AIR STORIES

7d

FLYING THRILLS AND AERIAL ADVENTURES

Gliding in the Rain

Mounting Terror

Soaring without Thermals (in the Rain)

Phil Phlies! The adventures of the Little Red Plane that Could.

The Editor's Revenge.

KEEP SOARING

DECEMBER JANUARY 2010

Welcome to the Editor's Revenge issue of Keep Soaring.

It can scarcely be called the "Christmas Edition" or the December-January edition any more. There comes a time when missed dead lions are not even missed any more. Douglas Adams said, "I love deadlines. I like the whooshing sound they make as they fly by." Me, I hate them!

Another pet hate is pedants. Actually I am a qualified master pedant myself but after the other LKSC newsgroup pedants got together and wrote several doctoral dissertations *about a simple apostrophe*, there's nowhere to go. So I have carefully put several mistakes (not only ones with apostrophes) into this newsletter. Try to collect the full set. The winner gets to write an 5000 word essay for the next Keep Soaring. Revenge #1.

Mr. Pink, AKA the Professor of Pedantics, (he'd *so much* prefer Professor of Pedantry) spent so long on his dissertation, he completely forgot to hand in his other essays. For which he will be punished in due time. Revenge #2.

I would like to say here, close to the beginning, that I have nothing against Ian Downes… apart from the trouble he got me into after the last committee meeting when he forced me to have more red bombo that I would normally have had to get through such a committee meeting (vintage Nick Singer's Revenge, 2011) so I'm not sure what prompted the treatment which the layout artiste gave to ID's first official contribution to this newsletter. Revenge #3.

The release of the revealing and otherwise quite artistic study of ID by the Flying Doctor is another puzzle. Where did FD get it? Who took it? And why? Revenge #4.

Part of the reason for this tome being late was that I was up at the club flying when I should have been sitting in the rain in front of a computer… and nice it was too.

While I was up there, Phil Anderton flew his RV-7 for the first time and it was a wonderful event. Congratulations Phil!

Ian Barraclough manned the still camera while I tried to force a small Japanese camera to take a movie and immortalise the event but with little success. It was a toss up was to where we stood. Somewhere along the strip at the best spot for a take-off or further down near the IZ in the best position for catching the UCIT.

Ian B is more than a little responsible for the pictures in "Phil Phlies". Why Phil should be the star of his own comic strip after his nice piece in the last issue of Keep Soaring called "Be Kind to your Tuggie", I can't imagine. Revenge #5.

Anyway, un oeuf of the revenge business.

Over NYE, I flew 8 days out of a possible 10 and only one of the two missed days was weather related. Yes, I could have hit the keyboard on at least one of those days, but I did not, being too tired to be able to concentrate.

Ian B was trying to get his body around the awful taste of those sports drinks, mixed with a fine New Zealand white. Perhaps that's a good idea to help with the concentration… either that or not drinking it..

Due to the dodgy weather which seems to be covering most of the southern hemisphere, a lot of events such as the **NSW State Titles**, the **Keepit Safari** and the **2010 18m Australian Qualifying Grand Prix** have moved dates and even venues with the expectation of perfect weather.

Rather than run the risk of mentioning any actual dates, I would refer you to the calendar on the club web site which is a close to up to date as possible.

You might note that there are vacancies in some of these events and also one or two in the Keepit Regatta at the end of February. If you are interested in any of these, have a look at the Keepitsoaring web site for information on who to contact.

Catch you next time. Complaints to the same address as your last one.

Editor

2010 Safari

The 2010 edition of the Keepit Safari, along with almost everything else, has been delayed until March. The most likely dates are March 13th to March 19th and most Safarians can make it then. The dates will be confirmed in early February.

A number of the Safarians gathered at Maitland airport for a BBQ in December where the Brothers Smith arranged all manner of toys for us to play with. After a semi-important bit fell off one of them, we all had a good go in the RV including a previously non-flying participant of the Safari who claims to have a part-share in a glider of her own.

The BIG Safari 2011

A Self Launching Safari is being planned for the second half of October 2011. Will you be in it?

The plan is:

- Self launching gliders only, no trailers and no tug. It is not intended for power-on motor gliders.
- A flexible Safari with no pre-booked accommodation so that if the weather is against us, we stay where we are till it improves.
- A route that has leeway to allow for unflyable weather and to allow a rest day or two.
- Dates: nominally Sunday 16th to Saturday 29th October 2011; maybe a day could be added at one or both ends.
- Crew: two pilots sharing a single seater is a good arrangement. Otherwise two or more crew cars are necessary.

Route considerations

Given two or more crew cars, keep the road distance to say 600 km a day, so plan for 350 km to 450 km tasks. A couple of routes have been suggested.

1. A repeat of the legendary 1995 Heart of Australia Tour as organised by Berly Hartley and Nick Hunt which circumnavigated the Simpson Desert. The 1995 Tour took trailers and on a third of the days, either trailered or took dual aerotows behind the two tugs due to rain.

The route then was Keepit, Jondaryon, Carnarvon Gorge, Longreach, Mt Isa, Tennant Creek, Bond Springs, Ayers Rock, Coober Pedy, Wilpena Pound, Mildura, Narromine, Keepit. If we were to do this task it is 12 days soaring and leaves only two days for bad weather catch up and rest days. Average task length is 500 km, shortest 250 km and longest 700 km. Most likely it would require longer than two weeks to achieve this trip.

2. An out and return to Lake Eyre. The route could be Keepit to Bourke 450 km, White Cliffs 290 km, Wilpena Pound 430 km,William Creek via Maree 400 km, Oodnadatta 170 km; and return. Average task 400 km.

A day ridge soaring at Wilpena Pound is a must if the wind is on and/or the Pound is worth a visit on foot. This route requires ten days soaring and allows four days for bad weather catch up, ridge soaring at Wilpena and another rest day or two. There is the opportunity not to go on to Oodnadatta if days are lost due weather. We would be happy to discuss details, but in the first instance would you let us know if you are INTERESTED!

Funny old business, the sailplane business. This is my old hang gliding mate Pete Howlett from Perth, revving up his new (to him) Ash 26E at Beverley.

Given that there are many different types of epoxy resin, you'd wonder why the propellor makers might choose to use a low temperature resin (often over a wooden core) which can soften at the temperatures reached inside an SLG engine bay…

FROM IAN DOWSN
16-1-11

After nearly 12 months as ~~Mother~~ Manager at LKSC it is time I made a contribution to KeepitSoaring. After all I have just mastered the art of blogging and can now see myself with a total mastery of computer-based communication in the ~~near~~ future.

With the 2011 Regatta fast approaching it is an opportune time to look back over the past year and reflect on some significant events.

I guess the first one is the tremendous way in which I have been welcomed and made to feel a member of the LSKC family. This has made my ~~roll~~ role a great deal easier.

We enjoyed a great winter season with training utilisation reaching significant levels and a number of ab initio pilots reaching solo standard. Paul Mander's Speed Week and the New South Wales State Comps are excellent vehicles to showcase our club and its potential and it is very pleasing that Paul will again be conducting Speed Week at LKSC in 2011.

Another weather related event is the 2010 Grand Prix, which was originally to be held at Boonah (in 2010). The terrible floods in Queensland have caused the organisers to schedule this prestigious event at Lake Keepit in the week preceding the State Comps and we look forward to welcoming all pilots, crew and support personnel.

Juho Rossi, our summer tuggy, extended his stay over the winter period to cope with all the winter training activity, Tomas Munk has taken over the summer tuggie's role and as well as having a couple of soaring flights, Tomas has been a keen student of Australian wildlife- especially the bloody carp in the lake!

Some friends of Tomas' arrived after Christmas and it seems that what the Czechs lose with the few vowels they've been issued with, they make up for in protein intake. Tomas, Tonda and Slavo with some advice from Ken Williams, LKSC's answer to the bush

tucker chap, were seen hunting for food at all hours of the day and night... attempting (unsuccessfully) to use a tiny Hyundai hire car to run down a Kangaroo in time for dinner... debating ~~the eddibillity~~ if you can eat green frogs... and finally catching a carp from the lake with a shovel (Spear and Jackson #9).

Slavo, who is a very experienced pilot, completed a declared 500 km task on a day when most would have found 300 km a challenge. The following day he landed out "aux serpents" and was almost too scared to get out of the plane, probably due to the feeling that any movable protein in the area might try and get its own back.

I trust your Christmas and New Year were enjoyable times for you and your families... I know mine were and I look forward to being part of an exciting time at LKSC in 2011.

Ian Downes.

PS... John can you neaten this up for me and I'll give you an easy time on your next AFR?

Sorry about the stains. The pic is of Slavo after his 500.

PRESIDENTS REPORT

I hope you all have been good boys and girls and Santa has brought you a new glider for Christmas. Well its worth wishing for anyway!!!

As most members will be aware, we have had a very wet spring this year, which has meant that we have had to defer the NSW State Gliding Comp until March next year. Hopefully you have time to dry your socks and make it up for the rescheduled comp. The upside of all the rainfall is that the airfield is looking magic, however the downside is that we have to keep mowing it! The lake is also now full, the first time since Santa was an elf!

Despite all the dampness, the club has still been humming along with plenty of students, visitors and mid week pilots to keep Ian and Tomas busy. It was very pleasing to see that our membership number have increased to 110 as a result of this activity. Please welcome all our new members when you are next at the club.

Our goal for this year is to increase our membership to 120 full members, so can I ask all members to do their best to bring a mate along and introduce them to the best gliding club in Australia.

RIP – Our faithful chamberlain tractor has finally succumbed to its harsh life at Keepit (probably the harsh drivers!) and the cost to repair it is now uneconomic. The Committee has made the decision to put it out to pasture and look for a suitable replacement.

This search is not an easy one, as the available funds we have do not go far in the second hand tractor market, and we don't want to buy a lemon. So much research is being done, and hopefully with a bit of arm twisting we hope to find a replacement soon. Thanks go to Todd Clark for all his efforts in tracking down a suitable machine.

The great news is that our club has been successful in securing a grant from the NSW Government under their 2010/11 Community Building Partnerships Program for $34,029. This grant has been specifically awarded to assist with the financing of a sealed access road to the club. The Committee is in the process of seeking quotes to undertake the work, so we are yet to see how far these funds will go.

However we hope to be able to seal the entry road from the cattle grid through to and including the car park area near the flight centre. Anyone who has driven this road following rain will appreciate how dicey this road can get in the wet.

A big thanks go to Chris Bowman for his efforts in securing this much needed financial support, and may his future attempts be just as successful. Peter Draper, our local State member, was instrumental in securing this grant on our behalf, so can I ask that any of our local members to thank Peter at their next available opportunity.

A quick note on the Callair. Many of you will have noticed that we upgraded the prop on the Callair several months ago, and while it was climbing fantastically, the tips were going supersonic and waking the dead.

In order to rectify this problem the new prop has been twisted to suit the recent horsepower upgrade on the Callair engine. New pistons, rings and other go-fast parts (you can see I'm no mechanic!) have been added to raise the horsepower to 250 horsepower. In addition to this a new windscreen has been fitted, no doubt to improve its LD to 40 in 1??? Tomas – you wish!

Anyway, It's now looking stylish, sounding great and climbing superbly. A special note of thanks to Todd, as his personal attention to the maintenance of the tug has meant that…

We have not lost one day of use of the Callair due to unplanned maintenance issues in over 12 months. Thanks Todd!

A reminder that the Lake Keepit Regatta is on again at the end of February. This event has a limit of 30 aircraft. With 23 entrants so far, we have a few spaces left. This is a great opportunity to sample competition flying and improve your cross country skills in a safe and more relaxed environment than a regular competition.

It will also be a great lead up to the State Comp in March for anyone looking to hone their skills. There are a couple of spaces left for seats in club gliders, so anyone who is interested in joining in should shoot me a note. All the details about the Regatta are available under the comps section of the club web site.

Have a merry and safe Christmas, and New Year. I hope to see you all at the club soon.

Tim Carr

WHO SAID FLOODS WOULD KILL THE THERMALS?

Ignoring all commonsense, and putting all my trust in the weather forecast I decided on a last minute visit to Keepit for the weekend of 11th November. The big flood weekend for Tamworth!!

Despite the incessant rain beating on the roof, I believed the forecast which said rain clearing Saturday and a sunny Sunday/Monday. I set off Friday arvo for the 380 km drive to Keepit. Desperation is my excuse – family visiting the following weekend, Christmas the one after that, then off with Carol for a month on a boat to Antarctica. No chance of flying down there, so this weekend was my last chance for a gliding fix for a couple of months.

Driving through Dorrigo (in pouring rain of course) I received a call from Ian Downes – "did I realise 55mm of rain had fallen in Tamworth since 9am this morning?" "Yes Ian – but the weather forecast says it's getting better," I patiently explain, "And I'm already on my way." (So there!)

Another call from Todd (still in pouring rain) – "Would I like to pop in on my way through Tamworth for a cup of coffee." I patiently explain, again, that the weather forecast says the weekend will be fine, but accept the offer, as the back route bypassing Tamworth through the Moonbi Gap Rd will most probably be blocked at a couple of creek crossings.

Still travelling I phone Ian Barraclough, who I'd noted also was booked in for the weekend, to arrange to get together for dinner at the club – "Nah, I'm back in Sydney. Too wet and we had to cancel" said Ian. "But thanks for the thought." I'm beginning to get the message. Enjoyed Todd's coffee and a chat, even though he looked at me as though I was crazy, and went on my way.

I've never seen so much water gushing under every culvert and creek crossing coming out of Tamworth, and whole paddocks each side of the road were completely awash. I started wondering whether I'd be able to get across the Peel River at Dircks's – maybe a motel in Gunnedah would be necessary. But the river was yet to rise to its full flood peak, and I arrived at a very slippery road into the clubhouse at around 6pm.

Of course, the place was alive with millions of people – pilots and visitors everywhere .... else. Tomas was off for a weekend in Newcastle, Ian D away for the weekend and one sole idiot at the club – me. Well – cooked up a nice dinner of chicken legs in honey soy sauce, and tucked into the remains of a good book for the night.

Saturday dawned, overcast, but hey!! – just as the bureau had said – not raining. But also not really soarable. Decided to fix a few electrics – motion sensor lights at the flight centre were full of water, so popped in to Tamworth (via Manilla and Dircks's bridge now under a foot of water), and got gridlocked with all the traffic in Tamworth, all confined to Bridge Road because the Taminda area was all under water. And Bunnings where I was headed was surrounded by blocked roads. Never mind – after a detour via the Golden Guitar around the highway bypass I managed to get back to Keepit again with the light fittings.

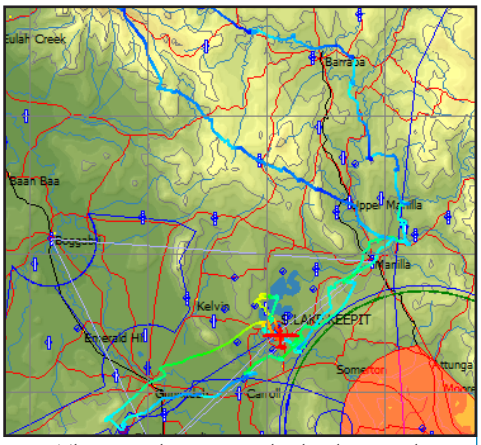
The Saturday paper finished off the afternoon, and joined Harry Potts who was encamped in the Chalet for dinner.

Sunday! Hah! – that's when the bureau said the weather would be sunny..... and it was! Launched at around one o'clock thanks to Geoff Neely, and waited for Harry Potts to join me. I wasn't feeling like being too adventurous with so much water and humidity around and was keen to stay in contact with another glider.

Harry led off to Manilla and I went with him – we found plenty of lift getting there, but then parted company. Looking around, the sky looked surprisingly good – plenty of clouds, and cloudbase was over 7000 ft at this stage. So I started mooching along, to the East of Manilla up towards the Barraba mine. Not really going anywhere, but while I had safe height, and enough to escape back home, I still had no worries.

And the day just kept on going like that. There seemed to be lift everywhere – not strong, but consistent and I just stayed high. Turned East of Barraba and followed a line of clouds in a north westerly direction – still not going anywhere with any purpose in mind, but eventually, by creeping along ended up turning around Mt Kaputar tower. Whoever would have thought of declaring a task up that way on a day like today – certainly not me.

Returned along a nice line of clouds via Manilla, and with still plenty of time in the day to go decided to venture across to Gunnedah and have a look at the floods. There were nice black clouds en route, especially over all the flooded areas around Gunnedah, with good thermals underneath.



The Mooki river which drains the Breeza plain was spread out everywhere, the airport cut off and few low lying homes on the north side of Gunnedah were surrounded by water. The Namoi river meandering on its way through Emerald Hill towards Boggabri was overflowing everywhere, and it was difficult to tell which were cotton paddocks and which were the adjoining dams.

Sam Clift's wheat paddocks down south (otherwise known as Lake Goran) had been returned to a vast sea. Over a decade since I've seen water there (the WAC map's outline of Lake Goran always seemed a bit misleading, but now it's back to what the map assures us is a genuine stretch of water).

Went halfway beyond Gunnedah to Mullalley before deciding I'd had enough. Over 300km on a day I thought would have been impossible. Cloudbase topped out at 8500 ft QNH. It wasn't a fast day, and I wasn't going to push things along too aggressively, but it was a most enjoyable flight.

I'd planned to return home Monday, but after Saturday's no-fly day, and seeing another sunny day when I awoke, decided to stay and enjoy myself for a bit more. A quick phone call home and Bob's-your-uncle.

Tomas was back on deck after travelling to Newcastle with Christian and meeting up with some of the Newcastle members. He went fishing apparently, and even caught a fish. Tomas found me a good thermal to get away on Monday, and I thought it was time to do something different… hadn't been out to Coonabarabran for a few years, and after dispelling any concerns about lift over the floodwaters of Gunnedah the previous day, decided to set myself a task to Coona and return.

As I'd discovered on Sunday, there was plenty of lift – many clouds and most of them working, although most of them were also pretty weak.

I spent most of my time working 3+ knots, although I found a 7 knotter on the way across, (and another in a similar spot on the way back – maybe the same one?).

The ground rises on the way to Coonabarabran and I was flying very cautiously, not relishing the prospect of landing in a soggy paddock. Outlanding prospects between Mullalley and Coonabarabran are also a bit iffy, and I was continuously very carefully calculating my ability to reach the landing fields at each end of this stretch.

Many of the clouds were very half hearted and I had difficulty reaching cloudbase under many of them – they just tapered off to nothing midway up.

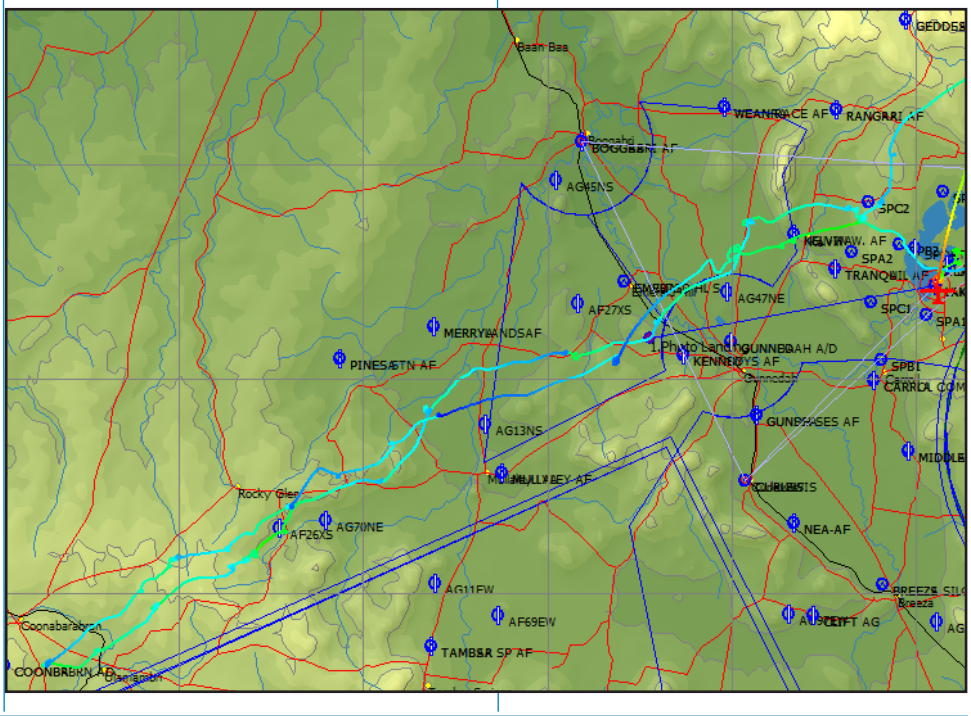
In the end there was nothing to worry about and I didn't get below 4800 ft with cloudbase around 8000 ft across this stretch of country.

Interestingly, the air back in the Keepit basin had dried out when I returned and was blue, and in one thermal I eventually topped out at 9500 ft. For good measure, I finished off with a run back towards Split Rock Dam before going home – as a matter of principle, I just had to ensure that flight exceeded 300km again.

Two great days – who ever said that flood water made for un-soarable conditions!

Incidentally, one of the great features of the weekend was seeing the discharge over the main dam wall – something none of us have seen for probably more than a decade. The lake edge is lapping at the bases of all the trees around the lake perimeter. The turbulent flow over the wall can be seen like a brilliant white beacon from more 50km away, coming home from the west with the sun behind you. Pity I didn't have a good camera with me.

Dave Shorter



PHIL PHLIES!

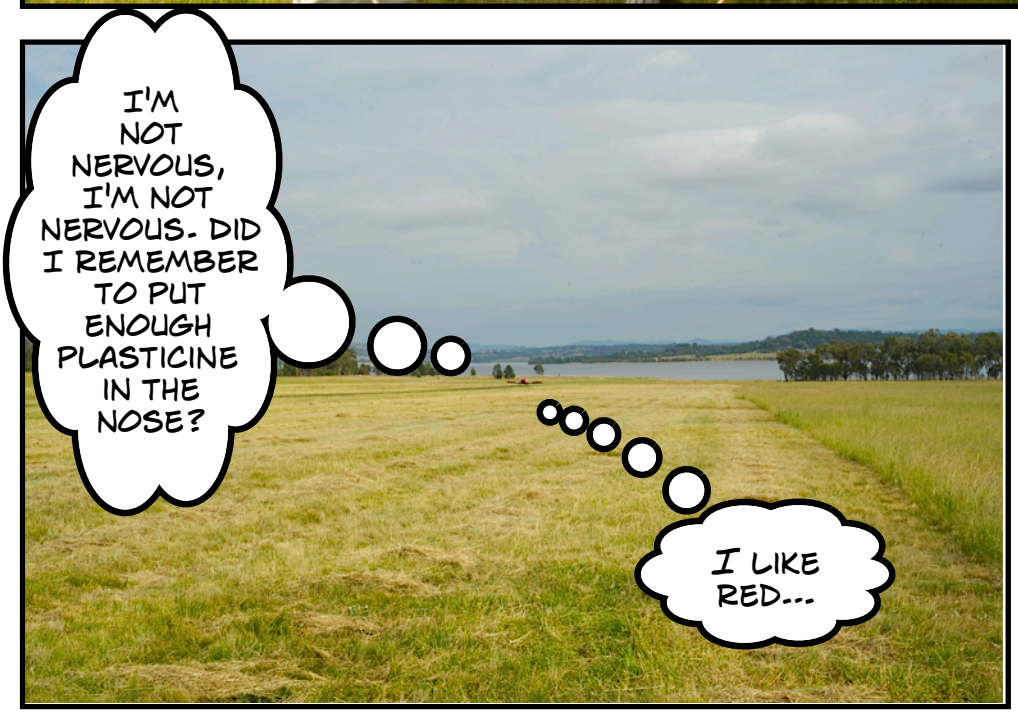
YOUNG LAD PHIL HAS SPENT NEARLY A MILLENIUM BUILDING A NICE RED PLANE AND TODAY HE'S GOING TO TAKE IT FOR THE ***FIRST FLIGHT!***

IN FACT THERE WERE DOUBTERS... THERE WERE THOSE WHO SAID THAT THE LAWS OF GRAVITY WOULD HAVE TO CHANGE BEFORE PHIL'S RED FLIVVER TOOK TO THE SKIES.

THERE WERE THOSE WHO THOUGHT THAT PHIL WAS INDEED NERVOUS AND DIDN'T THINK ***PHIL HAD SLEPT AT ALL*** THE NIGHT BEFORE!

THERE WERE EVEN THOSE WHO ***DIDN'T LIKE THE COLOUR RED!***

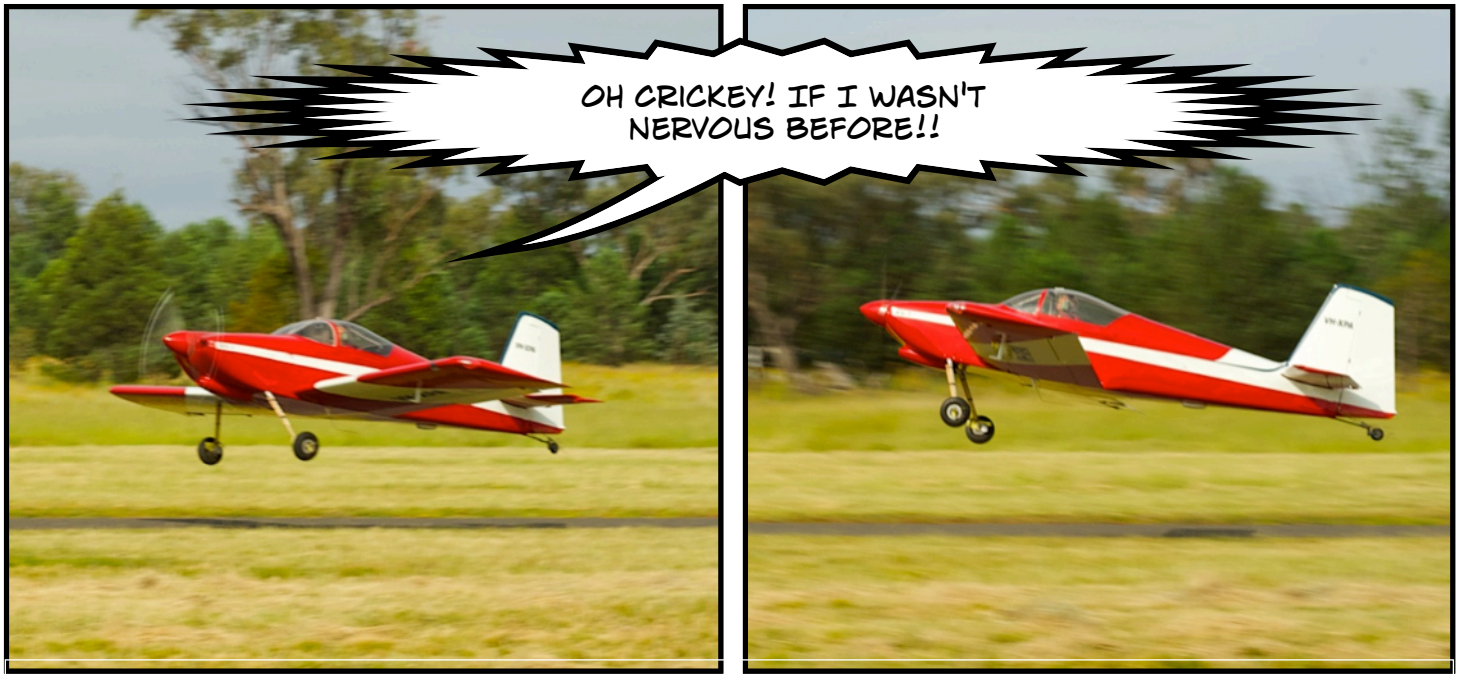
WOULD PHIL PROVE THEM WRONG?



OUR PHIL TAKES HIS LITTLE RED PLANE NEARLY A MILLION MILES DOWN THE AIRSTRIP IN CASE SOME OF THOSE NAUGHTY GLIDING BOYS MIGHT WAKE UP AND COME OUT AND SPOIL HIS CAREFUL PLANS.

FINALLY, THE PLANE IS SO FAR AWAY THAT NOBODY CAN SEE IT OR TELL WHAT COLOUR IT IS.

THEN FROM FAR OFF COMES THE DISTANT SOUND OF A POWERFUL RUBBER MOTOR!



THE LITTLE RED PLANE FAIRLY LEAPS INTO THE AIR DEFYING BOTH THE CRITICS AND THE EXISTING LAWS OF GRAVITY!

BETTER GET DOWN NOW... BEFORE THE RUBBER RUNS OUT.

I HOPE IT LOOKS RED FROM DOWN THERE!

BUT PHIL FORGETS ABOUT THE RUBBER BAND RUNNING DOWN AND STARTS TO PLAY IN THE SKY.

HE ZOOMS AND BANKS AND TURNS AND CLIMBS AND DIVES JUST LIKE HIS HERO BIGGLES...
UNTIL THE PROPELLOR DOES START TO SLOW DOWN AND PHIL HAS TO LAND AND FACE THOSE NAUGHTY GLIDER BOYS...

BUT THEY WON'T TAUNT HIM NOW!

OF COURSE I KNEW IT WOULD FLY OK! OTHERWISE I WOULD HAVE WORN A ***PARACHUTE***!! DO YOU LIKE THE COLOUR?

SEE! STILL GLUED ON!!

I'VE GOT A NICE RED AEROPLANE!
I'VE GOT A NICE RED AEROPLANE!
I'VE GOT A NICE RED AEROPLANE!
I'VE GOT A NICE RED AEROPLANE!

AND THIS IS JUST THE BEGINNING OF PHIL'S ADVENTURES!...

Memory Games

What's your memory like? Probably not as good as it use to be. Once upon a time, I could remember (and play after a fashion) the words and chords to over 300 songs from the sixties. I can probably remember just 3 now… 3 chords that is.

I spent 10 days across the new year and early January up at the club. From memory, I flew a few 300 kms, a 400 and a 500. 37 hours in the air. However, by the end of the first week, I couldn't remember where I had flown on each day, and though I could remember the turnpoints, I couldn't remember what turnpoints I had used on which flight. Am I downhearted? (By the way the answer to this is "No! Not when Britannia rules the waves but this isn't a sixties song.)

However there are flights I do remember, where long sections are etched permanently in my remaining grey matter but they are not necessarily the long flights or the fast flights… but they *are* mostly the *fun flights*.

I remember my first flight in the Junior. I remember the dust pouring back from the air vent and the entire console shaking like it was only held down by blu-tak. I remember the chicken which was caught somewhere in the front of the glider making its plaintive shriek… shame, because I was not going to land to let it out… but most of all I remember the certainty that this was *IT*. Flying in a single-seater. This was why I had signed on and it was everything I had hoped it would be, even in the Junior.

I remember a flight when I was still learning. During the aerotow, Al Buttenshaw (who has more time in aircraft than most of us) suddenly said "My aircraft", and before I had time to work out what I had done wrong, he was in control.

It turned out that I had done nothing wrong but it was just a remarkably clear day and you could see forever in the crystal sharp air. Al had just wanted me to break from flying and share this moment.

This last year has not been the best for long or fast flights. Mostly the conditions have been soggy for all the obvious reasons and there were times when I felt distinctly robbed. However by the end of 2010 I had flown a couple of truly memorable flights. Not fast, not long but shining examples of why we keep coming back for more.

Here are a few of those moments.

Dave Shorter had told me about a flight he had where he got under a storm front and flown for for 30 minutes at 100 knots or so. He painted a wonderful picture and I was keen to have a go at this myself.

The day came in late October. The club was almost deserted because the forecast was grim. I struggled to Manilla and then tried to make it to Gunnedah via Rangarai… the normal winter milk-run, though we'd been flying 500 km tasks at this time a year ago. A thick deck of black, overdeveloped clouds sat over the Kelvins and was dumping rain near the Carrols-Kelvins gap.

I could not make it through the rain to Gunnedah and when I turned back towards Keepit, I circled under a cloud watching John Stewart in the LS7 head into the black near the Mount Surprise.

The cloudbase was barely 6,000'. I was quite high up but John appeared to be very low and finding nothing but sink. The white LS7 stood out sharply against the black clouds and looked very tiny as it sped into the gloom. Rather than witness his outlanding, I started heading towards Manilla again under the edge of the deck. I felt the glider picked up by the scruff of its neck. To keep out of the grey stuff I put the nose down… and down… and down. I shifted flaps until finally I was in full negative and still going up. Brilliant!

The glider was banging about and the wings flapping like some old cockatoo but at some speed over 120 knots I managed to remain clear of cloud and finally shot out near Mount Borat. I turned 180° , got out my iPhone, and headed back for a bit more fun.

The iPhone now has a remarkable camera. You can take both HDR images or normal ones. HDR means high dynamic range and essentially the camera takes two pictures, one exposed for the highlights and another for the shadows and combines them into one. The result is great… far better than many compact cameras costing the same as the phone.

The whole flight was probably less than 2 hours but I had a smile on my face many weeks later. Gerhard Stuck has dissed my picture of this event by saying that the yaw string isn't straight! For heaven's sake, it took two (very firm) hands to keep the glider in a straight line and one to hold the camera/phone!

In early December the weather was particularly wet. I was up at Keepit to do the annual inspection on my glider before the Safari. The NSW state titles had just been cancelled and while I wasn't looking, so had the Safari!

Saturday was flyable… just, but I had over-oiled the air cleaner and could not start the motor. After fixing this, conditions were not so good… actually they looked terrible and Geraldine would not allow her glider to fly. Within about 10 minutes of this picture being taken, it started raining and dumped about 70mm in an hour.

It rained on and off overnight but next day was quite sunny and the motor, with the now lightly-oiled air cleaner, started first time. After climbing out, I admired the lake. It was the first time I had ever seen the lake completely full… actually at 104% so they said, and all six dam gates were open and dumping water somewhere. Outlanding options around the lake and the end of the strip seemed to have disappeared and apart from the bright sun, it looked like flying in Ireland… green everywhere with that strange coloured shine on the ground which you see when an Irish farmer has spilt a couple of hundred megalitres of Orange Pekoe tea.

Thermals there were… and quite reliable ones too. Initially, I stayed over the high ground, expecting it to be drier and produce more thermals but later on I found that the wet areas were often better than the dry.

I got high enough not to be too worried about an outlanding and didn't really get below 4,500' for all the flight. The thermals were fluffy and if they could be centred, I was not the hero to do it.

I drifted around the region just enjoying being there… for nearly 4 hours.

I remember the lake, the green, the water all around, the rivers, the flooding and a whole lot of things which I had not seen before.

In the early days of January, there were several days where thunderstorms were forecast. I'd flown north over the western side of the Kaputar range between a storm which was brewing right across the eastern half of the sky and another which was boiling up over Mount Kaputar.

Again the thermals were fluffy but reliable enough to make good progress under a low cloudbase. I turned at the far end of the Kaputars to head south to Quirindi. The eastern storm got bigger and bigger until the shadow of the spreading anvil cloud appeared to block out fully half the ground, moving towards the Kelvins. Ken Flower had taken off from Keepit in his Grob 109, tracking for Narrabri while I headed south towards Gunnedah over the plains to the east of the Kelvins being squeezed between these closing fronts.

The air below the storm was so murky that you could not tell if it was raining or snowing. Most of the fleet including Jay and Maren, John Hoye and a visitor from the UK were on the east side of the Kelvins… Maren trying to glue a silver C task in the logger. Jay reporting fantastic convergence with everything going up between the two fronts.

When Ken reported a roll cloud moving north under the storm front, everyone decided to call it a day and everyone got down and got the gliders away PDQ.

The eastern storm was of biblical proportions. Utterly epic and memorable. Oddly it didn't really do anything other than flash a bit and provide some cool air and a little overnight rain.

Attempting to repeat this flight on the following day, I flew around deluges on the Breeza plain. I assumed that Sam Clift was under one of them and if I hadn't been using the phone to immortalise the event, I would have rung him up and asked for a wave.

You can have memorable flights at any time, but you have to be in the air to get the memories! **Just because you can't fly 750 km, or even because the forecast is crook, don't stay on the ground!**

PREPARING FOR CROSS-COUNTRY FLIGHT

Dave Shorter

PREPARATION, PREPARATION, PREPARATION… makes for successful cross country ventures.

Whether you're attempting your first 50 km Silver C flight, trying for a 750km task, or just joining others on a cross country weekend flight, you will limit your chances of success if you turn up to the club without preparing for yourself in advance.

What needs doing? Here's a checklist.

Instruments… logger, nav, cables
Software to load tasks, make declaration
Rules… pre-declared tasks, Sporting Code
Maps & charts
Turnpoints and tasks
Glider
Water, food
Peeing Equipment
Phone, tracking device, EPIRB
Outlanding kit
Crew
Training… physical, flying technique
Swatting up

Let's look at some of these in detail…

Understand the instruments you'll be using. If it's a club glider fitted with Cambridge instruments, you can get copies of manuals from the Cambridge website. Know how to operate the LNAV and GPS NAV before you get into the glider. If you're using an Altair, it runs XCSoar public domain software. Some navigation computers such as LX have simulators available where you can run simulated tasks.

User guides for almost all navigation computers are downloadable from the net. Understand the Flarm device… Logs downloaded from Flarm can be used for many task claims. Not all logger traces can be used for record claims though most can be used for badge flights.

Software. Do you have cables and connectors to download/upload tasks? Some loggers can be configured in the glider and others require connecting to a PC. Software to configure your logger can be either SeeYou, or for Cambridge use CAI Explorer. (Later versions of Windows may need later CAI software).

For a valid task declaration you must load YOUR NAME and glider details into the logger. You can't rely on "someone else" knowing how to do that for you after the morning briefing. Find out how to do this in advance, and preferably, have your logger prepared the night before.

SeeYou is a great program for loading loggers… well worth buying, and understanding. (Note… for Garmin instruments, better to use Oziexplorer, with a list of 6 digit name abbreviations).

Sporting Code. It's worthwhile reading the FAI Sporting Code. This document defines tasks, and sets out the conditions for valid tasks. (Beryl Hartley from Narromine did a summary of the main salient points of the Sporting Code to assist pilots understanding this document).

Maps… a must have is a map of the task area. The World Aeronautical Chart series (WAC maps) is the most useful for gliding. On a scale of 1:1,000,000 10mm represents 10km. If the map is printed on waterproof paper, covered with stick-on plastic, or plastic laminated, you can draw your task with a spirit pen or overhead projection marker.

The Club's plastic laminated maps of the local area are an extract from the Armidale WAC map, cover the most commonly flown areas around Lake Keepit.

If you're going further afield East to Armidale or West to Narromine/Walgett you'll need the full sized map(s)… which can be either be purchased from Airservices Australia or purchased and downloaded in digital form from MapTrax. Airspace maps (Visual Terminal Charts… Tamworth and others), and a copy of ERSA (Enroute Supplement) are also available from Airservices Australia.

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There's more on electronic mapping later in this issue of Keep Soaring.

Turnpoints and Tasks. Make sure you have a current turnpoint file loaded into your logger/navigation instrument. The latest file from the November 09 Comp has sufficient turnpoints for most local tasks… it's called Nat9TpOL.dat (or .cup or .txt). Make sure you have a list of planned tasks already worked out before you arrive. There is a task book at the club (it's a bit old and some of the turnpoints in that book have changed)… best if you make a list of suitable tasks for yourself. (SeeYou is a good way to work out suitable tasks).

Often, if you are just starting, you may not know many of the distant turnpoints. If you're unsure about this or the suitability of your projected task for the day, ask any cross country pilot at the club and they'll be happy to help.

Glider. I think it goes without saying that your glider must be properly prepared. If you're using a club glider, check it over the night before to make sure you get no surprises on the day.

Food and Water. Nutrition is very important. Eat some wholesome food before you launch or if you are launching early, take your lunch in a plastic bag. On a long flight take some dried fruit, nuts, ginger or an apple to nibble on during the flight.

Avoid sweets or sugar based snacks. A suitable water supply is vital… carry *at least* 2 litres with you on a flight. In very hot weather with a low cloudbase you may use a litre per hour. Hydration bladders can be got from camping stores. Some like the MSR bladders are flexible fabric, almost indestructible and can be got as large as 6 litres.

I find the bladder stowed on the parcel shelf behind, works well. Make sure it works before taking off.

Peeing. It's no good having water if you can't get rid of it. There are various methods that can be installed in gliders. If you're flying a club glider a couple of good plastic bags containing liners from disposable nappies works well. There's a lot of good information about in-flight weeing systems on the net. The internet's great for that sort of trivia. One of the best links is at:

http://aviation.derosaweb.net/relief/
by Eric Greenwell

The February-March edition of Keep Soaring had a full rundown on in-flight pilot relief.

Phone, EPIRB, SPOT tracking. If you land out you need to be able to communicate to your crew. Try getting a message away by radio to an overflying glider with your GPS coordinates (and you must know how to get these from your GPS) before you land. Otherwise you're reliant on your cell phone which may not have coverage.

Telstra Next G has the best coverage in the country but there are still many dead spots. Optus often doesn't work while Vodaphone is pretty hopeless.

An emergency location beacon EPIRB is a good safety option in case of emergency. But perhaps a better option is a SPOT device which will monitor your position by GPS and enables you to send a message back to base or home if you land. That may be just a location and need for a trailer, or an emergency message… many serious pilots now use these (see http://www.gosoaring.com.au/spot2.php).

Outlanding kit. Don't rely on the glider to be fully kitted out… get your wife, girlfriend, (or husband) to sew up a little bag for your outlanding goodies or get a lightweight backpack from a camping shop.

Fill it with some tie-down pegs, hammer, ropes, money, space blanket, torch, pen, paper. It's also a good idea to ensure you have sufficient tools to start derigging your glider in preparation for your road crew… tailplane, winglets, water connections, tapes… all off before your crew arrives. Important reminder… if you leave the glider, leave a note to say you're OK.

Talking of crew… does anyone know where you're going? And is there someone back at the club who'll come to get you. Fortunately, the club culture at Keepit is that we all help each other… if there are other pilots at the club they'll normally pick you up. That means you help too when others land out. Next time it might be you and not Christian.

Training. Keeping fit, laying off the grog the night(s) before make long distance flying much more enjoyable. Cross country flying is fatiguing… don't start tired. And the best preparation for a long flight is practice. Know how to thermal efficiently… that's probably the most important skill to develop and practice.

Swatting up. There are a lot of good books out there, well worth the read. Bernard Eckey's book (stocked by the club), Helmut Reichmann (is the bible), George Moffatt… Winning II, Maurie Bradney's Flying Further and Faster… free downloadable from GFA, and many more. If you're serious about going cross country you can learn a lot from these guys.

Good luck, and may you achieve your cross country goals this season. And always remember, the good luck will come to those of you who make the PREPARATIONS and…

Be there! If you're not at the club, you can't fly cross country. It's rare to be able to plan for excellent weather conditions in advance and great soaring days appear without notice.

N.B. Notes on how to make an FAI badge or record claim can be got from the GFA website.

THE COMPLETE PACKAGE

In the maintenance of our fleet, the emphasis is quite rightly on "airworthiness": that is its "fitness to fly". However, having an airworthy glider is no guarantee that it will do the job expected. Whilst we are now providing an "airworthy" product, I believe we still have a long way to go before we can be comfortable that we are providing the complete package.

Management of many of the "not-quite-airworthiness" issues has fallen through the cracks and needs to be urgently addressed before we can be satisfied that our product is meeting the expectations of our users.

To rectify this problem, we need to:

- Identify the issues and define the outcomes required.
- Allocate resources to the management of these issues.
- Regularly assess whether the required outcomes are being achieved.

1. Identification of Issues and Required Outcomes

Below, I have outlined the key issues which need to be addressed, and the outcomes we should be striving to achieve.

Parachutes:

Serviceable parachutes must be available when required. This means:

A sufficient number of suitable, serviceable chutes.

Chutes offered have been repacked and inspected within the previous 180 days, and

Chutes offered have not become defective in any way since this last visit to the re-packer.

Cushions/Upholstery

Being comfortably and safely seated in the cockpit is of utmost importance. Adequate upholstery/cushion options must be available for each glider to cover the needs of all potential users irrespective of shape or size.

Tie Down Kits

Each glider must have a suitable tie down kit so that it can be safely secured in all types of conditions and on all types of surfaces such as would be encountered after an out-landing in adverse weather.

Canopy Covers

Each glider must have an effective and well-designed canopy cover to protect the canopy and the cockpit. These must be maintained in a serviceable condition.

Harnesses

Although harnesses are subject of airworthiness inspections (and a numerous and confusing number of instructions) a pro-active approach is needed for replacement and repair. This is a management issue in itself.

Loggers.

Users of Club gliders expect to be able to record and download details of flights. We therefore need to ensure a serviceable logger is provided for each glider.

If these have internal SLA batteries (eg Cambridge Model 10) these must be maintained in a charged condition, seals must be intact, and Li-Ion back-up batteries replaced as required.

Loggers must also incorporate latest software updates, have cables provided for uploads/downloads, and be capable of interfacing with the computer at the Club for task set-up and downloading of traces. Users should also be provided with clear written instructions for carrying out the various functions required (these could be provision of a manual, or step-by-step guides).

Flarm

Flarm is now mandatory at the Club so a glider cannot be flown unless a Flarm is fitted and is functioning correctly. So management of these units is critical (how many times to you hear ... "I don't think the flarm is picking up other aircraft"...). They must incorporate the latest software upgrades and be tested regularly to ensure functionality. As the Flarm can provide a flight trace, we need to be provide the means (cables/ instructions) for downloading traces from these units as defined above for the loggers.

Spots

As use of these become more widespread, we need to understand what they provide and how to respond to alerts. The Club needs to be aware of this technology and determine whether we should be providing Spots as part of the package. During comps, and expectation could be that the Club display Spot traces. A watching brief also needs to be kept on transponders.

Trailers

As Club gliders are normally hangared, we can lose sight of the fact that we need to have serviceable and equipped trailers ready at all times. Whether this be for retrieving the glider after out-landing, or transporting to distant locations, the trailer must be set up so it is capable of safely transporting the glider without risk to the driver, trailer, glider and other road users.

Tow Out Gear

It is important tow out gear is up to scratch. Tail dollies should be simply to fit and not require back-breaking manoeuvres to attach or detach. Attachment of tow bars to tail dollies should be simple and easy. Wing walkers should be secure and not likely to come off or damage the wing or controls when being fitted or removed.

Batteries and Electrics

A user should expect to take a battery out off the charger, connect to the glider and fly for five hours without any loss of electrical power. We can ensure the batteries will not be a problem if we manage them correctly, and check them periodically, removing them from service before they start to degrade. If electric problems are experienced, these need to be addressed quickly, but if we are certain that the battery is OK, then we can focus on the glider electrics.

Oxygen

Club gliders are not provided with oxygen ... maybe there is an argument for the provision of a portable system as there are many days throughout the year where heights of over 10,000 ft are possible. Maybe, it needs to be part of the package we offer users to enable them to achieve the full potential of the glider they have hired. Anyway, if it became something we offered, it would also need management and is included here for completeness.

2) Resources to Manage the Above.

I have divided the issue above into four groups ((i) Parachutes/Cushions/Upholstery/Tie Down Kits/Canopy Covers/Harnesses, (ii) Loggers/Flarm/Spots/Transponders. (iii) Trailers/Tow out gear, and (iv) Battery and Electrics) and we are now looking for champions to take responsibility for the management of each of these groups.

3) Testing of the Complete Package

We need to regularly "test" the complete package to make sure we are achieving the required outcomes: it is no good just expecting our customers to do this for us. It's crazy to think that a visitor should come half way around the world to tell us something we could find out ourselves by just walking to the hanger. So we need to have check-lists of outcomes against which we assess our package on a regular basis, and particularly before the start of the season.

So why has this become an issue? Well, a month or so ago, I hired a club glider to take to a cross-country week at the Hunter Valley. Without going into too much detail, it was airworthy, but unusable. To cap it all off, the trailer broke down on the way home!

John Trezise

December, 2010

Editor's note. Regarding tie-downs in remote locations: If you can find a tie down peg which can be got into the ground in places like Lightening Ridge using just the "normal equipment" in a glider, please let me know.

By "normal equipment" we're excluding things like a 7 kg sledge hammer.

KEEP SOARING

DECEMBER JANUARY 2010

MOUNTAIN MADNESS!

It's probably fair to say that most of us who fly at Keepit are flatlanders and would call anything higher than a few hundred metres a "mountain". And even though we have such colossi as the mighty Mount Kaputar darkening our horizon, there are those who would laugh at us calling it a mountain.

Yes, they're probably foreigners but they would say that real mountains tend to come in clumps and there's normally precious little flatlands anywhere close. However, tradition holds that aeroplanes land on the flat bits and try to stay away from the vertical bits of land… but some glider people are different and there's plenty of them in the mountains.

Due to circumstances out of the control of Keep Soaring, there are no pictures of Omarama… it's just too dangerous to carry heavy cameras in a sailplane cockpit and due to the long grey clod in NZ, mostly there's not much to see. All the pictures are from the French Alps where there's lots to see.

AL GILES AND THE WAVE

Al Giles: Rather than go on a gliding safari in a kayak, I have decided to head over to the land of the long white sheeps•gg••s and see if Kiwi rain is different. A week of wave soaring at Omarama is just what the locum ordered. Interested? I leave Friday.

Me: *Thanks for the invite but no thanks! I have been wave flying in France and found it cold and frightening. To have all that with the Kiwi monger and iccent is a fête worse than ridge soaring.*

AG: From all that I know of flying in Haute-Provence, you should indeed be bloody frightened. It's got the highest midair rate of anywhere in the world.

It's the reason why Flarm was invented. You've only got to do two circles there (in anything soarable) and you'll have instant company. I was ridge soaring a HG launch site (St. Aspres) waiting for a ride out when six sailplanes appeared and started ridge soaring too, so just as discretion is the better part of valour, cowardice is the better part of discretion… I top landed and waited for them to hit a bubble, which eventually they did… they formed into a gaggle and climbed out, whereupon I launched again and followed from below.

It's the only place in the world where a meat bomb has hit an unrelated glider (parachuting through cloud).

It's the only place in the world where a hangy and a sailplane have had a midair in the cruise.

It's the only place in the world (AFAIK) where they enforce the 1000' below-cloudbase rule. Macca tells me that if you break it there, you now get sent home.

It's the only place in the world where you are never out of glide of a sailplane strip, even if 'dropping in' is regarded as an act of hostility or incompetence by your hosts.

Omarama on the other hand is almost deserted. I've never shared a ridge there with another glider. Only occasionally do I spot one while in wave

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- which is a pain because they usually have a better idea than me where to go. There is usually an ag strip or flattish paddock within reasonable glide, even if it is a bit tussocky and Border Collie infested. And only occasionally do I need a phrasebook. My hovercraft is full of...

OMARAMA

I'm here. On the day I arrived and had to do my check flight, at least one local pilot flew 1000km and there were numerous similar but slightly shorter events. Grae Harrison threw the towel in at 850km because he was cold (yes! a Kiwi Cold! Harden up bro!) Terry Delore was going to do another world record but couldn't be bothered getting up at 0430 because it was drizzling on Omarama strip… by sunrise it was perfect.

The check flight here involves two hours of ridge, rotor, wave, convergence, geothermal, volcanic, plutonic, seismic and all other non-mechanical forms of lift known to man, with frequent pauses for the pointing out of 'that's where so and so tried to land out, poor devil' and 'that's where such and such wrote off a brand new Discus a month ago' and so on.

Today it was straight off tow into 5 kt thermal, straight to 9,000' base, straight into 6 kt wave. I thought 'this is too easy' and it was. It then clouded right up. But hey, at least I generated a checklist. It begins 'find cushions for LS3'. It continues: tuck jeans into socks into wave flying boots. NB, remember to wear wave flying boots.

Day 2. Straaaaange people, these Kiwis. Something odd about DI'ing a glider while gentle rain patters on the hangar roof, but when in Rome...

Launched in light rain, soared in mixed bubbles and ridge, gliders appearing and disappearing in the gloom. The rain stopped and we tried to get into wave but all fell miserably short, then the next wave of rain showers came in and we all flopped back into the strip.

Mass landing...Spectacular watching the rainstorms come marching out of the Southern Alps and the blue blue lakes beneath shafts of rain-light. There's a youth gliding camp on this week, so there are some excellent lectures on as well as lots of famous pilots and people here.

Terry Delore today declared 3000km, self-launched in his ASH25 at first light (0430) but gave it away at 1500km twelve hours later due to falling behind schedule, having been up north of Masterton in the North Island in between. I know that feeling... There are two local pilots by the name of Alex.

One (18yo) flew 1000 km here two days ago in his LS4, and his father is captain of the All Blacks, so the girls are lining up and lying down for him. The other is the New Yorker who pranged a Discus a month ago and is still hobbling around on crutches, an object of pity to all. All except me… he's an object lesson to me, and to Barny, the other Aussie pilot here, also an ex-hangy..

Last night there was a talk by Dick Georgeson, a pioneer of wave soaring flight here in NZ, whose interest in flying was kicked off when he was a schoolboy by flying with Kingsford-Smith - some great stories by an octogenarian still sharp as a tack.

Had breakfast today with a retired fighter pilot/airline captain (who also has his own ASH25) who described flying a VC10 when all four engines failed.

Fortunately on a VC10 all the engines were on the tail, so the passengers didn't notice the lack of noise, and he explained away the mid-flight glide down from 32,000' to 10,000' to them as a 'precautionary descent'. Well, they would have stalled otherwise, so it was all true... He got 5 compressed vertebrae from ejecting from a Lightning and doesn't recommend it.

Tomorrow is supposed to be a good thermal day, then the wave is supposed to recommence. It had better...

Day 3. Interesting day. It started with a honking easterly blowing, and the Roaring 40s gradually pushing it back, so we got to watch a titanic struggle going on overhead Omarama strip, with windsocks for flags to mark the progress of battle. Once the West was won, we all launched into moderately broken thermals but the convergence pushed cloudbase to 11,000' and once I hit base, it was straight into wave. But only to 13,000' - some others got to 15,000' and that was it, and Barny and I need 20,000' for diamond height.

Still it's lovely flying wave - there's a 'dance' required to enter it by any means fair or foul, and having gone through all the bumpy stuff (wave rotor - shake, rattle and roll cloud) to get in, it's glorious sitting back in this perfectly smooth air, nose high, throttled right back; turn the happily honking vario volume down because you can hear a pin drop at 40kt airspeed; utterly still and peaceful after the tumult of entering it and the Southern Alps spread out better than any postcard.

Then as you top out, putting the nose down (flaps negative, trim full forward, ASI and vario both rotate half a dial in seconds) and the LS3 starts to shriek (accompanied by the terrified vario) upwind through the sink to the next wave bar.

Suddenly after minutes of this, the vario shifts from off-the-stops down, slowly winds its way back up into the happy half of the dial and the nose comes up, flaps down, trim back and once again the vario chirps contentedly and the altimeter starts to lose its pallor and regain its healthy glow.

When you've jumped upwind enough wave bars to have lined up with, say. Mt Cook, off you go along the cloudline, in smooth still air, as far as you dare. Each day I go a little further - although I also check out the outlanding strips as I go - every day there's a cautionary tale or two; there were a couple today, fortunately not mine.

Day 4. All thermal today - no wave for anyone. Feels odd thermalling at 7000' ASL with a snowy mountaintop right outside the window - who left that there? What's a mountain goat doing all the way up here in the clouds? and why hasn't it got a Flarm? The Kiwis thought the day was great - they reckon the wave is a nuisance a lot of the time, dumping on turnpoints and so on. Oh to be so impeded, so often...

Barny and I made it home to Omarama just as the seabreeze came roaring up the valley from the east coast. I noticed the tug leaving alone a little later; someone found themselves on a lonely ag strip somewhere... will find out who and where at dinner.

Day 5. Similar today, except overcast with thick cirrus, so thermal only and very slow… good training for the Kiwi youngsters in staying in the air.

It's great to see so many keen happy polite kids… every one of them has multiple interests and when most Aussie or Yank kids would spend their time getting pissed or stoned, being rude and ill-kempt, having communication problems or identity issues and getting pale and pudgy on Facebook, these guys are out having a dig or conducting water-pistol wars.

The oldies are just as keen, puts Oz (OK, me) to shame. A bunch of cyclists just rode into the campground, having ridden over a pass to get here today, and the youngest of them has a decade on me.

Yesterday two guys outlanded and each of them was accompanied by an instructor named Gavin - one is Russ White's mate Gavin Wrigley whom you remember we met here eight years ago, the CFI of Darwin club - good company.

The other is Gavin Wills, who runs GlideOmarama. Both had YouthGlide students on board yesterday and both said 'we might get shot down but let's have a dig'.

This is noteworthy because Gavin Wills got decked by the west coast seabreeze into Milford airstrip - his second outlanding there, the last 15 years ago for the film 'Lucy Goes Gliding', in which his daughter Lucy, aged 18, learns to fly (she died of breast cancer at 21).

Apparently it was magnificent ridge soaring the mile-high vertical walls of Milford Haven even though the sea breeze had killed any chance of a thermal ride out of there.

Gavin just called up the tug while still in the air and they landed only so they could be hooked up and towed back 100+km to Omarama. Surely we can set up an in-flight reconnect system - that's not against the spirit of XC gliding is it?

He finished off the return flight with a VNE beat-up of the strip in Quebec Quebec, his personal Duo, the inside tip two feet off the deck.

Terry Delore, local world record holder, had done the same in his ASH25 the day before - three perfect beat-ups with a tip less than a metre off the ground and less than two from buildings and aircraft, after which he put it down just right - perfect energy management… and pulled up right in front of his chalet here by the strip.

Going hard and having fun is a big part of flying here at Omarama. I can't imagine any Oz CFI allowing a student to take the risk of XC outlanding, if only due to the storm of criticism which would follow.

Mind you, they still have a high accident rate here - about one glider accident a month in NZ, and not all due to terrain or weather… they lose a pilot a year to CFIT (Controlled Flight Into Terrain).

But it's exhilarating flying and there are Dui Disci and ASH25s everywhere you look… it's sad when a flapped single-seater can only just keep pace with an un-flapped twin. Omarama has the world's largest fleet of Duos and ASH25s, and in the LS3 it feels like being on a skateboard when everyone else is on an S1000RR.

Good thing there are only twelve glider-locator LEDs on a Flarm or I'd get a bit concerned in the local gaggle. Good thing there's only red or green lights too, and only two directions to turn...

The wave is back on the weekend, but alas, I'll be on an Emirates 777-300ER, not an LS3. It did cross my mind to hang in here, but then I'd miss the joys of work and normal society...

Day 5: I got to meet Justin Wills this morning, and had an outlanding airstrip briefing which specifies: Overfly the strip at 800' to observe windsock, do a tight teardrop turn within the two very steep high walls of the valley, overfly the strip again, fly out over Lake Hawea, turn 180° over Silver Island, skim the lagoon and pop over the fence onto the gently sloping fence.

Try to stop the glider before reaching the end of the airstrip as it then drops precipitously into Dingle Burn.

NB, the airstrip will be out of sight for almost all of these manoeuvres, so it is recommended that you navigate by reference points, not by looking at the strip… ↘

If you can see the strip anytime before touchdown, you are in the wrong place at the wrong height and are about to join the hordes who have come unstuck outlanding at Dingle Burn.

Today's weather is gruesomely Kiwi but that doesn't stop the Youth Glide group from doing rain circuits (a Kiwi glider licence requirement) in and out of base a few hundred feet AGL.

Presumably they are practising ILS approaches, using the Flarm of the other glider on the ground as an aerodrome reference point on downwind and base before emerging from the sog on short final.

Hmm, Flarm could have great possibilities here - perhaps carry it to find a similarly Flarm-equipped pilot in a crowded bar? Tonight is the barking show in the Omarama pub - supposedly Border Collies with musical abilities get put on the bar to sing. Can't wait...

Allegedly the westerly returns with a front early tomorrow morning, so I have organised a tow for 0700 and hope to get a last wave flight before jumping onto the Emirates 777-300ER out of Christchurch.

Ideally I'd actually land at Christchurch International as ATC are very tolerant, in fact supportive, of wave soaring over here (as long as you suppress the West Island accent on the VHF) but Gavin Wills might have something to say about the landing and parking charges for the LS3.

Al (I don't do pictures) Giles

14th December 2010. Two New Zealand glider pilots have been thwarted by Mother Nature this week in their attempt to set a world distance gliding record.

Pilots Johnny Kokshoorn and Terry Delore were attempting to set a FAI recognised record in the Open Class Gliders category for distance using up to three turn points. The current record, set in Argentina in December 2009 by Germany's Klaus Ohlmann and France's Sidonie Ohlmann, is 2643.2 km.

Using an ASH 25 glider that previously belonged to the late Steve Fossett, the pair planned to pip the Ohlmann's record by flying 2647 km, starting out from Omarama, flying to the west of Napier on the North Island (turn point one), then down to Waikawa at the very bottom of the South Island (turn point two), then back to the top of the South Island (turn point three), and then back to Omarama.

According to plan, the flight would've taken around 16 hours, however their attempt on Monday was cut short by poor weather conditions that had drifted across the Tasman from coast of NSW. (*As if it was our fault! Ed.*) Kokshoorn said the conditions were not conducive for such a flight.

"There's a bit of moisture being pulled in off the Tasman unfortunately," he said. "We spent about 11 hours in the cockpit but we just couldn't get more than about 1500 kilometres. "Here the weather patterns change so quickly. You're basically down on the Southern Ocean and the Roaring Forties and things can just change dramatically in 12-18 hours."

Due to the length of the flight, Kokshoorn and Delore won't be able to make another attempt at the record until around the same time next year.

From www.australianflying.com.au

IT HAPPENED RECENTLY ON AN AIRSTRUP NEAR HERE...

WELL NOT THAT NEAR HERE... BUT SOME ISLAND OFF TO THE EAST OF HERE.

Icktually, it was in NZ so one of the speakers (K) in the conversation below is speaking Kiwi. The Australian (A) is also speaking in Kiwi so he's understood by the locals.

The ictual strup is a narrow cow peddock in the week and a glider strup over the weekends.

Kiwi Pilot: Eh bro, do you want to hev a go in the Blenik?

Australian Pilot, low hours: Sure thing bro. Never flown a Blenik.

K: Hop in the front then bro.

A: No walk around eh bro?

K: No bro, it's a Blenik eh, and they don't need a walk-around.

The ground crew hooks up the Blenik and as the tugs starts moving, picks up the wung and start to run.

The Australian pilot settles back to enjoy the ride.

K: Hey bro, we're getting a little near to the funce eh!

A: Sure bro, I can see the funce nearly under the wingtup eh.

The strip curves slightly and the Blenik, now nearly airborne, is very close to the boundary funce.

A: Are you flying bro or is it meant to be me eh?

K: It's you bro eh. I've got the dog in the beck with me.

Flying at Sisteron.

As an ex-hang glider pilot, I have hundreds of hours on ridges and hills, but I had never flown in the mountains. Since the Leader of the Opposition and I had holiday plans which included the south of France, I planned to sneak off for a few days and try mountain flying.

There are a number of places you can try mountain flying in France but unless your aviation French is superb, you're going to want to speak English.

I did a search on the internet and the BGA site for clubs which tolerated English and found the Aeroclub de Sisteron in Provence which was close enough to where we were staying. I've since spoken to several pilots including John Hoye and Jay Anderson who have flown at other clubs in this region.

I took along a friend, Patrick, who had never flown in a glider before and it was interesting to compare our experiences.

On our first day, a strong Mistral was blowing and looking around at the sky when we arrived at the club, I counted 21 wave bars. There was a competition on and there were dozens of gliders tied down on the field from ultralight Silent self launchers to ASH 25s and Stemmes.

The briefing was held in three languages, French, German and English in a tiny room, overheating because of the need to close the doors and windows to use the AV projector and the huge crowd of pilots. I lost count of the numbers but there were well in excess of 120 people in the room.

There's a logic to the way they do things in France and it's worth trying to get your brain to work like theirs. The gliders don't get much of a DI. The logic here is that the gliders were all flown by pilots or instructors the day before, and since there was nothing wrong yesterday, why should there be anything wrong today?

However, it's the only club where I have seen anyone get a real parachute briefing. Patrick didn't find this unusual, but I thought this logic slightly ominous!

One big difference between French clubs and Australian ones is the on-site restaurant where you can get a good coffee, un sandwich, une boisson froide, or a full sit-down meal. Most of the visitors seemed to be camping and there was a large area of the field set aside as a permanent camp ground.

There were four exceptionally quiet Robin tugs launching for the comp and they got everyone away within two hours. Very efficient. French pilots don't bother with a pre-launch release check (after all, it was working yesterday) but many of the pilots from other countries were grateful for the opportunity.

I had no intention of doing the mountain course at Sisteron. You can do a week long course which takes you through all aspects of mountain flying which should finish with you flying solo. I hadn't got the time, but I wasn't sure if mountain flying was really for me. And that was what I was there to discover.

After a sandwich, Patrick and I went to meet our instructors. Both had been flying tugs and when that was over each took up a visitor in a glider before us. I was surprised to find that the man before me cut short his flight. I asked him why and he replied that he had been cold and hypoxic. Hmmmm.

My instructor, J-P, had reasonable English which was a little better than my French. He was wearing a jacket which should have been a clue to something or other. I am still not sure what the glass bottle he drank from contained… in a way I hoped it was vin du table, but I had heard that the French tradition of a pre-flight drink was no longer in vogue.

Launch was in high-tow which I'd only done once before in New Zealand and J-P seemed confused about my question as to which way to turn after the cable release was pulled… "Any way you want of course".

The strip was remarkably short and surrounded by something like fruit trees before the rocks began with not much in the way of options. It was a good thing that the usual pre-launch checks were largely omitted so I didn't have to worry about the "O" bit.

We head off down the valley towards a steep ridge with the tug climbing slowly. I was expecting to ping off when we were high enough to make the ridge and still have enough to get back to the strip… when I hear J-P pull the bung from the rear cockpit. We had what looked like 1200' AGL. He tells me to aim for the ridge. ➘

The ridge is a typical rocky cliff about 700' high, Blue Mountains style, with a vertical section about 300' high on top with a tree covered slope below. As we get closer to the ridge, I start a slow bank to fly parallel with the face… but I can't move the stick sideways.

J-P keeps the glider going straight at the cliff and only allows me to turn when we are a few spans away… and having turned makes sure that I fly barely a half wingspan from the rocks. "If you want to go up, you have to fly close" says J-P. Very close indeed, thinks I.

And slowly, slowly, slowly, we do inch upwards. Normally one would use a vario. Even if you don't rely on a vario when ridge soaring, the vario's optimistic chirping takes an element of fear away and even hang gliding at the beach, most people fly with varios.

But not in France. I have heard other people confirm this… in the mountains, the instructors like to teach pilots to fly without varios. It's true that normally on a ridge, you can easily see if you are climbing by the relationship of objects going up or down but a vario going up sounds nice… I even have a vario up sound for my phone's ring tone.

We fly fast alongside the ridge… 120 kph is the slowest I am allowed to fly. At this speed you have a reasonable reserve of energy and a good feel on the controls. How unlike a hang glider where you'd drift along at min sink, just a little above the stall. When we're a little above the ridge, we can relax for a moment and slow down. After gaining a little more height, we turn and head for another ridge which is higher than us. After rock crawling our way up that, we turn and fly outwards for a minute or so. "Now we are in wave" says J-P.

This is slightly baffling. Yes, the vario is showing climb and it's as smooth as wave is supposed to be but I had expected more. "Turn, turn!" says J-P… "No, we are not in a thermal! You don't do 360's in wave!" OK, but it doesn't feel like wave, thinks I.

"Fly towards the piscine" says J-P. The piscine is a large dam which looks for all the world like a swimming pool (except that most French swimming pools I have seen are a pea-green colour). We turn 90° at the piscine. "Now we are in wave" says J-P. Bugger me! thought I. This is about as exciting as ridge soaring a paraglider.

After beating up and down in this lump of wave, we head forwards to a large vertical rock face at the end of a bowl. The scale of the Alps is simply enormous and rocks which you think are football sized boulders turn out to be as big as a house when you get above them. Telegraph poles on ridges turn out to be huge radio towers covered in aerials and dishes.

We're high… somewhere less than 4,000 metres and I can't work out what that is in feet. By my reckoning, we're flying into wind and this should be pouring over the enormous rock wall in front like a vast Niagara falls of cold air.

I can see the sides of the bowl going upwards fast when we hit this epic sink and I start to bank away. "No!" says J-P, "We fly on." And so we did. ➘

We also flew down and down and down… down like an elevator with the string cut… off the scale down. "Maybe this is why we don't have the vario sound on," thinks I.

Finally, just when I am about to call Mountain Rescue, we start going up again. The rock wall is very very close. I am very very cold and hypoxic. I'm also very frightened.

The next day, J-P explains that if you go into a river with a pair of goggles and stick your head under the water near a set of standing waves, you can see that when there's a steep rock like the one we were flying to, there's a small amount of water which eddies back upwards, close against the rock face, and that's what we were looking for.

Landings are different. We get in the circuit at about 1,000' and try to keep as much height on as possible. When I think we're way too high turning on to base and pull some airbrakes, J-P rapidly pushes them closed. Landing on full brakes, even with some sideslip is normal and accepted, because the sink round the strip can sometimes be huge, even by our standards.

Flying in France is quite cheap. Aerotows cost a little more but glider hire is less and certainly Sisteron is friendly and well set up for visitors. There's enough English spoken and although I contacted them by email before I arrived, they're in no hurry to take our money… "You're coming back tomorrow? Pay then… maybe you want to do the full mountain course?" Which part of 'Non' don't you understand thinks I.

Our next two days in the mountains were thermic and I expected to have some more fun. Most of southern Europe is in the grip of a high during summer and atmosphere is fairly stable. The sky is deep blue and there's not a lot going up. The highlights of these two days were moments like the first day in wave… times when I just didn't understand what was going on, or the reading on the fun-o-meter was so low that going home to mum seemed like the best idea. Bear in mind that there's a lot of fun to be had on the ground in the south of France…

Highlight one. We're stuck at 1,200' over some organ pipe-shaped rocks on one side of the river valley. Over 20 minutes, we gain a few hundred feet, lose it, and then fly to another set of rocks then another without gaining more than 200'… and repeat the same thing for perhaps 2 hours.

J-P is not having a lot of fun either and the quantity of English being spoken declines to just repeating "Merde!" at increasingly short intervals and increasing volume. What I don't understand is that there's a perfectly serviceable airstrip situated well in reach in the middle of our three house non-thermals.

If we do have to land on the strip, I can see at least two tugs waiting, ready to tow us home. I didn't understand that this strip was Saint Auban, the French National gliding centre and to outland there will result in a massive loss of face for J-P.

So we labour away getting hotter and hotter and saying "merde" with more meaning, more and more often until on the third or forth visit to one of the piles of rocks, whack! Up we go like a moon rocket. ➘

I have no idea how fast since the vario is in metres per second and the needle is bent hard against the stop, but I can see the ground un-zooming below in a way that I've never seen in a sailplane and only once in a hang glider at 1,600' per minute up.

Within a few seconds we've got an easy glide back to Sisteron. Unfortunately, in our absence, it's been moved and J-P insists that we turn 180° from the direction where I was going and to my surprise, down the valley, there's the sugarloaf ridge beside Sisteron, the Chapeau de Napoleon in the distance… "Don't mention that it looks more like the one worn by the Duc de Wellington" thinks I.

Highlight two. We're high. 4,200 metres but this time I don't feel particularly cold, hypoxic or frightened (although I am probably at least two of these things). Off to the side, far far below us, I can see a tiny glider which appears to be stuck in a valley with no possible way out and any fear I feel is related to this sight.

There's nowhere visible where you could land a sailplane in one piece… though there's plenty of places where you could do a fly on the wall landing in a hang glider. Off to one side in the distance is Mont Blanc and we could be over Germany, Switzerland or Italy within a hour or so if we chose.

I have never flown in an area where it would be so easy to get lost, so easy to be trapped and with so many other aircraft. The rocks are a few hundred feet below and if we choose to turn, three, four, five gliders come in below us… and that's only the ones I can see.

In a way I feel cheated. At Keepit, with this sort of height (and I can't do the calculation of metres to feet but we're *heaps* high) we'd have 90% of this below the glider… whether you're measuring in feet or metres. Here in the Alps, you're hardly ever more than a hundred metres from something very solid.

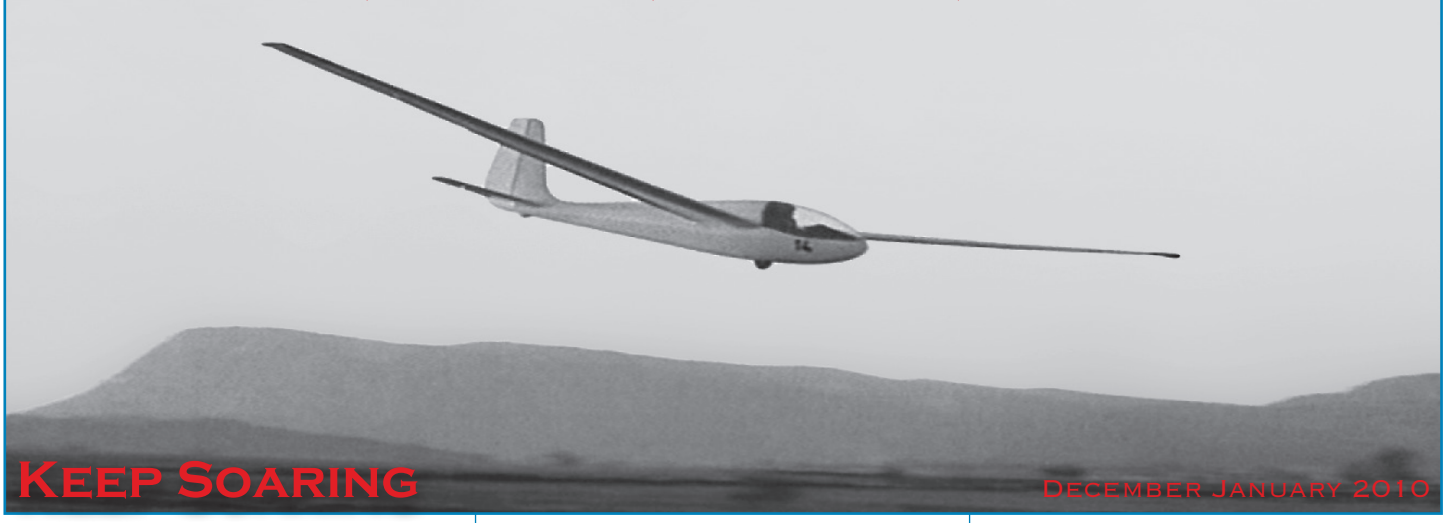
I'm looking out at the tops of the ridges, covered in patches of dirty, un-melted snow and without warning, a rigid hang glider sails by at our height. Did J-P see it? Only the sailplanes have Flarms and sometimes they're lit up so much that you don't know where to look. There are different types of gliders everywhere… hang gliders, paragliders and sailplanes all sharing the same limited airspace.

J-P chats on the radio and the Flarm does light up, goes amber and then flashes red. I look frantically around but cannot see anyone and the Flarm display is so lit up it doesn't give much of a clue… and then the Janus with Patrick aboard glides into formation under our wing tip.

It's a glorious moment… snow covered alps in the distance, Patrick videoing from the Janus, the beauty of Provence all around us, and our wives waiting at a nice little restaurant in a vineyard below Mont Ventoux. I can't wait to get down.

Aéro-club de Sisteron: aeroclubsisteron.fr

Mountain Flying at the 1956 World Championships



Keep Soaring

December January 2010

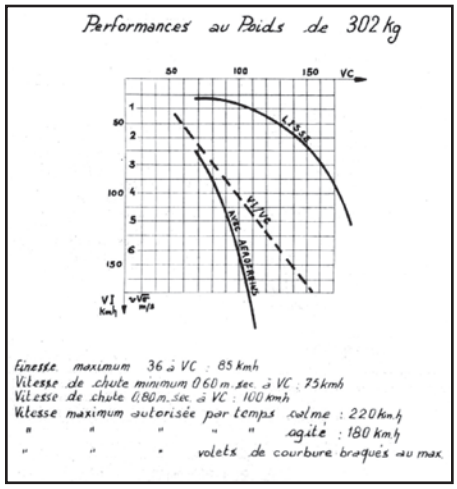
THIS WAS WORLD CHAMPIONSHIP FLYING, NOT A SUNDAY AFTERNOON AT DUNSTABLE…

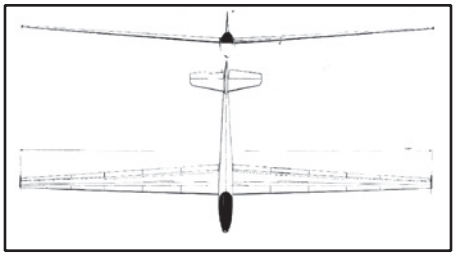
In the 1950s, mountain flying was still fairly "experimental". The 1948 world championships in Switzerland was the first chance that many pilots had to fly in mountains… and two of the English team died there. Following rounds in Sweden, Spain and the UK, the 1956 world championships were held in France.

The 1956 championships were convincingly won by Paul MacCready (of MacCready ring and Kremer prize fame) who never flew in a competition again. Interestingly, British pilot, Nick Goodhart in a Slingsby two seater, came second on total points.

MacCready was flying a French Breguet 901 specifically designed by Jean Cayla to win the 1954 world championships. Cayla was later to die in an Alpine gliding accident.

The 901 was a complex plywood and Klegecel foam aircraft, expensive to manufacture and quite difficult to fly, but very capable in the right hands. Seven Breguet 901s flew in the 1956 championships making it the most popular sailplane… with an L/D of 36 at 85 kph it was the hot ship of the day.





Before WW ll, several wave systems were flown including the Moazagotl in Germany and the Helm in England. In 1950 a staggering record of 42,100 ft was achieved by Bill Ivans flying the Bishop wave in California.

German contest organisers had been keen to explore the structure of thunderstorms in the 1938 contest at the Wasserkuppe and a new world altitude record of 21,400' was set. As well, several gliders broke up in the storm and three pilots died from being frozen to death or electrocuted (*and you thought only paraglider pilots were daft enough to fly thunderstorms!*).

In 1956 French officials and pilots were keen to explore the nature of wave lift in the south of France, particularly as it occurred in Mistral conditions. The exciting possibility existed of a day which included thermal, slope and wave conditions.

Phillip Wills, had won the 1952 worlds in Spain four years earlier and was flying a Skylark 3 in France. He came in 10th place in 1956. Here he describes the last day of the championships.

Phillip Wills: The dish we were offered was a royal Macedoine de Fruits, containing almost all the major forms of up-currents used by sailplane pilots: on the leg to Lyons thermal and cloud-flying, thereafter slope-soaring on a gigantic scale and wave-flying. Never have sixty pilots strapped themselves into their brightly coloured cockleshells with livelier anticipation.

Keep Soaring is the official organ of Lake Keepit Soaring Club Inc.
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The 60-mile flight as far as Lyons over the Monts du Beaujolais was a little more difficult than we had expected, but most of us survived it. At the base of many of the cumulus into which I circled I found large flocks of darting swallows feeding on the swarms of insects carried up in warm rising air from the sunny fields below; but the birds never followed the insects or me into cloud, being just as incapable as I would be to fly blind were it not for the additional powers conferred on me by the magic properties of the gyroscope.

After Lyons, 40 more miles on a south-south- easterly course and I would reach the mountains, and all, I thought, would be well.

It was a struggle, but I made it, and the wide bowl of Valence opened up, of which the south-eastern part is boxed in by two walls of mountains at right angles to each other rising up almost sheer to over 3,000 ft. But something had gone wrong, the situation was far from classic after all. The meteorologists must have made some minute error in their forecast of the moisture content of the air, for instead of ranges of mountains rising sharp and hot into clear air with puffs of white cloud far overhead, the view ahead on course consisted of sinister black walls rising up and disappearing into a complete sheet of grey and black cloud.

To offer oneself up to one of these frowning cliffs and be sucked up into, and possibly above, such a pervading and turbulent shroud would obviously be suicidal, since one would either fly blindly into one of the myriad peaks, or else get trapped over the clouds with no possibility of navigation and the eventual certainty of finally having to descend again quite lost, over virtually unlandable country.

Our course lay south-east diagonally over the mountains, but since this was clearly impossible, the only alternative was to try and keep to the westerly end of each ridge, within reach of the Rhône Valley, and whilst keeping under cloud, climb high enough on each face to enable one to dart over it or round it on to the one behind it. But this was not to be easy.

The lower half of each escarpment was densely clothed in trees, the upper part bare and jagged rocks, and there was no hope of landing at the foot, whilst the wind was so strong that, once pinned to the face, it was impossible to force one's machine any distance north again to reach kinder country. And each succeeding mountain-wall was partly 'in irons' from the one in front of it, so that if one reached it more half-way down there would probably be no lift at all, but a wildly turbulent cataract of air which would sweep one helplessly down to the rocky floor of the cleft below.

However, this was World Championship flying, not a Sunday afternoon at Dunstable, so after a lot of delicate juggling I got myself pinned against the first battlement and was rapidly swept up, a span or two away from the precipice, to the top.

Towards the east the razor-edged ridge ran up into the cloud-sheet, but where I was there was perhaps a 300 ft gap through which I could peer downwind, over the precipitous valley of the Drome to the next range of Roche-Courbe, a 5,000-ft mountain towering up invisible and menacing into the ceiling of cloud.

And now I saw something which put the lid on my troubles, and made me realise my catalogue of woes had so far been incomplete. Over the valley of the Drome, looming and rotating like a gigantic garden roller, was the largest rotor cloud I have ever seen ....

These rotors can be seen by the naked eye to be rolling over and over at high speed, with rags of tortured cloud being flung over and out at all levels, and in and underneath them the air is tossed around with unprecedented violence. Last year in such a cloud in the U.S. an exploring sailplane quite suddenly literally disintegrated, in spite of strength factors higher than those of many aeroplanes, and the pilot had a miraculous escape by parachute. He found himself falling with the nose of the glider locked to his feet by the straps of his boots, but when he pulled his rip-cord the jerk was sufficient to pull his feet out of his laced boots and he descended to safety.

Now I knew that the formidable monster I could see was not likely to be such a killer, since the mountains over which I was flying were far smaller than those of the Californian Sierras, but in this case I was faced with the problem of flying under it whilst surrounded on nearly all sides by invisible mountain peaks, at an altitude insufficient to give me much chance of finding a safe landing place should I be forced down.

I heard myself saying, 'And we do this for fun!' I decided to try out a trick I had practised earlier in the year on the smooth and friendly slopes of the Long Mynd. The plan was possible because of a miraculous little compass recently invented by a gliding enthusiast at home which is 'dead beat' and shows one's course instantaneously at all times. Keeping to the west end of my escarpment, where there was a small gap of clear air between the crest and the cloud I checked my compass course on each tack of my beat and allowed myself to be drawn up blind into the cloud.

Six minutes on 050°, turn, four minutes on 335°, turn, six minutes... all the time watching my rate-of-climb indicator like a fascinated rabbit. Green, up 5; green, up 3; green, up 3-rapidly and easily we gained a further 1,000 ft then, blind, turned and held a grim southerly course. The climb turned to a descent, two or three minutes went

by, and we broke cloud over the Drome valley, safely south of the mountain I had just left.

Suddenly there was a jar and a shock, and my starboard wing fell into nothing. With full opposite aileron we hung and slid in space for what seemed an age. The next ten minutes were unforgettable. Seven pilots eventually completed this flight, and all of them confessed they had never experienced such wild turbulence before.

Many were forced to land in the Drome valley, and Bill Ivans, the American holder of the world altitude record in the Bishop wave in California [1950], had his Olympia fall out of his hands at 60 feet into a rocky field… it was completely destroyed, and Bill cracked a vertebra and was laid up in hospital in plaster.

But my extra 1,000 ft stood me in good stead and a shaken pilot reached the Roche Courbe ridge in one piece, climbed, dodged round behind it over the Jabron to the Montagne de la Lance, and again over and to the valley of the Eygues.

Here patches of blue sky began to show between the mountains, and it became possible to try and mount through the rough air, up past the clouds to the wide smooth waves in the blinding blue air above. Since these waves would run due east, once attained any one of them would lead one in blissful smooth silence straight over the mountains to the goal in the valley of the Durance to the east.

And this is what happened. With the vulturine bald-headed Mont Ventoux to the south marking my position exactly, I struggled and slowly gained height in the wild air until quite suddenly I was over it, riding in silky silence whilst below me the clouds lay in enormous ribbon-like rolling masses from west to cast like the warp-threads of an enormous loom.

I climbed to 10,000 ft and set course direct for the goal. The contrast between the struggle and the maelstrom I had left and this last leg of the flight was almost too dramatic to be real. It was nearly 7 o'clock and the sun was setting beyond the Rhône Valley to the west.

To the south the clouds dissipated and the brown and grey parallel spines of Provence, like ranks of soldiers, led the eye on to a distant blue circle which was the Etang de Berre behind Marseilles.

To the north-east cloud-piercing snowcapped mountains swelled up to Mt Pelvoux and the massif dominated by Mt Blanc. Below and to the north-west was my carpet of rolling cloud, dazzling white and glowing pink in the sinking sun.

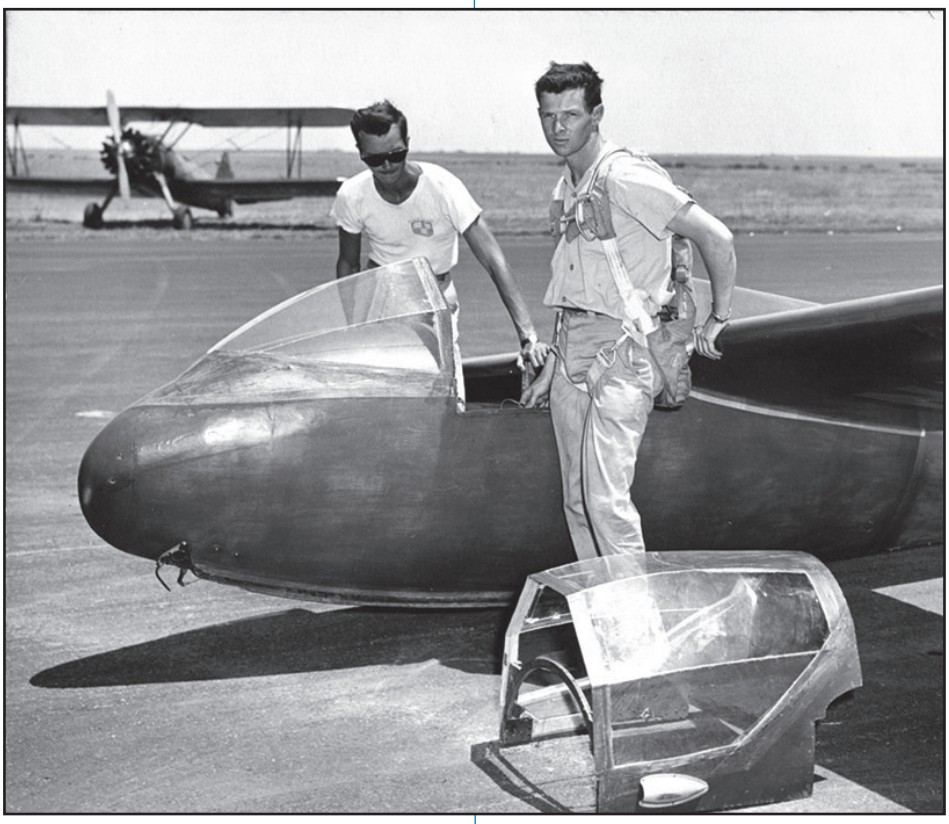
In absolute calm, in absolute peace, with a whisper of silken air over the wings, I flew at 10,000 ft and nearly 100 m.p.h. to the goal which had seemed so impossible to reach.

Bill Ivans had been caught in the down draft from the wave which caused a high-speed stall as he tried to land in a small sloping field. The impact cracked a vertebra. The borrowed Olympia IV was demolished.

Perrson, a Swedish pilot had landed nearby and quickly organized a rescue party. Bill was removed to a small hospital at Die and then evacuated by air to a USAF Hospital at Wiesbaden.

The Air Force supplied a hospital ship with medics aboard. They also picked up the Brazilian pilot, Col. DaRosa, from a Lyon hospital where he was recovering from a compound leg fracture suffered five days earlier.

Seven pilots including Paul MacCready arrived at goal at St. Auban. It was "dangerous and the most turbulent air I have ever flown" said Paul, his eyes bloodshot after the ordeal. And Paul MacCready has also flown the Bishop Wave. ➘



Paul MacCready.

Paul MacCready: Danger is not the least bit appealing. It's just dumb. You should avoid it.

When you are flying inside thunderstorms, you go to where some of the most vicious weather is, maybe in some hailstorm, into the hail-generating part of the cloud. Huge up-currents and down-currents and big turbulence.

You can get into things that are a bit more intense than expected, and you may have to land in some giant wind, with big wind shear. You get a proper respect for weather, and you try to be very careful.

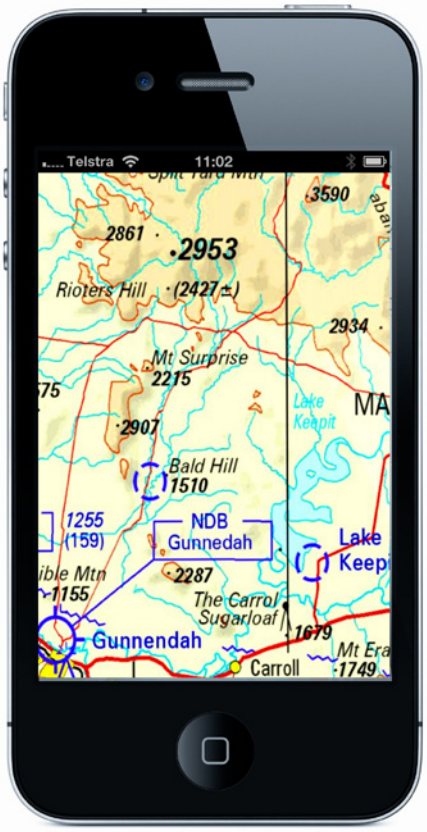
But still, in various competitions, I found that by making a series of very safe decisions, I still ended up in an unsafe place. It didn't make me thrilled or excited. It just made me mad, and I resolved not to get in those circumstances again.

The last flight I had in competition, in the 1956 International contest in France that I won, I got in circumstances where whether I survived or didn't just was a flip of the coin. Whether the turbulence went that way, or that way.

As I was down in a valley from which there was no way to get out, with huge turbulence just buffing, like a little chip of wood in a frothing surf.

I didn't like that. There are often many sail planes all on the same thermal, and people not watching out properly. I found other people willing to take many more chances than I would, and two sail planes would be willing to go on the same small cloud at the same time and things like that.

I began figuring this really wasn't the sport for me. I did some dumber things after that, but never with the intention of it being dangerous.



MORE ON MAPS

Pendant's corner would insist that this should read "more on charts" but never mind.

Late last year, Maptrax (http://maptrax.com.au/c/149725/1/aus-aviation-charts.html) resumed selling digital WAC charts. These are available in a number of forms including geo-referenced PDF format and cost $8.95 each. WAC charts are updated infrequently, perhaps every 3-5 years, so a digital copy is not going to get out of date.

The PDF form can be easily printed whole or in sections, using Preview or other PDF readers. When printed onto something like Xerox Nevertear paper, these maps are better for glider cockpits than the old official printed version. If they get lost or wear out, you just print another copy.

More importantly, digital WAC charts can be used on devices like the iPhone or iPad with free apps like Avenza PDF Maps to give you real-time GPS mapping. A tap on the map brings up some more options including one to locate you on the map and another to add a waypoint.

The quality of the PDF map is very good and although it is re-rendered by the PDF Maps app, images are sharp even at the highest magnification. Compared with dedicated glide computers, having a large scale map is great for big-picture flight planning.

You can also get 1:25,000 geo-referenced PDF maps from Geoscience Australia… the whole country for $99. Armed with these and the WAC charts, you have no chance of getting lost.

Aeroservices are now offering things like the Visual Flight Guide and ERSA in PDF form. ERSA is nicely hyperlinked though the full version had to be found somewhere other than the Aeroservices website. ERSA on an iPad is a lot more convenient in a small cockpit than the paper copy.

If you order PDF WAC charts from MapTrax, be sure to mention that you want a geo-referenced PDF form as well as the other formats included with the download.

KEEP SOARING

DECEMBER JANUARY 2010

SECRET TECH-HEAD BUSINESS

In the October-November issue of Sailplane and Gliding, there was an interesting article on defects in sailplane aerofoil sections which affects the behaviour of sailplanes when landing or climbing in turbulent thermals.

The article was written by Karel Termaat and is also on the author's website… it's reproduced below.

You may have read claims that some gliders don't perform as well in turbulent conditions compared with the way they perform in smooth air. George Moffat cites cases where gliders which work well on the east coast of the USA don't fly too well in Texas.

It's common to see that in different regions of the world… the mountains of Italy, the plains of the USA and Australia, or the softer conditions of Norther Europe for example, that different gliders will do better than others in competition and it's likely that this is not just down to fashion.

Karel Termaat offers some good reasons why this is the case, even if there's little you can do to avoid it. If you find aerodynamics dull you can stop reading here. Otherwise, here are some experiences and comments which parallel Karel Termaat's findings.

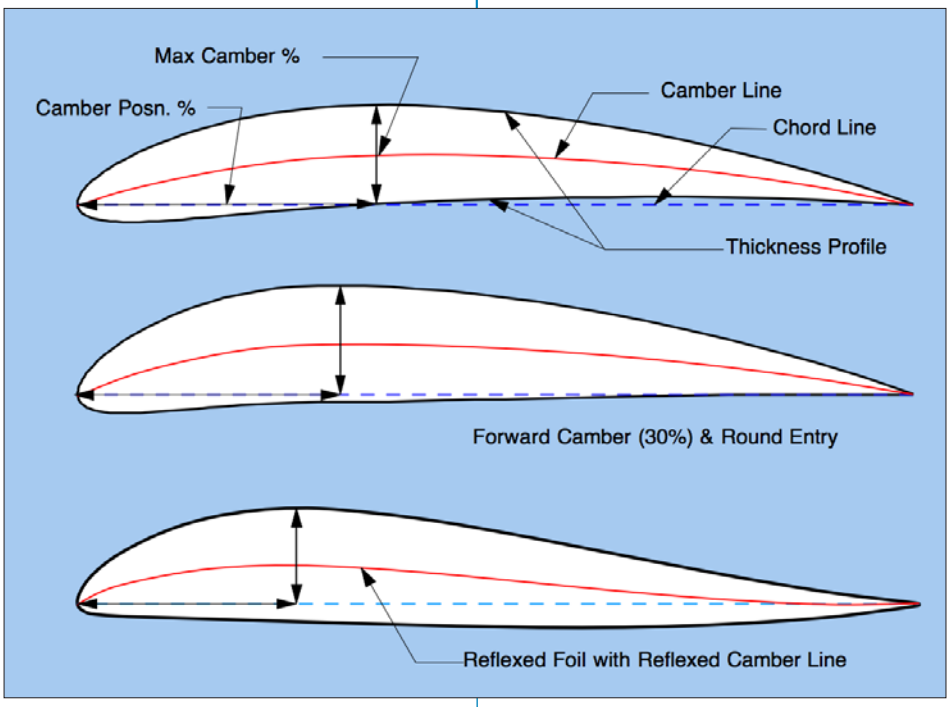
First some simple theory. An aerofoil section consists of two parts; a camber line and a thickness profile which is applied to that camber line. It's probably simplistic, but you could argue that the camber line dictates the lift behaviour while the thickness profile dictates the drag behaviour. To some extent you can mix and match these two parts, applying different camber lines to different thickness sections.

If the camber line is a straight line then the result will be a symmetrical foil section. This will still produce lift at the right angle of attack and is suitable for aerobatics or tailplanes. If the camber line is reflexed, then the foil section produces little or no pitching moment and would be used on flying wings and planks.

There's a limit to how much information you can get from a wind tunnel and because the cost of making sailplane wing moulds is so high, it's possible that the foil sections we are using can be improved.

Aerofoils are found in many different applications from wings to wind turbine blades to sails and in some, it's only the camber line which is used and it's possible to measure and feel the affect of the camber line alone, without the influence of the thickness.

Perhaps the most obvious example of a pure camber line is on yacht sails and partially on craft like hang gliders and board sails. In most cases, these aerofoils



Different foil sections showing the maximum camber and it's position.

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are used in low speed applications where many of the effects are a bit different compared with a foil section on a sailplane, but in general, the same principals apply.

Thin or membrane foils on yachts are almost certainly more efficient than thick foils at really low airspeeds, but yacht racing rules have also outlawed many alternative types of sails for a variety of reasons. You may know that the current Americas cup is likely to be sailed for the first time in yachts with wing masts, perhaps ending the rule of thin membrane foils on yachts.

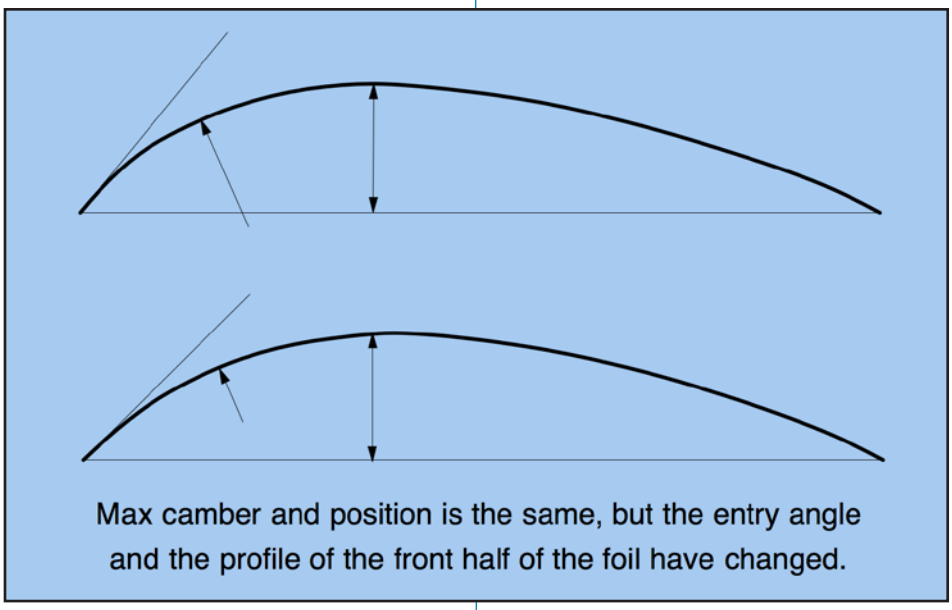
Two factors which are of interest in these applications are the moment coefficient and the depth of the camber line in front of max camber and these define to a large extent how the aerofoil feels.

The pitching moment of an aerofoil is the force which tends to rotate the foil about it's leading edge and is caused by the movement of the centre of pressure of the foil about its aerodynamic centre which is at the quarter chord, 25% back from the leading edge. As the angle of attack of the foil changes and thus the amount of lift being produced by the wing, this rotational force changes, sometimes dramatically. In sailplanes, we've got a tailplane to counteract the pitching moment, but what about in applications where there is no tailplane?

In a windsurfer or hang glider, a human is attached directly to the wing and is used in place of a tailplane to stabilise the foil. If the pitching moment varies too wildly with changes in angle of attack, the meat component of the wing will be unable to apply a counteracting force, either because there's not enough mass of meat or because it can't react fast enough.

To reduce the pitching moment, the aerofoil sections, or more importantly the camber lines used on these types of wings are quite different to those used on sailplanes. As a generalisation, the foil sections all have the max camber very far forwards, close to the leading edge, have a very rounded entry and a flat exit to the trailing edge. This has been proved by trial and error and competition to be the best place. But a rounded entry to a foil has other effects.

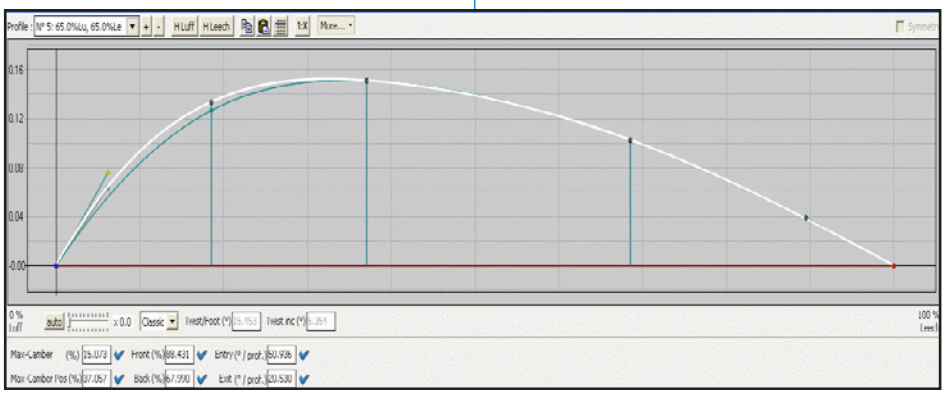
The airflow around a yacht sail varies in many many ways compared with an aeroplane. First, wind gradient. The air speed at the masthead is quite different to that at sea level due to friction with the hull and the sea. Since yachts nearly always operate in what we'd call a cross-wind, this combines with the change of airspeed and results in a change of angle of attack from sea level to masthead.



Modern yacht sails are quite sophisticated in that they are almost always made from multiple panels which are computer designed using sophisticated 3D software. However, in spite of what the sailmaker's advertising may claim, they're hardly ever designed using any airflow analysis in software or in a wind tunnel. One of the reasons for this is that it's just too complex… far more complex than the analysis on an aircraft's wing. Here's why.

Since most yacht sails devolve to a horrible point at the top, this also results in the airflow being deflected vertically as it nears the head of the sail.

There are wind tunnels which can model this… they're called twisted flow wind tunnels, but there's very very few of them. What they can't model is many of the other factors affecting a yacht sail.



The sail designer can control the roundness/flatness and entry/exit angles of each section of a sail on the computer. The depth is often exaggerated on screen to show any unfairness.

Since yachts usually sail on a sea which is not flat, the boat and its mast will be constantly moving in three planes, pitching, yawing and rolling. Every time the yacht hits a sea, the mast pitches forward, changing the local wind speed and the trailing edge of the sail, the leech, will move forwards changing the max camber and it's position… and so on.

And unlike a glider's wing, a sail's aerofoil section stretches and distorts when load is applied which alters both the max camber and its position.

So computer and wind tunnel analysis of membrane yacht sails is very time consuming, complex, expensive, possibly irrelevant and even if it is done properly, the resulting sails are always tested at sea and often recut before they (briefly) achieve their optimum shape.

What is the optimum shape? Well, it's the shape which makes the boat go fastest on one particular yacht on that one day with exactly that sea state and wind conditions which allow the crew, the trimmer, to pull, twist and stretch the sail into exactly the right shape.

The optimum shape varies from day to day, from boat to boat and from place to place and a great sail designer takes all this into account and most racing boats carry many sails.

What you can say is that the factors which affect the performance of a yacht sail are the max camber, the position of that max camber, and the shape of the entry and exit of the sail… exactly what you find with foil sections used on aircraft.

A full or round entry to the profile with a forward camber position works well in a sloppy or rough sea, where a fine entry with aft camber works best in smooth water, perhaps on inland waters. The rounder entry is less affected by changes in angle of attack and although all other things being equal, it may not make the same lift as the finer entry sail, it's easier to use more of the time. The work of the helmsman and trimmer is not so critical, and the boat sails faster.

These factors are just the same as might affect a sailplane wing in turbulence (or when the pilot has an unsteady hand on the helm.)

The reflex on this trike wing is clearly visible as is the forward camber and the lack of a decent arse on the man under the wing. Wires restrain the trailing edge to maintain the reflex.

Gusty conditions will produce a varying angle of attack which will affect the lift and drag. The differential affect moving air such as in a gust and wing flex in turbulence are factors which are unlikely to be properly modelled in either wind tunnels or software but which will material affect the performance of a wing.

What's the optimum shape for a sailplane aerofoil? It always seems as if it is the foil section which is used on next year's sailplane. As with yacht and hang glider sails, there has to be a trade off between the absolute performance measured in terms of L/D and real-world usability with less tangible factors such as handling, behaviour in turbulence and performance when wet or when the foil is dirty or covered in bugs. These secondary factors are more difficult to model in a wind tunnel or computer and may make the difference between success and failure for a foil shape.

Sailplane foils from the early '80s were often badly affected by rain and bugs and foils from the '90s were designed to improve this behaviour. Now according to Karel Termaat, more "improvements" may need to be done to get better performance in turbulent conditions.

In Karel Termaat's article, he presents a convincing case for some modern aerofoil sections performing worse in turbulent thermals than others. My guess is that this is behaviour which has been known well in other applications of foils such as boats and flex-wings and I don't have any difficult accepting his conclusions.

Fortunately, every glider seems to have its day, and one day the conditions may be just right for the wing on your glider.

KEEP SOARING

DECEMBER JANUARY 2010

EFFECTS OF THE STEP IN LIFT-CURVES OF WING PROFILES WITH FLAPS

by Karel Termaat

Introduction

Some years ago, I found that when landing our new sailplane it usually made a couple of bumps onto the ground before it decided to stay there; very interesting to friends observing your flying skills with the new toy of course. Another surprising thing happened to me with this sailplane when I made a long cross-country flight, came back a little late and low and decided to divert from my shortest route to the airfield to an area where small flocks of cumulus clouds were still forming.

To my surprise I could not climb there, even though the air was quite turbulent and going up on average. I tried another identical spot with the same disappointing result. I flew out of this promising area and found a weak smooth thermal which brought me home. Quite a frustrating experience.

After a while, my son and I began to suspect that the lift-curve of the wing had an unusual part at the lower speeds, which could explain our findings that pitch control just prior to touching down had hardly any effect on sink rate and that the good climbing performance of our new sailplane degraded substantially when circling in turbulent thermals.

Because of our observations we contacted our friend at Delft Technical University, Professor Loek Boermans. "For a standard class sailplane we solved the not so good climbing performance in turbulent conditions some 10 years ago. For many years, I was surprised that no single pilot flying a sailplane with flaps came up with comparable unfavourable experiences. I think there are ways to solve the problems you mention also for sailplanes with flaps".

After the meeting, I started to develop some software of my own to better understand the effects of the flatter part in the lift-curves and came up with practical ideas concerning flying speed, flap setting, bank angle and pitch control when flying in turbulent air or when landing at low speed. Slightly modifying the wing profile is of course no option to pilots having one of the current breed of high performance sailplanes.

The lift-curves:

Rewriting the well known lift formula:

$L = \quad .\rho.V^2.S.C_L$ …Formula 1

where L=lift, ρ=air density, V=airspeed, S=wing area and C_L=lift coefficient, one obtains the lift coefficient, C_L:

$C_L = L/(\quad .\rho.V^2.S)$ …Formula 2

as a function of speed. Exactly what we need, together with the C-α graph to study the performance of a sailplane in smooth and turbulent air (α = wing angle of attack).

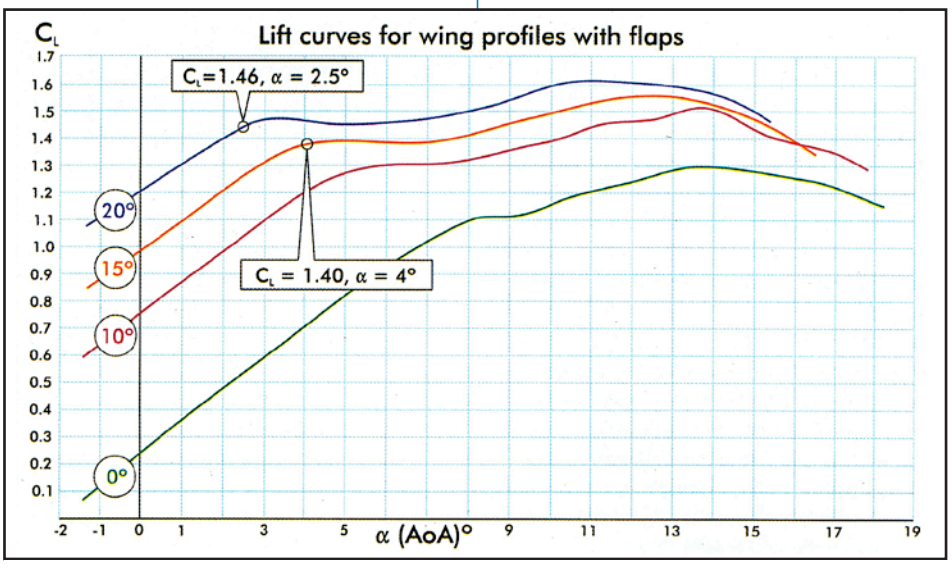


Figure 1: Measured C_L-α curves (typical for any modern glider)

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Modern wings are quite thin to minimise profile drag and are operated at small values of a within the so called 'laminar drag bucket' to maintain maximum length of laminar boundary layers on both the upper and under surfaces of the wing.

Maximising C_L at small values of α is controlled by a balancing process, where with increasing a the lift in the forward section of the wing grows as expected, while the lift on the aft part of the wing breaks down at about the same rate because of early laminar boundary layer transitions and flow separations at the flap hinge.

The net effect of this is that the mean lift coefficient remains about constant over quite some interval of a, especially for the larger flap settings, as shown in figure 1.

So, a linear relationship between C_L and α, as common in earlier years of wing design, does not apply to modern wing profiles with flaps. Almost all have a more or less horizontal step in their lift curves. Beyond the step, C_L increases again because of a retarding effect in the break down process of the lift until the airflow fully detaches from the wing surface and the plane stalls.

Landing

Now consider the case of a pilot on finals to the airfield close to touching down. No water in the sailplane (mass=450 kg) and FL=20°, ie in the landing position. Assume an approach speed V = 76 km/h. Then from formula (2) it follows that C_L = 1.46. The FL=20° curve of figure 1 indicates that for this value of C_L, α = 2.5° which is just in front of the step as indicated.

In rounding off prior to touching the ground, the pilot lifts the nose of the sailplane to increase a with the idea of slowing down the descent rate of the sailplane. a increases alright, but C_L doesn't do that unless the nose of the sailplane is tilted so high that a has increased from 2.5° to more than 7.0°.

Only then C_L will increase to above 1.46 and the sailplane will stop its downward motion. Usually a pilot's action in rotating the sailplane over this large angle is too cautious. The sailplane will contact the ground prematurely and will usually bounce a couple of times. Bumpy landings are quite familiar to pilots flying modern competition sailplanes and can frequently be observed. The solution to this problem is to stay more in front of the step region by flying a little faster than the minimum approach speed and use airbrakes rather than pitch to control descent rate. Once on the ground, good wheel brakes should be applied to bring the sailplane to a halt.

Flying through turbulence

In turbulent air, serious changes in a occur because of vertical movements of air hitting the wing surface. When gliding straight on at small values of a close to 0°, which is usually the case, one can see from the C_L- a graphs of figure 1, that upgusts will increase C_L and downgusts will decrease C_L in the same manner.

On the average C_L will stay constant with time and no altitude gain or loss appears in this situation where gusts have a random distribution in strength and direction. But especially at low wing loading one may expect a rough ride because of significant positive and negative accelerations due to the more or less strong variations in C_L with time.

However, now consider a sailplane flying nose up with a = 4.0° and FL=15°, where C_L=1.40 as indicated in figure1. So right at the beginning of the step up gusts have no effect on C_L, since an increase of some degrees in a falls right into the step where C_L is constant.

However, down-gusts will reduce a with the same degrees, thereby reducing C_L. So C_L swaps between 1.40 for positive gusts, and some lower value, say 1.20 for negative gusts. On average C_L = 1.30, ie 7 per cent less than the 1.40 required to carry the weight of the sailplane. Therefore the sailplane starts a dynamic downward motion as long as the turbulence is present. Not what one really wants of course.

A computer routine

To get a better insight in to sailplane climb rate under turbulent conditions I wrote a small, but effective, computer routine. The first part of the routine is an outer loop, which is rather straightforward and describes vertical speed as the difference between thermal climb rate and polar descent rate in smooth thermals for 300 values of circling speeds in a practical range.

I used a theoretical thermal model with a parabolic shape and accurate speed polars as measured by Idaflieg (the German academic flight test group). I used cubic spline functions to make the polar curves accessible to the computer routine as a function of flying speed. The straight flight sink rate data of the polar were corrected for mass and bank angle. With these formulae for the thermal

model and polar descent rate, stable climbing rate as a function of flying speed can be calculated as: Vs_(th+pol) = Vs_thermal + Vs_polar …Formula 3.

To calculate the additional effect of turbulence, some sensible dynamics equations had to be defined. In the computer routine, these equations are enclosed in an iterative inner loop having small time steps dt = 0.01s. Turbulence is described as sine waves with a time constant of 2 seconds and random amplitude. In this way the effect of turbulence, Vs_gusts, is calculated during 30 seconds for each of the 300 flying speeds considered and plotted in graphs. Then total climbing rate is: Vs_total = Vs_(th+pol) + Vs_gusts … Formula 4.

A key issue in the routine is the application of Newton's second law to find the vertical speed, Vs(t), of the sailplane from the forces acting on the wing due to the air gusts.

Results of calculations with the routine

Figure 2 shows the development of vertical speed Vs(t) of the sailplane for the first couple of turbulence gusts, Vg(t), encountered. One can say the results are quite dramatic when looking at the Vs(t) curve which averages out at -0.59m/s. The sine wave shapes of the turbulence can be recognised, as well as their randomised amplitudes. More erratic forms are likely of course, but these are not expected to make a significant difference to the results of this analysis.

More practical results with the computer routine are given in figure 3 which shows one of the many graphs studied. The a line shows the step as expected. Considering a smooth thermal, a best climbing rate Vs_total = Vs_(th+pol) = 1.80 m/s, is obtained. Circling with a speed just above something like 100 km/h is OK and comfortable, but of course this is dependent on the shape of the thermal.

Considering also the turbulence in figure 2, total climbing rate is now Vs_total = Vs_(th-pol) + Vs_gusts as indicated. For speeds above, say, 120km/h, the defined turbulence has no effect because a is small (even negative) and quite less than 4.0° where the step in the C-α curve for FL=15° begins.

Then positive and negative gusts cancel out as is shown by the Vs_gusts curve. However, for speeds less than 120km/h, positive gusts raise a to into the flat part of the C-α curve of figure 1 and give a reduced contribution and at 99 km/h no contribution at all to the lift of the wing.

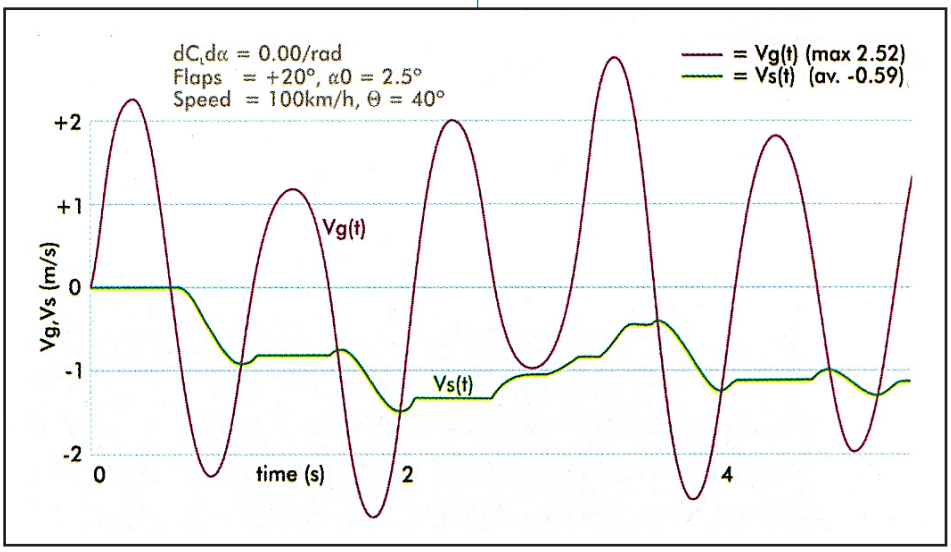


Figure 2: Development of sink rate Vs(t) due to sine wave shaped turbulences.

Negative gusts however still fully reduce C_L as usual. Therefore with turbulences present, the nice total climbing rate of 1.80 m/s at 100 km/h for the smooth thermal is dramatically reduced to 1.20 m/s only, a loss of 33%.

The only way out of this is to circle some 10 km/h faster. In this case a climbing rate of about 1.40 m/s is attained at a speed of 110 km/h. So, still a loss of 22 per cent due to the turbulence. To get a beneficial effect out of random air gusts, a pilot may try to fly with an a just behind the step in the C-αcurve where positive gusts push the sailplane up and negative gusts have no effect.

Figure 3 promises a nice climbing rate when circling with a speed of say 96 km/h. Some pilots seem successful in doing so, however the sailplane may be rather difficult to control and high drag may diminish this special effect substantially.

Other calculations with the routine show that having a dip in the lift curve is still worse than a flat step, but some

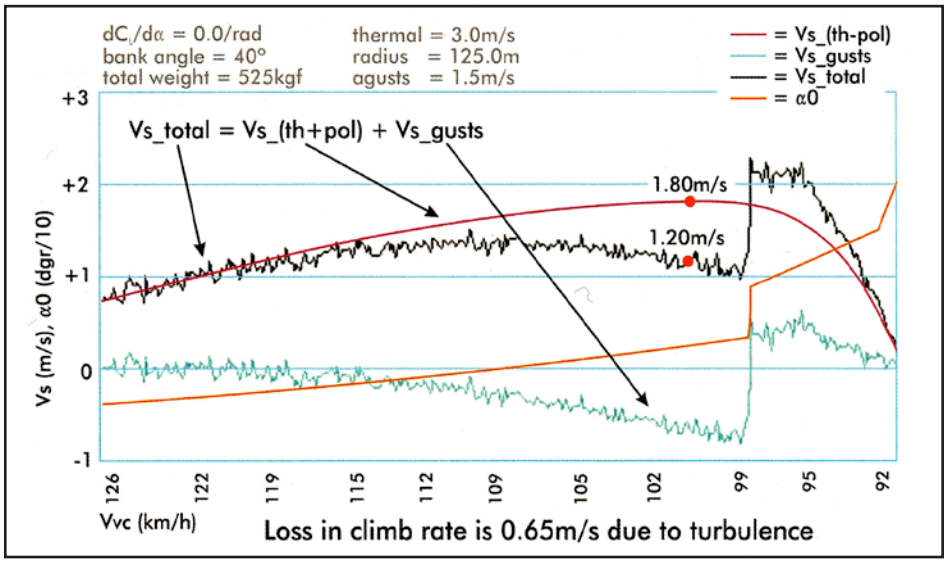


Figure 3: Reduced climbing rate in a turbulent thermal

earlier high-performance sailplanes have that. A small positive gradient in the step area improves climbing rate with turbulence present quite considerably, so this looks like the way to go in the design process of new wing profiles. Just now, some new sailplanes having this idea are coming on the market.

In conclusion

Recent optimisations of wing profiles with flaps have resulted in C-α curves with a more or less "flat part" in the lower speed range. Because of this, landing behaviour and climbing performance in turbulent thermals are somewhat disappointing.

This article shows that pilots can partly take care of these drawbacks by flying with a (angle of attack) well in front of the 'step' in the CL- a curve.

The main actions to achieve that are:

- When trying to make perfect landings, approach speeds should be a little higher than usual and speed brakes gently applied rather than pitch to finely control the descent rate in rounding off just before touching the ground.
- When optimising total climbing rate in turbulent thermals, flying speed and bank angle should be higher than a pilot would usually prefer.
- Thermals should be entered with redundant speed to avoid the sudden up-flow encountered pushing when into the step area.

This study shows that slightly modifying the C-α curve with a positive gradient in the step area will improve sailplane performance substantially. A better control of the descent rate during landing will then be possible and an increase in average climbing rate of some 20 per cent may be expected when circling in turbulent thermals.

I understand that only minor modifications of the wing profile are necessary to obtain these improvements without a penalty in the high speed range of the sailplane (as suggested by Prof Loek Boermans).

Acknowledgement

I would like to thank my friends for the inspiring discussions about the step in the C-α curve of modern sailplanes – especially my son Ronald and Loek Boermans, both of whom gave in their own specific way, practical experience and theoretical knowledge, a substantial support in the realisation of this work. Additionally the books and articles of John Anderson, Helmut Reichmann, Fred Thomas, Loek Boermans and others and many articles found on the internet were also quite inspiring.

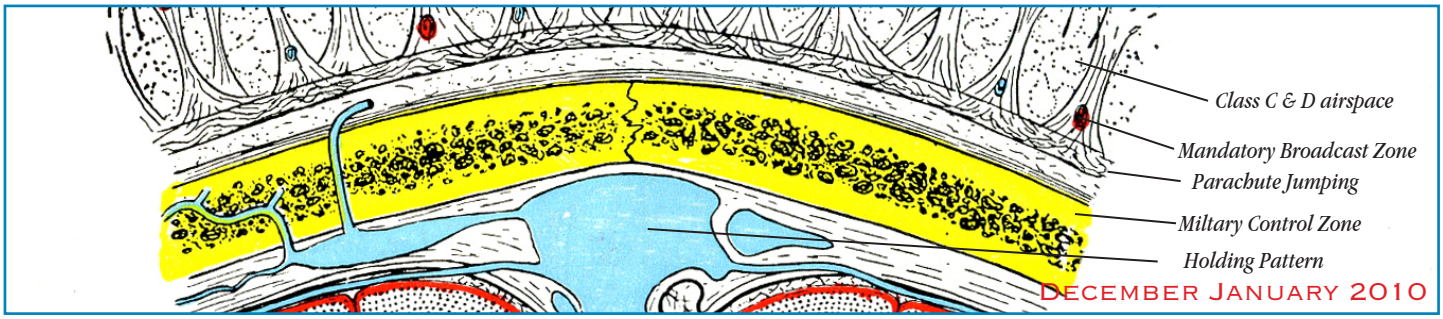
ir. K.P. Termaat, Arnhem 27/10/09
http://home.planet.nl/~kpt9/

Competition Corner

Many have been the requests for information about the function and purpose of this Blanik part since we published the photo in the last issue of Keep Soaring. Mainly of course from the young and the young at heart (read lucky) who have not yet had a chance to delve into the entrails of the mighty Blanik.

Few have been the lucky maintenance crew who have not spent hours, nay days, deep in the bowels of the Blanik fuselage admiring this work of aero-artificer's art, albeit armed with a powerful torch, before they were extracted, hungry and semi-conscious by some visiting STO. No, they don't make them like this any more and begob, perhaps we shall never see their like again.

So, to immortalise the memory, let's get together and try and say what this part does. I would remind competitors that consulting the official Blanik manual is *streng verboten*! Using modern, powerful and undefeatable detection techniques, the Keep Soaring Competition Committee can czech for the smallest traces of typewriter ribbon, even on emailed entries.



A HARD DAY AT THE OFITTHs GLIDING AND SEX

Yes, yes, I know what you're thinking… the whole point of gliding is that it's a substitute for sex, so why bother? Well, as my old linguistics professor used to say, "the word 'gender' is not a substitute for 'sex' - but then, what is?". There are those - usually male - who insist on making the comparison ('better than sex'), and those - usually female - who insist that they are not mutually exclusive, so here is a guide for those who like it both ways.

But before we descend to the nuts and bolts and plumbing, consider how Freud would conceive of the significance of the sailplane. Observe how snugly the cockpit of the modern glider fits the modern pilot, and welcomes his presence for as long as he can...maintain altitude. And if he can't, there are vibrating engines which allow him to do so, in the absence of nature's help. Consider the phallic suggestion of the fuselage, the (shockingly frank) descriptions of the male and female connectors that allow it all to be turned on and make the world go round. Take me away...dancing on the ceiling. (The airspace ceiling). Note from a recent 'Soaring Australia' story, the pent up excitement slowly building tumescently (look it up) to the climactic moment of arrival at goal, following which the pilot 'got out and kissed the glider', ignoring his wife's plaintive calls as he did so. What a giveaway! Even the glider registrations hint at the barely controlled passions that seethe within - VH-IUD, VH-HRT, VH-GOA and very own Junior, VH-HNY. Horny indeed. Why, there is a glider here at Keepit with the registration deliberately selected to be Romeo Juliet. Surely it should be a twin?

Well, enough metaphysics and symbolism, now for the bit you've all been waiting for - the plumbing.

'These chief commanders, too, without debate, Sink to the lowliest service of the state.'

Your steamed editor suggested an article on sex and gliding but also on, ahem, incontinence aids and sent me this link and his threadbare excuse for perusing it:

' I was just looking for somewhere to buy rubber cement!!

http://www.studiogum.com/'

The costumes depicted here are much like the Australian swimmers' squad costumes, reminiscent of a sperm on its missile-like mission, looking very much like that which a certain club member wore while flying his Lancair across the Tasman. There's no telling what the Kiwis thought when he arrived ('Ewes all get back inside, eh!') but it worked. Others have been known to wear something similar while soaring the Morning Glory, lest they be enGulfed. A Morning Glory is, as you know, a propagating soliton but its means of propagation has not yet been established.

I'm not at all sure if this site comes under sex or incontinence aids, but now I have your attention...

I don't think I can improve on Dave Shorter's comprehensive article in 'Keep Soaring' (reprinted in 'Soaring Australia') a few years ago. Nothing has changed since then except the further reduction in our average bladder volumes, and the further reduction of our tolerance of dehydration.

However, if you're finding it a challenge to find rubberware that fits the modern pilot, remember there are fittings at Bunnings (or via your friendly local urologist) which provide leakproof snap-connections, TSO'd and meeting Australian and New Zealand standards, as well as ICAO requirements, for your former wife's ex-best friend. Try to ensure the screw fittings are appropriate, to avoid leakage of the family jewels at unfortunate moments of flight. So, bottoms up and take a tip from the weather - the wet look is in.

Coming Events at LKSC

For detailed and up-to-date information on club events such as 4 Day Cross Country Weekends, State and National Competitions, the AGM, Christmas in June (or July), the Annual LKSC Dinner and Dance, the Safari and the Morning Glory trip, please have a look at the club web site…

www.keepitsoaring.com

Down on the left hand side, you'll see a list of all the current club events.

Click on the calendar to see weekly, monthly or year views.

You'll also find the current tug pilot and instructor roster in this area.

Tug Pilot & Instructor Contact Details 2010

Name	Home	Work	Mobile
Jay Anderson	02 9571 9592	02 9221 4938	0418 676 696
Phil Anderton	02 6785 2764		0427 493 107
Ian Barraclough	02 9948 7866		0428 410 010
Andrew Brumby			0404 043 386
Tim Carr	02 9801 7979		0414 405 544
Rob de Jarlais	02 4677 1926		
Tony Esler	07 3350 5858	07 3881 2615	0412 770 526
Ken Flower	02 6761 3816		0406 716 574
Bill Gleeson			0408 443 009
Vic Hatfield	02 6765 7050	02 6766 9655	
John Hoye	02 6767 1033		0427 505 233
Matthew Minter	02 6785 7399	02 6742 3998	0427 455 119
Geoff Neely	02 6785 2405		0419 563 233
Peter Sheils	02 6762 1377		
Greg Smith			
Nick Singer	02 4365 5485		02 4384 2101
Garry Speight	02 6785 1880		
Dennis Stacey	02 6584 3747		0407 006 292
Gerhard Stuck	02 9982 5248		0428 300 370
Charlie Szpitalak	02 6777 2154	02 6777 2040	
Dave Turner	02 9489 0841	02 9620 0893	0425 269 210
Darian Thom			0407 269 210

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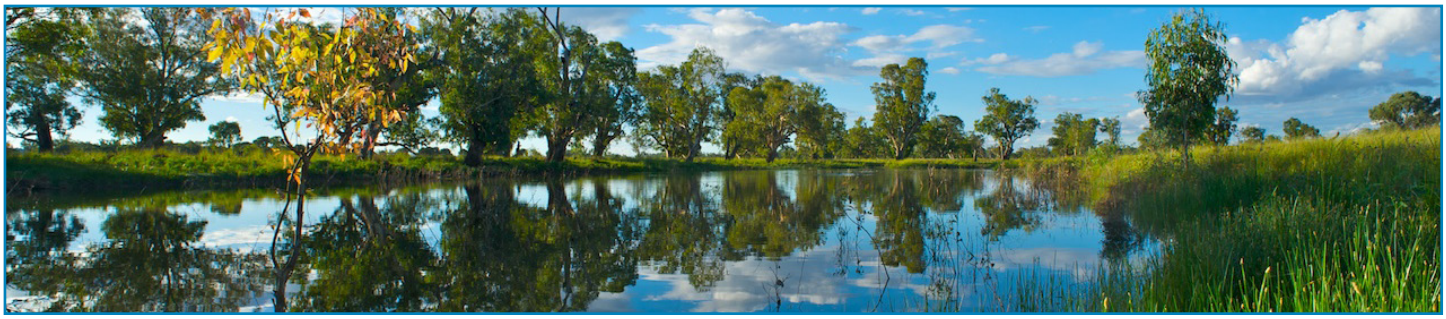
Airfield and Clubhouse: Keepit Dam via Tamworth NSW Mail address: 234 Keepit Dam Road, Lake Keepit 2340
Phone: 02 6769 7514 Fax: 02 6769 7640 Email: enquiries@keepitsoaring.com Internet: www.keepitsoaring.com



LAKE KEEPIT SOARING CLUB INC

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Phone: 02 6769 7514
Email: enquiries@keepitsoaring.com
Internet: www.keepitsoaring.com

LKSC Contact Details 2009

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Vice President	Ron Cameron	02 6721 0081	rfcameron@bigpond.com
Secretary	Chris Bowman	0414 569 965	secretary@keepitsoaring.com
Treasurer	Dave Shorter	02 6656 1979	treasurer@keepitsoaring.com
Chief Flying Instructor	Ken Flower	02 6761 3816	cfi@keepitsoaring.com
Committee Members:	John Clark	02 9450 0800	johnc@aeronaut.org
	Todd Clark	02 6766 2995	toddclark@hotmail.com
	Allan Buttenshaw	0412 217 557	allbutts@bigpond.com
Chief Pilot	Dennis Stacey	02 6760 8538	hastingsair@bigpond.com
Airworthiness Officer	John Trezise	02 9858 5950	trezco@ozemail.com.au
Tugmaster	Phil Anderton	02 6785 2764	tugmaster@keepitsoaring.com
Membership Secretary	Dave Shorter	02 9896 4961	membership@keepitsoaring.com
Webmaster	John Clark	02 9997 2842	webmaster@keepitsoaring.com
Bookings Manager	Chris Bowman	0414 569 965	bookings@keepitsoaring.com

Chat Group & Car Pooling: There is a Yahoo chat and message group (not officially sanctioned by the Club) for Club members.

To join, either visit the chat group web page at

http://groups.yahoo.com/group/lksc

or email

pjanderton@optusnet.com.au

with your email details and he will fix it.

For member's contact details, see the Member's Downloads pages on the club web site