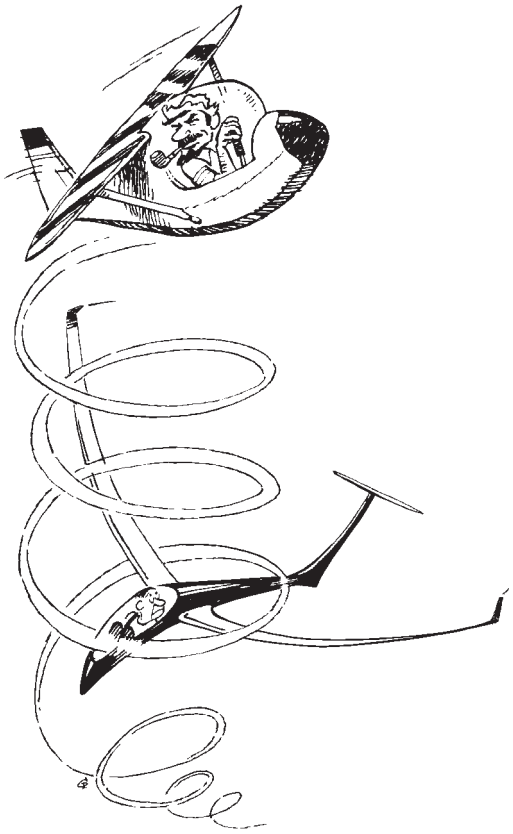
This increased AUW allowed the pilots with lighter ships to load to that AUW number with non-disposable ballast. As wing loading and span loading are factored in producing the handicap, this was more fair to all. Handicap reductions due to exceeding the AUW should be reduced to a very few starting in 1998.

In either case, the AUW could not exceed the maximum non-disposable payload. This was easy for the early generation gliders that were not designed for water ballast and recorded empty weight. More modern sailplanes have tended to not list the unballasted maximum weight. For these ships, the maximum gross weight has not been a factor until we get to large multiplace motorgliders.

The current 1998 German Aero Club and the British Gliding Association handicaps for Club class include no handicapping limitations for gross weight (or winglets or wind) other than those the aircraft are certificated to meet. *(The SAC Sporting committee also has not incorporated an AUW limit in our Sports class contests. ed.)* This is likely the result of the weaker average soaring conditions in Europe compared to the large range of soaring conditions available across the USA. A future part will discuss the world-wide variation of soaring conditions and foreign country handicapping differences.

As a footnote, I recommend that those of you interested in following this series make a copy of each article and insert it in a ring binder. As we progress, I will be referring to earlier material as I assemble more data, and combine material from earlier parts. ❖

Span is for wimps



Chris Davidson, from *Sailplane & Gliding*

There is much TRUTH spoken of these days about many things: wide screen TV, the need for 'Dolby ProLogic Surround-Sound' as a bare minimum, or why a 24X-speed CD ROM drive is an absolute must on an modern computer. We are told that without these essentials, life will not continue.

The normal way to discover such truths is to pop into W.H. Smiths, buy a copy of *What Big Telly?* and spend the next few days getting to know the difference between your '100 Hz refresh rate' and your '400 memory fast-text'. There is a natural downside of this process. Whereas before reading *What Big Telly?* you would have happily walked out of the electronics store with a £400 colour model, you now realize that, at a bare minimum, any new purchase will cost £1200 and even that is skimping a little.

To some extent gliding has always been isolated from this phenomenon. I don't suppose many people read *Sailplane & Gliding* and then order an ASW-27 from your local dealer. Most people who are in the market for a glider tend to have spent at least a few winters having the glamour and glossy pictures being frozen out of them. They know that you can have as much fun in a Ka6 as in a Discus and, after all, fun is what it is all about, isn't it? Yes, what a sensible, knowledgeable lot we are. Not to be swayed by marketing or the desire for toys and gizmos that are anything less than essential.

My last statement is of course utter piffle. Ever since the Wright brothers went down to the Old Duck & Crumpet and discussed a new idea for wingtips over a couple of beers, 'Gliding Man' has sought to eke every last percentage point of performance out of his pride and joy, and when ekeing just isn't good enough, then a quick phone call and a new bundle of carbon fibre and joy can be yours for a few zeros. TINSFOS (There Is No Substitue FOr Span) rules, it always has done, it is the only way to fly. So many trees have been felled to support the writing of it, and so many beers have been drunk to support the talking of it, that the entire German economy has flourished to support the making of it. Span *must* be the king. What other guiding principle can there be? Well folks, the time to rise up and reply has come, TINSFOS is dead, long live SIFOW.

Span Is FOr Wimps

There are a number of avenues by which I can advance my case. I shall start with the basics: why do you glide? For the purposes of brevity, I will dispense with the 'inner freedom', 'fly like a bird' and 'just for fun' brigade, as clearly all their ambitions can be satisfied with any glider, regardless of size — TINSFOS holds no claim over these fine pilots. The, "I fly for fun therefore I need a big glider" school of thought doesn't offer a leg to stand on. Please read on and redefine your argument or, to paraphrase a popular football chant, "you are wrong, and you know you are". If, however, you are in the subset that says, "I fly for fun, and I can afford a big glider, so tough luck", then I have no argument — skip the rest and go to the classifieds; I doff my cap to you.

So, where do we look to find candidates from the TINSFOS set ripe for the plucking? They have to be among the "I live to fly cross-country" clique. An upwardly-mobile bunch if ever there was one. Are they the real "push myself to the edge and beyond, press on regardless" type or are they all GPS and turbulator tape? The game goes like this:

White I worship at the TINSFOS altar because I live to fly cross-country.
Black You can fly cross-country in any glider...
White Ah yes, but I want to fly further and faster.
Black Why? (excellent move this: White now on back foot). The alternative response is "Further and faster than what?", *then* follow with the question "Why?"
White I want the thrill and challenge of flying further.
Black But, more of a thrill and challenge can be had doing the same in a small span glider.
White Ah yes, but I want to keep up in the pecking order of our club by flying the bigger tasks.
Black Why not go for the real kudos — fly the same tasks in a smaller glider?
White You don't have the good glide angle in a small span ship to make the best of a good day.
Black Try flying in lift then. 10% more skill on your part could mean 20% more time in rising air, and a 30% improvement on your distances.

After this, the end is inevitable. Either White responds with, "Yes, but I'm not capable of 10% more skill" (unlikely), or "Yes, but I want to spend lots of money on a new glider", in which case Black has won by default

as the original game was around White's love of cross-country flying and pushing himself further, not his love of new toys.

Span, span, span, span...
The real heart of the TINSFOS/SIFOW argument is, of course, not span at all, but performance. If R&D Aviation could sell a £5000 widget that would improve any sailplane's performance by 30%, we would suddenly have TINSFOWidgets instead. No, the question of span is the fixed battleground. For newcomers this argument is as follows:

Glider 1 is a small span ship (read 15m maximum) with a glide angle of 35:1. Glider 2 is an 18m span model with tips on, and screams along at 45:1. "Mister 15m" and "Mister 18m" are flying in the same air on the same summer's day. From this you can deduce the following:

1 Mr. 18m feels smug that he has three metres more than Mr. 15m and even more smug that he has the latest wingtips.
2 Glider 2 can cover more air, looking for more thermals using up the same amount of height than Glider 1.
3 Point 2 is the reason for point 1, apart from the tips which (probably) add no value at all: they just cost a lot.

After half an hour, Mr. 18m looks out and, for reasons he cannot fathom, sees Mr. 15m in the distance, ahead of him and higher; how can this be? The laws of thermodynamics, subatomic physics (or whatever) clearly forbid this? Pah! This is just the flawed thinking we have come to expect from the TINSFOS pilots. The truth is out there.

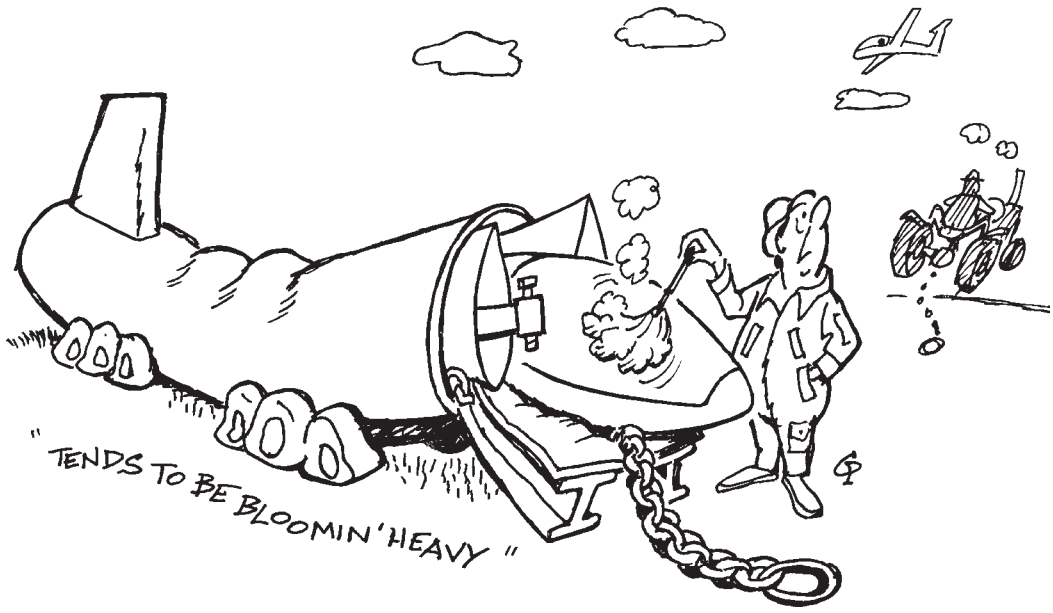
4 Mr. 18m was flying along at a glide angle of 45:1. However, for reasons unknown, he was doing so in a mixture of sinking and still air with the occasional wobble into the edge of a thermal. His achieved glide angle, in relationship to minor things like the Earth, was something other than 45:1.
5 Mr. 15m, seeing Mr. 18m sinking on a linear path as dictated by his Garmin thought "I'm glad I don't have a GPS to tell me where to fly. I'm off to find some rising air".
6 Neither pilot found a decent core, but Mr. 15m used his inferior glide angle to descend through superior air masses and consequently thumbed his nose at Glider 2 and said pilot. His effective glide angle was far better than Mr. 18m (now known as Mr. Sink). Mr. 15m was a gentleman-pilot and he had followed the energy.

Afterwards, in the bar (Glider 2 had been retrieved by this time) the two pilots chatted:

Mr. 18m "Ah yes, I saw you go by, I just missed that thermal. It arrived before I could centre in it. Still, press on, that's what I say".
Mr. 15m "Uh-huh".
Mr. 18m "Yes, still I marked it for you, saw you weaving all over the sky, thought you might need some help".
Mr. 15m "Uh-huh".
Mr. 18m "Still wingtips are fantastic, honestly, the difference it makes when the MacCready is set to 5 knots is really noticeable".
Mr. 15m "Uh-huh".
Mr. 18m "Ever thought of getting a proper glider like mine? There really is no substitute for span you know..."

This is exactly the same argument that keeps the golf industry so healthy: "I've been playing for years, but I can't seem to get my handicap any lower. I know, I'll buy a new set of clubs". Brilliant! Obvious! The fact that, rather than shelling out £400 on a new set of bats, our golfer could shell out £40 on a couple of lessons is clearly irrelevant. The fact that the new skills would make a real difference whereas the new kit will be out of date in a year is also beside the point. It's not what you've got, it's what you do with it!

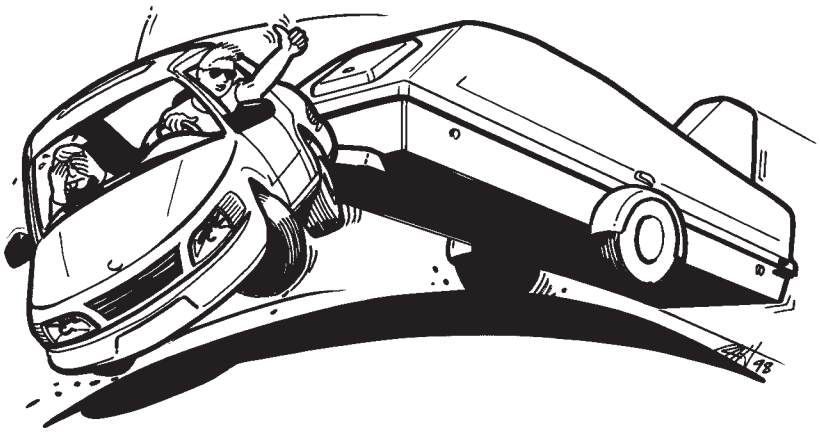
The last point I will make in my case for SIFOW is that Span tends to be bloomin' heavy. For technical engineering reasons they don't make long wings out of marshmallow — they use really light stuff in the middle then use so much of it it becomes heavy, then they surround it with stuff that has always been heavy, and then they stick metal pins in it.



This is the reason that on 'marginal days' (read MacCready set to less than 4), TINSFOS pilots only get as far as rolling the fuselage half way out of the trailer and pretend to fiddle with the vario or install a new GPS bracket. Those of us with small gliders can get the fuselage and wings out and rig. The point being that whilst the big boys are on the ground, thinking about their better performance, ... the SIFOW brigade is airborne, *flying*.

Actions
I could go on of course, but I won't. I will now assume, for reasons I cannot hope to justify, that after ⇨ **p16**

Towing tales



Robert Hellier
Venlose Zweefvliegclub, The Netherlands

The "tow" is a necessary and exciting component of soaring flight, requiring skill, concentration and coordination by pilots and ground crew. In *ab initio* training, the soaring student spends considerable time learning how to handle various types of tow. As fully fledged pilots, this training will continue to include other types of tow and more demanding conditions.

While a good deal of this training takes place formally (instructor to student), some of the knowledge is transferred informally (pilot to pilot) through impromptu descriptions of real life occurrences. The most extreme of these are towing tales of hair-raising, near death experiences. Classics in this domain include the winch tow in a gusty crosswind with a glider full of water ballast, and the vicious, gut wrenching aerotow through rotor for a record flight. These tales have a wealth of information for other pilots but, let's face it, their real intent is to highlight the author's consummate skills and cool head in the face of adversity.

As an expatriot Canadian who now lives and soars in the Netherlands, I also wish to relate a recent life threatening and manhood-defining towing tale that occurred during my first weeks at a Dutch gliding club (the Venlose Zweefvliegclub, located in the southeast of the Netherlands on the border with Germany). This event, which actually occurred during a checkride with one of the club's instructors, has made me realize that there is one type of tow that has been largely overlooked by the soaring fraternity.

I hope that this article will do its part to remedy this oversight, and after listening to my story I am sure you will agree; for along with winch and aerotows, and besides car tows, bungee and JATO launches, we must not forget the dreaded glider trailer tow.

It all started innocently enough during discussions about cross-country flying with "Wilde" Bill Stockings, a recent acquaintance and the only other *buitenlander* (Dutch for foreigner) in my newly-adopted club. Specifically, we discussed an important club rule that a pilot wishing to declare a cross-country flight must also ensure there is a dedicated and approved ground crew for possible retrieval. In the usual give and take of a gliding club we knew that we had to offer ourselves as crew to other pilots if we were to have them volunteer for our cross-country flights. Unfortunately, another club rule stipulated that ground crews must go through a club training regimen on glider retrieval. So we decided that, at the earliest opportunity, we would arrange to submit ourselves to the program.

The very next Saturday Bill and I were at the airfield and chafing under sub-optimal soaring conditions. So, deciding to make the best use of our time, we arranged a few hours with the club instructor approved for glider trailer tow training.

Bill volunteered to go first, pulling out with a huge, shiny and white, fully loaded Nimbus trailer with his ancient, dark, mottled Fiat. Noting the disparity between car and trailer, I distinctly remember my impression that, from the air, this procession would probably look very much like a little black ant trying to manhandle a large, fat maggot. I only mention this as an indicator of my state of mind about something that I was not particularly looking forward to but was otherwise compelled to complete. And certainly, my emotional state was not relieved by the ashen expression on Bill's face when he returned some 90 minutes later.

Unfortunately there was no time for him to warn me as the instructor — who was in a hurry to get home to dinner — drew me towards the Nimbus trailer to prepare for my checkride. What follows is an unabridged, real-time transcript of my thoughts, words and actions in order to convey the full impact of events to the reader.

Gingerly approaching the white behemoth, I began my internal patter ... *"OK, let's be really professional about this. First I'll hook up the trailer and then go through all the checks I can think of. Line up the car, lower the hitch onto the ball, secure the safety chain, raise the third wheel and plug in the electrical socket .... Oh my God!, the indicators and brake lights aren't functioning! Quick, grab the electrical contact spray, douse the receptacle and pray it works."*

Several "start-up cycles" of unplugging, spraying and replugging eventually evokes a weak signal from the running and rear nav lights of the trailer. ⇨ **p17**

A Kiwi elevator ride

Larry Springford, SOSA

We left New Zealand on 30 December and are now in Perth, Australia. The weather there wasn't "Omarama classic" but I did fly for ten days out of the fourteen that I had an LS-4 booked. I encountered wave on four or five days. On all but two days I hadn't bothered to take the oxygen mask along, and on two of them I had to limit my height. Even when there were "just" thermals, you could frequently get up to 11,000 feet, but not every day. Early on, I was happy to feel out the local area. You only land at airstrips there for the most part. The "paddocks" are hazardous to the health of the glider if not the pilot. Consequently, it was essential to know where the airstrips were and to be able to see them. From my experience in Omarama after the Worlds in '95, I knew they were hard to see, but after a few days, I was able to pick them out this time. After a while, I felt that I was ready to head off a bit, but the cloudbases came down to 8000 feet and I was too timid to head off. Field elevation is 1400 and mountaintops vary from 5–6000 feet near the airfield to 8–9000 feet when you move 20 kilometres away.

Doug Hamilton of Alpine Soaring (the local FBO), was my "minder", and led me around a couple of days. I followed Justin Wills around on another day, so I got some great trips in, even if they were only 200 kilometres out and return. Both my trips with Doug were on light wind days, so there was no ridge or wave lift, just thermals. On the day I went with Justin, the wind was blowing so I learned a fair bit from him on locations of various waves and got some practice "rock polishing" to get on top of the mountains. Justin led me over to Mount Cook which is over 12,000 feet high and we ridge soared the west face of it to 14,000 before coming home.

The day I got my Diamond climb was not a great wave day. The locals there consider 8 to 10 knots in wave lift to be fairly normal. Not for me! On the previous day when I had flown with Justin, we had difficulty getting away since the lift below the mountain tops was tough to find and work. In fact, Justin had to go back for a relight, which made for a late start, but was good for my ego since I was up there waiting for him. Therefore on my Diamond climb flight the next day, I didn't notch the barograph (GPS actually) after release and had to take a subsequent notch. There was in fact some doubt in my mind, and those of the locals too, as to whether a climb above 15,000 feet was going to be possible that day. I flew thermals for a while, heading off to the southwest with a view to attempting to get over to Lake Hawea, but when I ran into showers and saw a blue hole ahead I came north to the Diadem Range. Cloudbase was about 8000 which was only giving me about 1000 feet above the tops where I had been flying. I pushed forward of the Diadems into what looked like a wave window and sure enough it was. Cloud coverage was at least 8/10 in this area and when I reported climbing in wave to glider base at Omarama, Doug warned me to keep an eye out for the window closing. That thought was already in my mind, let me assure you, but I appreciated the safety concern that was shown through this and various other hints I got from him. I climbed that wave up to 13,500 starting with lift at about 6–8 knots but which fizzled out to 1–2 knots as I went up. Once I was above cloudbase of around 10,000, I could see lots of open holes in the Omarama basin downwind of me, so the concern about the wave window closing dissipated.

As with most waves, once I was on top, it was much easier to see where the other waves were located. I tried a couple of locations at the north end of Lake Ohau where Justin got our first wave climb on the previous day, but the top of the lift was still around 13,500. Next, I headed to another location that Justin had identified to me at the south end of Lake Pukaki. This one was much stronger, giving me 4–6 knots at first but again dying off as I approached 18,000. It looked at this point that I was going to be short of Diamond climb. Then I encountered some turbulence which, in my limited wave experience, was abnormal. I searched in the area and to my surprise (and pleasure), I found some 6–8 knot lift. This was not consistent but I crabbed back and forth in it, finding patches of lift in several different locations and eventually topping out at about 23,000.

Being only about 85 kilometres from Omarama, I thought I would fly over to Mount Cook, even though I couldn't see it below the cloud. Along the way I was going down at 8–10 knots but I wasn't concerned because I had lots of height. Eventually, by the time I overflew Mount Cook airfield (about 100 kilometres from Omarama) I decided that lots of height or not, at the rate I was coming down I would be shot down if I persisted much further, so I headed back towards Omarama, still sinking at 8–10 knots. I had flown well past the location where I had previously climbed the wave before my rate of sink came down to an acceptable level. From here it was just an easy Vne final glide home, in fact arriving back with 2–3000 feet in hand.

Later, on discussing with locals the turbulence I had encountered at 18,000, I learned that it was likely a case of a lower and upper level waves existing with different frequencies in different airmasses. The thought was that I had transitioned from the secondary in the lower level to the primary in the upper — a new concept to me.

By the way, talking about the wave strength here, Theo Newfield (brother of Steve Newfield in our club) told me about a wave location southeast of Omarama called the "Tauri Pit". He said the first time he encountered it he entered at 9000, did a 180 degree turn and found himself at 20,000. He couldn't believe it so he pulled the spoilers to do it again! His theory is that the bend in the mountains upwind cause a convergence of two waves. People talk about lift from 2500–3000 feet per minute.

Prior to this trip we had anticipated that we would not be coming back down here to New Zealand or Australia again, but after enjoying such great flying, I'm now trying to figure out how to do it again. ❖

Canadian Advanced Soaring news

Dave Springford

As some are already aware, I have taken over from Jörg Stieber as the president of CAS. Jörg is staying on the board of directors as secretary to ensure continuity. Paul Thompson rounds out the board as the treasurer.

If you haven't heard already, the '99 Nationals will be held at the Champlain Gliding Club southeast of Montreal. Tentative dates are 27 June to 8 July, but check the upcoming events listing for confirmation. Plan on attending — the area is great for flying, with no intrusion from Montreal airspace on the flying area. And, if there is bad weather, downtown Montreal is only 40 minutes away!

Contest Flight Recorders

CAS is currently in the process of designing and building, courtesy of Nick Bonnière, contest flight recorders (FR). Many of you may have seen the survey on this in the last issue of *free flight* or on the SAC Roundtable. The intent of procuring these FRs is so that cameras can be done away with at national level competitions. The FRs will be capable of recording GPS date, time, lat and long, and GPS altitude. They will not be FAI-approved and so will not be suitable for badge or record flying. They will, however, meet the security requirements for contest flying. We hope that GPS flight verification can be used exclusively at the '99 Nationals. CAS will include the FRs in the contest kit that it already provides to the contest organizers, and the organizers can rent the FRs to pilots who don't have their own. Pilots without their own FR will require a handheld GPS capable of NMEA output to act as the engine for the FR. The NMEA standard required is NMEA 0183. (Only one sentence is needed to provide the basic data, the RMC sentence; the GGA sentence can provide the additional GPS altitude data.) The recorder will extract the DATE, TIME, LAT, LONG from the RMC sentence and the GPS ALTITUDE from the GGA sentences.

If you already own a GPS, check the NMEA output to see if it conforms to this standard. If you are planning on buying a unit, make sure that it has the required output. This is a standard output that has been tested with Garmins, Magellans and Eagles.

The FRs will be rented for about $50 for the duration of the contest. This is about the cost of film for two cameras over a ten day contest. There is also a possibility that there will be "extra" handheld GPS units available to pilots without them. Let the contest organizers know well in advance if you do not have a suitable GPS, so they can determine how many extras are needed. If you have any questions about these FRs please let me know. I am at <*springford-d@rmc.ca*>

Third generation glider pilot

June 28, 1998 was an important day for Chris Gough of Burlington, ON. For one thing, it was his 14th birthday. For another, he made two solo flights in a 2-33 at the SOSA Gliding Club which probably makes him, for now at least, the youngest glider pilot in Canada.

Flying gliders is programmed into Chris' DNA. His mother, Lynne earned a Silver badge before giving up flying to raise a family. His father, Andy (contest letters 44) completed his Diamond badge in 1981. His grandfather, Andy Gough Sr. started gliding in 1947, was the CFI/manager of the RAF Gliding and Soaring Association in Britain and flew in the Standard Class at the World Gliding Championships at Marfa, Texas in 1970.

Congratulations, Chris, we'll be watching your future flying with interest.

Dixon More

Jaromir (Jerry) Vesely

1 Jan 38 – 1 Dec 98

Thou'rt gone, the abyss of heaven
Hath swallowed up thy form; yet, on my heart
Deeply hath sunk the lesson thou hast given,
And shall not soon depart.

W.C. Bryant

He was a master craftsman in his trade. With his skilled hands he built, repaired, and maintained a good number of aircraft, especially in the gliding community.

He was a flier. In the 1950s as a teenager in Czechoslovakia he started flying gliders and small power airplanes. In 1957 he and a friend escaped the political bounds of their country in a dramatic flight to Austria. In 1958 he immigrated to Canada and continued to pursue his passion for flying. In the 1960s he flew with SOSA and from the early 70s he flew with Cu Nim.

When he wasn't flying or working in the shop he could be found outdoors with his family. He was an inspirational skier, hiker, golfer, and all round role model for his kids. His love of flying was second only to the love of his wife and two sons.

He had many acquaintances in the flying community and to many he was a friend. He will be sadly missed. To Jerry: may your spirit fly high and free. Happy soaring.

book review

"A Glider Pilot Bold ...,"

by Wally Kahn

"What! Another book on gliding?" you may ask. Yes, but this one is very different. It is not a 'How I did it!' by a champion. It is not an instructional book, neither is it a technical book. So what does it cover? Let's start with the somewhat odd title, this is the first line of a British gliding song! It used to be a tradition in U.K. gliding clubs (and maybe it still is; I hope so!) to sing gliding songs at parties or at any other time that the mood struck in the bar on a Saturday night. Some of these songs are quite witty and Wally includes some in his book.

However, I digress. Wally's book covers his fifty plus years as a principal participant in post war U.K. gliding, with particular emphasis on the early postwar years with the British Occupation Forces in Germany and then with the Surrey Gliding Club. He then goes on to cover the development of the Lasham Gliding Centre, which is possibly the largest gliding operation in the world. He includes several stories of the trials of dealing with Official Bureaucracy. There are many amusing anecdotes in the book, some of which I can vouch for their truth! The book includes a very useful bibliography, listing some 72 books concerning gliding that have been published in the U.K.

Who's Wally Kahn? His credentials include several record flights, honorary life membership of the RAF Gliding and Soaring Association, recipient of a Royal Aero Club Silver Medal, and an award of a Tissandier Diploma from the FAI.

Should you buy the book? In my opinion, if you were ever associated with Lasham, a resounding yes! If not, but you are interested in early U.K. postwar gliding, yes! If you do not fall into either of these groups but enjoy a well written book associated with gliding that will prove to be interesting reading with the occasional laugh, yes!

Publisher, Jardine Publishers, Lasham Airfield, Alton, Hants. GU34 5SR, U.K.
http://www.JardineAviation.com

Reviewed by Terry Beasley
(Lashamite, 1953 to 1957, Montreal Soaring Council, 1957 to date)

AGM

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Conference Registration	16:00-22:00
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Saturday

Annual General Meeting	9:00-11:30
Lunch	12:00-13:15

lunch speaker:
Denny May, son of Wilfred Reid "Wop" May, famous Canadian WWI and bush pilot.

Conference Sessions

Human Factors in Soaring	13:30-14:30
Coffee break	14:30-14:45
SAC Safety Program	14:45-15:45
Break	15:45-16:00
Incident Analysis workshop	16:00-17:00

Banquet

Cocktails	18:00-19:00
Dinner & Awards	19:00-22:00

dinner speaker:
Mike Glatiotis – *Mountain Soaring*

Sunday Morning

Sporting Committee	8:00-10:00
Coffee break	10:00-10:15
A computerized lesson plan	10:15-11:30

SAC Trust Funds Update

The total amount collected in 1998 for the Pioneer Trust fund was just shy of $13,000 (including some life memberships). Below is a list of additional donors to go with the list that was published in the previous *free flight*.

Alberta Energy Corp

Stephen Benedek	Hugh McColeman
Oscar Boesch	Ian Oldaker
FM Bourassa	Gary Paradis
Chris Brownhill	André Pepin
Matthew Chislett	Pierre Pepin
Roy Eichendorf	Harold Porter
Robert Lohmaier	Norman Pound
Mike Maskell	Andrew Vidlas
Paul Mercier	Alfred Waymann

The following people donated to other SAC Funds in 1998 (the General Fund, Wolf Mix Fund, and the Corley Fund):

Nick Bonnière	Richard Longhurst
Charles Yeates	F.R. Matthews
Dixon More	Christine Futter
Investors Group	Ed Hollestelle

The trust funds had a good year in 1998, ending the year significantly higher than at the start of the year, despite the mid-year declines in the market (the Canadian market was approximately flat for the year.)

Jim McCollum, SAC Executive Director

Free Flight

I want to thank everyone who took the time to contribute to our magazine in 1998. Without your writing, an editor's job is lonely, harrowing and desperate!

Tony Burton

Summer movie to feature soaring

Hollywood arrived at Keystone Gliderport last October to complete scenes for an upcoming June release of the United Artists movie, *The Thomas Crown Affair*. Tom Knauff and Doris Grove put on wigs for the soaring sequences as doubles for actors Pierce Brosnan (of recent James Bond fame) and Rene Russo.

The movie is a remake of the 1968 Steve McQueen/Faye Dunaway film in which a bored millionaire steals an expensive painting for the thrill of it. Part of the current plot calls for the character to escape in a sailplane and soar from Pennsylvania to North Carolina. In the orginal movie, Steve McQeen flies an aerobatic sequence.

Tom and Doris pilot a Duo-Discus while being filmed from a helicopter carrying a $700,000 "Spacecam". Tom said he wouldn't quite use the term "fun" to describe film making, although there is some involved. "You do the same thing over and over again until you are bored to death trying to keep the director of the aerial sequences happy; and if he's not happy — nobody's happy."

Ultralight gliders the future?

Perhaps it's the cost of German fibreglass, interest in filling the aerodynamic slot between sailplanes and hang gliders, or in exploring the "new" cross-country potential recently discovered that is only possible using light, small, low minimum sink (100 ft/min or less) aircraft (see *Micro-lift* in ff 1/95); but there is a surge in design activity of ultralight gliders in the USA. It is going to be interesting to see how the "low" end of soaring develops over the next decade.

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World Contest vacant

Span is for wimps

from page 11

reading this far you have thrown out the lore of TINSFOS and become an accolyte of the SIFOW truth. What is the path you must follow to become a true believer? There are three paths you can take to fulfilment and enlightenment:

1 Do nothing. This is a cheap option, as you don't have to buy anything bigger or better. You could try to pick up a few flying tips from those that know, but don't worry too much. As long as you no longer drool over tips or dream of span, I am happy and you are a SIFOW believer. Well done.

2 Do something. This is still significantly cheaper than the road to TINSFOS, but a tad more expensive than option (1) above. The 'something' you should do is to *go and fly with someone better than you are, and engage your brain*. The choice of guru is up to you, but I can think of worse places to start than a week at another club, flying new gliders, at new sites, and drinking new beer. Anywhere that can offer you a new challenge is a good place to begin; just remember to learn something. The inevitable outcome of this is that you will become a better pilot, and hence fly further, faster and happier (or whatever your plan is) when you get back into your same-spanned ship. Next week: World Peace.

3 Buy something *smaller*. This is the path that most appeals to me. I'm sure that for most people, their flying performance has mental, not glider-related, limitations. This means that if you buy something smaller, but in the future can still fly the same tasks you fly now, your skills will have increased, not to mention the extra points to be earned in a handicapped competition. You also have the added advantage of walking tall amongst all the pilots that took the TINSFOS route and have not actually improved. "I could have bought an ASW-27, but traded in my Astir for a Russia instead". If you had flown 300 kilometres in the ASW-27, no one would have given you any credit (snide remarks maybe, along the lines of, "anyone being able to fly 300 with twelve miles of plastic"). Fly the same task in the Russia and you are SIFOW *personified*. Your wave flights will be talked about, your ridge flights will have the hang glider crowd bemused, and you can rig the thing single-handed.

Wow! I want one, where's my pen. "Dear Sir, I'd like to place an order for...". TINSFOS is dead: long live SIFOW! Phew! ❖

Coming Events

SAC Annual General Meeting 27 Feb
Edmonton, AB. All details are available through the SAC webpage. Contact: John Broomhall (403) 438-3268, <*john@cips.ca*>

Toronto Spring Glider Pilot Ground School
Tues or Wed evenings 7:30 - 10:30 pm for 8 weeks, preliminary starting date April 7 or 8. Contact: Ulf Boehlau: days (416)410-3883, eves (905)884-3166, <*ulf@problem.tantech.com*>, <*cm855@torfree.net*>

Eastern SAC Instructors' Course 21-27 May
SOSA. Contact SAC office for course material. Info: Tom Coulson <*tcoulson@istar.ca*>

Invermere Soaring Camp 22-30 May
East Kootenay Soaring Club and the Alberta Soaring Council are happy to revive the annual Mountain Soaring Camp at the Invermere Airport. The event will be run and attended by experienced Rockies soaring pilots who are available to coach mountain soaring techniques and micrometeorology, give checkrides, and promote a safe transition to flying at this exceptional site.

East Kootenay Soaring also offers glider rentals and checkrides. Camping available at the airfield, and the lake is very inviting! Soak your weary bones in the hotsprings. Don't be shy, come fly. Questions? call event coordinators: Mike Glatiotis, Cu Nim, (403) 282-6121 <*mglatiot@cadvision.com*>; Don Miller, East Kootenay Soaring Club, (250) 342-3201 or, Matt Kazakoff, (250) 342-3006 <*kaz@rockies.net*>

Canadian National Soaring Contest 28 June- 8 July
AVV Champlain, Saint Dominique, QC. Further info available by the next issue. Contact: André Pepin (450) 923-3631, <*champlain@ videotron.ca*>

Towing tales

from page 12

Another blast and some percussive maintenance finally brings the signal to full strength and I sigh with relief ...*"Whew, that was a close one. Now let's get into the car, finish our preflight checks and warmup. Let's see , licence, car, and trailer papers, seat belt ...*

... uh, excuse me, Mr. Instructor, but could you please use your seat belt too? It is, after all, mandatory in your country to wear one. Oh, and by the way, I and my family would much appreciate you refraining from smoking cigars in this automobile. Thank you."

With the instructor firmly in place I continue my checks ... *"OK, check gear, clutch in and ... ignition ... so far, so good. Now, ease the car into first and feel any difference in this fully loaded configuration ...*

Feeling the immensity of the load through my controls, I check my mirror and ask myself, "*Is that a trailer or a beached white whale?"* Over the next few minutes, as we head away from the airfield through shaded woods and fields, everything proceeds smoothly. But then the instructor initiates his instruction,

... in Dutch!

"My God man, spreek je geen Engels!? NEE! God ver domme, how do I get into these situations!?" OK, ok, relax, everything will be fine. Just concentrate on the instructor's words as they come through the cigar fog. If all else fails, follow his body language and hand gestures.

As I attempt to deal with this latest complication our entourage comes upon an intersection. Summoning up my best Dutch I ask... "Links or rechts?"

"Links", the instructor replies, but points to the right.

"Aarhh, he's dyslexic! We're gonna die and there's nothing I can do about it!"

After this initial panic, I spare a thought for the instructor's previous generations of students that had made it to this point, knowing that most had succeeded in equally trying situations. This helps me to calm down. I then consciously employ some Crew Resource Management (CRM) technique ... *"OK, we can resolve this situation with a couple of experiments before we hit the really big stuff. First I'll assume that his 'PIF' meter (Pointed Index Finger) is reliable but that his audio is signalling incorrectly. So I'll compensate for the audio, follow the PIF gauge by turning right, and gauge the reaction of the instructor ... Hey, it's working! He's smiling and we're still alive!*

But now he's talking again and the PIF meter indicates the passenger rearview mirror. I figure I can continue to rely on the PIF meter and try to glean what I can from the Dutch babble ...

What's that? I should check the mirror when I turn? I need at least 50 cm clearance due to the distance to the axle? And what's that about the back end and my driver's mirror? OUCH, the rear of the trailer almost clipped the street sign on the other side of the road!"

Now that's a looooong load.

Fifteen more minutes of towing through Dutch and German two lane back roads and single lane cow trails allow me to develop the "swing wide and scan the mirrors" technique. In no time I feel like a pro. A quick check of my instructor reveals a smiling face and no white knuckles or pumping feet. Good signs all.

Once again, I get a *"links!"* command with a point to the right. Hey, this is too easy! I move out to the centre a little, turn right into a tidy suburban neighbourhood and check the mirrors for clearance. Perfect. Then, *"Stop!"* (thanks for International English). I glide to a halt by the roadside. What's up? Is he gonna give me my diploma right now? Does he live here and want me to meet his beautiful daughter?

"OK, Achterwaarts rechts!", commands the instructor.

"What!? Back-up? You want me to back this car, with a precariously attached 10 metre long beached whale, around that corner in this tidy residential neighbourhood with all those people looking on? I'M A GLIDER PILOT, NOT A FLIPPIN' TRUCKER!"

OK, ok, screaming's not gonna help you here. After all, you asked for this checkride. Listen to the man ... uh-huh, something about the axle being the centre of all things. Obviously this is a "Zen" thing. Have to concentrate. Check that mirror, see the axle. No, FEEL the axle. That's it, let it ease into the corner, take your time ... uh-oh, I turned the wheel the wrong way! The line's divergent! The centre cannot hold! She's breaking up, she's breaking up, she's ... BRAKE! Oh yeah, brakes! Let's try it again.

I move forward, stop and take a deep breath. I note that some of the onlookers that earlier went back to their homes have returned with video cameras. I can ignore that. If there's justice on God's green earth, they'll all step in doggie-do.

Second attempt. I try to "feel the wheels", picturing the sweet trajectory of the inner wheel and the axle as they approach and bend around the curb: like a comet and its tail 'round the sun *(hmmm, not a bad simile)*. Nice and slowly, the trailer magically follows the curb and nestles neatly along the intersecting roadway. An older, retired couple applaud politely.

Having passed this interim goal, the instructor motions to move on. We leave the quiet neighbourhoods for a connector road and then onto the divided highway. Merging seamlessly with the transport trucks I accelerate — as is my usual habit — to the passing lane but ... *Whoa boy! Settle down there ... this is a jittery whale! Say again, Mr. Instructor? Don't EVER go more than 80 klicks!? Don't worry, I'm now a converted right-laner.* As future ground crew for some unsuspecting cross-country pilot, I'll probably never be in any great rush anyway.

Easing off the highway we now head towards the city centre — a maze of narrow roads, obstacles, traffic lights and roundabouts. *Wheeee!* I notice that my long load combined with a slightly vacant, drooly face presented to nearby motorists, cyclists and pedestrians makes for a lot of maneuvering room. I only hope the instructor realizes it's an act.

The light is now to be seen at the end of the tunnel, but one last test remains — the "acute angle, uphill and around obstacle" backing test. This is the ultimate, comparable in the need for intelligence, manual skills and stress management to no other soaring experience with the exception, perhaps, of having a radio conversation with a non-native-English speaking Air Traffic Controller.

Finally, back at the field, the instructor climbs out of the car and speaks in serious tones to some other instructors in folding chairs. Meanwhile I display my new prowess by maneuvering my white whale in between a bunch of other mammals resting in the hangar.

In the end the instructor writes, "Ophalen OK", on the back cover of my log book, handing it back without a word or even a wink of conspiracy. A typical anticlimax for what will undoubtedly be one of the defining moments of my "flying" career.

Now that I have done my part to redress the imbalance of attention paid to airborne towing tales, I hope that others will come out of the closet, so to speak, to give readers the benefit of more diverse experiences. We wait eagerly for your recounting! ❖

FAI badges

Walter Weir

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(905) 263-4374, <*waltweir@inforamp.net*>

The following badge legs were recorded in the Canadian Soaring Register during the period 6 Nov to 15 Dec 1998.

GOLD BADGE

284	Heidemarie Popp	Vancouver

SILVER BADGE

908	Allan Spurgeon	E. Kootenay
909	Matt Kazakoff	E. Kootenay
910	Attila Kardos	Vancouver

DIAMOND GOAL (300 km goal flight)

Heidemarie Popp	Vancouver	302.0 km	ASW-20

GOLD DISTANCE (300 km flight)

Heidemarie Popp	Vancouver	302.0 km	ASW-20

GOLD ALTITUDE (3000 m gain)

Matt Kazakoff	E. Kootenay	3410 m	1-23	Cowley, AB
Heidemarie Popp	Vancouver	3260 m	Grob 102	Hope, BC
Attila Kardos	Vancouver	3560 m	Jantar Std	Hope, BC

SILVER DISTANCE (50 km flight)

Allan Spurgeon	E. Kootenay	53.3 km	PW-5	Invermere, BC
Matt Kazakoff	E. Kootenay	53.3 km	1-23	Invermere, BC
Douglas Scott	SOSA	62.2 km	Std. Cirrus	Arthur East, ON
Attila Kardos	Vancouver	110.4 km	Pilatus B4	Invermere, BC

SILVER/GOLD DURATION (5 hour flight)

Harald Schnetzler	Vancouver	5:09 h	Grob 102	Minden, NV
Jack Sterken	London	5:13 h	1-36	Embro, ON
Allan Spurgeon	E. Kootenay	5:15 h	PW-5	Invermere, BC
Matt Kazakoff	E. Kootenay	5:07 h	1-23	Invermere, BC
Peter Luxemburger	COSA	7:02 h	Skylark 4	Omemee, ON
James Kayer	Toronto	5:16 h	PW-5	Conn, ON

SILVER ALTITUDE (1000 m gain)

Scott Douglas	Vancouver	1402 m	L23 Blanik	Pemberton, BC
Allan Spurgeon	E. Kootenay	1800 m	PW-5	Invermere, BC
Matt Kazakoff	E. Kootenay	1770 m	1-23	Invermere, BC
Douglas Scott	SOSA	1520 m	1-26	Rockton, ON
Peter Luxemburger	COSA	1220 m	Skylark 4	Omemee, ON
Eric Gillespie	SOSA	1460 m	2-33	Rockton, ON

C BADGE (1 hour flight)

2604	Harald Schnetzler	Vancouver	5:09 h	Grob 102	Minden, NV
2605	Scott Douglas	Vancouver	3:30 h	L23 Blanik	Pemberton, BC
2606	Jack Sterken	London	5:13 h	1-36	Embro, ON
2607	Allan Spurgeon	E. Kootenay	5:15 h	PW-5	Invermere, BC
2608	Matt Kazakoff	E. Kootenay	5:07 h	1-23	Invermere, BC
2609	Victoria Sawyer	York	1:04 h	2-33	Arthur East, ON
2610	Eric Gillespie	SOSA	1:17 h	1-26	Rockton, ON
2611	James Kayer	Toronto	5:16 h	PW-5	Conn, ON

Safety audit updated

from page 4

the most likely times for incidents to occur!). Any other areas of interest that the team considers important for safety should be equally open for inspection and discussion. The audit team might also discuss the club's future plans with regard to glider acquisition, if any, and long range plans which might not have a safety impact. The training program would be discussed not only with the CFI but with others as the opportunity arose. A suitably qualified outsider could take a flight or two with recently soloed pilots, for example, and would use this to judge the current state of the club's training and what makes the club tick. Any resulting feedback would of course be given later directly to the CFI.

Assistance from the Association is available at any time; please contact the national office or any one of the Flight Training & Safety committee members and we will make our best efforts to make suitable arrangements.

A signed copy of the completed audit should be kept in safekeeping by the club, and new executive members should be made aware of its existence and latest date of completion. If the last audit was completed more than four or five years ago, a new one should be considered. SAC does not require a club to submit a copy of its audit; however, a copy sent to the Association would be a great assistance to us to improve the checklist and to give feedback to other clubs when pertinent items are highlighted.

By completing a safety audit a club will show that it has a serious commitment to safety, something that we can all benefit from, particularly if the majority of club members know that an audit is being performed and take part in it. ❖

SAC SUPPLIES FOR CERTIFICATES AND BADGES

1	FAI 'A' badge, silver plate pin		$ 6.00
2	FAI 'B' badge, silver plate pin		$ 6.00
3	SAC BRONZE badge pin *(available from your club)*	(12 for $55)	$ 6.00
4	FAI 'C' badge, cloth, 3" dia.		$ 6.00
5	FAI SILVER badge, cloth 3" dia.		$12.00
6	FAI GOLD badge, cloth 3" dia.		$12.00
7	FAI 'C' badge, silver plate pin		$ 5.00
8	FAI SILVER badge, pin		$45.00
9	FAI GOLD badge, gold plate pin		$45.00
	Items 7–12 ordered through FAI awards chairman – see Committees list		
	Items 10, 11 not stocked – external purchase approval given		
10	FAI GOLD badge 10k or 14k pin		
11	FAI DIAMOND badge, 10k or 14k pin and diamonds		
12	FAI Gliding Certificate (personal record of badge achievements)		$10.00
	Processing fee for each FAI application form submitted		**$15.00**
13	FAI badge application *(download from SAC website forms page)*		n/c
14	Official Observer application *(download from SAC website forms page)*		n/c
15	SAC Flight Trophies application *(download from SAC website forms page)*		n/c
16	FAI Records application *(download from SAC website forms page)*		n/c
17	Flight Declaration *(download from SAC website forms page)*		n/c
18	**Badge & Record Flying**, ed. 7 *(download from SAC website forms page)*		n/c

Please enclose payment with order; price includes postage. GST not required. Ontario residents, add 8% sales tax. Items 1–6 and 13–18 available from SAC office. Check with your club first if you are looking for forms.

ARTICLES ACVV POUR CERTIFICATS ET INSIGNES

Insigne FAI 'A', plaqué argent
Insigne FAI 'B', plaqué argent
Insigne ACVV BRONZE *(disponible au club)*
Insigne FAI 'C', écusson en tissu, 3" dia.
Insigne FAI ARGENT, écusson en tissu, 3" dia.
Insigne FAI OR, écusson en tissu, 3" dia.
Insigne FAI 'C', plaqué argent
Insigne FAI ARGENT
Insigne FAI OR, plaqué or
Les articles 7–12 sont disponibles au président des prix de la FAI
Les articles 10, 11 ne sont pas en stock – permis d'achat externe
Insigne FAI OR, 10k ou 14k
Insigne FAI DIAMAND, 10k ou 14k et diamands
Certificat FAI de vol à voile (receuil des insignes)
Frais de services pour chaque formulaire de demande soumis
Formulaire de demande pour insignes
Formulaire de demande pour observateur officiel
Formulaire de demande pour trophées de vol de l'ACCV
Formulaire de demande pour records FAI
Formulaire de déclaration de vol par feuille
Vol pour certificats et insignes, éd.7 (anglais)

Votre paiement dévrait accompagner la commande. La livraison est incluse dans le prix. TPS n'est pas requise. Les résidents de l'Ontario sont priés d'ajouter la taxe de 8%. Les articles 1–6 et 13-18 sont disponibles au bureau de l'ACVV.

Trading Post

Personal ads are a free service to SAC members (please give me the name of your club). $10 per insertion for nonmembers. **Send ad to editor**, not the national office, Box 1916, Claresholm, AB T0L 0T0
tel/fax (403) 625-4563, *free-flt@agt.net*

Ad will run 3 times unless you renew. Please tell me if your item has been sold sooner. Maximum ad length is 6 lines and subject to some editing as necessary.

single seat

L-Spatz, CF-UJZ, 1966, recent fabric and overhaul, basic instruments, radio, Varicalc, open trailer. $6000. Winnipeg Gliding Club (204) 837-8128 or *<info@wgc.mb.ca>*

1-23, #16, 1951, 2400h, beautifully refinished, all instruments, trailer. Asking $11,000. Matt (250) 342-3006 or *<kaz@rockies.net>*

DG202/17C, 1981, 2700h, ship meticulously cared for. Excl gel coat, Becker radio/mic, ILEC computer/vario, GPS, Winter mech back-up vario, Hamilton compass, O_2, water. $50,000. Based in Ephrata, WA Harry Peters (604)856-5456, *<petersh@uniserve.com>*

Jantar Std 2, ser #1207, 383h, basic instruments + PZL mech. vario, Rico elec vario, T&B, Dittel 720 ch. radio. Nice shape and annualled, enclosed all-alum trailer, tail dolly, wing covers. Contact: Paul Yardy, (905) 863 5728 *<Paul.Yardy@nt.com>*

Jantar Std 2, C-GGEA, 747h, excellent cond, alum enclosed trailer. Rico, g-meter, EdoAire radio, chute. Asking $26,500. Réjean Dallaire (514) 449-6333 (W), (514) 635-3470 (H) *<rejean@cegerco.com>*

Ventus B, C-GVRS "26", in excellent condition, 812 hours. Fully instrumented with Ilec computer, Ball vario, Dittel 720 channel radio, O_2, Masak winglets and Cobra trailer. Call or e-mail Lee (403) 242-3056, *<coatesl@cadvision.com>* or Rod (403) 240-4374, *<crutcher@med.ucalgary.ca>*

PIK20Bc, C–GXWD, carbon fibre, 820h, vg cond., new paint, Ball 400 c/w netto & cruise, Edoaire 720 radio, chute, O_2, gear warning. Call Lee Coates at (403) 242-3056 or Denis Bergeron at (403) 526-4560.

magazines

SOARING — the monthly journal of the Soaring Society of America. Subscriptions US$43. Credit cards accepted. Box E, Hobbs, NM 88241-7504. (505) 392-1177, fax 392-8154. *<74521.116@compuserve.com>*

NEW ZEALAND GLIDING KIWI — the bimonthly journal of the New Zealand Gliding Association. Editor, John Roake. US$32/year (seamail). Private Bag, Tauranga, NZ. *<john@roake.gen.nz>*

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