1/90
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$3

POTPOURRI

A requirement to carry in any aircraft flying in Canada a proof of liability insurance card was recently published in the "Canada Gazette". Regardless of the opinion that the way this has been imposed on aviation in an unnecessarily rigid fashion, the requirement won't go away. A sensible and simple solution has been agreed to by our insurance broker with our Insurance committee to issue a proof of liability insurance card per aircraft directly to club presidents or their representatives who will issue it to each aircraft or individuals owning an aircraft when the required premium has been paid. The proof of liability cards will be issued to clubs approximately the first of March. The insurance policy is expected to be under the same terms and costs as last year.

In 1989 our insurance brokers insured 349 aircraft in 44 clubs with a total hull value of 6,373 million dollars. The premiums paid were $319,000, we had twenty claims amounting to $139,000 with a loss ratio of 44%. We had excellent cooperation from our new brokers who gave quick response to all requests and were accurate and thorough in submitting information. Working with them was a complete pleasure.

Being my last *POTPOURRI* and having been asked repeatedly "What does SAC do?" I thought a random selection from the past month's entries in my diary of SAC items which came over my phone or desk would serve as a partial list of SAC activities. Only a phrase or sentence is used —

A lawyer phones from Quebec City, wishes to borrow a Blanik Technical Manual; suggest that our store carry Piggott's books — eg. *"Beginning Gliding"* and *"Meteorology for Gliders"*; pilots seeding list procedure discussed with Al Schreiter; request Alberta Zone Director comb Alberta for a SAC statistician; check draft minutes of October Directors meeting (conducted by conference call); update our aide memoire *"Foreign Glider Pilots Flying in Canada"*; write congratulations to the Mile Zero Cadet Soaring Association on their very successful start up year; advertising way down in *free flight* – should we cut rates in half, drum the woods for our former advertisers, talk to Directors and Tony; meeting date for Airspace committee and Transport Canada; write Director's letter with such items as opinion of conference call type of meeting, clubs' annual statistical returns — last year they were only 50%, one year previous they were 80% because of Directors harping; propaganda on Pioneer fund is packaged in an envelope to each member – keep at it all year with the motto "you have to give a little to get a lot"; starter kits for new clubs will be on the January agenda – bring your views; SAC 50th anniversary in 1995 which we should mark in a suitable way; our office has been computerized to handle accounting and insurance; your feedback to iron out glicks will be appreciated; *free flight* needs your articles and more from clubs; review new membership and tax receipt cards – looks good; Soaring Stuff imaginative program has had an excellent start and will add $7000 to revenue; what happened to Collision Avoidance cassettes?; requirement for proof of liability insurance to be carried aboard aircraft – method to satisfy; auditor to start earlier this year; offers from two clubs to host 1991 Nationals; prepare agenda for January Directors meeting – 19 items (if anyone wants a copy send for it to SAC office); Glynn Trust (whose annual interest goes to the best Air Cadet of the year) – why not change beneficiary from Air Cadet to a SAC lad, 18 years old and below; Insurance committee to meet with broker to discuss 1989 results and determine 1990 terms and costs; progress of Winnipeg AGM; Ulli Werneburg planning Sporting committee meeting with competition rules, glider handicaps, etc. on agenda; high accident rate in one of our clubs to be investigated by Flight Training and Safety committee; will send out 1990 membership cards and 1989 tax receipts together in December; Herb Lach progress on Ventus 17 metre wing extension type approval; plan to be ready for March; comments on Transport Canada draft of new glider pilot standards; interesting figures from our friends in the SSA office – their 1988 membership 14,224 – 1989 was 14,276; population of USA approximately 260 million; membership of SAC for 1988 was 1324 and 1989 was 1430; population of Canada 26 million – must be our good publicity; filling orders from Soaring Stuff takes about one day per week to complete; Al Sunley phoned to say Randy Saueracker of the Cold Lake Soaring Club will take Statistician's job — wonderful and thank you.

Support the Pioneer fund to ensure that all the above and much more remains possible (since Christmas, an additional $5545 has been received!).

Gordon Bruce

free flight • vol libre

Trademark pending Marque de commerce en instance

1/90 Feb–Mar

The journal of the Soaring Association of Canada
Le journal de l'Association Canadienne de Vol à Voile

ISSN 0827 – 2557

Cover

The next generation is taking over. Chris, son of Mike Apps, has a smile as wide as the stretch after his Silver duration and altitude flight in Edmonton Soaring Club's 1–23 on May 14, shortly before getting his licence on his 16th birthday. Since then, he's got his distance, becoming one of Canada's youngest Silver C pilots, and a Diamond height in the Cowley wave this fall. Way to go! **Photo: Hugh McColeman**

The 7 deadly sins of gliding.

SLOTH

"Platypus"
from Sailplane & Gliding

Time was, if you said to your CFI, "Chiefy, on my next gliding holiday I want to put as many hours in my logbook as possible and fly as many miles as possible and to see the widest variety of countryside and generally get the most out of my glider, my talents and the British weather, all of which are pretty limited. What do you advise?", then the instant answer would have come winging back, "Enter a competition, of course! Best of all, get into a Nationals."

And of course a Comp was indeed the ideal way to achieve all those noble aims, with expert met briefings and aerotows laid on, with a crew madly eager to drive thousands of miles from dawn to dusk, and from dusk to dawn again, and finally with distance tasks that started in the very first thermal of the morning and ended in a long, floating descent from the last thermal of the evening – well, many pilots, in gliders of lower performance than those in which people now go solo, averaged seven hours a flight, seeing not just the countryside, but the coastline, often from many miles out to sea, from Cornwall to Scotland in the same week. It wasn't just worth 50 hours in the logbook, it was beautiful and hard to forget.

Dreadful tales are told of the extermination of the American bison in the 19th century; people would shoot the poor beasts just to cut out the tongue as a delicacy and leave the carcass to rot. That's what the unholy alliance of competition pilots and organizers increasingly do to magnificent, broad-shouldered soaring days that could effortlessly carry hundreds of gliders round this land for seven, eight hours or more. They carve out two or three hours in the middle of the afternoon and discard the really interesting bits at either end. Like a dead buffalo a great soaring day never, ever comes back. It is lost for all eternity. Forget lunch, *launch!*

A few times I have got my act together just about in time for an early launch, and I have been continually astonished how soon in the day the good soaring weather can start. On so many days thermals are bubbling at 1000 (0900 GMT) and I realize I could already have been 40 km or more down the first leg of some vast task. Don't say that this is all to do with 1989 being a freak year; it was a freak year, but the principle applies every year – some days are perfectly usable a good three hours before the typical competition pilot crosses the line.

Years ago I arrived overhead a famous club more than 250 km out from home in an ASW-20 on a Sunday lunchtime – about 1:30 pm – and people were saying on the radio that they'd just discovered it was a rather nice day and maybe they ought to aviate a bit. On the ground high performance gliders could be seen preparing for their first leisurely launch of the day. They would have discovered that it had been fantastic since 9:30 am if only they'd got off their backsides. (To be fair, I'm sure the same leisurely carrying-on was taking place back home.) It wouldn't matter as much if they were not the same people that whine about the horrendous cost per hour of gliding, the rarity of good days, the difficulty of getting utilization etc.

If you want a worthwhile resolution for the New Year, it is this: get up early; get the equipage and all the assorted junk out on the launch point and get your behind, and all that is strapped to it, into the empyrean at the earliest opportunity. If you are a slow pilot like me, the only way you will ever cover the ground is to use all the soaring hours that God sends.

A few more touches of the blindingly obvious:

- It helps to pair fly with friends; tiptoe along at max L/D, and stay in touch by radio and eye.

- Remember that when cloudbase is low the thermals are closer together, so it isn't so difficult as it looks. The lift at breakfast time is not strong but is almost continuous. That is how Hans-Werner Grosse used to do 1000 km flights in his ASW-17 years ago.

- Try to set a task such that there is a friendly airfield on track on the first 20 or 30 km, then you can be reassured that if you do burn your boats too early you can get a relight and not waste the whole day in some meadow glaring up at the clouds and cursing Platypus. Take a good book along, though, just in case.

- If you really have launched prematurely, and the tug pulls you through dead air all the way to 2000 feet, carry on to 3200 feet over the site, announce "Start" in a clear, confident voice and glide out on track, praying. You are giving the thermals 20 minutes in which to wake up. (You are also impressing the hell out of your friends, who are listening to the radio still in their pyjamas and eating toast and marmalade. The lower the performance glider you do this in, the more impressed they will be, especially if they have shares in it.) If you get nothing by the

continued on next page

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 which represents 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. Prints (B&W) are preferred, colour prints are acceptable. Negatives can be used if accompanied by a print.

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 given in the magazine.

All material is subject to editing to the space requirements and the quality standards of the magazine.

The contents of **free flight** may be reprinted; however, SAC requests that both **free flight** and the author be given acknowledgement.

For change of address and subscriptions to non-SAC members ($18 per year, US$18 in USA, and US$24 overseas), please contact the National Office, address below.

5 Deadline for contributions
5th day of each ODD month

L'ASSOCIATION CANADIENNE DE VOL À VOILE

est une organisation à but non lucratif formée de personnes enthousiastes cherchant à développer et à promouvoir le vol à voile sous toutes ses formes sur une base nationale et internationale.

L'association est membre de l'Aéro Club du Canada (ACC) représentant le Canada au sein de la Fédération Aéronautique Internationale (FAI), administration formée des aéro clubs nationaux responsables des sports aériens à l'échelle mondiale. Selon les normes de la FAI, l'ACC a délégué à l'Association Canadienne de Vol à Voile la supervision des activités de vol à voile telles que tentatives de records, sanctions des compétitions, délivrance des brevets de la FAI etc. 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** sont des contributions dues à la gracieuseté d'individus ou de groupes enthousiastes du vol à voile.

Chacun est invité à participer à la réalisation de la revue, soit par reportages, échanges d'opinions, activités dans le club, etc. Un "courrier des lecteurs" sera publié selon l'espace disponible. Les épreuves de photos en noir et blanc sont préférables à celles en couleur. Les négatifs sont utilisables si accompagnés d'épreuves.

L'exactitude des articles publiés est la responsabilité des auteurs et ne saurait en aucun cas engager celle de la revue **vol libre,** ni celle de l'ACVV ni refléter leurs idées. Toute correspondance faisant l'objet d'un sujet personnel devra être adressé au directeur régional de l'ACVV dont le nom apparait dans la revue.

Les textes et les photos seront soumis à la rédaction et, dépendant de leur intérêt, seront insérés dans la revue.

Les articles de **vol libre** peuvent être reproduits librement, mais la mention du nom de la revue et de l'auteur serait grandement appréciée.

Pour changements d'adresse et abonnements aux non membres de l'ACVV ($18 par an, EU$18 dans les Etats Unis et EU$24 outremer) veuillez contacter le bureau national.

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5

Opinions

MANEUVERING SPEED

...Mr. Steve Smith, in his article, "Placard Speeds", argues that maneuvering speed is not affected by changes in weight, and bases his argument on calculations which show that at less than gross weight, a "6g" glider can safely perform a 6.67g maneuver because the wings are really only supporting the same 6000 pounds which they would safely support at 6g for the glider at gross weight.

May I submit an opinion that, while his calculations are correct for a wing, his conclusions are wrong for an aircraft. My opinion is based on the belief that once it is decided to design a "6g" aircraft, this figure is applied to all parts of the airframe such as seats, engine mounts, battery boxes, etc. For example, a 10 pound battery would have a bracket designed to hold 6 x 10 or 60 pounds (plus margins). At the 6.67g referred to in the article, the battery would be imposing a 66.7 load on the bracket which is in excess of its design load. Therefore, I argue that maneuvering speed does in fact decrease when an aircraft is below gross weight. More simply put, if it's a "6g" aircraft, and the g-meter says 6, that's it!

Jamie Alexander
Crystal Lake, Illinois
(in response to the original article)

YES, YOU DO HAVE TO BUY IT

In "Tiny Horror Stories" Gary Chapple, while making several useful points about membership, shows an unfortunate ignorance of what it takes to get a gliding club started and keep it going — money. "I didn't want to buy their sailplane. I just wanted to fly it." If we could take members on that basis, I am sure that every club in Canada would have a waiting list! As he found out when he went to a club with lower membership initial fee, those who paid for the equipment resented those who joined "just to fly it."

The capital to start a club has to come from somewhere and it is not unreasonable to expect new members to pay a part of that cost. Nor is the answer to be found in increased membership alone. Consider the following example:

One of my colleagues at work expressed a strong interest in gliding. Since he was stinking rich and qualified to fly power up to busjet level, he seemed a suitable, even a desirable candidate. So I offered him a flight the following Saturday and received a rather surprising reply: "Very well. I shall be there about noon. I should like the flight to be over by two as we are having people in for drinks." I assured him that I could get us a high spot on the list since I was instructing and would be at the club at 8 am; I also assured him that if we took off at noon we would be down by 12:30 as lift at Hope does not usually kick in until about 1 pm.

He felt that he could not devote his valuable spare time to anything so "vague" and told me that if the sport were ever to amount to anything, we would have to "get it better organized than that." I can honestly say that his absence has caused the VSA no harm whatsoever. My only regret is that I shall never see him struggling with a Blanik wing root.

Certainly we need better communications with the Air Cadets, but even though my son was a senior NCO and had both power and gliding wings, I found my local squadron somewhat difficult to approach. The problem has not been entirely on the club's side.

One of the encouraging features about the VSA's growth over the past year or two has been the calibre of the new members. Several of them have shown an enthusiasm for wave and cross-country flying which would suggest that they will stay and become useful to the sport in general. They also show a willingness to take on their share of the work.

Our directors seem to have done a great job of bringing in new members. Now, does anyone have any ideas on how to keep the existing membership? If your club is typical, you probably lose 30% of your pilots every year — just like any other sports organization. Keep plugging away in the nineties.

Brian Hollington
Vancouver Soaring Association

SLOTH

time you get down to 2000 feet, you either press on or tum back as the mood takes you. I take no responsibility from here on.

In the greatest flight ever did in this country, 808 km from Lasham to Durham and back in that other wunderjahr, 1976, Chris Garton was 30 km along track in his Kestrel 19 and down below 1000 feet, with no usable airfield in range, before he got his first thermal. That's the way to write a big flight not just into the logbook, but into the record book.

There is no substitute for a "Positive Mental Attitude" (of course, span helps no end). You will note that the sailplanes referred to in the foregoing piece are all available at reasonable prices these days, being to greater or lesser degree obsolete, but capable of terrific performance. So it is not a question of this being advice for Nimbus 3 owners which all others can ignore. It is a question of attitude. Lastly, if flying for seven hours and more does not appeal, then land at lunch time and throw your partners in to the air. •

IMPRESSIONS OF A NOVICE

Experiencing the World contest

Peter C. Masak

IN MY MIND there are few experiences that can match the excitement of competing in one's first World contest. Knowing that you really are the underdog is kind of fun – you don't have to prove anything to anyone since no one really has any expectation that you are going to win anyways. If you do well, they really can't figure out whether it's really you or the airplane. If you do poorly, then that's not a problem either since you weren't supposed to win anyways.

For me, the World contest in Wiener Neustadt was really enjoyable. I was a dark horse pilot and flew much of the contest in stealth mode. There weren't dozens of pilots lining up behind me to start with me and steal my first thermal. It seems that there really was an advantage to doing as poorly as I did in the pre-world's – no one considers you a top seed so they leave you alone to do your own thing. That was my strategy – fly the first few days in a relaxed manner as if I'm only there for fun, and then when no one's looking go for the kill... Too bad some others had the same idea.

Before the contest started, I was intrigued by the possibility of team flying. This is not allowed in national competition, but in world competition, it is encouraged. Several strong performances in previous years by pilots have proved the benefit of this approach, and I was anxious to try the same. Helmut Reichmann talked of the team flying strategy in a recent lecture, and noted that the French team was very strong of late as a result of having pilots with the right personality traits and the ability to practise together.

Basically the team flying strategy requires that you have the discipline to formate up before starting (which is not as easy as it might sound), and then fly in a manner that the pilot in front constantly relays useful information to the pilot behind that will help him catch up. For example, when one pilot turns in a thermal, he immediately decides if it is worth staying in or not so that his team mate can continue on if the turn was wasted. This requires very quick and honest reporting.

For myself, I had the unique opportunity to team fly with my friend Ron Tabery, who was flying a Nimbus III for the US team. We are fortunate in that we regularly fly together from the same club in Austin, Texas, albeit in radically different sailplanes (his an Open class and mine a 15 metre). Since I had arranged to fly a Nimbus III as well in the Worlds, I was hopeful that we could really put something together as the French, Czechs, and Poles had done before us.

In the final analysis, it didn't really work as I'd hoped. There was always the problem with the fact that Ron and I were representing different countries, and officially were competing against one another. Compounded with that was the complication that Ray Gimmey, also in the Open class and flying for the USA, was officially Ron's team mate. When after a few days it turned out that I was ahead of the two Americans on the scoresheet, Ron and Ray seemed to clam up and the information stopped flowing. I ended up then forming a bit of an informal alliance with Ray Lynskey from New Zealand in the hope that the two of us together could try and link up to fend off the strong onslaught of the French contingent, who were obviously doing better and better as the end of the contest neared.

I found the first contest day rather amusing because of the relationships just described. We were sent onto a task in Hungary, a small triangle by normal standards. However, the weather was poor and uncertain, so it wasn't going to be a speed day. I should have started sooner, however the desire to climb as high as possible before starting delayed my departure and I found myself leaving later than I would have wanted.

By that time, everyone had left except for one other Open class pilot from Belgium. Many of the small fry (the 15 metre jocks) had also started late however, and this left several well marked thermals to bounce on the way. No sooner was I in Hungary than I was pretty much lost. The roads went every which way, the visibility was rather poor, and flying a compass course didn't seem to be very helpful. My Canadian team mates were not in evidence, however I passed Doug Jacobs (LS-6) on the way and asked him if he knew where he was – he didn't reply. Karl Striedieck appeared from nowhere (ASW–20) and I asked him the same – again only a vague response. My worst fears were being realized – I was getting lost as had happened twice in the pre-Worlds! I kept thinking to myself – here I am at the Worlds and I can't even perform elementary navigation.

Fortunately for me, Ray Gimmey came on the radio and reported being lost as well. I must say this was a little bit of a relief for me, since I knew I wasn't alone, but it did not resolve the immediate situation. To my surprise, Ron Tabery appeared overhead (he had started 20 minutes earlier), and the two of us worked out our position. To this point the Americans had been totally uncommunicative – they were talking in all kinds of ridiculous code. When it came down to survival though, the whole code system went out the door.

At the turn the conditions were bad and deteriorating rapidly. Ron and I had deliberately flown 90 degrees off course in a desperate attempt to stay up. There was now a 100% stratocumulus overcast, with some evidence of cumulus barely visible in the murk. We came to the turn at reasonable altitude and glided past numerous sailplanes cranking around in zero sink. Gimmey had recommended a weak one knotter a couple of miles north of the turn. I glided past the gaggle and was fortunate in spotting some birds climbing a further half mile north. This two knotter was enough to separate me from the pack, and I called Ron and Ray, hoping that they would return the favour at some future time.

We glided to the second turn with much trepidation. To my surprise, sunshine appeared with 2/10 cumulus at the turn. We climbed again as high as possible, rounded the turn and proceeded back into the murk for the final leg home. No one was in sight at this point, and my anxiety heightened again. The air seemed lifeless. Minutes ticked by as the altimeter winded down. It was 5pm and totally overcast – not encouraging by any means. I radioed Bruce Finlay who was monitoring our progress from a hill in Austria, and asked him to advise my crew to hook up the trailer.

Now down to 800 feet or so, I spotted a small fire burning in someone's back lot a couple of miles ahead. It didn't seem to be big enough to generate a real thermal, but the smoke column did seem to be rising. I arrived at the smoke plume with no real expectations and was most surprised when the variometer showed zero sink. Well what the heck I thought, I'll just stay here and sit it out, and try and decide what to do. After 10 minutes or so, Ray Gimmey appeared out of nowhere. I had gained about 50 feet. We circled together and enjoyed each other's company. When you know that you are on the verge of impending doom, it's nice to know that you are not alone. We continued to thermal together for the next 20 minutes or so. Meanwhile Ron Tabery sailed overhead about a thousand feet higher and opted to land about 5 miles down the road.

Ray suggested pressing on, and I joined him. We were only at 900 feet or so, but remaining where we were was obviously not productive. All of a sudden Ray found a very weak core to my great surprise and delight, and we helped each other centre the thermal. This little half knotter slowly turned into a one, then two knot thermal, and we milked it for all it was worth.

There was little doubt in our mind that this was going to be the last thermal of the day. It was now 6pm and still overcast. The air seemed lifeless, and we glided westward into the sunset. For almost a half hour, we passed dozens of sailplanes strewn in fields on either side of the road. I was in a reflective mood, thinking of what sort of experiences all the pilots were having trying to get retrieved from inside Hungary. I hoped only to make it to the Austrian border, knowing that a retrieve from there would be much easier.

We glided on in complete silence. The air was now completely smooth. Ray asked me whether I was being picked up on radar. I said no, I didn't have a transponder. He replied that he was picking it up on his VHF radio – the interference was so strong that he could hear the static of the radar beam sweeping by. This meant that we were near the border!

By this time we were getting low and a landing was imminent. I spotted a field with three sailplanes in it and remarked that that would probably be where I'd land. Ray decided to pick another field short of my immediate goal (he was a couple of hundred feet lower). I set up a base leg, and quickly called Bruce Finlay, who was monitoring our radio conversations on a nearby hill at the Austrian-Hungarian border. As I touched down in the field, I noticed dozens of children surrounding the other sailplanes in the field. What a surprise to be met by at least 50 children, who were quite animated and shouting and gesturing at each other.

The other pilots (a Pole, a South African, and a Belgian) had recruited most of the kids to help push their gliders back to the edge of the field. I soon learned that they had already called the Hungarian airforce, who were sending towplanes to tow us out of the field back to Austria!

An old WW II vintage aircraft arrived and took a low pass over the field. It had a huge radial engine and belched smoke and fumes. The pilot who was dressed in coveralls and not the military uniform that I expected landed and pulled up in front of the sailplanes. We now numbered four, and the Pole (Stanislow Zientek) took the first tow in the DG-600.

All of the activity was making the kids even more excited, and even though we couldn't communicate, we were all having a grand time laughing and talking to each other in what was essentially jibberish. I lined up several groups of kids and took their pictures. Unfortunately, I learned later that the film from Hungary was confiscated (it might have photographs of military installations!).

Another towplane appeared and the Goudriaan brothers from South Africa took a tow in their ASH-25. I was next, and needed to recruit someone to run my wing. Jacques Aboulin appeared (he was later to be crowned world champion in the Standard class) and was kind enough to run my wingtip. He had briefly stopped by in search of one of his French team mates, who had gone down somewhere nearby.

As we towed up, I struggled to get my map out and quickly identify my position and various landmarks. I tried to call Bruce Finlay (who had left his hilltop station as it turned out) and was surprised to get an answer from Dave Webb, who asked me to take down some notes as to his position near Sopron, Hungary. He was worried that his crew might not find him, as darkness was only an hour away. I took down some information and called Wiener Neustadt. Kevin Bennett and Beth McCollum fortunately were monitoring the channel, and advised me to tell Dave that his crew was on the way. All too soon the towpilot waved me off and I very reluctantly released. He had briefed me that he could not tow beyond the border and that I would have to try to glide back to Wiener Neustadt with the height that I had.

I steered an approximate compass course and tried to establish landmarks beyond the border station below. The sun was very low on the horizon and I couldn't make out much to the west towards Wiener Neustadt. In a brief moment of stupidity, I saw a large highway and decided to steer a little right of courseline and follow that towards what surely must be Wiener Neustadt. Imagine my surprise when a large airport looms ahead with giant paved runways which should not be where it seems to be on my map. I saw a hot air balloon near the airport and questioned Kevin as to whether or not he could see one as well. No, said Kevin (he was at Wiener Neustadt). As I was low (about 400 feet) I decided to land and promptly found out that this was Vienna Airport South (10 miles north of Wiener Neustadt).

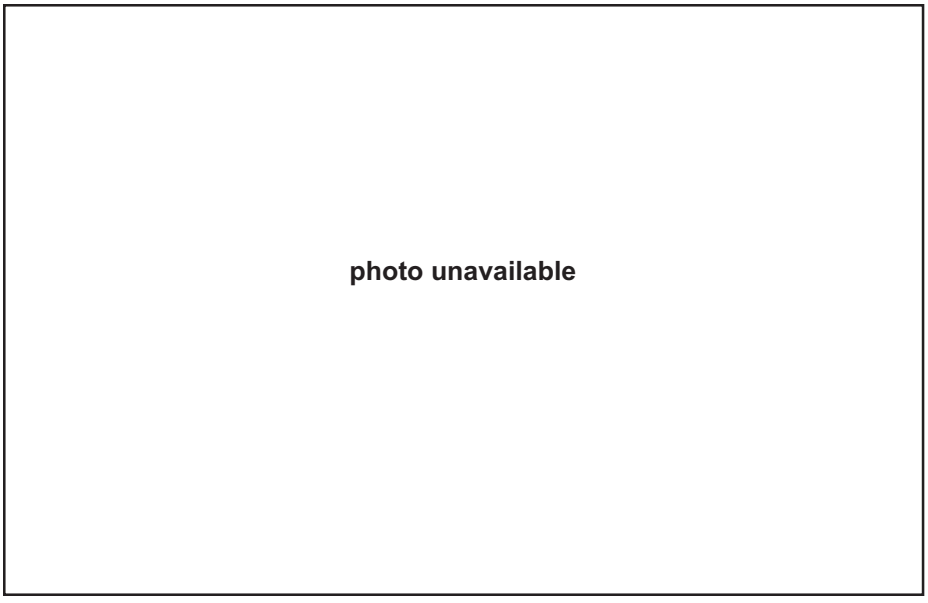
This outlanding was a source of great amusement to many of the people at Wiener Neustadt. I was recognized as being the only person to do a *"double vache"* which means double outlanding on the same day! In my defense, I found out that my compass was about 30 degrees off, and after adjusting it correctly the following day I had no major navigation problems thereafter.

In the final analysis, this first day's performance gave me seventh for the day. Ray Gimmey who I had shared the last thermal with, placed eleventh on account of selecting a field 2 or 3 miles back from mine. In big contests, every inch counts!

From the team flying perspective, I was surprised that Ron Tabery and I couldn't put together a more effective strategy. Although we knew each other very well, it just didn't gel as I'd hoped, perhaps because of the international rivalry problem. In the end, Ray Lynskey turned out to be an excellent team flyer and I enjoyed his astute observations and cheerful comments.

The French team on the other hand put together a team performance that was unparalleled in recent history. On one day, French pilots in all three classes placed first and second – that was an absolutely amazing performance. The French, who are government supported, take their competition soaring very seriously. Their team practised together three times before the Worlds at Wiener Neustadt. Their pilots are essentially professional. Gerhard Llerms for example, works as an air traffic controller, however whenever it is a good soaring day he is allowed to take time off and go practise.

In total, it was a wonderful experience to fly together with some of the world's best. With the added dimension of team flying, it was truly an experience that I will never forget. •



Peter sits in the Nimbus III at Wiener Neustadt with crew Elisabeth McCollum alongside.

THE PACIFIC D-8 PROJECT

The project to construct an Air Cadet glider fleet

Lloyd Davies
Winnipeg Gliding Club

Older members of the Canadian gliding community may recall the project a few years ago by the Air Cadet League, to make kits of the Pacific "D-8" glider available to cadet squadrons for local construction. Here is an account of the scheme by one of the participants, recalled to the best of his memory, to show how it began, ran its breathless course, and then collapsed.

I GUESS the Air Cadet D-8 program started, in 1971, on the day I was invited as the National Coordinator of Air Cadet Gliding, to visit the Boeing of Canada plant, Winnipeg Division, to talk about "gliders". At this time I had held this appointment for less than two weeks, as a secondary tasking to my regular duties as a Maintenance Officer in the Canadian Forces in Winnipeg, so I was curious and a bit apprehensive to hear what the people at Boeing wanted to discuss on the topic of Air Cadet gliders. At Boeing I was met by Mr. Len Dyke, the President, and Mr. Paul Tingskou, whom I had seen once before on a jaunt out to the Winnipeg Gliding Club.

They got right to the point. If they were to manufacture the Bölkow "Phoebus" sailplane at Boeing's Winnipeg plant, which specializes in the production of composite plastic aircraft parts, could the Air Cadet League buy, say, one hundred of these aircraft?!!! The Phoebus, a very fine sailplane, was one of the earliest fibreglass ships. Boeing had a licence agreement with Bölkow, the builders of the Phoebus in Germany, to manufacture Bölkow's products for the North American market. They believed that over the next few years, a demand could exist on this continent for several hundred of these machines, which they felt could be sold in kit form, the components being made under their licence agreement with Bölkow. This kit would cost about (in 1971) $5,000 to the buyer, and would have only seven or eight main components of fibreglass plastic material to be assembled in order to complete the airframe. But as the cost of the moulds to make these components was very large, they would need a firm order for about one hundred gliders in order to get started.

It was an exciting idea – a high performance sailplane built in Canada, with state-of-the-art honeycomb-cored fibreglass, formed under pressure in high quality moulds in a high temperature autoclave that would surpass the existing hand layup, wet resin and balsa core techniques!

I couldn't speak for the Air Cadet League, but I did point out that the Phoebus would be too much of a handful for cadets at summer camps where the main thrust in those days was to give familiarization rides, with very limited basic glider flight training; the current glider pilot training programs only started at a later date. Also I doubted that the League could cope with that many gliders not only from the viewpoint of the half million dollar initial price tag, but with maintenance, hangarage, etc. bearing in mind the problems they were having with the twenty or so Schweizer 2-22's that they owned. This was cold water indeed to throw on such an innovative concept and it was disappointing to all present, myself included. On departing, I encouraged them to talk their idea over with the League, but I never heard anything more about building the Phoebus in Winnipeg.

Nonetheless, I often thought about it. For a long time I had been interested in home-building gliders and had collected all the brochures then available, on the BG-12, the HP-14, the Pacific D-8, the Tern, the Duster and the Pioneer II. I had even bought the set of plans to construct the Pacific D-8. None of them was really simple to make – but what if a kit could be provided over a two to three year period, so that it could be completed and flown locally by cadets who had passed a glider pilot course at summer camps? This would not only instill a sense of pride in having the machine produced by their own efforts, but could also open up new technical skills for their local squadron training to focus upon.

For a while, I had seriously considered constructing a Pacific D-8, and had written the designer, Ken Coward, about the possibility of replacing the 31 feet constant-chord wing with a partially tapered 36 feet wing, to get a bit better performance. He replied that he could not afford the time to rework the D-8 design to incorporate a tapered wing. My attention then swung to the new homebuilt on the market, the tailless Pioneer II, by Jim Marske. I bought a set of plans and was soon busy making ribs for the Pioneer.

In the midst of all this, the March '72 issue of SOARING magazine came in the mail, with the Harmon and Linville article on the "Dingus". Eureka!!! Here was a simple airframe! Now, if a design could be based on this concept and if someone like Boeing could mold a small pod fuselage, and someone else could stamp out wing ribs and someone else form the main spars, why – it could go together in pretty short order!

A rough sketch for a cadet glider of the Dingus variety, labelled "Cadet Model 100", showing the general arrangements in three views was finished in October '72 and sent to the Air Cadet League and military headquarters in Ottawa. I also sent a copy to W. Czerwinski in Toronto, in view of his extensive glider design experience, asking for his advice. A large number of phone calls were made, trying to enlist the aid of qualified people in the structural and design process. None of these were successful, although the staff at NRC did show me how to recalculate the coordinates of Marske's 12% airfoil to get a section 15% thick, with the same characteristics. The Air Cadet League was supportive of the idea, but after spending several months of wheedling, I had been unable to achieve any progress, especially in design activity. Those who would have been capable of assisting were turned off, generally, by the "flying wing" layout of the aircraft. To overcome this problem, a second set of sketches, labelled "Cadet Model 102", were prepared to show a glider similar to the first one, but with a pitch control mounted on top of the fin, instead of the trailing edge elevators of the first version.

This configuration met with no more success than the "tail-less" one, and so, despite my early optimism, the scheme was quickly running out of steam, especially since I could only devote a limited part of my time to the activity. Not so easily discouraged, however, was Lt.Col. Roy Windover, who had recently moved into the Air Cadet Liaison office in National Defence headquarters. He said, in effect, "Well, even if the flying wing idea can't move ahead, surely you can find an existing homebuilt design that's suitable for the cadets." His enthusiasm got me fired up again. Mulling over the options once more, it seemed that the Pacific D-8 was the best choice, since in comparison with the rest of the designs available, it was the simplest, it should not be prohibitively expensive, its basic parts could be manufactured at one or more central locations, and the structure did not rely on glue/wood joints whose integrity would be difficult to control or verify. This latter aspect was of great concern in a situation which could involve literally hundreds of people, many with no experience, in the mixing of glues and the making of joints. On the other hand, the condition of a rivetted joint could be relatively easily determined by visual means.

And so by early spring of '73, I was again writing to Ken Coward in California about the

possibility of the longer, tapered wing for his D-8 design. He responded in a positive note this time, to say that he would rework a set of drawings on 8.5"x11" paper for a tapered wing and a simple spoiler, if we would undertake to buy twenty sets of plans. This was a most reasonable offer, but unfortunately, we decided that we should try to have a two-piece wing designed in lieu of the straight-thru wing on the original. I sent this further request to Mr. Coward. The designer, who had not long before suffered some heart problems, could now see that this project might easily run away with itself, and withdrew from any further participation.

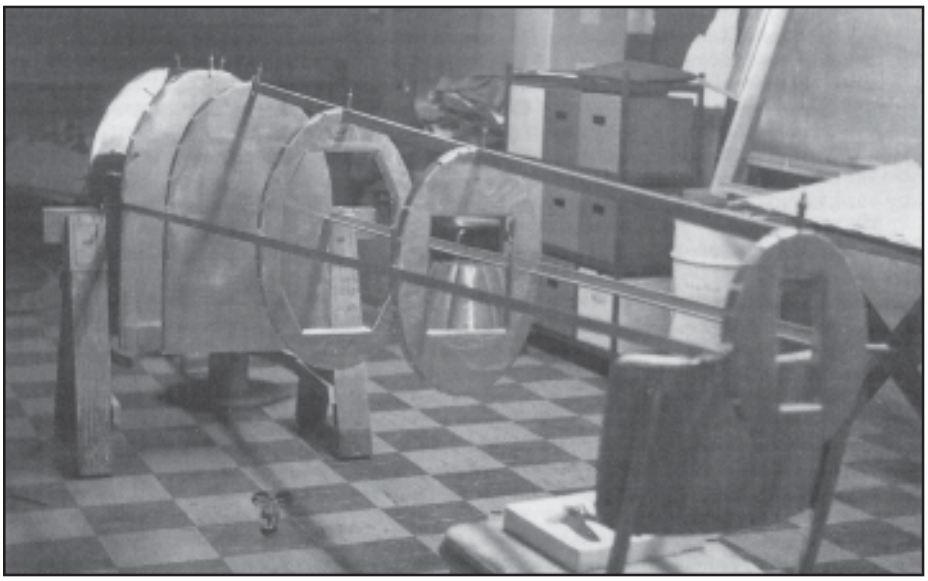
Having lost the support of the designer, we concluded that the one-piece wing would be satisfactory. Windover asked me to take on the task of laying out the rib patterns for the new wing, so I got started on that effort. I had fortunately already received Ken Coward's reassurance on the main spar changes that we intended to use for the increase in span, so that hurdle was behind us. However, my boss had been getting increasingly restive about the amount of time that I seemed to be spending on cadet gliding matters, and finally in May '73 my appointment as the National Coordinator for Cadet Gliding was terminated and this function was transferred to Windover in Ottawa where it likely, in all logic, belonged in any case. But Windover managed to get agreement from my boss that I was to assist him in bringing the D-8 along to completion, for the time being.

Because the D-8 plans supplied by Coward had only quarter sections drawn for the fuselage bulkheads, drawings were produced to allow a builder to paste the drawing on a sheet of aluminum and cut it out directly, without having to do all the layouts on a sheet of metal. The bulkheads and ribs needed to be formed or shaped on forming blocks or tools. We planned to have one set of these made up, and then send them out to the various locations as needed.

During the telephone conversations with Ken Coward, he let me know that Mr. Glenn Mauch of Dodge City had made and was flying a D-8. A quick phone call to Glenn obtained agreement for a visit to see his aircraft, and above all, to let us test fly it and see how it handled. A number of months were to pass before we could both get away, but finally in early March '74 both Roy and I arrived in Dodge City to visit Glenn and his glider.

The hospitality and generosity shown by Glenn to the northern visitors was outstanding. He gave us full and complete details on the way he put the aircraft together, the fabrication techniques, the changes that he had made, and suggestions for future building. He was assisted in the construction by Mr. Harold Kennedy, who had already built one glider (SOARING, Mar '70, p39). The D-8 fuselage and empennage had been built in the Mauch's basement which had a good large layout and easy access to an outside door through which the components could be moved. He had built the wing in an unused part of an auto repair garage in another part of town; the length of the one-piece wing demanded sizeable outside access to the workshop, and the jigs needed were of quite a size. At the time of our visit, Glenn was starting to make a second fuselage, and the jigging arrangements as shown in the photo confirmed my earlier belief that construction should be fairly straightforward.

The Pacific D–8 built by Glenn Mauch. It has a one-piece 34 foot constant chord wing.



A second D–8 fuselage being built in Glenn's basement confirmed to Lloyd that the construction and jigging requirements were straightforward enough for cadet builders.

He also showed us the forming tools he had used for the various sheet metal parts. Because he was only making a limited number of parts, he found that the 3/4" plywood stood up alright to the pounding needed to shape the metal. The simplicity of this set of tooling certainly supported our intentions of sending tools out to users as needed.

While we were in Dodge City, the spring winds were too strong and gusty to try to handle a glider on the ground, but Glenn took the D-8 in its trailer out to the airport, where room was located in a hangar to unload and assemble it so we could at least sit in the machine and try it out for visibility, comfort, controls, and get photos of the construction details that were of particular interest to us.

The original wing configuration had been mostly retained by Glenn, but he had extended the wingspan from the original 31.5 feet to 34 feet, without making any major internal structural additions to the spar. This gave him an aspect ratio of 10.75 compared to a value of 10.0 for the original. The top photo above shows the D-8 in the hangar with the canopy and nose cone removed.

When Roy Windover tried out the cockpit with the canopy in place, he found it a bit confining, but Glenn and Harold pointed out that this was probably a result of a noticeable sag in the top line of the canopy, which occurred immediately after it left their hot-forming cabinet and was turned upright in their over-enthusiasm to see its shape.

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HOW TO *INSTANTLY* IMPROVE YOUR FLYING

PART 1

COPA Flight Safety Bulletin

Sounds impossible, doesn't it?

Yet if you talked to many outstanding pilots and to the most experienced flight instructors, they would tell you that it is possible for pilots to instantly improve their flying. They would also testify that, in fact, their road to becoming truly professional pilots was marked by certain key moments when they changed and later were better pilots for it.

But what kind of change? And how does one go about changing oneself as a pilot? Of course one way is to listen to the outstanding pilots who will be quoted in the following pages. But another way is to begin by observing other pilots at your local airport, to ask yourself some questions about them, and then to ask some questions about yourself as a pilot. You'll be surprised at some of the new ideas and new ways of viewing flying that will come to you.

Habits we bring to the airport

Of course the other pilots at the airport aren't just pilots, nor are you. We all have a history, a job, and a general approach to life that has served us well so far. Such personal styles are often easier to note in others than ourselves. Take, for instance, the forceful businessman you may have met at the coffee machine, it's easy to see why he is successful. But successful at what? His traits sure lead to success in the business world, but how well do they fit the requirements of flying? The same questions apply to the doctor, the college student, the secretary, and the other friends you've met at the airport. Compare them with an outstanding pilot you know or with an ideal airline captain you'd gladly entrust your family to on their next vacation trip. Note the differences. Each has developed strong points from their background, but how well do their habits match the habits needed in flying? How about yours?!

Let's try an example — one that is so obvious it is hard to see. I think you would agree that most Canadians are highly efficient. We are masters of the fastest and easiest ways of doing things. Our history of success in industry proves that. Of course that means most new pilots bring to the airport these habits of doing things the quick way. Now let's look around at our airports and do a little comparing. Note the pilots preparing to fly. Do you see what the professional pilot and the experienced flight instructor see?

If not, look again and then seriously consider this question. How come astronauts go through elaborate countdown procedures before launch, airline pilots are required to go through extended pre-flight procedures, and all military pilots can be seen to pre-flight their aircraft with a checklist in hand; but locally, many pleasure pilots do hasty preparations, a quick walk around inspection, and some even skip the runup if they've flown the aircraft recently?

Before you answer, ask yourself two bottom line questions: first, would you allow your family to fly with a "shortcut" or "quick-prep" pilot? Second, would you expect such habits in a professional or ideal pilot?

> **We have met the enemy ... and they is us.**
>
> **Pogo**

Such questions help us to see what happens when a pilot applies his "quick way" habits to flying. When he does, he's ignoring the history of aviation which has been a relentless struggle to defeat Murphy's Law (Whatever can go wrong, will go wrong). Such quickie pre-flight habits are also exactly opposite to the advice given regularly to other pilots by a famous airshow pilot, Bob Hoover, known to all airshow fans for his masterful Shrike Commander aerobatic routine:

"Know your airplane,
Know it well,
Know its limitations, and, above all,
Know your own limitations."

Thus Bob not only advises us to know everything we can about our airplane, he also advises us that we'd better know our own limitations, such as those habits that serve us well in our careers but have no place in flying. His advice is also backed up by new accident data, now more available because of computers. For instance would you believe that, with regard to accident causes, many pilots crash BEFORE takeoff ? Maybe they think you should get careful after you start the engine. Anyway, their lack of preparation results in takeoff accidents that add up to 20 percent of all general aviation accidents and 16 percent of all fatalities and serious injuries. *(If you want further details, COPA has a circular entitled* "Role of Preflight Preparation," *that tells the whole story and can help you counter the temptation to misapply your time saving job habits at the airport.)*

Think of it, that alone could be a 20 percent improvement in your flying. You can have that improvement by resolving to avoid all "quickie pre-flights" and "shortcut habits" and by adopting Bob Hoover's advice instead. Best of all, you can make that improvement right now — this instant!

By your attitudes you are known

Would you believe that an experienced instructor can tell about how well you will fly before you even takeoff on a checkout with him or her ? Indeed they can, and it's not due to magic or intuition, in fact – you tell them.

You know how it's done. We've all telephoned a company or store and could tell immediately if the person we talked to was trying to be helpful or was trying to push us off on some other department. We can tell without even seeing the person. It's their attitude, isn't it?

Well, we also bring our attitudes to the airport and we wear them for all to see just as clearly as our flight jackets or flight caps. As an example, you've probably met an instructor who isn't really interested in teaching or helping you with your flying. Obvious, isn't it?

But how about the other pilots? How about the one who requests a checkout and then, after meeting his instructor, begins by telling him what an experienced and skillful pilot he is who really doesn't need a checkout at all, or, at the very most, three quick takeoffs and landings. How would you describe this guy's attitudes? First, consider his attitude toward safety and the need for periodic checkouts which all the airlines and military services require, even of their most outstanding pilots. Second, consider his attitude toward the instructor's role and responsibilities. Finally, consider his attitude toward himself and the passengers he may fly later on. All of these considerations seem to be ignored, and this pilot seems to approach a checkout as if it is an insult to his image as a pilot, and that's an example of a common attitude that's all wrong. It isn't even realistic, for it also reveals a lack of knowledge about how our flying skills change when we don't fly for a while.

Of course we all tend to think of ourselves at our best. Ask anyone what their bowling average is and you'll probably get an estimate from that person's best year of bowling. That's only natural and it's no different with pilots. But it still reveals a common error. It

indicates that we think our skills are permanent, or that they don't change much, or that at most a brief warm up or practice session will bring them back quickly. Not so! A recent study of private pilots indicates that skills deteriorated rapidly and seriously 8, 16 and 24 months after certification. Proficiency on some maneuvers, such as the 180 degree turn on instruments that we all need to escape from weather if we're ever trapped by it, fell off so badly that only 52 percent of private pilots could successfully execute this vital maneuver 24 months after they received their licence.

That brings up the critical point. We don't have just one overall pilot ability that can be checked out or brushed up quickly by a few turns around the pattern. That might have been possible in the days of 65 horsepower aircraft, but it's totally out of date today. What we do have is proficiency on various tasks. In short, your landings may be great, but your stall recoveries or your traffic and radio work may be the pits. So let's get to the bottom line, do you really want a quick checkout? Would you allow your family to fly with *another* pilot who has had only a few takeoffs and landings in the last year?

Probably the best overall attitude a pilot can easily adopt is the one offered by the famous Lockheed testpilot who has tested some of the US military's finest aircraft extending from the P-38 to the F-104. Tony LeVier advises us to go well beyond the minimum levels of proficiency and to be prepared for possible emergencies as well:

> *"We're all accident prone,*
> *Flying does present hazards.*
> *If your emergency training is up to date*
> *You can survive an emergency."*

So just imagine, a changed attitude that leads to a thorough checkout might just also enable us to escape an emergency that some other pilot might fail to survive. That's some improvement, and you can adopt Tony LeVier's attitude right now — instantly!

Other attitudes: "How the pros see it"

Well, now that we've seen how a changed attitude can instantly improve one's flying, how do you go about identifying your own attitudes? One way is to note your own self talking. You know that silent conversation that goes on inside us, especially when we're making a decision. For example, suppose you planned an enjoyable flight for the weekend but, when you get to the airport, the Flight Service Station tells you that the weather enroute is marginal and your destination has VFR minimums.

You're disappointed, of course, and a little uneasy about flying in questionable weather. Still, you want to go. As you try to resolve your feelings, stop for a minute and note, or even write down some of the things you are now saying to yourself. Some of them can sound pretty reasonable when you're strongly motivated to get on with a trip. But they also look pretty foolish when you look at them more closely, or especially when said aloud by some poor fellow who just departed on what could prove to be his last flight.

The problem is that some of the things we say to ourselves have a grain of truth to them. That's a problem because they cover only part of the whole picture, the part we'd like to believe so we can get on to our destination. Let's look at a few such sentences now when we aren't planning to fly and therefore don't have to make a GO or NO–GO decision. See how they look now:

- "Oh, Flight Service Stations are always pessimistic. The weather will probably be beautiful."
- "We've got minimums, haven't we? It's legal, so it must be safe."
- "The airlines are flying, aren't they?"
- "Everything in life is a risk. You wouldn't go anywhere if you waited for perfect weather."
- "I've flown in worse."

Some of these are even humorous when nobody gets hurt as a result, and we can all add to the list of such self-kidding sentences. Try exchanging them with your friends at the airport. Each time you learn one of these you become quicker at recognizing your own attitudes and less likely to kid yourself when you have an important flight planning decision to make.

That brings up another way of learning to spot your attitudes. If you are open with your friends at the airport, they'll be able to tell you when you are beginning to show unsafe attitudes. Incidentally, did you know that some major airlines are introducing communications training for their flight crews? They are, because they found that when crew members can't talk openly to each other, misunderstandings and accidents can result. So if you're used to being boss at work or an employee that prefers to be quiet on the job, leave those traits at home if you're going to the local airport. You'll want to talk freely with the office staff, the mechanics, the line personnel, and especially with your instructors. You'll be surprised by how much helpful information aviation professionals can pass on to you, including feedback about your safety attitudes. Of course you have to be kind of easy–going and willing to accept criticism. If not or if you're abrupt and oversensitive with airport people, you may notice that they're usually too busy to talk to you or that they may often be walking the other way when you approach.

Finally, you can also spot your attitudes by comparing them with those of the most outstanding pilots in our nation. For example, let's compare some of the traits and attitudes already mentioned with the attitude of one of the most famous airshow pilots in the nation. Recall that we have already discussed the Canadian trait of efficiency that unfortunately too often results in shortcuts in pre-flight operations. We've also reviewed the attitudes that lead to wanting "quickie" checkouts. Contrast these approaches to safety with that of the late Art Scholl, the Hollywood stunt pilot and airshow performer revered by all who attended his airshows. When asked about flying safely, Art Scholl said:

> *"Complacency is one of the major causes of accidents. No matter how well things are going, something can always go wrong."*

Thus instead of a "shortcut" attitude, Art Scholl recommended that we anticipate problems and resist any tendencies toward complacency. How do you do that? Watching yourself self–talking is one way, but a foolproof way that never fails in the air was recommended by one of the nation's most distinguished testpilots. Try his recommendation if you find yourself getting lazy and sluggish at the controls or saying things to yourself like, "Guess there isn't much traffic today":

> *"Stay up on the edge of your seat."*

That simple change in behaviour will instantly increase your alertness. Try it the next time you feel yourself become complacent — it works! Such are the safety attitudes and self–talking sentences of some of the nation's most outstanding professional pilots. And just think, you can adopt their attitudes and their self–talking sentences as your very own. Best of all, you can decide to begin practising them right now — this instant!

Learning to fly on the ground

Have you noticed that nearly all the changes and improvements we've talked about have been made on the ground? ... Surprised? Some of the most experienced professional pilots would go even further. They would hold that not only are the most important flying lessons learned on the ground, but that some of the most important professional pilot habits are practised and developed there.

That's where top pilots have the time to criticise their last flight, to correct their errors and to plan their next flight. And that brings up one of the most important safety tips on flying you'll ever receive, offered by a man whose name is recognized throughout the world. When asked for his advice on flying safely, Brigadier General Charles E. "Chuck" Yeager, the USAF's distinguished testpilot featured in the book "The Right Stuff" and in the movie of the same title, advised all pilots to:

> *"Always leave yourself a way out."*

There's a world of experience and wisdom in that one safety tip. Consider what it means for your practices and habits as a pilot. It means constantly looking ahead, anticipating problems (there's Murphy's Law again), and making absolutely certain that you can escape from any possible trouble you identify. Do most pilots do this? Do we make an ironclad habit of applying Yeager's advice to our flying. Let's see.

Did you know that approximately 40% of all fatal general aviation accidents are caused by or related to weather, and that about 20 percent are caused by pilots flying VFR into adverse weather? Not a very good record, is it? But if pilots would adopt Yeager's advice,

most of these accidents could be prevented. Professional pilots do just as he advises. They don't just plan one alternate airport for their trips, they also have others in mind throughout their trips, so that if their destination or any alternate airport's weather begins to deteriorate, the others are well within the range of their aircraft's fuel supply. That's leaving yourself a way out — *always !*

In contrast, many non–professional pilots don't even plan for one alternate airport for their flights. Many don't even plan for the possible need to do a 180 degree turn and return to their last departure airport. Some seem to think that if you have minimum ceiling and visibility, it's okay to takeoff for a distant destination. Some "scud-run" enroute hoping the weather will improve. The record is clear about what results from such poor planning and taking such foolish risks.

A final way to learn to fly on the ground is one that is practised by most of the top pros. It's a game they play called "What If." They play it by picturing possible emergencies or tight situations they've been in before or have read about, and for which they can rehearse corrective actions in case such situations occur again in the future. Of course all professionals are regularly exposed to procedure trainers, simulators, chalk talks and continuous ground training. But the best of them go even further. They're continually reading accident reports, pilot magazines, and applying the safety lessons therein by playing "What If." They really know how to learn to fly on the ground. You too can learn to play, "What If" and to always have a way out.

That brings up another important point. If you can, get to know a professional pilot or two. They rarely tell long flying stories, nor do they wish to listen to them. They usually come right to the point and summarize their experiences in short examples or in brief statements that often seem quite simple. But those simple statements reflect years of flying experience. It's the same with proverbs in aviation. For instance the proverb, *"the two most useless things to a pilot are the altitude above him and the runway behind him"*, is a general rule for altitude and runway selection that was learned from decades of flying experience that is still valid today.

So, if you are ever tempted to violate one of aviation's proverbs or one of those short summary statements the pros frequently offer, think again! You might even consider writing down such brief flying tips and proverbs. You can then practise such statements from time to time and thereby make sure that your self-talking includes lessons from the thousands of hours of experience logged by the very best of our nation's pilots. Where else can you learn such valuable safety lessons and learn them free, on the ground, and at your convenience. Best of all, you can decide to begin practising these lifesaving rules right now — this instant!

Ratings versus proficiency — We aren't always what we think we are

Want to have some fun and save some money at the same time? Try this: take a fellow pilot out to an airplane you're both familiar with, and you go through the pre-flight and runup procedures without a checklist, with a friend monitoring the checklist and your performance (you don't have to actually start up). Then do a cockpit check blindfolded, and touch any instrument, switch or control your friend names and asks you to locate.

How did you do? Discuss your performance with your friend and agree on a grade for your current proficiency on these pilot tasks. Unless you performed flawlessly, you've just learned the difference between ratings and proficiency. You need have missed only one item on the pre-flight for serious problems to follow, and a pilot who has to search the cockpit for instruments and controls is not going to have sufficient time to perform other important cockpit duties without trouble. In short, you don't have to actually fly an aircraft to learn that you're out of practice. It's much safer to learn that on the ground.

That's why you should ground-check yourself every so often. It's free and it's a great game you can play with other pilots on bad weather days at the airport. You can do the same for written exams. Check a few questions from the latest written test guide. You might also try a slow read–through of a few sections of the AIP. Looks familiar? If not, you've just learned free of charge that your pilot and safety knowledge has slipped. Some pilots dismiss the regulations as just so many legal requirements, but ask any pro, especially the gray–haired airline captains; they've seen the regulations evolve over the years. They know that they are the safety rules of flying that we must all observe if we're to fly safely. That's why the pros gladly comply with regulations. That's also why they expect you to do likewise. So try reading the regs as safety rules, you'll be amazed how they take on a completely different character. You'll also begin seeing them as the pros do, and wondering with the pros why other pilots don't see them the same way.

So far we've accomplished a pretty good proficiency check and we haven't even flown or mentioned what certificate or ratings we hold. Now we're all proud of our ratings. That's only natural. The trick is not to be fooled by them. So we all have to keep reminding ourselves that ratings indicate that we had a certain level of proficiency *on the day* we passed our checkrides. They say absolutely nothing about our proficiency today. Sounds basic doesn't it? Maybe that's why so many pilots seem to forget it.

They also seem to forget it when it comes time for checkouts as discussed earlier. For many pilots a checkout results in immediate "checkitis". But they can change that by changing their self-talking. Once a pilot stops telling himself that a checkout is a re–check on his certificate and ratings, or a criticism of the competence he or she has developed over the years, a checkride takes on a whole new flavour. Checkrides are designed to assess only your current proficiency, not your flying talent or overall abilities. Checkrides tell you what you're out of practice on and what you need to work on, that's all — no more! Seen that way, a checkout is something all of us should seek out so we can retain the proficiency we were so proud of when we obtained our ratings. It's all in our attitudes, and we can change them anytime we want — instantly!

That brings up another point about our attitudes. Some pilots have developed what they think are ways around keeping their knowledge and proficiency up to date. They want to fly and to be a good pilot, but they prefer to do their flying by rough "rules of thumb". You know, the fellow who skips weight and balance and takeoff distance calculations, and weather forecasts, too. He's the fellow who explains, "Oh, if you can get it into my aircraft, my plane will get if off the ground," or, "The pilot I just had coffee with said the weather down south is pretty good."

Aside from the obvious errors, this type of pilot is expressing one of the most common and most dangerous attitudes in flying. He's saying you can fly safely with a minimum of information. He uses mental shortcuts just like the other pilots we discussed earlier used shortcuts in procedures. Both are lethal.

If by any chance you think this fellow's attitude might be partially right, let's turn the situation around and see how it appears when you are on the receiving end of such attitudes. Suppose the airport mechanic told you that he checked out your complaint about an aircraft's engine, and remarked, "It doesn't seem too bad", or, "I've heard of other pilots who flew quite a while on an engine like that." How do rough rules of thumb look now? What do you think about this mechanic's attitude? How does it feel to think about flying on minimum levels of information and safety?

Such an attitude is opposite to the whole history of aviation safety; extra engines, backup radios, scheduled maintenance, test flights, and checkouts, are all designed to assure safe flight even when things go wrong (there's Murphy's Law again). But the shortcuts and rules of thumb attitudes still seem to be around.

Of course any of us can avoid the dangers of such attitudes by changing ours. Anytime we want we can reflect on the need for complete information, current knowledge, and proficiency. The proper attitude for these was summed up by the famous test pilot and astronaut, Neil Armstrong, the first man to walk on the moon. When asked for his favourite safety tip, he replied:

> *"Keep your brain a couple of steps ahead of your airplane."*

You can adopt his attitude anytime you want, like right now — instantly! •

This article concludes with part 2 in the next issue with:

Things not worth proving,
Avoiding progressive carelessness,
Avoiding social pressures, and
Pre– and post–flighting the pilot.

Paul Moffat
Winnipeg Gliding Club

THIS YEAR, I decided to attend the fall wave camp at Cowley gliderport, near Pincher Creek, Alberta and was able to use the BG-12 that is owned by Neville Robinson. This year, the camp was extended for a whole week from 7 to 14 October rather than in previous years when the camp was just for the long weekend. This approach was taken to allow pilots from further afield to arrive and to give a greater window of opportunity to the pilots attending.

Approximately 15 pilots were there on the first weekend, so the field was not crowded. A few brave souls decided to tent there, but the majority stayed in motels in Pincher Creek as the temperatures were fairly cool. The field is actually a provincial campground that is specifically maintained by the Alberta government for the purpose of wave flights by sailplanes. Other than a water supply, outhouses and a cookhouse, there is nothing there: everything else must be brought in. There is a telephone there for the unfortunate pilot who outlands to call for a retrieve.

All newcomers must take a dual flight with one of the instructors on hand to get a feel for the lay of the land as well as to ensure that the visiting pilot knows the procedures and is versed with airtows. These site checks were flown in Blaniks or the Grob 103 from the Alberta Soaring Council.

Saturday, 7 October dawned with beautiful lenticulars forming over the Livingstone Range and indicated good flying at hand. We assembled the BG-12 and Neville decided to "flex his wings" in a flight, while I tried to get my site checkflight. Neville's flight was about 5 hours in duration and achieved an altitude of 15,000 feet on his first flight; my flight was 10 minutes. Neville had to be called down as sunset was approaching, and the ground was getting fairly dark.

Sunday was my turn. The winds were fairly strong from the west and the cloud formations showed a clear Chinook arch overhead and several lenticulars. The tow was fairly normal and I released at 8000 feet in wave. The strength was 1500 fpm up at that point, but I left this lift in order to "notch" the barograph for the climb and had to lose about 1000 feet to do so.

Back into the lift I then climbed steadily to 12,000 feet. As I was still near Cowley at this point, I turned north to clear the low level airway that is over the Cowley field. As I passed Centre Peak, my altitude was climbing to 13,000 feet and then seemed to peak off at 14,000. As I was about six miles east of the Livingstone Range, I decided to turn west and see if there was better wave nearer the peaks, as I decided that I was in a secondary wave. Two to three minutes of regular gliding flight suddenly ended with the vario pegged on the downside and the altimeter unwinding like a broken clock. This was the downside of a fairly strong wave. The only recourse was to fly as fast as I could (110 mph) towards the mountains; the glider seemed to be headed down at about a 60 degree incline and I remembered wondering where I would be landing at the base of the mountains! After about a minute or so of this flight, during which I was slammed to the ceiling twice, the vario began to come off the lower peg. I slowed, and the vario began to rise even stronger and reached about 1800 fpm up. Phew!

I had lost about 6000 feet in that brief flight and had dropped to around 8500 asl by the time I had exited. Now the climb was smooth as glass, and I turned north to stay in the best lift. I was now about a mile from the range and soon was far above them. During this portion of the flight I saw several other sailplanes near me heading in opposite directions; I was heading north, the Grob was going south, the Blanik was parallel to me heading north as well, and way above me, a Jantar was flying west over the mountains in search of a pathway to the Chinook Arch that was still far above us. I flew as far north as the Gap (where the Oldman River flows across the Livingstones) and found that the wave tapered off at that point, so I turned south again and started to follow the contours of the lenticulars that were now level with me. Down to Centre Peak and the north again roughly flying parallel to the Livingstone Range. The aircraft that were with me are now far below. I would have expected them to be up with me.

During this climb the lift had been slowly declining all the time and was now down to about 100-150 fpm, but I was still climbing.

18,900 feet still going up, but at only 50 fpm. Heading north again, following the contour of a high altitude lenticular, I reached the end at the Gap and did a slow 180 degree turn to head south. Blink!! All the clouds in the valley were gone! So was the wave, the vario now indicated 50 fpm down; so much for this flight.

I then turned east to fly to the Porcupine Hills to see them. Claresholm was plainly visible from up here and seems closer than Cowley (which I couldn't see clearly at all). Some lift

continued on page 20

DYNAMIC INDIFFERENCE !!

How fast can you pull a glider trailer?

Rudolf Brozel
from "Soaring Pilot"

THERE ARE ALL TOO MANY regrettable and sometimes very expensive reasons to consider the case of someone driving too fast with a sailplane in the trailer behind his car. Let us, therefore, spend a minute on the subject.

A trailer coupled to a car makes for a very "interesting" engineering subject, demanding some of the most sophisticated theoretical means and very expensive experimental equipment for studying its behaviour. It would be far beyond the task we have set for ourselves, to try to completely understand this system of two moving objects coupled together by a trailer hitch. (For purposes of simplification we will, hereafter, refer to both objects, car and attached trailer, singularly as a "truck"). On top of that difficult feature, each of the two parts of our system rolls on tires, and the dynamic behaviour of those things is very difficult to describe in mathematical terms — the only language such a system can be sufficiently well described in. Furthermore, all influences vary with the type of car, type of trailer, the loads, the brakes, the tire pressures, etc. rendering the system inaccessible to easy analysis. Nobody in this world could tell, just by looking at the truck, how fast it would travel safely. Everything just depends ....

The question of just how fast, being most important, cannot be ignored. We must evaluate the safety of our truck before driving down the road for a few hundred or even a few thousand kilometres. How do we evaluate this?

There is an experimental method which determines the speed at which the truck becomes definitely unstable; in everyday terms, the car plus trailer will go out of control, swinging left and right, if this speed is exceeded. Fortunately for us, this method is based on principles which sailplane pilots should be familiar with, at least in theory.

Every dynamic system — our truck is indeed a very dynamic one due to its generally high speed of travel and the features described above — becomes dynamically unstable when a certain speed is exceeded (having remained dynamically stable at speeds below). In the case of gliders, one of the best known of such phenomena is flutter. The mildest form of dynamic instability, on the other hand, is the dynamic instability of a sailplane's longitudinal motion, a feature many modern sailplanes have, and which is harmless — as long as the pilot himself is capable of dealing with the problem by giving the stick the right input at the right moment.

In all cases, oscillation of some sort is involved, arising out of a former stable motion. So it is with our truck — tracking straight on the road — then all of a sudden swinging left to right and back again, without the driver being able to control the bedeviled motion. A single car going too fast on a slippery road could go wild in a similar manner.

What does dynamic instability mean? This can be described as a state where oscillations of the subject system, triggered arbitrarily, increase with time, rather than die out. Onset of this state is detectable by the way in which the system oscillates after oscillations have been arbitrarily initiated. Textbooks describe this nicely by saying that the amplitude of the oscillatory motion caused no longer decreases with time. The transition from a dynamically stable state, where the nuisance oscillation dies out by itself, to the state of dynamic instability where the oscillation increases with time in an uncontrollable fashion, goes through the state of dynamic indifference, where the nuisance oscillation stays constant, neither decreasing nor increasing.

In all cases, whether our sailplane is in the air or in the trailer behind the car, the question of dynamic stability or instability depends on speed alone, all other things being unchanged.

Everything necessary for the method has been said by now.

We start the test on a safe, wide road, where we can, if necessary, slip to the side without doing harm to anyone, including our truck. An airport?

From standing still, we increase speed slowly, observing the motion of the trailer behind the car. At very low speed, the trailer will follow the sideways or lateral motion of the car generated by its driver at will, in a very docile manner, without oscillation. The dynamic forces are still very small. This state of affairs may be true for speeds below, say 50 km/h. It is absolutely safe.

Increasing the speed of our truck further, we induce a small impulse of sideways motion by turning the wheel a few degrees for fractions of a second (racing drivers use this technique to initiate sideslip of the car) and observe carefully the motion of the rear end of our trailer. We shall see it sway from left to right with a very small amplitude – a few inches only, please.

What is important here is to very carefully observe how fast swaying decreases with time.

Increasing the speed further, we will inevitably observe that the swaying dies out more slowly. The still–existing dynamic stability erodes gradually with increasing speed.

Finally, when the swaying does not decrease anymore, usually somewhere between 80 and 140 km/h, we must stop increasing speed further and be very careful at the wheel — we must not tickle the lion any more. We are approaching the state of instability, where we live a very risky, if not dangerous life. Motion of the trailer behind the car will become uncontrollable if we accelerate further.

The possible consequences of exceeding this physical limit? — ask the surgeon to repair your bones and organs, ask your insurance company to cover possible damage to your car, the car(s) next to you, your trailer, your sailplane ...

NEVER EXCEED the speed of dynamic indifference !!

The author has travelled many thousands of miles in Old Europe with his sailplane in the trailer behind his car. To be honest, he has sometimes had a really anxious moment after committing a stupidity, and has luckily survived. He knows that, in practically all cases, the reason has been a speed too high for the circumstances. He also knows that he will, sooner or later, when occasions are favourable, exceed the safe speed limit of his truck if he keeps the excess less than 15 km/h. A 15 km/h margin is not sufficient in everyday life for all of the circumstances which may crop up.

Lesson: If you don't love to drive with high blood pressure all the time, stay away from the limit by a sufficient margin. You know the safe speed of your truck by now. Keep your driving speed at least 30 km/h below the safe limit, if you want to keep your peace of mind.

One practical question does remain: What do you do if you happen to exceed the red line one day, by whatever circumstance?

Well, try to maintain the course of your car as rigidly as you can, by taking a point on the horizon as a reference (as when flying). Never try to counteract the oscillations of the trailer; you will probably only excite them further. Try to reduce your speed, if you can, by giving the car a short but vigorous push on the brake. This will usually stabilize the system. Take a good breath afterwards, if you come out of that safely.

The parameters affecting the safe speed limit are listed in the box, unfortunately, not much can be changed on an existing car/trailer combination.

The author has word from friends, knowing the field pretty well, that on the Hockenheim Ring — some people may know this rather curvaceous racetrack — the speed record established by Juan Manuel Fangio sometime after World War II, in the then most powerful racing car, has been beaten by a few engineers of a certain car manufacturing firm, driving a standard limousine with a trailer behind! We'd better leave this kind of sport to those engineers, and go slow on the road with our long truck. We must never run the risk of exceeding our system's safe speed.

The author has heard of many damaged cars, sailplanes, trailers, etc. Most countries he knows of have a general speed limit of 80 km/h for cars pulling trailers, a not so unreasonable, although little respected law. In a particular country where no such speed limit exists, he has seen quite a number of cars with trailers piled up in ditches or on rocks. To say the least, in these regrettable cases, holidays were over. •

MORE TRAILER STABILITY TIPS

- The heavier the car relative to the trailer, the higher the safe speed.
- Everything which increases lateral stiffness of both car and trailer is good, eg. larger tires, high tire pressure, etc.
- Everything which brings down the centre of gravity of both car and trailer is good.
- Something evident: everything that increases damping of the pivoting motion between the car and the trailer is good. There are devices available on the market which do that.
- The nearer the car's trailer hitch (the pivoting point) to the rear axle, the higher the safe speed. Note: There are experimental devices, sporting several joints and levers, which bring the geometrical pivoting point of the trailer right onto the rear axle without physically putting it there. These have been tried out, and the success rate seems to be extraordinary.
- Braking usually stabilizes the vicious motion, but not necessarily.
- Increased pull from the car will stabilize the motion, but be careful about giving the car more gas. You will increase speed further, unless you happen to be going uphill.
- Beware! Poor road surface conditions, particularly grooves in the highway, will reduce the safe speed considerably.
- Overtaking a truck can excite the oscillating motion severely *(the reverse, a truck overtaking you, can be an even worse dynamic situation. ed.),* particularly if there is some wind. The same effect will await you at the end of some obstacle under crosswind conditions, conditions which you will certainly encounter at one time or another.

The National Office Report

The holiday season has come and gone here at SAC with our supply cupboard nearing the empty mark — our shelves are presently being restocked for the coming season! We thank you for your support. We are now out of German calendars. We still have some American calendars so don't delay sending in your order.

By now, you have all received your 1989 tax receipt and 1990 membership card along with a request for a donation to the Pioneer Fund. Your support is appreciated.

We can't advise you on results for the oldest and youngest instructor in Canada as we have not received any results from anyone!

If you have moved or are planning to move please send us your address change.

The total SAC membership to date for 1989 is 1430; up 106 from last year.

We now have a new Statistician. His name is Randy Saueracker from the Cold Lake Soaring Club. Welcome Randy! If you have not mailed your club statistics to the Office as yet please mail them to: *Randy Saueracker, Box 2620, Medley, AB T0A 2M0* as soon as possible.

As we look on to 1990, some of the hurdles that we have accomplished this year in the Office (along with tightening the purse strings) are an improved filing system, a concise and balanced membership list and insurance inventory for each club, and thanks to Larry Springford, a complete OO listing across Canada. All in all it was a good year and we look forward to many more improvements in 1990.

Nancy and Ella

Incident Report

PARTIAL ENGINE FAILURE

Background and history

On 8 July (at Vancouver Soaring Association), towplane AUJ was involved in a rejected takeoff at liftoff due to severe backfiring and power loss. The takeoff was abandoned at about 60 knots and the towplane rolled out straight ahead. The glider, which was already airborne, released and landed on the parallel runway next to the towplane.

A magneto check was performed on the towplane and the right mag was found to be defective and one cylinder was also found to be low on compression. Subsequently the cylinder was changed due to a badly burned exhaust valve and the right mag was found to be contaminated with oil and the condenser was burned out. After the new cylinder was installed and the mag changed the aircraft was returned to service. Almost immediately it was grounded again due to rough running and an oil leak. After adjustments to the timing and further checks by an AME the aircraft was again returned to service (the oil leak repair being deferred to the next 100 hour inspection).

Events of 22 July

Because the club's other towplane was at another location, AUJ was the only towplane available on the 22nd.

Towing started at 1030. It immediately became obvious that oil consumption was excessive. One litre of oil was added before towing started and one litre of Slick 50 was added after about three tows. Several of the tows were 3000 feet tows and after about nine tows the aircraft was refuelled and two more litres of oil were added. Throughout this period the engine became progressively rougher, particularly at low power settings. At full power it appeared to perform normally except for the oil consumption. Other club members reported a great deal of smoke and backfiring on the initial portion of each takeoff.

After 13 tows (only four since refuelling) the oil was again checked and found to be at the 8 litre mark, which is the minimum for operation, so two more litres of oil were added. The engine was becoming hard to start and was very rough at idle power.

On tow number 14 the initial acceleration and climb were normal (runway 25R, wind 250° 10-15kts, CAVOK, flap setting 15°). Power was reduced to climb power (2300 rpm) at approximately 250 feet and 65 knots. About 10 seconds later a loud clanking/knocking sound and vibration started abruptly. At first I thought the cowling had come loose but I could not see any signs of this so my second thought was that a connecting rod had broken, although the engine was still running.

At this point the aircraft was exactly over the boundary fence of the airport at 300-400 feet. The decision was made to abandon the tow and treat the occasion as an engine failure, since I expected it to become one at any moment. The glider was waved off and simultaneously power was reduced to idle. The glider responded in exemplary fashion and released immediately. Since the glider released I decided not to release the rope (Note 1) and began a descending left turn to position for a downwind landing on runway 07R, and flap extension was started (Note 2). The flaps were fully extended about the time the aircraft rolled out on to heading at about 75 feet over the fence. At this point with the field assured, the engine was shut down to prevent further damage, although only the mixture lever was retarded to off. There wasn't time to complete the shutdown with switches and mags, as with full flaps and no engine, a very high sink rate necessitated all my attention on the flare and landing (Note 3). The engine stopped rotating during the flare and the landing was uneventful. The aircraft rolled to a stop about 1500 feet down the runway.

Total time from onset of loud noises to rolling to a stop was about 20 seconds. The glider completed a textbook abbreviated circuit (360 feet) and landed into wind on runway 25L at the west end.

Notes and lessons

Note 1 This was a mistake. In an emergency the rope should always be jettisoned, preferably after the glider has also released, to prevent possibly compounding a tight situation even further, by snagging the rope on a fence or tree. Ropes are cheap, pilots and towplanes are not.

Note 2 Deploying full flap was a VERY serious mistake for several reasons. The L-19 has extremely effective flaps that extend to 60 degrees. With full flaps and an engine out, at 65 knots the sink rate will approach 2000 feet per minute. Add to that the extra descent caused by the 45–60 degree bank turn to position the aircraft for landing and it is obvious why everything happens rather quickly. Also this particular aircraft has electric flaps which take about 5 seconds to deploy from 15 to 60 degrees. That 5 seconds could have been better spent to complete a proper shutdown of the engine, instead of holding the flap switch. Had the flaps been left at 15 degrees, the turn to position the aircraft for landing would have been completed at least 100 feet higher. At that time flaps could have been extended if desired. This might be the case if a forced landing into a small field or over a high obstacle was required but was totally unnecessary at Hope which has a 4000 foot runway. I caution other towpilots flying L-19s — think very carefully before extending flaps after an engine failure at low altitude.

My reasons for extending the flaps were:

- I always land the L-19 with full flaps;
- With a 15 kt tailwind, I wanted to reduce my ground speed as much as possible,
- I have often practised dead stick landings, with the engine shutdown and with full flap, but always from altitude,
- Obviously, in spite of the warnings the aircraft had been giving me all day, when it came to the crunch, my brain was not properly in gear and I acted out of habit, not reason.

Note 3 Not completing a proper engine shut down could have disastrous results in the event of an accident involving fuel spills with electrical power still switched on. *MORAL:* If you are going to shut down the engine, do it properly.

Lesson 1 Sunday, 22 July was a very busy day. The flight list was one-and-a-half pages long, so there was a lot of pressure to keep operating. The decision to keep operating with a towplane known to have problems and continuing to deteriorate was in error. The towpilot (me) should have put safety before trying to please everybody, and shut the operation down earlier. I take full responsibility for this decision.

Lesson 2 On the plus side however, some things went right. The wave–off and forced landing occurred in exactly the position we usually give our students their rope break check. Since both the towplane and the sailplane landed safely, it indicates that our glider pilot training procedures are valid. Although in this case the glider pilot was an instructor and performed admirably, I believe any of our solo students could have managed to perform a safe landing, although not so cooly or with such finesse.

Lesson 3 On the towplane end of the rope however, I am not so sure. I have practised deadstick landings many times in the L-19 by shutting down the engine, and had no qualms about doing so this time, but on previous occasions I always made sure the aircraft was within easy reach of the field; usually directly overhead and in excess of 1000 feet agl. I don't know how many of our other towpilots have actually shutdown the engine in flight and done a deadstick landing – the handling and sink rate might surprise them. I am not sure that we are stressing towpilot emergency procedures as much as we should, although I am confident our glider pilot emergency training is adequate.

Lesson 4 Actually a suggestion to improve our glider pilot emergency training further. We should include more towplane wave–offs rather than simulated rope breaks, and also have the towplane simulate a forced landing in front of the glider instead of just climbing away. It would make the student realize that the towplane might be in his way and force him to consider other options, rather than just ... "the old 180 degree turn and land downwind trick" ...

The moral of this whole tale is –
DON'T PUSH. ERR ON THE SIDE OF SAFETY AND CAUTION. This time we were lucky, next time we might not be. •

Club News

VOL À VOILE APPALACHIAN

We had a great year, making close to 400 flights, and several significant (for us) cross–country forays. The best effort was made by Yvan Chassé in our Ka6, soaring for 6 1/2 hours and covering about 320 km. Two others, Robert Gaucher and Yvan Beauche, made five hour flights, unfortunately unofficial. On some beautiful days, Champlain club members visited us, encouraging us all to far–flung adventures. This autumn we became part of the University of Sherbrooke's social program, introducing 24 students to the excitement of soaring. During this winter we are refurbishing our birds in a rented dance hall, expecting to start next spring with sparkling equipment. Michel Prenovost and others will be conducting a ground school at the university after Christmas. So you see that we are busy preparing for another flying season, and planning for some serious long flights in the Ka6 and the Libelle.

By the way, I reactivated my power licence and am now towing gliders, a nice diversion when the soaring is flat.

Kemp Ward

ESC NEW YEAR SOARING

The Edmonton Soaring Club held an extremely successful New Year's Day Fly-in to start off 1990 with a bang.

Due to mild weather conditions, a week of plus 5 to 8, the field was in excellent condition. New Year's Day was plus 5 and if no thermals existed in the sky, at least the club members were bubbly.

Over sixty people attended the get-together with eighteen flights recorded in the two-seat sailplanes. Both towplanes and two sailplanes were used to see that everyone who wanted had a ride. Tows of 3000 and 4000 feet allowed a longer time in the air and members, many who have flown every month this year, had a chance to stay current.

A potluck supper rounded off the day with chili as the main course. Although the food organization was informal, there was lots for everyone.

With twenty children in attendance the clubhouse was full. As part of the gathering, games and prizes were organized for the children by Trina Puckrin. With the kids busy it allowed the adults to fly or just sit back.

No altitude records set, no major triangles, no out and returns (except to the outhouse), but a good time was had by all and a great start to 1990.

Kerry Bissell has taken a Grunau Baby under his wing and is in the process of making it airworthy once again. This particular ship has had a new fuselage and is affectionately known as the pregnant guppy. With Kerry's retirement in the near future, this should keep him out of trouble.

The club has the use of a very large warehouse, our total fleet twice over could be stored assembled, and the fleet is having all the dings and scratches looked at. A number of private ships are also in for service. The facilities are excellent, and come spring the fleet should be back in good condition.

With mild weather the club has been able to fly all this year and a group of pilots have been out at the field on a very regular basis. Special note should be given to Lorne Howse who has done a great amount of towing during this irregular part of the seasons.

Dave Puckrin
ESC Publicity

Coming Events

Jan 17, and following 10 weeks, **Toronto Glider Pilot Ground School**, Bathurst Heights Secondary School. For registration info, call (416) 789-0551. Course instructor, Paul Moggach (416) 656-4282.

Feb 15–17, **SSA National Convention**, Indianapolis, Indiana. For information, contact Donald Taylor, Capital Center Ste. 1950, 201 N. Illinois Street, Indianapolis, IN 46204.

Mar 2-4, **SAC AGM,** Winnipeg. International Inn (it is walking distance from the airport), 1–800–528-1234, $56 single, $60 double. Contact: Paul Moffat (204) 633-5221.

Mar 24, **Ontario Soaring Association AGM,** with morning XC skills improvement workshop run by the Advanced Soaring Group. Ramada Inn, Wellington Road (off Hwy 401), London, ON. Workshop 0830-1200, AGM 1330-1700. All welcome, no registration fee – for more info call Sue Eaves (519) 268-8973 evenings.

Jun 12-21, **1990 Canadian Nationals**, Starbuck, MB. Hosted by Winnipeg Gliding Club, contact Susan Snell for more information (204) 783-4983.

INSURANCE PROOF REQUIRED ON BOARD AIRCRAFT

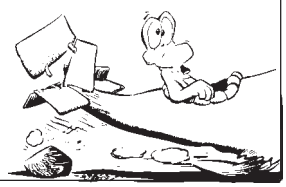
Beginning in 1990, a change in the Aeronautics Act now requires that privately owned aircraft (in the weight category which includes sailplanes and towplanes) carry a minimum of $100,000 of liability insurance and that proof is required to be *carried on board.*

ACCIDENTS

Blanik L13, C–GPKT, 1 Oct, SOSA. Landed short. Minor wing damage. $2000 reserve.

Libelle, C–GPXR, 4 Oct, SOSA. Canopy broken by wind when opened after a landing. $10,000 reserve.

2–22, CF–YPC, 3 Dec, COSA. A wing was being transported in a rack on a pickup when both were blown off the truck by the wind, destroying rack and damaging wing.



CANADIAN ADVANCED SOARING GROUP NEWS

Vicki Stamison

This is the first of an irregularly scheduled column on the activities of the CASG. ed.

The Canadian Advanced Soaring Group was formed in the fall of 1986 and is dedicated to the promotion of soaring at all levels in Canada. It is an attempt by more experienced pilots to share their experience and expertise with all soaring pilots in Canada. CASG cooperates fully with SAC who is supportive of our efforts in the achievement of our common goals. CASG has three main objectives:

1 To promote cross-country flying in Canada;
2 To encourage competition flying at the local, regional and national levels;
3 To promote Canada's participation in international competitions and World Championships. Since 1986, the Group has undertaken the following activities to achieve these main goals:

Cross-country workshops and clinics
CASG has now held numerous highly successful one-day cross-country workshops/seminars as well as week-long cross-country clinics. These events concentrate on improving the cross-country flying skills and attract pilots at all levels of experience.

This year, in Ontario, we are organizing half-day workshops at the Soaring Association of Canada's Annual General Meeting and the Ontario Soaring Association Annual Meeting as well as two one-day cross-country seminars and two one-week cross-country clinics at Montreal Soaring Council, Hawkesbury, and SOSA, Rockton. Discussions are also underway to have CASG-sponsored workshops and clinics in Quebec City and Manitoba. Such sessions can be repeated anywhere in Canada and CASG can provide consulting services, a series of lecture notes on cross-country flying and access to a video library to you or your club.

Competition Flying CASG's membership fees have been used to design and print T-shirts/golf shirts to sell to supporters of our National Team. CASG has sponsored club membership raffles and has solicited individual donations. During 1989, all of the Team's administrative expenses for organizing the 1989 World Championships were paid for by CASG. In 1990, membership fees are helping to provide downpayment for entry fees to the pre-worlds in Minden, Nevada, and CASG members are involved in organizing logistical support for the National Team.

To help promote and encourage competitions at the regional, provincial and national level, CASG is now in a position to provide contest organizers bridge financing of up to $1000 as well as information and advice.

Enlistment of Corporate Sponsors
CASG is actively searching for corporate sponsors for our National Team as well as for soaring generally in Canada. CASG has funded a professional video and promotional package which can be shown to prospective sponsors.

Newsletter We publish a newsletter approximately every three months containing items of interest to members. It features detailed accounts of competition and cross-country experiences and other interesting flights by Canadian pilots. Also, we publish articles about all other areas of interest to pilots, such as competition scoring rules, advances in equipment and general news about what is happening in soaring in Canada and abroad. The newsletter generally is about 12 pages long and attempts to improve communication among pilots.

Other information In addition to the major activities described above, we are working on a contest guide to help clubs in the organization of contests at all levels, a meteorological kit which could be used by contest organizers to provide accurate forecasts and a number of other projects of this nature.

In order to achieve even more, we need support from as many Canadian soaring pilots as possible. To this end, CASG will be featuring a column in *free flight* to keep you posted about our activities. If however, you wish to take an active part in CASG's initiatives as well as receive the CASG newsletter, drop us a line including $20 for annual membership. We welcome one and all to our group. •

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For information concerning any CASG activities, contact any of the above.

1990 CASG Agenda

March 2-4 SAC AGM Workshop

March 17 Hawkesbury, ON one day workshop. $10 CASG members. $20 non-CASG members

March 24 Ontario Soaring Association annual meeting morning workshop. $10 CASG members; $20 non-CASG members

August 6-11 Montreal Soaring Council, Hawkesbury, ON Cross-Country Clinic. $80 CASG members; $100 non-CASG members. Limited enrolment

Aug 27-Sep 1 SOSA, Ontario Cross-Country Clinic $80 CASG members; $100 non-CASG members. Limited enrolment.

SAC OCTOBER DIRECTORS MEETING

The meeting was conducted via a phone conference. All Directors except Ontario and Prairie were on, plus Nancy Nault, Exec. Secretary, and Jim McCollum, acting Treasurer.

Al Sunley noted that he still had not heard if a survey of the pilots at the '89 Nationals had occurred regarding holding the 1991 Nationals in Alberta. The Cu Nim club had applied to have them...The information will be required by early in the new year to allow Cu Nim to proceed with a hosting grant application to the Alberta Sport Council. The President will follow up with Ulli Werneburg.

A notice is to be mailed in November to the member clubs requesting the flight statistics, so that the information can be available to the Statistician earlier than last year.

Three new clubs are in the process of organization and approval of membership status in SAC. They are "Mile Zero Cadet Soaring Association" in British Columbia, the "Eastern Ontario Soaring Association", and the "Prince Albert Gliding and Soaring Club" in Saskatchewan. It was disappointing to hear that the "Windermere Valley Soaring Society" was unable to continue operating.

Jim McCollum gave a report on the "year to present" financial conditions of SAC. Increased membership over the forecast figures was helping to decrease the deficit, and increased sales of supplies was also bringing in more funds than forecast. This in conjunction with the reduction in expenses achieved by the cancellation of the October Directors meeting and a meeting of the Flight Training and Safety committee could result in either a small deficit, or a small surplus. Projected figures for next year indicate an increase in fees would be required to carry out our regular programs.

A discussion took place on how to induce members to consider the Pioneer trust fund in their charity programs. It was agreed to try a donation notice in the mailing of the income tax receipt and next year's membership card. Directors urged to work on ways of promoting Pioneer trust fund donations.

Response on a previous question raised — of SAC combining with other sport aviation groups such as the Hang Gliding Association, in order to reduce overall costs and present a stronger voice in discussions with departments of the Federal Government — was that generally it was considered a great deal and more investigation of pros and cons would be required.

Discussion on the "Handicap List for Gliders" requiring updating, indicated that further action should be coordinated by Ulli Werneburg.

Conference ended by the President with thanks to the Board for their participation.

Al Sunley
Alberta Zone Director

Hangar Flying

THE SAC FLEET IN 1989

Sailplane	No.
Alcor	1
Astir (G102)	10
Astir (G103)	9
ASW–15	4
ASW–19	5
ASW–20	13
Austria	2
Bergfalke	5
BG–12	1
Blanik L–13	25
Cherokee	2
Cirrus, Open	3
Cirrus, Std	9
Club Libelle	1
Cobra	2
DG–200	1
DG–202	2
DG–300	2
DG–400	4
Diamant	1
Discus B	1
Duster	3
Grunau Baby	2
Hornet	1
HP–11	2
HP–14	2
HP–18	2
Jantar Std	18
K–13	4
Ka6	13
Ka6E	5
K–7	4
K–8	3
Kestrel 19	2
L Spatz	2
Lark (single)	4
Lark (twin)	8
Libelle 201	8
Libelle 301	2
LK–10	1
LS–1	2
LS–4	4
LS–6	2
M100	2
Mini–Nimbus	3
Monerai	2
Mosquito	2
Nimbus 2B	1
Nimbus 2C	1
Phoebus	1
Phoebus B	3
Phoebus C	1
PIK–20	1
PIK–20B	5
PIK–20D	1
Pilatus B4	5
Pioneer	1
Pirat	1
Puchacz	2
RS–15	5
Salto	1
1–23	1
1–26	19
1–34	5
1–35	3
2–22	7
2–33	23
SF–27	1
Skylark 3	1
Skylark 4	5
Ventus b	4
Woodstock	1
Zugvogel	2
	307

Towplanes	
Scout	7
Cessna 150	5
Cessna L–19	6
Challenger	1
Champion	1
Citabria	13
Pawnee	2
Piper 180	1
Supercub	6
	42

Note: Only aircraft in the SAC group insurance plan are listed.

Al Schreiter

"DUAT" SNAFU SNUBS SOARERS

DUAT is the Direct User Access Terminal program, a free service in the US enabling pilots to file flight plans and receive weather briefings via personal computer. It doesn't work for glider (or balloon) pilots though right now because neither class of pilot is required to hold an FAA medical certificate.

So what, you ask? Well, at present, eligibility to access the system is keyed to one's medical certificate number on the presumption that a pilot whose medical has lapsed is no longer actively flying.

The DUAT also does not provide soaring forecasts that include thermal index, trigger temperature, and so on. Glider pilots may have unwittingly aggravated the perception of limited demand for this data. Often scores of pilots use this weather information – from the ubiquitous "daily soaring forecast" posted at the glider field, or at a contest – based only on a single phone call to the weather office.

The "Situation Normal – All Fouled Up" may yet be resolved equitably by the Soaring Society of America, the AOPA, and the Balloon Federation of America.

from the SSA Bulletin

XMAS LETTER FROM AUSTRALIA

... Now that the summer months are here I am looking forward to some good flights. Two weeks ago *(the beginning of December)* I took a week's holiday which I spent at Tocumwal flying in the Victoria Teams Challenge. This is an interesting concept whereby a highly–rated competition pilot flies as team leader with two others as followers, and his score is rated on the performance of the slowest of his followers. The purpose of the Teams Challenge is to encourage top pilots to pass their knowledge along to the lesser mortals.

The tasks were all POST where the leader selected the turnpoints according to the weather conditions. To keep the flying down to a reasonable amount, the task was limited to three hours on all but one day, which was four hours. Penalty points were deducted for exceeding the time limit, the tasks were scored 40% for distance flown and 60% for speed, and outlandings were penalized by loss of all speed points.

As we did not have the right number to give each team leader two followers and because there was some mismatching of glider performances, I was the odd man out for the first three days and teamed up with a leader as a single follower. My glider (a Libelle) had the lowest performance of all present, and my leader's (a Nimbus IIID) outclassed everything else! It made for some interesting flying and results. On the second day, I managed to win for my leader, flying 267 km in three hours. We beat teams led by four time world champion, Ingo Renner, and by former British world contest pilot, John Williamson.

The first three days were excellent flying, the forth a rest day and the last two less easy because of high winds. All in all it was a fun contest and I'm hoping to go again next year.

... By the way, I have managed to sell six copies of *Stalking the Mountain Wave* for Ursula of the lot she sent me. As she says, book selling is weird and wonderful, and buyers come like ants out of the corners of the world. I took both her and my book *(on BC soaring history)* to the Teams Challenge but managed to sell only one copy of each — to a visiting Japanese pilot! He was one of three who was at Toc. Most of the Japanese go to Narromine where the soaring operation was sold to Japanese interests. These fellows said they came to Toc because "Narromine had too many Japanese." The book buyer had arrived with only his "C" badge – then did a 50 km, 300 km, and 500 km on successive days!

Lloyd Bungey
Baccus Marsh

NEW MASAK WINGLETS PROMISING

We have now done what seemed only fiction a few years ago – 48:1 in a 15m sailplane!

Dick Johnson has completed a set of comparative flight tests on a set of winglets designed by Peter Masak which have proved in Dick's words to have "equal or better performance than the 16.6m tip extensions on the Ventus". On the basis of cruise and climb comparisons, the 15m Ventus with winglets exceeds the performance of the Nimbus II over the entire speed range.

We are currently in the process of negotiations with Schempp–Hirth who are very interested, and are pursuing a production agreement for the manufacture of these tips in the USA for resale in Europe by Schempp–Hirth.

My thanks to Kevin Bennett and Hal Werneburg who encouraged the idea and offered to pay for the first tips even though none had been designed yet. Johnson was so impressed with the performance of the new tips that he has ordered a set himself!

Peter Masak

For more info, phone Peter at (713) 579-2254.

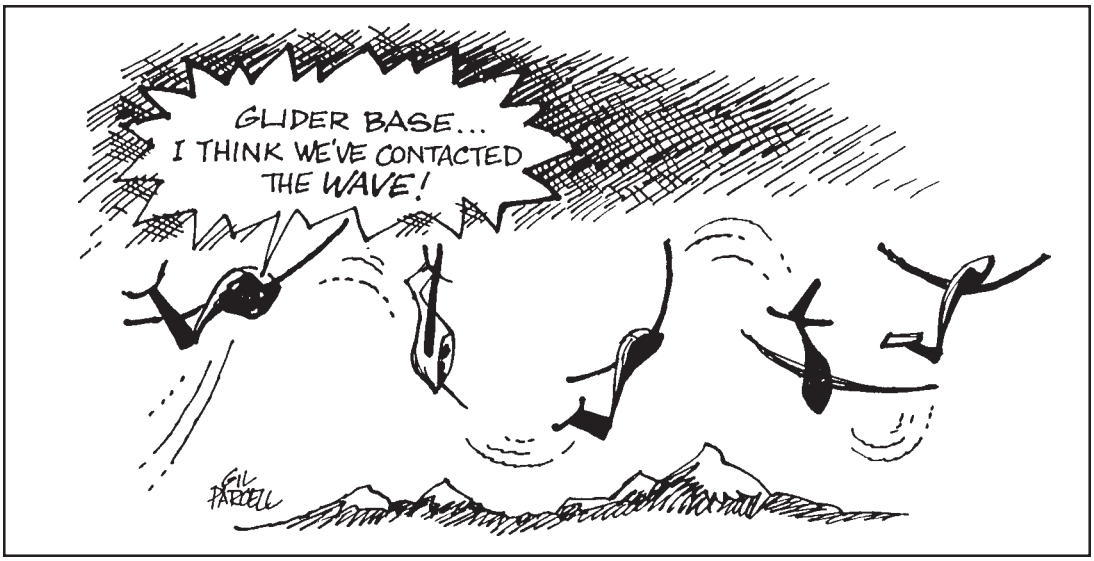
The winglets being tested at Kirchheim Teck

FIRST VISIT TO COWLEY WAVE

continued from page 13

is found (14,500 feet), so I stay over the "Porkies" and look at the sights as I search out the lift. The sky is clear, and I can see far up the valley, way beyond the Chain Lakes and almost to Black Diamond. This lift slowly disappears as well, and as my altitude drops to 12,000 feet, I head towards Cowley.

Over the Oldman dam site just southeast of Cowley I found some lift in a narrow corridor about a mile long and half a mile wide. As I was down to 10,000 feet, I took this and found spots of 1000 fpm up. In no time I'm back to 12,500 feet and am forced to exit this lift periodically as this is the maximum that is permitted under the airway. Far below I see a sailplane that seems to be getting ready to outland, but the perspective fools you, and the sailplane turns and heads to land at Cowley. I continue to fly here and take small excursions towards the Crowsnest and over the highway. This lift also vanishes and I begin the long final glide to Cowley, taking my time to stretch it out as long as I could. Landing was uneventful, even though I landed fast as I was expecting stronger winds and touched one third of the way down the runway.



This flight — my first solo at Cowley and only my second flight in the BG–12 — had lasted 3 hours 43 minutes and I had my Gold altitude climb as well.

Cowley is definitely the place to be for those who want to fly high, but is not for the inexperienced; the rotors are turbulent and can produce strong downdrafts anywhere in the valley and if you're towed through them, a fast reaction is needed. Also, landing is frequently done in winds that we don't normally fly in (flights were going on in winds of 30-40 mph). •

FLIGHT TRAINING AND SAFETY NOTES
PROFICIENCY CHECKS

Paul Moggach
SAC Flight Training and Safety Committee

AS YOU MIGHT EXPECT from someone on the Training and Safety committee, I strongly feel that everyone should take an annual flight review. It's a fact of life that if you don't use your skills, you lose them. Since most of us don't fly that often or at all during the winter months, this review is most often needed the most at the beginning of the season.

A good proficiency check should not just cover your flying skills. There are a few things that you can do before you arrive at the gliderport. Check your paperwork first. Are your licences and logs up to date and valid? No instructor should authorize you for flying out of your club site unless they are. Study the aircraft operating manual before you fly. It is surprising how many people do not know the flight limitations and basic operating airspeeds of the aircraft that they fly. The maneuvering speed of a 2-33 (69 mph) and the maximum wing flaps extended speed of the Blanik (60 knots) are often abused. My club has had great success at selling a package containing a complete set of operating manuals for all of our club aircraft. As a minimum, these manuals should be available to be read at your club along with the weight and balance for each aircraft. How about taking a look at your club's operating procedures as well? So now you're ready, how about the instructor?

Hopefully, your pre-season instructors meeting will have given the instructor all of the information that is required to perform a proper flight review. However before we go any further let's remind ourselves that this should be a review of the pilot's knowledge and skills not a chance to belittle them or show off our own flying.

In my own mind, I think that we should follow the lead of the Biennial Flight Review (BFR) used in the USA and add a little formality to just what we check. Ridge Soaring Gliderport uses a checklist in the form of a card to ensure completeness and consistency in their reviews. Something like this might be a good idea for us to adopt as well. The following topics are covered in their checklist:

1 Preflight
2 Launching equipment
3 Currency
4 Towpilot qualifications
5 Glider rigging
6 Performance limitations
7 Cockpit check (CISTRSC)
8 Signals and emergency procedures
9 Takeoff
10 Normal tow, box the propwash
11 Turns on tow
12 Slack rope procedures
13 Release
14 Use of trim
15 Turn coordination
16 Rules of the air
17 Slow flight
18 Stalls and incipient spins (CALL)
19 Steep turns
20 Circuit/downwind checks (SWAFTS)
21 Speed control
22 Spoiler usage
23 Sideslips

Reminders of common errors are listed on the back of this card as well for the convenience of the instructor. The instructor should probably review with the pilot as well the VFR and airspace regulations as they relate to your operations. While the above seems like a lot of information, it should be familiar territory for most of you! For most pilots who have done their homework, the annual flight review should consist of about ten minutes of groundwork and one or two 2000 foot tows.

If you already follow a similar course at your club, bravo! If not please consider adopting one. It is a small amount of effort that can pay big dividends. As an aside, for those of you with US courtesy licences, be aware that they are only valid on the basis of a valid Canadian Glider Pilot Licence and a valid BFR. •

FAI Badges

Larry Springford, 45 Goderich Street
Kincardine, ON N2Z 2L2 (519) 396-8059

The following Badges and Badge legs were recorded in the Canadian Soaring Register during the period 1 November to 31 December 1989.

DIAMOND BADGE

75	Tom Foote	Bluenose	World # 4768
76	Jim Oke	Winnipeg	

SILVER BADGE

788	Mario Lepire	Quebec
789	Ulf Boehlau	York
790	Samuel Whiteside	York

DIAMOND ALTITUDE

Jim Oke	Winnipeg	5830 m	ASW-20	Cowley, AB
David Mercer	Regina	5100 m	1-26	Cowley, AB
Stewart Midwinter	Cu Nim	5610 m	Jantar Std II	Cowley, AB
Bryan Florence	Regina	5030 m	Astir G103	Cowley, AB

GOLD DISTANCE

Michael Krieger	Quebec	339.5 km	Std.Cirrus	St-Raymond, PQ

GOLD ALTITUDE

Neville Robinson	Winnipeg	3860 m	BG-12B	Cowley, AB
Paul Moffat	Winnipeg	3260 m	BG-12B	Cowley, AB
Stewart Midwinter	Cu Nim	5610 m	Jantar Std II	Cowley, AB
Bryan Florence	Regina	5030 m	Astir G103	Cowley, AB

SILVER DISTANCE

Christopher Staines	London	60.9 km	ASW-19	Embro, ON
Albert Sorignet	Outardes	74.5 km	Pioneer II	St-Esprit, PQ
Mario Lepire	Quebec	71.5 km	Astir G103	St-Raymond, PQ
Ulf Boehlau	York	63.0 km	1-23H	Arthur, ON
Samuel Whiteside	York	50.0 km	Jantar Std II	Estrella, AZ

SILVER ALTITUDE

Merrill Stalker	Montreal	1310 m	Astir 77	Hawkesbury, ON
James Watson	Vancouver	2650 m	Std Jantar	Pemberton, BC
Pierre Lemaire	Montreal	1585 m	Astir	Hawkesbury, ON
André Bournival	Outardes	1370 m	K8b	St-Esprit, PQ
Emilie Lessard	Outardes	1400 m	K8b	St-Esprit, PQ
Ulf Boehlau	York	1555 m	1-23H	Arthur, ON
Stephen Piggott	Toronto	1310 m	1-26	Conn, ON
Bryan Florence	Regina	5030 m	Astir G103	Cowley, AB

SILVER DURATION

Merrill Stalker	Montreal	5:08 h	Astir 77	Hawkesbury, ON
Timothy Paul	York	5:10 h	1-26	Arthur, ON
Christopher Staines	London	5:09 h	ASW-19	Embro, ON
James Watson	Vancouver	5:05 h	Grob G102	Hope, BC
Claude Gosselin	Champlain	6:58 h	SZD 30 Pirat	Sherbrooke, PQ
Pierre Lemaire	Montreal	5:23 h	Astir	Hawkesbury, ON
André Bournival	Outardes	5:40 h	K8b	St-Esprit, PQ
Arthur Grant	Winnipeg	5:14 h	Std Jantar	Starbuck, MB
Ulf Boehlau	York	5:31 h	1-23 H	Arthur, ON
Martin Lacasse	Gatineau	5:16 h	1-26	Pendleton, ON

C BADGE

2203	Christopher Staines	London	5:09 h	ASW-19	Embro, ON
2205	Gregoire Chilovsky	Quebec	1:33 h	1-26	St-Raymond, PQ
2206	Lawrence Carpentier	Quebec	1:17 h	2-33	St-Raymond, PQ
2207	Jeff Kirdeikis	York	1:14 h	1-26 E	Arthur, ON
2208	Claude Gosselin	Champlain	6:58 h	SZD 30 Pirat	Sherbrooke, PQ
2209	Pierre Lemaire	Montreal	5:23 h	Astir	Hawkesbury, ON
2210	Ken Whatmough	Erin	1:04 h	1-26	Grand Valley, ON
2211	Jean-Guy Drolet	Quebec	1:38 h	Astir G102	St-Raymond, ON
2212	Michel Mayette	Quebec	1:17 h	2-33	St-Raymond, PQ
2213	Daniel Nadeau	Quebec	2:02 h	1-26	St-Raymond, PQ
2214	André Bournival	Outardes	5:40 h	K8b	St-Esprit, PQ
2215	Emilie Lessard	Outardes	4:04 h	K8b	St-Esprit, PQ
2217	Ulf Boehlau	York	5:31 h	1-23 H	Arthur, ON
2218	Stephen Piggott	Toronto	1:03 h	1-26	Conn, ON
2220	Graham Payne	Gatineau	2:29 h	1-26	Pendleton, ON
2221	Martin Lacasse	Gatineau	5:16 h	1-26	Pendleton, ON
2222	Daniel Lizotte	Quebec	1:21 h	1-26	St-Raymond, PQ

SIGNIFICANT FLIGHT

In the Rocky Mountain trench on May 21, Joe Gegenbauer of the Vancouver Soaring Association, flying a borrowed DG–400, soared for 8.5 hours and 733 km from Invermere BC, north to Donald River, then south to the US border and finally north again to Brisco. As a warm-up, Joe flew a 300 km the day before.

SAC AGM

The 1990 Annual General Meeting of the

Soaring Assciation of Canada

will be held at the International Inn,
1808 Wellington Avenue, Winnipeg, Manitoba
from March 2nd to March 4th, 1990.

- Registration fee $25
- Room rates $56-$60

Keynote speakers will be
Vera Dowling and Rosella Bjornson
famous Canadian women pilots,
both members of "The Magnificent Seven"
and "The Forgotten 100"

For information call (204) 633-5221 evenings
For room reservation call 1-800-528-1234

THE PACIFIC D–8 PROJECT

continued from page 9

Glenn felt that his D-8 performed about the same as a 1-26, but the actual flight qualities had never been measured precisely. Roy Windover returned to Dodge City later in the spring, flew the D-8 and decided that it would be a safe and manageable machine for low time glider pilots to handle.

While he was there, typically, he couldn't resist doing a bit of PR work on behalf of the Air Cadets. As a result of an interview by a lady from the local newspaper, the following astonishing report appeared in the Dodge City "Daily Globe":

> "Thanks to the workmanship of a local man, 30,000 young people in Canada may one day be gliding along in a flying machine ... Lt. Col. Windover said, ..."When I return to Canada the first of this week, I will give orders for the first 25 gliders as a result of this good flight" ... "The Colonel said that the 25 gliders are the first of an expected order for 300 that will be delivered to the Canadian youth program. His plan is to have the plane parts made up in kits ..."

Meanwhile back in Ottawa, Roy had set in motion several other activities with the Air Cadet League. A contest was commenced for cadets to propose names for the glider. A set of sketches was drawn up by Harvey Thurston in Montreal to launch another contest in which cadets would build display models of the D-8. Most importantly, he had arranged for the fabrication of some detail parts, such as bulkheads and ribs, by the federal Penitentiary Service. These parts for the D-8 were to be made by prisoners getting workshop training in the Federal Penitentiary at Cowansville, Quebec.

The two of us visited the prison at Cowansville in May to describe the drawings to the workshop instructors and brief them on the program in general. They appeared to be quite keen to get going on making some forming tools, and start making some parts. A short while later Windover called me to let me know that he had shipped into the Cowansville prison the complete material set required to construct ten D-8 airframes. I was a little surprised that the entire package of aluminum sheet and extrusions had gone to the prison as I had believed that they were only to make bulkheads and ribs. The main spar on the D-8 is so integral with the metal skin that it cannot sensibly be assembled prior to the actual building of the wing; but since the prison warehouse seemed as good a place as any to store the material, I refrained from comment.

By the end of that summer, I had completed the drawings needed to be added to the original drawing set, and they had been mailed to Windover's office. I began to lose track of the details on the progress of the project. I knew that he was getting some static from various people because we weren't constructing a two-seat glider. Others voiced the more reasonable complaint that the aircraft was relatively untried. Also, the design was criticized because of its low performance. Some didn't like the 36 foot one-piece wing. Except for the untried aspect, all of these objections were the result of selecting a "simple" and "inexpensive" aircraft.

Now and then I would call Roy to see if the prison had produced any bulkheads, in the interest of getting a fuselage started somewhere. He, in turn, would call the Penitentiary Service head office in Ottawa with the same question. He was always told that everything was going well, and he would then settle back to await results. During this time the models of the D-8 were starting to roll in from the cadet squadrons and were festooned about his office enclosure awaiting judging. He had another project, to get the Pazmany PL-4 light aircraft built in the Warkworth prison, and judging from the progress on that activity, something should have been showing up from Cowansville.

Eventually he phoned me with the suggestion that we visit Cowansville to review progress on the parts, and so, about a year after our initial visit, we again entered Cowansville Penitentiary to see what had been accomplished. On the way into the secure area, we passed through the warehouse which seemed to be crammed full of large green metal boxes. We also walked by the pile of aluminum material that had been hopefully intended for glider parts. It now lay under a thick coat of undisturbed dust. A short chat with the workshop instructor confirmed the worst – they had made only two small forming blocks and had cut only one piece of metal, but no parts had been made. Their regional office in Montreal had contracted to supply the Post Office with large numbers of green postal boxes and this work had taken priority over glider parts. I never thought I would see Windover discouraged but he was very quiet on the drive back to Ottawa. He would soon be at the age for retirement from the Forces and had hoped to get the glider construction scheme well established before he left. But it was not to be.

Before he retired, the material was moved to Trenton, then later to Winnipeg, in the hope that some parts might be started, but nothing resulted from these attempts either. Nor was any progress made on the plan to have cadet squadron instructors trained in basic sheet metal work at Camp Borden. Windover's successor was not keen on the glider building idea, and the Air Cadet League, likely disillusioned with the lack of results thus far, or perhaps even with the entire concept, finally sold the aluminum material to a private concern, thereby ensuring the demise of the Air Cadet/Pacific D-8 endeavour.

And so we failed. The student of management may say, "They failed because of the lack of resource; either human, time or money." More earthy types might mutter something about starting vast schemes with less-than-vast ideas. Others would point out that the concept of squadron participation was flawed, or the glider was not satisfactory. Maybe they would all be right ... obviously we weren't. The causes and certainty of failure are always illuminated with greater clarity in the past than in the future, and the obstacles were not seen as insurmountable while we were in the full spate of enthusiasm in planning and arranging the D-8 project. ●

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Mbrs: Hal Werneburg
Bruce Finlay

Trading Post

Caitlin McElligott, young model

FOR SPRING, BUY A FINE
SAC GLIDING HAT !
only $10
from the National Office

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Sunaero Aviation. Glider repairs in fibreglass, wood, & metal. Jerry Vesely, Box 1928, Claresholm, AB TOL OTO (403) 625-3155 (B), 625-3871 (H).

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XU Aviation Ltd. Repairs in wood, metal and composites. C. Eaves (519) 452-1240 (B), 268-8973 (H).

INSTRUMENTS & OTHER STUFF

Barograph Calibrations, most makes and models. Walter Chmela, (416) 221-3888 (B), 223-6487 (H), #203, 4750 Yonge Street, Willowdale ON M2N 5M6

Bug Wipers. Mechanical device for in-flight wing LE cleaning, newly developed in Europe after ten years of R&D. Widely used at World contest. Cdn$690. **Mylar seals**, CDN $190. Peter Masak (Performance Enhancement Inc.) (713) 579-2254.

Variometer / Calculator. Versatile pressure transducer and microprocessor based vario and final glide calculator. Canadian designed and produced. Skytronics, 45 Carmichael Court, Kanata ON K2K 1K1. (613) 820-3751 or 592-0657.

Firmal Electronics. Cambridge vario systems, TE probes, audios, nettos, gust filters, batteries, etc. New in-flight voltage booster and glider-to-car charger enhances radio transmission and gives regulated battery recharging with auto cut-off. Barograph calibrations. Full warranty service/repairs (613) 731-6997.

SINGLE SEAT

CHEROKEE II, currently hangared at SOSA. Less than 600TT, still in good flying condition. Includes electric vario, barograph, chute, enclosed trailer. $4000. Fred Kallin (519) 578-7539 evenings.

K6CR–PE, only one in Canada, excellent condition, under 1000 h, two electric varios, audio, clock, g–meter, encl. trailer. $10,000 or best offer. Joe Martin (519) 354-4206 fax 354-0209.

HP-14T, C-FAXH, 17m, 42/1, excellent condition, electric vario (audio & TE), T&B, radio, O2, Winter barograph, chute, TP cameras, adjustable cushions and headrest. Metal trailer with good balance and handling. $17,500. Mark Gluck (604) 261-5361.

K5, C–GZMB, "Z1", PIK-20B wings with homebuilt glass fuselage. Nose hook, fixed gear, tail dolly, standard instruments, 100 chan radio, O2, TP camera, chute, encl. alum. trailer. Stationed at Claresholm. $15,000. Danny Zdrazila (604) 423-6062.

ASTIR CS-77, C-GBIG, 550h TT, very good condition, O2, all instruments, radio, Komet trailer. $23,900. Vaughan Allan (403) 266-7517, Rod Crutcher (403) 240-4374.

LARK IS29D2, all-metal 37:1, 15m, radio, O2, elec & mech varios, audio. New Imron paint. Docile handling, $15,300. Open steel trailer with surge brakes, $900, or encl. alum trailer, $1900. Brian Hollington (604) 942-6716 or Ken Langland (604) 271-0215.

MINI-NIMBUS, C–GNZY with homebuilt aluminum trailer. 41:1 performance, one owner since new, never damaged, always hangared at SOSA, excellent condition. Contact Al Schreiter (416) 625-0400.

KESTREL 19, only two owners, used by aging pilot who likes to soar, 1000 TT but few takeoffs with same number of landings and no damage. No gel coat cracks. All ADs done. Best climb and L/D for your $$. Complete with trailer and your choice of instruments. John Firth (613) 731-6997.

TWO SEAT

SCHWEIZER TG2 two seater; has similar performance to 2-33. Asking $5,000. Enquiries to Peter Timm (604) 576-9646 or Lloyd Bungey, Box 572, Bacchus Marsh, Vic 3340, Australia.

BLANIK, CF–NZR, 2844 TT, good condition, covered trailer. $11,500 or best offer. Call Steve (604) 876-5986.

LK–10A, #96, C–FZAJ, 1393 TT. Dual instruments, new fabric in 1981, blue & yellow, current CofA, no trailer. Rideau Gliding Club, Box 307, Kingston, ON or Peter Skensved (613)376-3491(H), 545-2676 (B).

MISCELLANEOUS

Radair 10s radio, **Ball 100** elec vario, mechanical vario. Kevin Bennett, (403) 949-2589, fax 260-2966.

Ball vario, with speed command, netto and audio, $375. **Winter mechanical vario** with flask, $225. Dave Wright (604) 382-9236 days, 658-5854 eves.

Cambridge Speed Director, with compatible Cambridge CVS vario - triple range - dual damping, wiring harness, switches, gust filter, capacity. Bruce Hea (403) 282-3874.

2-22, complete airframe suitable for restoration. Damage to fin, rudder, and canopy frame. Was not overturned. $1000, trailer included. Kemp Ward (514) 297-3268 or Yvan Chassé (819) 564-4472.

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The following SAC policy for personal ads has been adopted for the use of this service:

- Free for SAC members, $10 per insertion for non-members.
- Ad will run twice. If ad is to continue, notify the editor for each additional two issues. Normal maximum length is 6 lines (about 300 characters). If longer may be subject to editing depending on space limitations.
- Send your ad to the editor, NOT to the National Office.

MAGAZINES

SOARING — the journal of the Soaring Society of America. International subscriptions $US35 second class. Box E, Hobbs, NM 88241 (505) 392-1177.

SOARING PILOT — a new magazine dedicated to the kind of information you want to know about. Canadian subscriptions $US28 second class, $US40 first class. MC and Visa accepted. Soaring Pilot Magazine, 1913 Fairwood Lane, State College, PA 16803. (814) 237-4760. A Tom Knauff/Doris Grove production.

AUSTRALIAN GLIDING — the journal of the Gliding Federation of Australia. Published monthly. $A22.80 surface mail, $A 43.20 airmail per annum. Box 1650, GPO, Adelaide, South Australia 5001.

NEW ZEALAND GLIDING KIWI — the official journal of the N.Z. Gliding Association. Published bi-monthly with international and southern hemisphere soaring news. Editor John Roake. $US20/year. N.Z. Gliding Kiwi, Private Bag, Tauranga, New Zealand.

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