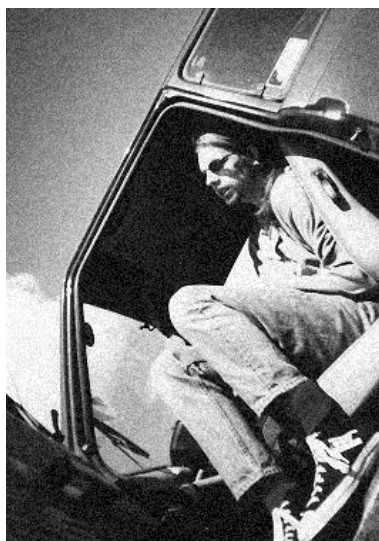




Avon Hang Gliding and Paragliding Club



Editors Bit

Well here I am sitting at my computer trying to write something about flying when half the country is covered in snow and the other half is suffering from wind and rain. Still as if to remind me that there will be a summer coming round again soon, a form to apply for the nationals has appeared through my letter box. Let us hope we can get at least some flying in between now and then. As some of you know I bought a UP Soul about a month ago and it's only been out of the bag once.

The committee meeting went off pretty quietly with only a few changes to the committee. Robin Brown's proposals regarding Selsey were put to an open vote and a consensus found. More details on the committee meeting elsewhere from Pete. The talk on reserves by Mike Townsend that followed was great, a big thank you to Mike for turning up. This leads me onto the next meeting which is

on Dec 3rd, it's quiz night, so put in your brains and come and relieve us of the prizes. There will also be the club trophies presentation and **FOOD**, so come along.

As Christmas is fast approaching along with moves to a new house and a new job, this will probably be the last issue of NOVA for 96, I hope you've enjoyed reading it and we'll be back in the new year. So all that remains for me to say is Happy Christmas and a great years flying in 97 remember 'fly high, stay high, fly far'.

See you on the hill. 😊



You'll find an online version of Nova at <http://www.avon-plc.demon.co.uk/avonhgpg> This contains news and up to date XC results as well as some of the articles from the magazine with colour photos. The site is now frame based and includes links to many other flying related sites, both in the UK and abroad. So point your browser at the site and check it out. PS if you have anything you want to see on the site or have something to contribute drop me a line.

nova on the Web
HOME

Airwave will be coming to the **February meeting** to give us a talk, about well Airwave. Should be interesting so put the first Tuesday in Feb in your diary now. As usual there will be no meeting in Jan to allow us all the chance to get over the festive excesses.

Dave Macarthy is hoping to get a dual wing **sponsored** by his work. There are several members who are looking for sponsorship for competition or dual wings, if you can help at all drop me a line.

A new café the '**Adventure Café**' has opened in **Bath**. As well as serving high quality sandwiches, pastries and beverages, the café can also organise trips to undertake adventure sports, amongst which I noticed Microlighting and Paragliding. Give them a call on Bath **462038**

Xtreme (<http://www.xtreme.co.uk>) Burning issues for 'Surfers & Climbers' of the net. So you think you know how to protect yourselves from the risks of your sport? Think again! There's a new threat out there that no one can afford to ignore - and this time your skill, strength and experience may not be enough. No need to panic - yet. Help is at hand courtesy of a radical new internet site aimed at extreme sports players. You'll learn about an often avoidable disease which is killing young people... skin cancer. Playing this site takes you through the facts about skin cancer, which pulls no punches and tells it as it is. You'll find sound advice on how everyone, in particular the young and active, can avoid this ever-increasing killer. Added bonuses are prizes and a groovy gallery with a selection of the best extreme sport visuals, as well as hot news about the scene. So, this novel integration of fun and learning could save your life, Xtreme.co.uk is a fun, fast site with a short tough life, so what are you waiting for?..click on and get with it!



Site news from SE Wales

The following article was taken from the SE Wales Web Site and is printed here with the permission of the club. We thought it was important that Avon members should read this as many members regularly use Pandy. NB Keep an eye on the SEW WWW site for more updates, the site can be reached via our own web site

Pandy

The situation at Pandy has become increasingly difficult over the last few years, and we now appear to be heading towards a crisis. The Club believes that it is important that everyone understands the background to the current difficulties, and is aware of the way the Club has striven to resolve matters in a manner that was acceptable to all parties concerned. The Club believes the present crisis is being engineered by the Brecon Beacons National Park for political reasons, and that they see Airsports as an easy high profile target.

Hatterall Hill (Pandy) has been flown now for some 20 years, and is one of the longest ridge runs around. Several years ago the hill came under the ownership of the Brecon Beacons National Park (BBNP). The BBNP immediately started to draw up a management plan for the hill. The plan included the statement that quiet airsports (such as hang gliding and paragliding) were acceptable activities within the Brecon Beacons National Park (BBNP).

Unfortunately as time went by local graziers became more and more alienated by the management proposals put forward by the BBNP. In the end they withdrew from discussions, and refused to enter into any form of agreement. They also let it be known that they would be very unhappy if any other user of the hill entered into an agreement with the BBNP.

The News, The Views, The Goss

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The Club has always done its best to avoid getting caught in the middle of this difficult dispute, and has consistently maintained that the best way forward was to negotiate a three way Airsports Agreement between the BBNP, the Graziers and the Club.

Earlier this year the BBNP told the Club that it must accept a two way agreement, or risk possible court action against its members for trespass.

The Club now found itself in a very awkward position. It had no wish to upset the graziers, but didn't have their "security of rights". The BBNP, acting in this instance as the land owner, had made it very plain that it was fully prepared to initiate proceedings.

After lengthy negotiations an acceptable bilateral agreement was drawn up. Before concluding the agreement the Club sought an assurance from the BBNP that once the agreement was concluded the Club's right to fly Hatterrall Hill (within the terms of the agreement) would not be withdrawn, even in the face of stiff opposition from the graziers.

The Brecon Beacons National Park indicated that it was prepared to give that assurance, provided the Club would accept an additional new clause. The new clause sought to close the site for three weeks in May, to allow stock to be settled on the hill.

The Club was far from convinced about the need for such a clause, and was concerned that this might prove to be the thin end of the wedge.

At the Access and Recreation Group (ARAG) meeting on 4 September, the Brecon Beacons National Park gave the Club an assurance that they would not seek any further restrictions. So once more, without a great deal of enthusiasm, the Club swallowed hard and accepted, thinking that everything was at last sorted out!

The BBNP then informed the Club that the agreement was due to be discussed by their own Committee in early December. This came as a surprise to the Club as up until that point it had been led to believe that BBNP Officers were fully empowered to conclude the agreement with the Club.

The Club was informed that prior to making a decision the BBNP Committee would visit Pandy, and meet with Club representatives, who could then put forward the Club's case for being allowed to continue flying Hatterrall Hill.

It was obvious that the BBNP were reconsidering their position, in the light of pressure from other interested parties.

The Club therefore decided to seek support for its activities from local MP Roger Evans, and the Sports Council for Wales. The Sports Council were very helpful, and one of their Officers agreed to attend the meeting between representatives of the Club and the BBNP Committee. Roger Evans was also very sympathetic, and was surprised to hear that Outdoor Pursuits were not adequately represented on the BBNP Committee. He is currently taking up the issue of representation with the Secretary of State for Wales. The Club is also contacting local MP, Jonathan Evans, to seek his support.

On the 31 October the Club presented its case to the Committee of the BBNP. It was then immediately informed that a recommendation by BBNP Officers to further restrict the Club's activities on Hatterrall Hill would be considered by the Committee, at their meeting in December. Clearly decisions had already been taken, and the meeting was no more than a public relations exercise.

The Club enquired as to what further restrictions were proposed, and why the BBNP thought they were necessary. It was explained that the extra restrictions would include tighter marshalling of the site, and a further reduction in the number of competitions permitted each year. The Club was never really given an adequate reason why this was thought necessary. The Brecon Beacon National Park's chief concern was not our activities on their land, but traffic on the surrounding public roads. Their solution was to insist on marshals, with two way radios, at the top and bottom of the hill, to ensure that pilots parked in the bottom landing area, and then waited until they could share transport to the top of the hill.

The Club tried to explain the practical difficulties of introducing such a system, but the BBNP were quite simply not interested!

The Club indicated that under the circumstances it could only come to the conclusion that the BBNP had decided to pick on the Club for purely political reasons, in order to appease one or two local residents.

The proposed solution was clearly out of proportion to any practical problem that existed. After all even the BBNP's own Met figures showed that on average there were only around 2 days per month when the site was potentially flyable. Whilst the Club's own records showed that there

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were probably only around 14 days per year when significant numbers flew the site.

The Club reminded the BBNP that the present problems only started after they bought the land.

The Club added that it believed the additional restrictions now proposed were both unfair and impractical, and would be perceived as such by Club members. There was therefore little chance of the new restrictions proving acceptable to the Club.

The BBNP thanked the Club for attending, and said it would be in touch in due course.

The Club has now asked for a further meeting with the BBNP Recreation Officer, and has also briefed the BHPA's National Sites Officer.

Over the years the Club has behaved responsibly, and tried to ensure that its activities caused the minimum of disruption to others.

During negotiations the Club has shown a willingness to compromise in order to find a mutually acceptable solution.

By constantly moving the goal posts the Brecon Beacon National Park has shown that it is more interested in being seen (by its own detractors) as "controlling and curtailing the Club's activities", than in reaching an honest workable agreement with the Club.

The Club believes that it has now reached the end of the line, and that the acceptance of further restrictions would prove unacceptable to the membership as a whole.

Enough is enough!

The critical meeting will take place on the 18th December. In the meantime, continue to fly Pandy but drive with care and consideration, and observe site rules at all times.

France 96 Part 1 - Marcus King

Another week at work is over and Charlie and I are off on a flying trip, and as usual, or so it seems, its wet and windy. This time though we've got two weeks off in France and hopefully they will be sunny. After a quick stop off at Tesco's we head south to Portsmouth and the Ferry. The crossing, thanks to modern ferry designs, is pretty comfortable and we awake as we approach Le Havre, and the start of the trip south through France. At seven in the morning we hit French roads for the first time and make our way through the still quiet roads of Le Havre, heading for the autoroute. We decide to use the autoroutes to get round Paris, but the good progress we make in the first few hours makes us decide to use them all the way to Annecy, blow the expense of the tolls we just want to get there as quickly as possible.

Staying on the autoroutes turns out to be a good idea, making the drive a lot easier and quicker, and we roll into Annecy at about 3 that afternoon, not bad for a 950cc 4 wheel drive Fiat Panda. After braving the city traffic we escape and head round the lake towards Talloires where we have decided to spend the first week of our holiday. The plan is to stay in Annecy for a week, where we have both flown before, before heading into the mountains to introduce Charlie to the delights of Chamonix. I had planned various XC routes in the Annecy region, and the one that is on the top of my list was the flight to Chamonix.

We are pretty tired when we arrive at Talloires, we pitch the tent in the campsite next to the landing site and head round to the local bar, where we enjoy a few beers whilst watching people fly down

to land. After dinner, we retire looking forward to the next days flying. The sun wakes me and draws me out of the tent, only to discover there are some very overdeveloped clouds even this early, a few people are already flying but it's really scratchy. I go and look for a forecast, but come back feeling pretty gloomy, looks bad for the next few days. After a short period of hesitation, a decision is made, we are off to Laragne further south. We pack up the tent and head off towards Grenoble and then on down to Laragne. As we approach the town people are flying the Chabre, this is a new site for Charlie but I have flown here before, in 93 in the Airwave European Challenge. Tired again we decide its too late to head up the hill and go for a wander round town, and yes you've guessed it, we end up in a bar, only the beer here is nearly half the price of the beer in Annecy. At the campsite I meet Cecile, who I haven't seen since I was last here. She says the flying was OK but not brilliant, but says the forecast does not look too bad. She also mentions Rob, Tom, Trevor and Ron who had been out here a few weeks earlier, but who didn't have brilliant weather, all in all its been a pretty crap year in Europe for weather.

The next morning dawns overcast and grey, and our spirits take a dive. We eventually decide to drive up to the top to have a look, and Charlie can have a top to bottom to get used to the site, I am now wishing I had taken the opportunity to fly the previous afternoon. We drive up the long track to the top of the Chabre which is as rough as ever, but we make it and have a look at the various take offs before getting to the very top. There are a

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few other flyers around and we watch as a Dutch group fly down to the South landing, which is next to the track to the top. Charlie decides to get her glider out, and it starts to spit with rain and what little wind there is comes over the back, typical! After 5 minutes it's back on so she runs forward and is off easily and has a relatively short flight down to the landing field, where I pick her up on the way back to the campsite. The next day is wet, very wet! We spend the time minging about feeling pretty depressed about the weather, I've missed the last two rounds of the BPC, and as it has turned out quite possibly a place in the Nationals for this, why? During what is probably the wettest part of the afternoon, ie huge thunderstorm overhead, we go out in the car to have a look at Orpierre, well known for it's rock climbing. The place it's pretty impressive even in the rain and the little village sat in a gap in the cliffs looks great. We decide to buy a topo so we can return. As we head back towards Laragne the sun starts to break through the clouds and our spirits rise.

The next morning, and surprise surprise, its sunny but alas its too windy, the weather station on top giving over 50 kmh, even the hang glider pilots are not planning to go up. So after, the what has now become a bit of a ritual of, wiping our names off of the list for the navette, we head off to Orpierre to indulge in some climbing. We get there only for me to discover I've left my wallet in the campsite, so I leave Charlie to enjoy the sunshine while I rush back to get it. On my return we make our way up to the crag, we make our way up to an area called four hours, apparently the locals used to be able to tell the time by the shadows cast on this section of the cliff. This area offers a selection of reasonably graded routes, which is what we need after not climbing for what seems a long time. The afternoon slips by as we take it in turn to lead various routes, enjoying the security of the bolts. This is what we came here for great weather and fantastic countryside. We return to the campsite feeling much happier now all we need is the wind to drop for tomorrow, ever hopeful we put our names down for the Navette.

The next day is the first flyable day. We meet Stella and her chatty mother who drive the navette. Stella's mum talks to us incessantly, and is determined that we will understand, it turns out that Stella has forgotten her driving licence and there is a police road block, so her mum has to drive. Unhindered by the police we make our way to the top where we get off at the north takeoff. After giving Stella a hand with her hang glider we walk to the front. Things aren't working yet but there is a reasonable breeze blowing up the north side, this means that it is a dynamic wind it's to early for a thermic wind on this side of the hill. Charlie is talked into having a go when she sees some people who have taken off farther along the hill getting some height. She looks nervous at the

prospect of taking off from the steep rough ground here, but her takeoff is perfect. She gains height as she heads off along the ridge and out of sight. Next time I see her, she is scratching along the bottom of the ridge desperately trying to make a suitable landing site. After a few worrying moments she makes it over the river to some rough ground, and radios to say she is safe and will meet me back at the campsite.

My turn and I nearly follow Charlotte to the bottom of the hill but 600ft below takeoff I hook into a thermal which carries me past everybody running for the gliders on take off and on up to 2500ft ato. I head off down the ridge and work my way up to base at about 4000ft ato. Where to now after a lot of indecision I decide to follow some other gliders towards Sisteron as the wind is taking us in that direction. The flying is relatively easy, and I and a Soul are soon approaching the gap in the ridge where the main road goes at Sisteron. As we approach I can see other gliders being downed by what seems to be a strong head wind. The Soul heads off east but I don't like the look of the clouds that way and decide to try and fly back to the campsite. It's only about 10 or 12 km back and I've got loads of height. After a couple of climbs I'm on a final glide thinking that I will make it easily, then I hit 12 down, full bar on but I can't get out of it. It soon becomes clear that I'm not going to make so pick out a field that has been mown. On landing I'm approached by the farmer who points out a track back to the campsite and mutters something about 'Le Mistral'. I bundle up the canopy and head back to the campsite where I find Charlie just about to go and look for me. We spend a while sitting around watching others land before dinner and beers.

That evening we meet Keith and Simone who are from North Wales, they decide to camp in the campsite. Keith had been flying earlier but had been downed near Sisteron. The next day conditions are pretty much the same, so after a quick trip to the supermarche to stock up on the vitals, such as beer, we get on the navette for the ride to the top. On arrival at a slightly different takeoff, the wind is off to the west but it does swing round every now and again. We meet Simone, who's turn it is to fly whilst Keith looks after their son Joe, yes that is Joe Simpson. Also on take of is Paul who is travelling round Europe for six weeks, whilst we sit on take off waiting for conditions to improve he regales us various stories from his travels, including how some British pilot nearly broke his foot off at Piedrahita. Eventually the wind comes more on and we decide to have a go. Simone is off first and does a repeat of Charlies flight from the day before. Charlie and I have a better time of it, but I spend my time getting high and being indecisive flying all over the valley but never getting anywhere. Charlie gets her biggest height gain of her career so far and one of her longest flights. This time

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she makes it back to the campsite easily. After floating around at cloudbase I come down to join her, tomorrow I will make a concerted effort to go XC, and get some decent distance under my belt. The next day is too windy to fly at Laragne so, Paul, Steve and Gabriella, a couple we had met the previous evening, and Charlotte and I decide to head up to St Vincent le Fort, which is on the end of the Dormilouse ridge. I had been to this site before on days that were too windy for Le Chabre. Keith and Simone decide to spend the day lazing in the campsite with Joe. St Vincent is a really gorgeous site, with a great view over Le Serres lake towards the Dauphine Alps, however the area behind the site is criss crossed with power lines. The place is pretty busy as it is the first day of the weekend, and various pilots are taking their friends for spins on dual canopies. The main launch is over the road up to the village, after which you turn right to follow the ridge passing the roofs of the houses, to a cliff with the fort above. We spend quite a while standing around discussing the site, and planning flights. Gabriella and I are the first to takeoff but conditions are scratchy and we both go down. After trekking back to launch we enjoy ice creams whilst waiting for conditions to improve. A little later and things have improved, indeed it has become almost too windy especially for Charlie. I take off again, this time with Steve and have a great flight, although the several duals in the air make it 'fun' at times. I try to make a top landing but it feels rotory to me so I air on the side of safety and head back out again. The sight of Gabriella turning up in the distant landing field to pick up Steve means I dash off to get there before they have a chance to pack up. By the time I am nearly there they have the canopy packed up, and they said it was amusing to see me gliding in waving and shouting trying to attract their attention, I make sure they couldn't drive off by landing right in front of the car. By the time we get back to the top Paul has disappeared but we aren't sure if he is flying or has just left. At one point I am sent to walk nonchalantly past someone who has broken their leg just to check it isn't Paul. We all head back to Laragne where we spend the evening sharing veggie chillie with Keith and Simone chatting about flying, climbing and all those XCs we are going to do.

The next day is my birthday, and yet again it is too windy, instead of the trek back to St Vincent, we all decide to go over to Orpierre for a days climbing, all except Paul who decidesto spend the day trying to get the Piedrahita dust out of his canopy. The day is a pleasant affair, with Keith leading us up some harder routes. Much beer is drunk that evening, before we all drift off to our beds, that is except Gabriella who goes off searching for Nightjars.

On Monday morning, everybody else seems to manage to get on the early navette, so we do the

supermarket run before heading up the hill. By the time we jump out of the navette on take off the sky is looking pretty clagged in, and things don't seem to be working too well. We sit around a while with Steve trying to explain the concept of queues to the foreign pilots, but this is all interrupted when a pilot lands in the trees near the bottom of the North face. Steve and a German pilot try to get down but realise it is pretty impossible, meantime Simone takes off so she can try and see if he or she is OK. However, Simone just goes up, the pilot manages to get his/her glider out of the trees and the queue brakes down as everybody scrambles to get in the sky. Conditions are pretty scratchy at first, but eventually improve before starting to go ballistic. I keep an eye on the clouds, but when we all start to go up where ever we go, I realise just how big they are getting. I radio the others to head down. I am way out over the valley north of the village, and I can see a huge cloud behind the site and what looks like a gust front coming down the valley to the East. As I watch Charlie and Simone heading for the campsite a cloud starts to form above them, making getting down increasingly hard for them, I talk Charlie away from it as I head towards the campsite with big ears and full speed bar. I must admit I am pretty relieved when we are all safely on the deck, but start to become worried about Steve and Gabriella, who have not been on radio and are nowhere to be seen. I whizz off to look for them but they are back at the campsite when I return, with a couple of hang glider pilots. Apparently Steve had stayed way out and landed at the other landing site, Gabriella had left it a bit late not realising that the cloud had grown so much, 'I was just enjoying going up', and had had to use a B line stall to get down.

We all chat excitedly about the flight, drinking beers around Keith and Simone's van. Gabriella says she had been sworn at very loudly by an English hang glider pilot, she had flown straight through one of his 'circlly thingies' We have just decided she should go and apologise when the three hangies come over. Ben Philpott tells Gabriella what he thinks, so we send them off together, to mend the dangler/hangie relationship, have a lesson about 'circlly thingies' of and of course buy more beer, whilst Nigel and Richard join us in a beer or five. A game of hacky sack then turns into a huge game of international volley ball, before more beer drinkning, to a backdrop of lightening.

Another day, and no flying, the rain is back, so after much discussion, we all decide to head up to Puy du Dome. Various arrangements are made to meet in a campsite or on top the next morning, and we all set off in the early afternoon. As we head up the valley the sun occasionally breaks out, but we carry on into the rain...

38km Cross Country 3000' Below Take Off !!!

It had to be done, all we needed was the correct weather. At 8.00 AM on the 28th of June after an encouraging forecast Terry Treetop and I left Dennis Trotts chalet at Les Houches and headed for Chamonix. We met our climbing and flying guide Willie Todd at the cable car station and collected crampons and ski poles from the hire shop. Being keen not to miss the weather window we briskly followed Willie to the front of the queues in true continental fashion.

Soon we were all accelerating upwards at around 6 metres per second packed closely together with a gaggle of Japanese tourists and on our way to the top of the Aiguille du Midi.

This must be one of the highest easily accessible launch sites in Europe just below the 3874m summit of the mountain with a drop into the Chamonix landing field of around 3000 metres. Although easily accessible a summer launch from this site is not for the faint hearted. After leaving the cable car through an ice tunnel you need to get through a small gap in the safety barrier and walk down the snow covered arete. The arete is a knife edge snow covered path approximately 60cm wide and dropping away at around 35 degrees. If you do fall and choose to go to your left there is a 3000m sheer drop into Chamonix and certain death. On the right there is the slightly more tempting option of a mere 500m drop onto the glacier. (During Winter a much better path is made in the snow with safety fences on the edges)

At the far end of the ice tunnel we strapped on our crampons and roped together for the descent. Very self consciously we made our way through the crowd of sightseers, through the safety barrier and over the edge. Our speed increased as we gained confidence and the terrain levelled out turning into a very moderate climb towards the launch area.

Spreading out our canopies we were cautious of the launch area. It was now 11am and the surface of the snow was getting quite soft. Running for a forward launch meant ploughing through knee deep snow whilst trying to maintain speed and control our canopies. A launch area 30m long with a 3000m drop at the end provides an excellent incentive to get it right first time. The light wind was across the slope making it more difficult to inflate the gliders but after two attempts Terry flew out over the valley. My forward launch attempts failed twice due to my lines becoming entangled with the ski pole that was protruding out

the side of my harness. Altitude always affects me severely and I was beginning to struggle against the headache and breathlessness. Fortunately the breeze strengthened sufficiently to complete a reverse launch without further incident and soon I was relaxing on my glide over the town towards the Brevent cable car station.

The views were spectacular, we had launched above cloudbase and above an inversion some way below. We both took around 25 photographs each during the first glide. Terry had decided to follow the ridge up to Argentiere (Argentina if you come from Painswick). Above the Plan Pras cable car he encountered the Mother of All Thermals rising from Death Gulley. The resulting complete deflation of his trusty Super Space left Terry shaken but not stirred. Wisely he decided to head for the safety of the Chamonix landing field.

Having found a less aggressive thermal I circled up above the Brevent and headed towards Plan Joux from cloudbase. Failing to clear Pointe Noir by some 10 metres I sank alarmingly low into the gully before thermalling back up above the ridge and on to my destination. Gradually making my way down the valley to Sallanches past some very imposing rock formations and then back to Plan Joux I then flew out across the lowlands to the almost insignificant tree covered Tete Noir standing at a mere 1700 odd metres above sea level. At this point I had been flying for over four hours, I was beginning to feel sick and encouraged by murmuring from my bladder I left a weak thermal, pulled big ears and landed at the Plan Joux LZ completely shattered. Nursing a serious headache caused by a combination of altitude and dehydration I was quietly elated that I had broken both my duration and distance personal records.

Unusually this whole four hour flight was completed at below take off height, I had forgotten to turn on the barograph on my new Flytec 4020 but I recall that most of the time I was between 1700m and 800m below launch. It was possible to stay up because we had launched above the inversion, interestingly people launching from Plan Joux had spent all day doing top to bottom flights as this site was below the inversion.

The Chamonix valley is definitely the most impressive area in which I have flown. The weather can vary greatly from day to day and it is worth having local guidance on the conditions. It is not unusual to be launching and flying well in thermic conditions on the lee side of the mountain

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despite a reasonably strong prevailing wind on the back of the hill.

We took advantage of Dennis Trotts fly-guide service where he provides transport to the launch sites, retrieve and any required advice for a modest cost. Accommodation was reasonably priced, clean and the food was good. He has now moved to a larger chalet which is located on the

side of the ski piste in Les Houches. Dennis runs a friendly and professional outfit where expert advice is always available. If alpine flying is of interest to you book up tomorrow.

Martin Bromage

NOVA needs your articles now. I have had many comments on how good it is to read about other members exploits so get sending your articles to:-

**Marcus King
2 Hay Hill House
The Paragon
Bath
BA1 1LZ**

or Email to marcus@avon-plc.demon.co.uk

Please get articles for the next issue to me by Nov 30th 1996

Thermalling - How Tight Do You Turn?

At a recent club meeting even Jerry Pack admitted that just how and why we decided how tight to turn in a given thermal was not something he could explain. I made the mistake of drawing some graphs to demonstrate the aerodynamics but didn't manage a very coherent explanation. Hence I've decided to put it into print for the club magazine.

The first thing to look at is how the sink rate of your glider changes as the radius of the turn decrease. This can be plotted for any glider/pilot combination and should look something like the graph in figure 1. This shows the sink rate increasing exponentially as the angle of bank is increased and the turn radius decreases.

The next factor is the profile of the thermal, i.e. how strong is the lift at a given distance from the centre of the thermal. For an ideal thermal this might be something like the bell curve shown in figure 2.

If we combine these two graphs we get the resultant sink rate for turns of a given radius based around the centre of this ideal thermal (if only...). Unfortunately I can't produce very good curves with word but you can see the aerodynamics suggests that there will be an optimum turn radius to use for any given thermal with a symmetrical profile. The most interesting point suggested by the graph is that lift increases until you get the correct angle of bank from which point it will decrease rapidly as the inefficiency of your glider in a high banked turn takes effect.

This would suggest

that the recommended technique is to keep banking it tighter until the lift stops increasing. Simple really. A cursory glance gives the impression that the effect is like balancing on a knife edge. However you must remember that the above graph is not saying anything about the turning pressures placed on the glider by the thermal.

There may or may not

be turning force acting on the glider, attempting to throw it out of its perfect constant banked 360. In our ideal thermal this is the product of all the lift forces generated over the wingspan of the glider, 360ing at the selected distance from the centre of the core. Hence if this force is inboard of the gliders centre of pressure you will need to continually steer into the thermal to maintain a constant turn.

The one feature that is common between figures 3 and 4 is the profile of the thermal. This is where I think a research project is required to plot thermal profiles. All that is needed is for someone with a sensitive electronic barograph/vario to fly straight through all the thermal cores that they find... any volunteers?

Well this still hasn't specified a formula for how tight to turn. In fact the conclusion was effectively to

, but this is apparently in contradiction to the other

golden rule for thermalling of **'Lift increasing flatten turn, Lift decreasing tighten turn'** as recommended in Jerry's articles and talks.

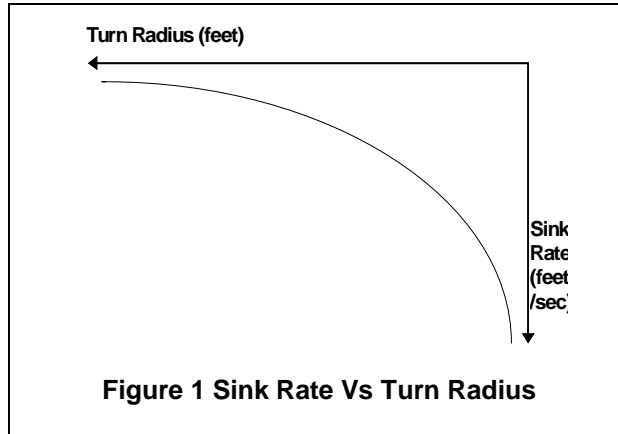


Figure 1 Sink Rate Vs Turn Radius

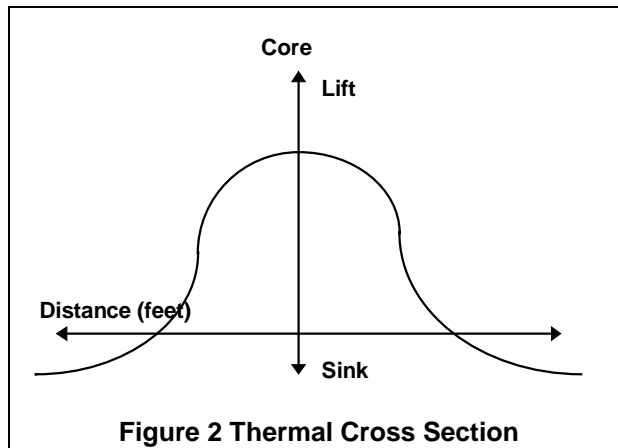


Figure 2 Thermal Cross Section

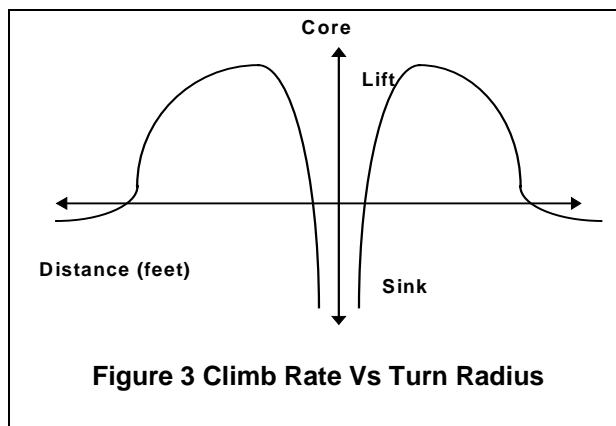
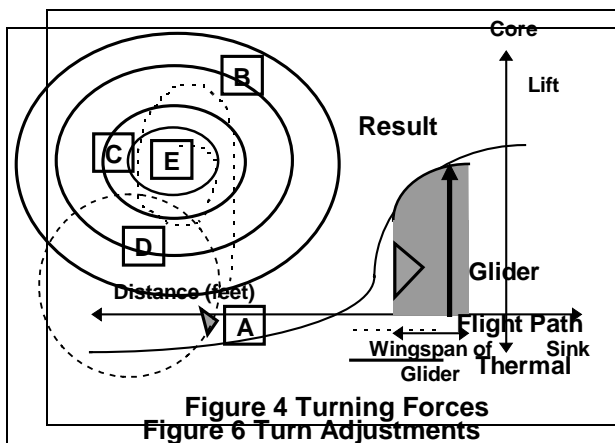


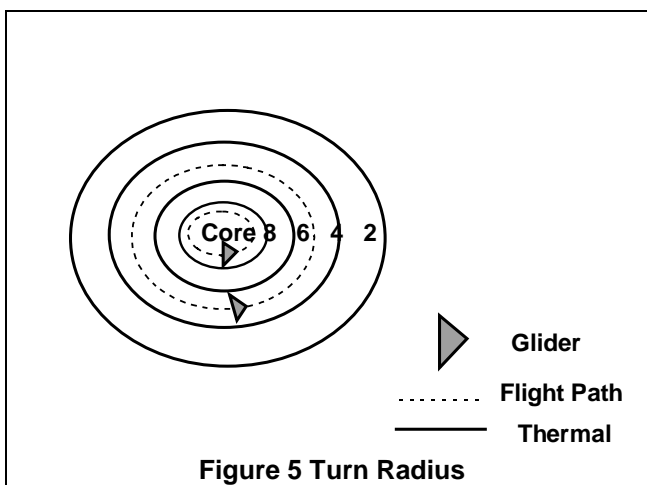
Figure 3 Climb Rate Vs Turn Radius

I think the contradiction is only minimal as the first rule is telling you how tight to turn when in an established 360 around a thermal with the core in a known position and the second is telling you how to adjust an existing 360 in order to position your turn relative to the core of the thermal.



thermal? And the answer is: You don't know, but the readings on the vario will tell you afterwards *if* you've turned tightly enough and in the right places. Quite simply the faster the lift is changing the tighter you turn.

Perhaps looking at the problem from a different angle might help, i.e. a thermal isobar chart for lift strength. Figure 5 shows that doing a tighter 360 based around the core would increase the lift from 5 to 8 m/s, as long as the sink rate of the glider doesn't deteriorate by more than 3m/s.



Essentially its a constant feedback situation with that lovely warbling tone of the vario as the main clue. In addition you should never ignore feedback from the glider, telling you by way of the turning forces, the relative direction of the core, i.e. never go the way the thermal tries to push you! If the above example was modified to include turning forces you should be able to find the core without ever going near to point B.

Figure 6 shows how I would expect an actual flight to go.

- A. The initial 360 would have followed the light dotted line but at this point the lift is still increasing so the turn was flattened.
- B. The lift has started to decrease so the turn is tightened up.
- C. The lift starts to increase so the turn is flattened again.
- D. We over did it so the lift is decreasing and hence you need to tighten the turn to return to the core.
- E. Nirvana...

The major factor that will affect your decision about when to turn and how tightly are:

1. How strong is the lift?
2. How quickly is the strength of the lift changing as you fly through it?

No 2 is in fact the most relevant factor for deciding how tight to turn. Why? Because it's the steepness of figure 2 and how quickly the lift is changing that determines how far from the core you have to 360 to get the best climb rate.

In fact I think the original question should have been - How do you know how tight to turn in a

Neil Atkinson



No real competition news I'm afraid. The full XC results will appear in the next issue of NOVA. The Club Trophies for 96 will be presented at the club meeting on Dec 3rd so come along if you are up there at the top.

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CJ - Winters here, so why not get really depressed and read about what we all missed in Southern France this year! Here's the latest from Avon exile abroad Mark La Haycraft.



Spring and Summer in Southern France

If anybody wants to know a bit more about what, when, why, where etc., look back to Nova - July this year. Here are **some** (*oh my god, only some!* - CJ) of my best flights.

- May 22nd St Vincent is an hours drive east of Laragne, and is on the northern end of the St Andre to Dormillouse run. Lots of snow still on the mountains, a moderate NW blowing and cloud base of 10,600. I'm sure it would have been possible to do 100km out and return to St Andre, but I was with some other pilots and we had no organised retrieve. I settled for a shorter 75km out and return which really was easy as a cloud street formed along the line of the mountains. I was able to get up the side of the clouds and whiz about looking at my captured shadow inside a circular rainbow which showed clearly on the side of the cloud.
- May 23rd Laragne Light northerly, good clouds. I made a good out and return to near Digne, half way to St Andre then got back to the campsite landing field. The last long glide from near Sisteron was amazing. When I set off I was sure I would fall short unless I found just one more thermal, but it was just after 7 pm, the air was buoyant and I just got to the landing field with enough height for a good landing right next to my tent. Great, great, great, why can't it always be like this? Nearly five hours in the air, 10,000ft plus cloud base and then landing next to your tent. I measured it at 87 km, but had there been a competition on I'm sure it would have been quite a lot more.
- May 24th Laragne I set myself a triangle, T.O. up to Aspres then east to a lake east of Gap and back to take-off. It was a task that we tried in the Bleriot cup here about 9 years ago. Would you believe it, I landed in the same damn field as nine years ago too! And for the same reason, a rising SW wind making the last leg very difficult. So I'd completed 82 km of the 110 km triangle. Ace local French pilot Alain Chauvet did complete a triangle that day, but I don't know how big it was.
- June 22nd Cahors Windy and too much cloud. I was the only one to fly, though a few other pilots turned up. I got bounced around on the ridge for a couple of hours, never getting very high, by which time everybody else had gone home. Ah, but we Brits are made of sterner stuff than these lycra wearing, hand-bag wielding French! Perseverance paid off! I got away under a strange cumulus, grey, spread out sort of sky and very quickly flew 75 km. In 1 hour 45 minutes actually. It was getting more and more windy the further south I went and I decided it was time to get on the ground. The crops were swaying, the trees were bending - I came straight down, just like a Jump-jet. The sky looked great now, but I was glad to be on the ground. When I do a long flight I want to tell people about it, but not from a hospital bed!
- June 24th Yeah I know, another week day flight, well somebody's got to be out there making use of all those millions of thermals, because it would be such a waste otherwise! It's a fact that every thermal that carries a glider to cloud-base actually helps to preserve the ozone layer. It's true!

Anyway, its northerly and a good looking day so I decide to go to a site I haven't flown before just north of the famous "Dordogne River". A little tree covered ridge with a ramp for a take-off looks like fun. A local paraglider pilot show the way and goes up. I'm off next though its a bit late - 3pm for a long, long flight. Cloudbase is good, 7200', and its one of the few lucky days when Sappho my fiancé (yep, I'm engaged now!) is doing retrieve. After about 70km over a chat on the radio we "stop" for a snack - she in

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a lay-bye - me at cloud base. Then its off again, though I got stuffed trying to get round Toulouse airport. Still its 7:30, I've done 126km and Sappho and the car arrives a few minutes later, what more could you want?

- June 25th Cahors Ha! yet another week day, and I'm doing my bit to preserve the ozone (just like yesterday!) The forecast was a NW again, but it completely over developed, cloud spreading out until it was 8/8ths. I did 48km in two and a half hours in really challenging conditions landing as near as possible to the train station at Montauban.
- June 24th Great looking day.....Nah only joking. Went to work!
- July 3rd - 20th I was at Piedrahita. It was flyable nearly every day with four classic days, cloudbase of 13 to 13,500 and I was able to do out and return and triangles up to 138 km.
- Aug 31st Cahors Light to mod NNW, good cumulus. Got straight away from take-off in a good thermal marked by another glider. Cloudbase was at 4800 ato, but conditions were odd with heavy sink between the lift. Even down wind it felt like you were flying into a headwind. I managed 76 km, only Jean Souviron got a bit further at 82 km. Still Jean told me that evening that the next day (1st Sept) was a northerly and would be much better, he wasn't wrong.
- Sept 1st Cahors Northerly and clear sky. Plenty of pilots out, but no Jean Souviron, had he gone further north? I took off just before 1pm into a clear sky, but by now cumulus were beginning to form to the east. Just before 2 pm I saw Jean arrive with a couple of other pilots and begin some frantic rigging. (He had gone to a small site further north, but had come back due to lack of wind.)
- A few minutes later I was one my way in a rather average thermal. My friend Yves unfortunately landed after 12 km whilst seeking the second thermal. I was grovelling with Vincent, another good pilot. He soon ended up scratching on a small ridge but had to land. I luckily came in a bit higher and was quite prepared to land to, when bam! a strong thermal had me heading skyward again. I could only manage 3200 ato in this one and headed off towards the first clouds within reach down wind. Again right down low I got it, hallelujah! This time to cloud base at 6300 ato. It was 3pm now and the sky looked bloody epic. Staying high and flying cautiously the next four hours weren't that difficult and I landed at 7:10 pm in a virtually clear sky. I was in the foothills of the Pyrenees and I could see the Mediterranean. I knew before I landed that I'd flown my longest ever flight, 183 km in 6 hrs 13 mins. On landing I was overcome with emotion having beaten my own record which had taken 11 years. In 1985 I did 170 km on a large Typhoon from Weather Fell. the excellent Jean Souviron was the only one to get further, landing on the coast at 8 pm for 238 km! He had left the hill an hour after me yet still flew over 50 km further. This made me feel very happy, there is obviously still much more to learn.
- Sept 7th Cahors Light nothing NW, no clouds. Fired up after last weekends flying I waited until a couple of paragliders were up and marking the lift. I got off and was quickly followed by four other pilots. We topped out at 3400 ato. Flying as a gaggle we made slow by gradual progress. I felt that I was flying as well as I've ever done, completely relaxed and at one with my environment. After 3 hours 10 mins I landed with Vincent at 57 km. Not a very long flight, but difficult and enjoyable as we'd made the furthest in the weak conditions.
- Sept 12th Cahors As you can see it is a popular and frequently used site. It consistently works better than Ubley or Westbury.
- NW moderate, cumulus. Only two other pilots out today. I took off just before 2 pm and soon found a good thermal and headed off. I had in mind to try and fly home, which is 62 km down wind in a NW. After one and a half hours of cloud hopping I was within gliding distance of home, but as there was nobody home and its difficult to hitch from there, I'd try to get to Gaillac, a town a further 20 km on. Cloud base had now risen to 6200 ato and I got to Gaillac still high, so head off due east following the railway line to the city of Albi, where I landed near a friends house. Fortunately she was in and I got a

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lift to the train station. I did this very same flight last year and it was a 97 km dog leg, and this time, no surprise it was exactly the same distance!

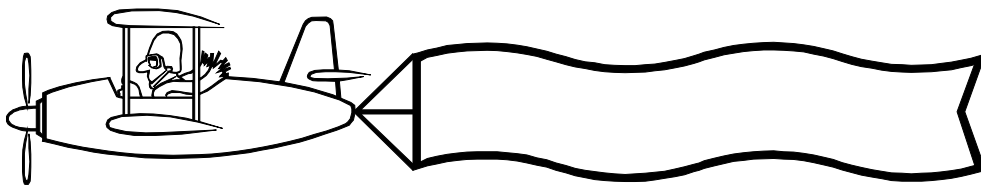
Sept 14th

Nothing amazing about today except I did a little XC with Jean Souviron and another pilot. We three landed together. A middle aged lady drew up in a red van - she lived next to the field we landed in . Jean chatted to her and explained our predicament (we had no organised retrieve.) This lady was a real gem, it was about 3pm and she said we could have her van as long as we bought it back by 8pm! What trust! She just gave us her van to sort ourselves out. Between us we had 35 years of flying and never had a complete stranger given us the use of their car before!

Mark Haycraft



Map of South West France



Gliders & Bits

Pretel V6 Alti Vario

NOVA

Discovery 195

Magic IV 166

Trekking Espace 44 (Med)

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