

# **Soaring** AUSTRALIA



**February 2003**



**Geralton  
Hill Flyers Fly-in**



**Nullarbor  
to the Eclipse**



**Narromine Cup  
Week 2002**



**Sundays in  
Phnom Penh**



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Photo: Courtesy Al Sim



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# SUNDAYS IN PHNOM PENH

Ian Brookes



**Photos: Courtesy Ian Brookes**

Mekong River with Phnom Penh in background. Preparing the Aircreation trike floatplane for flight. From the left: Donald Cooney, one of JP's local staff, and Jean Paul Ober

DAWN COMES QUICKLY AND NOISILY IN PHNOM PENH; AT LEAST OUTSIDE MY ROOM WINDOW AT THE SYDNEY INTERNATIONAL HOTEL NEAR THE S21 TOUL SLENG GENOCIDE CENTRE IT DOES. THE TWO ROOSTERS ON THE HOUSEHOLD PLOT BELOW GO BERSERK EACH MORNING AT ABOUT 5:15AM, AS DO SEVERAL PIGS SQUEALING AWAY. FAR MORE EFFECTIVE THAN ANY ALARM CLOCK. THIS IS QUICKLY FOLLOWED BY THE FLUSH OF DAWN IN THE TROPICAL SKY AND THE SOUNDS OF PEOPLE GETTING STARTED ON THEIR DAILY CHORES WHILST IT IS STILL COOL.

**M**id April and May is the hottest time of year in Cambodia, typically 37°C or more, and the early morning cool is not to be wasted. Normally, being Sunday, I would roll over and try and ignore the sounds of life coming from this city of 1.2 million people. However, for my colleagues and I associated with The Greater Angkor Project – The Angkor Ultralight Survey, lead by Assoc. Prof. Roland Fletcher, Department of Archaeology, University of Sydney, today is not just another Sunday. Today we are going to meet our good friend and trike owner and pilot, Jean Paul Ober, and have the day out at his property on one of the several islands in the middle of the Mekong River across from the city.

Denis Leluc, Operations Manager at Phnom Penh's Pochentong International Airport had, as a result of my seeking to uncrate, assemble and test fly our Australian Airborne Edge X trike somewhere at the airport, introduced us to Jean Paul earlier in the week. Denis was not keen on mixing heavy metal, both military and civil, and the assembly, Rotax engine run-in and test flying of our trike at the international airport. Instead he had very kindly made an alternative proposal to us involving his friend Jean Paul Ober (or JP as he prefers to be called) and his property on one island and the 'landing strip' on another nearby island, both legally just outside the Pochentong International Airport (VDPP) controlled airspace. Anyway, all of this was academic as I was still working my way (patiently yet

frustrated) through the extensive and very bureaucratic red tape of multiple government agencies to get the Australian made and HGFA registered trike, T2-2465, released from customs, without payment of taxes and duties, and have it be allowed to operate for the next few years in Cambodian airspace as part of the Greater Angkor Project – Angkor Ultralight Survey. This, in itself, is quite a story and will not be covered here! Other than to say that the process only took sixteen days, which is something of a record for a project of this type, but which still proved intolerable and insufferable to two of my American associates!

Jean Paul is, to put it mildly, a very likeable and helpful character and very enthusiastic about trikes. He is a bon vivant and





A view from the deck of JP's boat. JP in the foreground, Philippe Monnin at the controls and Ian Brookes in the rear seat. This same boat is used to transfer the other GTE trike to a nearby island for wheeled operations



Philippe Monnin with Donald Cooney in rear seat preparing to take off from the Mekong River

a great mine host. He has been in Cambodia for over ten years now and is the principle of the Bet Innov Construction Company. This keeps him busy enough, but for light relief he co-manages the Buffalo Restaurant with his delightful Khmer partner, Ms So Malika, which, as is to be expected, has a fine French menu and a selection of wines and cognacs to match. Only one problem, JP speaks excellent French and Khmer but next to no English. Fortunately, Ms So Malika speaks good English but is shy about doing so. Unfortunately, So Malika will not be joining us today, as she will be running the restaurant whilst we enjoy ourselves in the middle of the Mekong. Quelle horreur, my ancient and long forgotten schoolboy French is thought by JP to be just marginally better than that of the two Americans in our group, Donald Cooney, President of Concept Aviation and maker of the very fast single-place Prowler Trike, and his companion, Alexandra Rosen. I am left floundering, trying to keep the communication flowing in "Franglaise".

Carrying the Aircreation Fun wing out of JP's compound down to the Mekong River



Anyway, having all crowded into JP's 4x4, together with foodstuffs and one of his cooks and with So Malika balanced delicately on Donald Cooney's lap, we depart for a modern Total filling station in the city to get our Vietnamese plastic jerry cans filled with Total premium 97 octane lead free mogas. After which we head off over the Japanese Bridge, second turning on the right and down the road to catch the ferry across the Mekong to the island on which JP has his Alpine-style chalet set in a large plot within high walls and roamed by a number of large dogs, which look very fierce indeed but, which when introduced to us individually, almost lick us to death!

JP's weekend is impressive, not just for its architectural style and well laid out and

spacious grounds, but also for its two French Air Creation GTE ultralights and his workshop/store. The Air Creation company of Aubenas, France is, probably, the largest manufacturer of trikes in the world. Airborne Australia, by comparison, probably comes in quite a bit behind at number three. And yet, as an Australian, I am totally unfamiliar with Air Creation trikes and this is my first contact with them. JP's two GTE models are at least five years old, are both the same model and each with a Bombardier-Rotax 502 engine. Wing selection include the Fun and XS wings. Very robust machines indeed, and they look well suited to Cambodia and to Australian outback conditions. However, given the climatic conditions experienced year-round in Cambodia, and in

Fixing some rudder control steering problems. Mekong River, Cambodia







Local watercraft pass by regularly

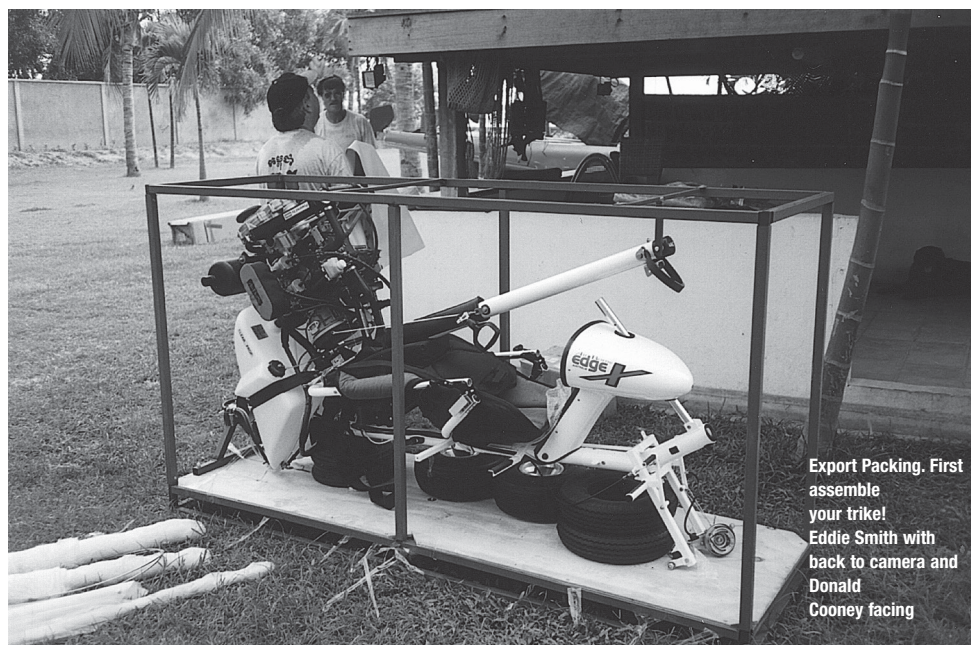
the opinion of this tyro, I regard them as heavy and underpowered with the Rotax 502 engines. Now, with a Rotax 582 they would really fly year-round under most conditions in Cambodia. Cooney, however, with nearly 30 years of hang gliding and ultralight flying under his belt, puts me down at this remark and tells me that I have been spoiled by the performance of the Rotax 582 engine. Quite possibly so, but I intend to keep it that way. I have spent far too many years in Indochina and SE Asia and its crazy meteorological conditions to believe otherwise than having a good power margin in reserve, regardless of what type of aircraft I am in. Difficulties experienced later in the afternoon in getting airborne off the Mekong River with a half fuel load and myself (at 90kg) on board and with Philippe Monnin at the controls, only reinforces my earlier opinion. All of this begs the question as to why the HGFA does not have trike licence endorsements for 'Float Plane Operations' and for 'Ski Plane' operations for that matter, given the rapidly growing use of trikes fitted with either floats or snow skis around the world. Aussie "Trikers" roam the world. Come on – let's get real and make these endorsements available to those who may qualify and seek them.

The most experienced and respected trike pilot in Cambodia is, unquestionably, Monsieur Philippe Monnin. Unlike JP, who speaks French and Khmer, Philippe has very

good English. Philippe came to Cambodia with the United Nations in 1992 to assist with the rehabilitation of the former rubber plantations that had been completely neglected during the Khmer Rouge era and the subsequent 11-year occupation of Cambodia by Vietnam. He stayed on after the UN left and now manages a number of plantations throughout Cambodia. As Philippe had flown trikes in many parts of the world before coming to Cambodia, he decided on arrival that a trike was the perfect way for him to commute from his city compound to the plantations he was responsible

for. Please remember that at that time there was no effective functioning civil administration in Cambodia and no AIP/CAR regulatory considerations to worry about. Besides, the locals, having been isolated from the outside world for so long, just accepted it as normal for a foreigner to fly an ultralight in to and out of their own backyard in the midst of a city. How times have changed!

For additional information or to make contact with either JP or Philippe please feel free to contact me on <brookesian@bigpond.com>. For information on Air Creation Trikes see [aircreation.fr].



Export Packing. First assemble your trike! Eddie Smith with back to camera and Donald Cooney facing



# NGAURUHOE

Geoff Mercer, (Article courtesy Airborn Magazine, New Zealand)

NGAURUHOE – 2,291M HIGH AND SHAPED LIKE AN UPSIDE-DOWN ICECREAM CONE. OUR MISSION: CLIMB IT AND FLY OFF – SOUNDS SIMPLE, REALLY.

Looking south from Ngauruhoe to Mt Ruapehu, the cloud bank flowing from right to left

**W**e woke in our Turangi bach at 4am and drove to the Mangatepopo end of the Tongariro Crossing trail, a five to eight hour walk traversing the saddle between Tongariro and Ngauruhoe. We had two paragliders among our party of four – a tandem and my solo wing. I'd taken the liberty of inviting my big, strong non-flying friend Stephan along for the "walk". I just happened to also have a spare pack of considerable proportions. In the pre-dawn dark he remained blissfully ignorant as I piled half my kit into this pack and strapped it to his broad shoulders.

We both set off with about 15kg in our packs. Mark and Mike carried the tandem. The sky lightened slowly as we walked to reveal high cloud overhead. Ngauruhoe squatted next to blunt-topped Tongariro in the distance.

The first half of the walk involved one-and-a-half hours of gentle ascent (about 200m of altitude) and tended to create the impression we were on a cakewalk. The second half, the final 900m, was a rude shock – it took another one-and-a-half hours and was gut busting. The first part of the steep section involved scaling the staircase from the lower foothills onto the saddle between Ngauruhoe and Tongariro. The remainder of the climb, 700m up the 35°ish degree slope of Ngauruhoe, was punishing. Sand and scoria covers most of its slopes and sometimes the proverbial three steps forwards is followed by two sliding back.

We made our best progress when able to stick to a bare but jagged rock ridge. It provided handholds that enabled me to pull myself up as well as push with my legs, easing the ache in the latter. We were stuffed when we reached the summit at 8:10am, three hours after setting out, but the sense of achievement was commensurate.

However, there was a problem: it was cold, and a gusty, strong wind was blowing towards us through the caldera at the top. Steam issued from rock fissures and Mark, suffering from the cold, burned

his bum on a rogue spurt as he huddled close for warmth. To avoid the wind we hopped over the lee edge and huddled against more steam-heated rocks to warm up; we ate chocolate and scroggin; made bragging cell phone calls to wives and sundry; and gazed in wonder at the moon-like landscape stretching across to Tongariro – an orange-coloured wasteland, pocked with thermal lakes and sulphur deposits.

Next we considered our chances of making the descent by air. The first requirement was to check the wind speed on the southwest face, diagonally opposite where we summited. Ngauruhoe is not huge at the top so it took only five minutes to walk to the other side, part of the journey completed across a patch of frozen snow. The wind was at the upper end of what, under the circumstances, would be considered safe for launching (25-35km/h), but the prospect of carrying our gear down that mountain was at least as intimidating as the breeze. Another factor to consider was a bank of cloud building below us and to the east, above where our car was parked.

Stephan and I helped Mark and his passenger Mike to launch, which involved me holding some of his control lines to keep the wing on the ground while Mark chose the ideal moment to heave on his A-lines and lift off. When that moment came my watch caught between two lines and I momentarily lost contact with the ground before a pin fixing the strap to the watch broke and I dropped free. The tandem pinged into the air and soared out in front of us. By this time the cloud had built considerably and it was impossible to see the ground where we wanted to land. It was blowing through the gap between Ruapehu and Ngauruhoe, and between Tongariro and Ngauruhoe. Good visibility still existed to the east, but if we landed there it was further from our transport and a long walk back.

On my first launch attempt a line caught under a rock and I still can't understand why it didn't break as most of the wing tried unsuccessfully to fly away. My second attempt was trouble free. I yelled





**Intrepid climbers and flyers. From left: Geoff Mercer, Mark Bugmann, Stephan Alseben (Sherpa) and Mike Pudney (passenger)**

farewell to Stephan and shot skyward, making slow but discernible progress forward. The view was amazing: far to the west Mt Taranaki reared skyward from a bed of cotton wool, as did the Kaimanawa Ranges separating the volcano from Hawke's Bay. Mt Ruapehu lay quietly in the morning sun 14km distant across a wide expanse of scrubby countryside. I soared Ngauruhoe's face for some time and gained enough altitude (300ft) to gaze inside the crater.

After 20 minutes, uncertainty about where to land began to bother me so I pushed out in front of the volcano to get myself



**Mark, Geoff and Mike (from left to right) donning warmer clothing after their climb. The rocks to the left are warm**

**Photos: Courtesy Geoff Mercer**

directly above some cloud; I wanted to know if there were holes in it I might slip down through. There weren't and I returned to the mountain. This venture cost me about 900ft of altitude and the breeze lower down was insufficient to get me back to the summit (lower down the wind flowed around the mountain rather than over it). Light thermals were starting to rise from the rocky terrain below in the still-weak morning sun, but they were erratic and insufficient to get me back to the top. Suddenly my best option became to squeeze between Ngauruhoe and the cloudbank and to land in the riverbed below the climb up the staircase to the saddle between Ngauruhoe and Tongariro. I edged lower, mountain to the east and cloud to the west, only flying through wisps of the white stuff.

Underneath that obscuring cloud blanket was a sight nothing had prepared me for. The Tongariro Crossing is the most popular one-day walk in New Zealand and suddenly I could see why. An almost unbroken line of trampers inched their way along the well-worn trail we'd trodden hours earlier. Gasping tourists paused as they

climbed and gawked at the paragliding apparition descending above them.

I landed next to the trail on a wide shingle stream bed and Mark and his passenger joined me five minutes later. We packed up and waited for Stephan to complete his descent by foot and when he joined us we trudged back to the car, buggered but delighted.



**Looking north from Ngauruhoe to Tongariro**

Soaring Australia 5



# LIFT – MAKING THE BEST OF IT

## – Part 7

Bernard Eckey

### 2.8 Lift under Cumulus Clouds

Having discussed the subject of finding and working lift at lower levels it is now about time we consider lift on days with cumulus clouds. Cumulus clouds are products of thermals – we all know that. Thermals are lifting air (containing some degree of moisture) from ground level to cloud level. As this moist air rises it encounters a reduced ambient pressure. Lower pressures at altitude make the air expand and cool down, but dropping temperatures also mean that the air can hold less water vapour which allows saturation to occur. At this point some of the water vapour condenses into tiny water droplets and a new cumulus cloud is born.

Such cumulus clouds are loved by glider pilots all over the world as they are like big billboards in the sky advertising lift. Cumulus clouds make gliding extremely enjoyable, allowing us to fly from one cloud to the next with increased likelihood of finding lift when we get there.

Perhaps in this context we should discuss the spacing of thermals. For reasons not yet fully understood the distance between lift appears to be closely related to the depth of the convection. As a rule of thumb we can work on a thermal spacing of approximately 2.5 times convection depth. It is important to note that convection depth is defined as the distance between the ground and the top of the thermal – not the condensation level as many glider pilots believe. If, for example, the top of the thermals reach to 6,500ft (2,000m) we can expect our thermals to be approximately 5,000m or five kilometres apart.

A typical winter day in the southern parts of Australia will give us cumulus with cloudbases between 3,000 and 5,000ft.

In contrast, cumulus clouds are rare over arid southern Australia in summer, but if present they can be very high indeed. When searching for lift on cumulus days we change our thermal-finding tactics completely. Instead of looking down for likely sources of lift we look up to get our clues from the clouds above. After all, they are visible proof of the convection we are relying on so heavily. No more guesswork, no looking at the ground for likely thermal sources and no more searching for thermal triggers. All we need to do is to observe the clouds and take note of the sky above.

To some people watching clouds might seem as interesting as watching paint dry, however, to a glider pilot a sky full of cumulus clouds is quite exciting as it helps to assess the soaring conditions for the flight ahead.

Although the average life of a cumulus cloud in the drier southern parts of Australia is only in the order of 20 minutes or so it does provide inquisitive pilots with valuable clues and extremely useful information.

### 2.9 Flying Tactics Just Before and After Launching

Unfortunately the sport of gliding is not conducive to thinking about the flight when climbing into a glider, stop thinking about it when we climb out again and think as little as possible in between. Very seldom, if ever, a flight is successful if we have not put at least some thought into it and start this thinking process well before we climb into our aircraft.

Let us deal with winch launching first.

Having earmarked a promising cloud shortly before our launch we are already well prepared and only need to implement a decision made earlier. At the top of the launch

we check that our target cloud is still within reach and by using the shortest possible track we should keep flying towards it until we get there. In other words, make a decision and stick to it unless safety considerations dictate a return to the airfield. Under no circumstances should we detour over promising ground below and we will not be tempted to throw a turn if we are not very sure that we finish up in good lift. We must simply keep flying towards our chosen cloud at a speed close to best L/D but ever mindful that we have to position ourselves upwind of it.

Much the same applies to aerotow launching although here we have the added advantage of being able to release as soon as we transit a thermal. Usually this puts us straight into good lift but in the event of a release away from a thermal we head straight for the most promising cumulus cloud upwind of the airfield. It is imperative to position ourselves upwind of an active cloud if we want to maximise our chances of finding lift.

This poses the important question as to how far upwind do we need to be?

In order to find the answer to this important question we need to have a good look at the conditions of the day. Thermals are not like trees bending only a few degrees in windy conditions. Not only do they drift with the wind but the wind also makes our thermals ascend at shallower angles. The only exceptions appear to be dust devils producing super strong thermals in summer which are seldom seen to be leaning at more than 20 degrees or so. Therefore on a windy day it becomes necessary to search well upwind of a cumulus cloud. Expecting lift vertically under a cloud is fruitless unless we are very close to cloudbase indeed. Our best chance of finding lift is by intersecting an imaginary line between our suspected thermal trigger and our target cloud. At first glance this might sound rather difficult to do but it is much easier than expected when airborne. From the cockpit of our glider the travelling direction of clouds and wind speed can be assessed very well simply by watching the shadows on the ground. Remember, wind direction and wind speed are normally very different at cloud level compared to ground level and it should be needless to say that only the upper wind matters when it comes to finding lift at higher levels

### 2.10 Over-development and Cycling

Although not very common in the drier parts of Australia cumulus clouds can grow big enough and can become so numerous that they fill the sky completely. Especially in tropical or subtropical regions cumulus clouds have a significantly longer life cycle

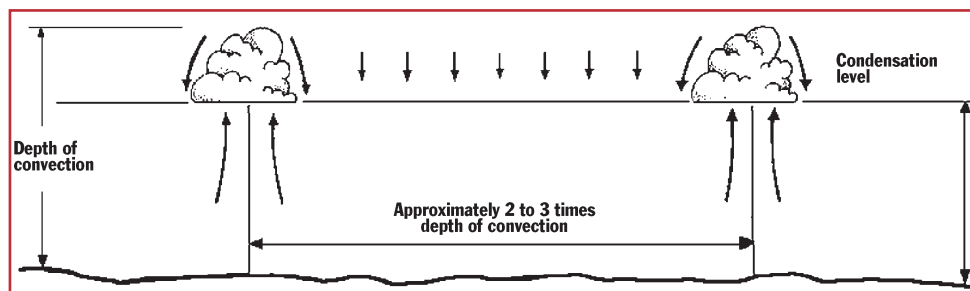


Figure 22: Spacing of thermals



as higher humidity levels slow down and delay the evaporation process considerably. It means that on one hand older clouds are very slow to dissipate but at the same time new ones appear on a regular basis. Under such conditions the formation of a cloud blanket occurs and we are faced with a phenomena called “over-development.” Needless to say new convection is interrupted for as long as sunshine is unable to reach the ground. Only after the sun has burnt off some of the older clouds can ground heating recommence and with a delay of approximately 15 to 20 minutes the convection usually starts again. Sometimes this is called “cycling” in glider pilots’ jargon, but take it from me, it has got nothing to do with pushbikes!

What does all this mean in real practical terms for pilots on the grid getting ready to be launched soon? Well, first of all it means that we mentally prepare ourselves and decide on our best options while getting ready. Successful flights start well before the pilot gets into the glider. Watch the clouds for a minute or two and try to work out which corner of the cloud is most active. When it is your turn to get launched, first select a promising cloud within gliding distance and if possible upwind of the airfield. Make sure your target cloud is in fact active and not decaying. A nice flat base and sharp, crisp corners are indications of a lively cumulus.

### 2.11 Thermal Streets

Provided the prevailing meteorological conditions are favourable, thermals are often organised into streets running parallel to the upper wind. Here is a list of “favourable conditions” for future reference:

- a) *The convection must be capped by an inversion*
- b) *Only small changes in wind direction occur within the convective layer and*
- c) *The speed of the wind increases with height but ideally has its maximum within the convective layer*

A combination of these (not uncommon) conditions tends to favour “streets” of closely spaced thermals. Glider pilots enthusiastically refer to such conditions as “streeting”. Thermals under these streets of lift seem to be greatly enhanced but completely absent in the clear air in between. Sometimes streets of lift don’t even seem to require hot spots on the ground – evidence can often be found over oceans, thousands of kilometres away from land. Research has shown that contra rotating vortices, generate long rows of lift with lines of sink in between (refer to Figure 23). The higher the inversion the greater the depth and the wider the gap in between these streets.

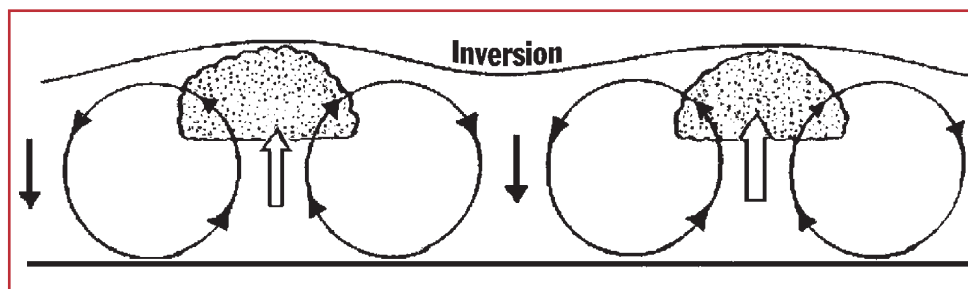


Figure 23: Streeting

If cloud-streets are present we are well advised to get underneath one as quickly as practicable. By positioning ourselves correctly we can be almost certain of finding a good thermal before long. Cross-country pilots often fly for distances of 100km or more without stopping in a thermal and by following the right track through the air. Cloud streets often provide enough energy to maintain altitude even at relatively high cruising speeds. Some phenomenal cross-country speeds and distances have been recorded by pilots taking full advantage of such conditions. Flying either downwind or directly into wind and just “jumping across” to an adjacent street when necessary makes for some extremely fast and enjoyable cross-country flying indeed.

It must also be mentioned that streeting is common even on cloudless days although under such conditions it becomes more difficult to detect and follow these invisible energy highways. It is possible though, and extremely satisfying when we manage to stay in good air for long glides on blue days. However, it is more important than ever to be in the right spot at the right time and if we find ourselves in sink for any length of time we might be flying along a street of sink. Only changing our heading promptly (I suggest by approximately 45°) will get us out of sink and back into lift again.

### 2.12 Dissipating Cumulus Clouds

Because not every cloud is productive we must be very selective to avoid wasting time under decaying cumulus. Although this might seem easier said than done, there are quite a few clues which can help us to avoid clouds which have gone past their prime and provide nothing but heavy sink.

Unless a cumulus cloud can draw in air horizontally it begins to dissipate almost as soon as the updraft stops. This part of its life cycle can be recognised by fading corners, uneven bases and a “falling apart” appearance. Compared to a developing and active cloud the appearance is strikingly different, but having said this I hasten to add that an almost completely dissipated cumulus cloud has often the same appearance as a newly

forming one. Therefore it is best to keep a close eye on doubtful wisps of clouds and only try them for size if they are clearly showing signs of life, activity and growth.

Needless to say we are well advised to stay away from clouds looking a bit worse for wear, because usually there is nothing but sink under them.

Next time you wait for your turn to fly attempt to identify active and decaying clouds. It will help when airborne and provide valuable clues when in the driver’s seat. We may find that cumulus cloud evaluation is not as difficult as first thought. It is good fun, especially if we involve other pilots on the ground. We may even find that our curiosity becomes contagious.

At this juncture a word of warning on the possible deceptiveness of cumulus clouds towards the end of a soaring day. The temperature on the ground might have dropped by a few degrees only, but the clouds could still look as promising as ever. In reality however, the drop in temperature has either retarded or stopped the formation of new thermals altogether, meaning that the appearance of the cumulus clouds is only kept up by the horizontal inflow of air from nearby decaying clouds, but certainly not from ground-based convection any more.

This does not mean that such clouds have outlived their usefulness altogether, because near cloud-base reasonable lift can often still be found. Flying tactics must change though as we cannot afford to get low and expect to find workable lift at lower levels.

This story is anecdotal but a well-known pilot was once asked how he managed to win a contest day and make it home when most of his competitors outlanded. His answer was short and to the point: “*At first I stayed high and flew fast*” he said, “*but towards the end of the day I just stayed in close contact with the clouds.*”

That sums it up – doesn’t it?

### 2.13 The Self Stoking Effect of Cumulus Clouds

Compared to a blue sky we often experience much stronger lift and better gliding conditions under a sky full of cumulus clouds. At first sight this seems far from logical because a fair percentage of the ground is covered by



cloud shadows. Therefore one could be forgiven for thinking that cloud shadows reduce the amount of heating and depresses thermal activity quite considerably. Practical experience, however, indicates that the opposite is true – all the more reason for investigating the matter a bit closer.

To let the cat out of the bag, it all comes down to the release of latent heat at the moment of condensation. Let us cast our mind back to the good old days when our physics teacher explained that heat is required to change the state of water from liquid to vapour. It might have taken a while, but today this knowledge comes in very handy indeed. The sun provides the necessary heating and the resulting evaporation is in effect a change of water from a liquid to a vaporised state. The heat energy provided by the sun is not lost, it simply becomes trapped in the vapour as latent heat.

This process occurs in mother nature's weather kitchen all the time. Fortunately for glider pilots the sun's heat energy is released again when the process is reversed. In other words, when water vapour rises in a thermal and subsequently condenses at cloud level we get a release of latent heat. Although this release of latent heat only occurs within the cloud itself it is widely believed to have a strengthening effect on the thermal below. And it is not hard to see why, because any warming of the air enhances its buoyancy which in turn should increase the rate of lift – an effect perhaps not felt at lower levels but often quite noticeable just below cloudbase.

While on the subject of moisture we should also investigate why moist air helps with the formation of stronger lift. All thermals contain air with some degree of moisture, but contrary to popular belief humid air has a significantly lower density. It follows that air with a high content of water vapour makes it more buoyant and when this air rises in a thermal it gives it an additional boost.

## 2.14 Above the Magic Carpet

One of the most beautiful experiences in gliding is a flight above the clouds or along a wall of towering cumulus clouds. Some pilots call it slope soaring of cumulus, some call it thermal wave, but I call it sheer magic.

Unfortunately only few days with cumulus clouds lead to the formation of thermal wave, but when the conditions are right we should be prepared and ready to go. Therefore we will touch on the meteorological requirements first, and as a second step investigate suitable flying tactics for taking advantage of this truly awesome experience.

First and foremost unstable conditions with an inversion layer well above condensation level are called for. Solid cumulus clouds with substantial vertical development are also required, and, last but not least, we need a wind profile which ideally has its maximum between the tops of the clouds and the inversion layer.

Don't despair if it seems difficult to obtain all of this information, because the trained eye can detect the presence of thermal wave by the shape of the clouds and by the curl-over at its trailing edge (refer to Figure 24). On rare occasions we can even detect a cap of silky smooth clouds forming on top, and if this is the case we can be almost certain that thermal wave conditions exist.

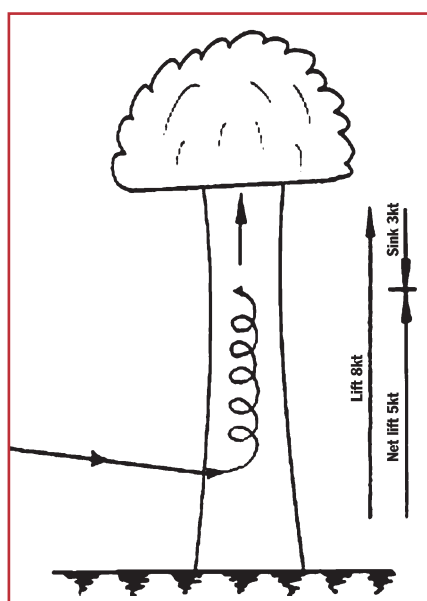


Figure 24: Entering thermal wave

That leaves us with the question – how do we take advantage of such conditions? To get the answer we first need to understand that thermal wave has precious little to do with the better-known mountain lee waves. Thermal wave is triggered by a large cumulus cloud which assumes the role of an obstacle to the airflow at the same level. In fact the cloud acts as a ridge, forcing the air to rise and flow around it. The path below the cloud is blocked by the updraft and therefore the air has no choice but to be deflected over the top. As long as the vertical component of the deflection is strong enough to exceed the sink rate of our glider we can take advantage of it, but again the trick is to be in the right place at the right time.

The standard entry procedure is to climb as high as legally possible under a cloud suspected to produce thermal wave. After pointing the glider into wind (and flying at best L/D) we move upwind until we transit an area of rising smooth air. Usually the lift is not very strong at all and might even be

less than half a knot or so, but provided we remain patient we will eventually gain height in clear air and upwind of the cloud.

Upon getting level with cloudbase we usually experience a significant increase in the rate of lift, but even then our rate of climb is seldom as good as it was while climbing up under the cumulus cloud. This strengthening of the lift gives us the green light for extending the search area and for assuming flying tactics akin to ridge soaring. Fly a figure eight pattern in the strongest part of the updraft and before long the magic carpet of fluffy and brilliantly white cumulus clouds is gradually left below. Soon a stunning world of breathtaking beauty and overwhelming grandeur appears. The air is usually smooth enough to relax completely in the glider's cockpit which, trimmed correctly, hardly requires any control inputs to speak of. In my book, flying in this fashion is one of the most rewarding experiences in that magic sport of ours – an experience which is almost impossible to describe and one that must be experienced first hand.

But as usual such an excursion does not come without its dangers. More often than not thermal wave conditions extend to altitudes which require the use of oxygen. Another serious trap can be an unexpectedly strong drift at higher altitudes, which in combination with impeded navigation (due to clouds below) can become a rather serious matter. In mountainous terrain we must be conscious of "Cumulus Granitus" and never descend anywhere near clouds. Remember, other glider pilots are keen to contact the thermal wave as well and that should be enough reason for letting down in an area known to be clear of other aircraft.

Furthermore, we must keep an eye on the clouds below and ensure that we can descend in clear air. Plenty of stories about glider pilots trapped above a rapidly closing cloud cover make quite funny reading but unfortunately some of these flights had very tragic consequences. The regulations stipulating horizontal and vertical distances from clouds are there for good reasons and although these rules make the successful entry into thermal wave conditions very difficult we are well advised to adhere to them in the interest of safety.

## 2.15 The Wind is Spoiling the Party

Let us get back to thermals now and consider the effect of the wind. All too often the effect is underestimated by less experienced pilots, who tend to head straight for the cloud's centre. As this approach seldom works I suggest we look at the reasons together.



**Example 1:**

*Flying on a calm day (or on days with hardly any wind) we tend to get almost vertical updrafts. Under such circumstances we can expect the core of the thermal near the centre of the cloud. However experience suggests that the best lift is often found under the quadrant of the cloud facing the sun. I assume this is common knowledge but I would like to refer readers back to section 1.6.2 where we discussed a significant increase in the rate of sink while circling.*

*Now, let us assume we find ourselves a nice thermal with an average climb rate of five knots. The true vertical airspeed of this particular updraft would be approximately eight to 10kt. because we are experiencing the glider's inherent sink rate of approximately three to four knots while circling and we are not always circling in the strongest core or the best part of the thermal. If you have ever been out-climbed by a soaring bird you know what I'm talking about. The bird is not necessarily a better pilot but it has a lower rate of sink while climbing and its much lower wing loading allows it to fly much closer to the core.*

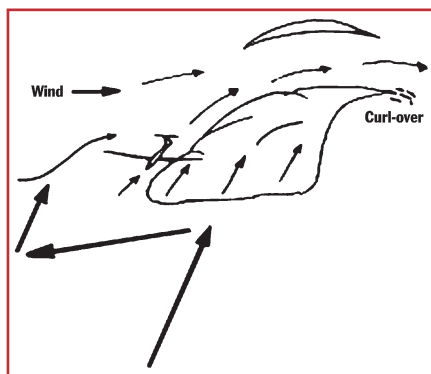


Figure 24b: Thermal in calm conditions

*Going back to Figure 24 we can see that in a glider we are also gaining height but we are doing so at a substantially slower rate compared to the surrounding air. Makes sense, doesn't it?*

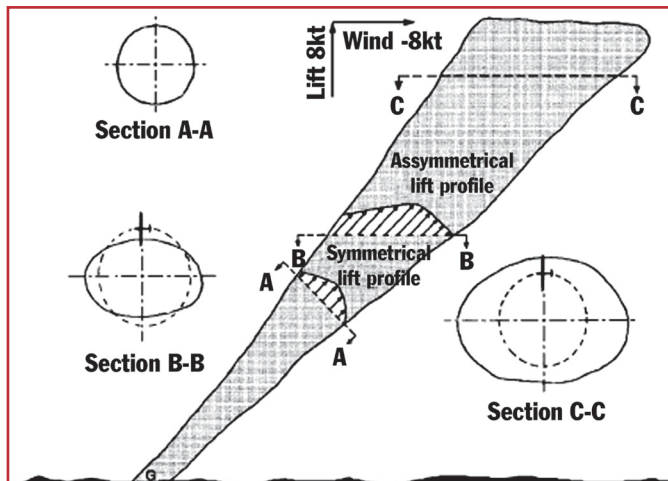
**Example 2:**

Figure 25:  
Thermal under influence  
of wind

*Let's look at a more realistic situation now and work out what is happening on a day with moderate winds. Again, assume a wind speed of eight knots and a thermal ascent rate of eight knots.*

It's not difficult to see that the thermal is convected downwind at an angle of 45°. Although such shallow thermal slope angles are sometimes refuted, in my opinion they are fact. I do not subscribe to the theory that thermals tend to rise almost vertically simply because all too often I have seen evidence to the contrary. When smoke is rising from stubble fires in autumn we can observe the tilting of thermals from our gliders extremely well. On those occasions there is proof beyond doubt that thermals are greatly affected by the wind and that we need to search for lift well downwind of the thermal source. Depending on our altitude this can be quite a distance upwind of the cloud. Soaring was never meant to be easy and thermal finding is decidedly a tricky job on windy days especially when we are searching for lift several thousand feet below cloudbase.

A pretty good rule of thumb is: The weaker the lift and the stronger the wind the further upwind of the cloud we have to search for lift.

Taking the above example one step further and considering a two-knot climb on a day with moderate winds we encounter even shallower slope angles. I've personally worked many weak winter thermals gaining only 2,000ft or so while drifting almost 10km downwind and in my book there are only two plausible explanations for this. Either the thermal does slope at such shallow angles or the thermal source is pushed across the ground by the wind. I don't know the answer but I strongly suspect it is a combination of both effects. Whatever the case may be, we have to make use of this basic knowledge in order to get a much better grip on the likely location of weak thermals on windy days.

Other than highlighting the tilt angle of thermals, Figure 25 further suggests an increase in the diameter of thermals with altitude. Reduced ambient pressure at higher levels would suggest an expansion of the rising air and – as our practical experience generally points to a

widening of thermals at altitude – such an increase in the diameter is not at all under dispute.

But Figure 25 brings up another interesting point. Cutting through a tilted thermal (at a right angle to the centreline) would reveal a symmetrical lift profile and a roughly circular cross section (refer to Section A-A). The strongest lift would be found in the centre with a gradual weakening towards the fringes.

However, while circling we are not moving at right angles to the centreline but almost exactly parallel to the ground and a cross section at B-B would reveal that the updraft assumes an oval shape. Any glider circling in a very narrow thermal (and possibly even at a low altitude) could temporarily move outside the area of lift although almost perfectly positioned in relation to the core. Needless to say, gaining altitude under these conditions is very difficult indeed and requires a lot of patience on the part of the pilot. Higher up the problem disappears as the area of lift has widened and the pilot has little difficulty remaining in lift for a full turn (Section C-C).

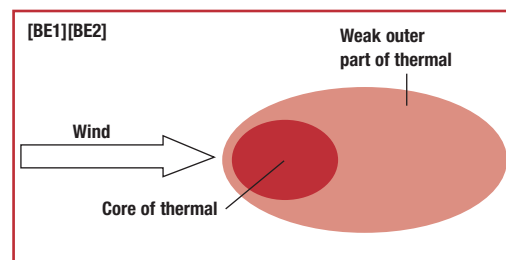


Figure 26: Core of thermal on windy days

**2.16 Thermal Distortion**

But that's not all, Figure 25 also suggests an asymmetrical lift profile with stronger lift on the upwind quadrant of the circle. Again, practical experience seems to support the widely held opinion that thermals tend to have an elongated shape on windy days. From experience we know that the strongest lift is located near the upwind quadrant which means the lift is strongest very close to heavy sink (Figure 26).

Of course, in such conditions efficient thermalling is a very tricky, frustrating task. Moving only marginally further upwind could result in the loss of the core and drifting into very heavy sink, squandering both altitude and valuable energy.

I don't want to frighten you, but it gets even trickier. So far we have totally neglected the effect of the wind gradient and just assumed an even wind strength over the entire vertical extent of the thermal. Unfor-



tunately this assumption is incorrect as the strength of the wind usually increases with altitude. As a result the tilt angle can be even more dramatic at higher levels, a situation illustrated in Figure 27. On the other hand we often experience an increase of thermal strength with height which tends to diminish the wind gradient effect on the thermal to some extent.

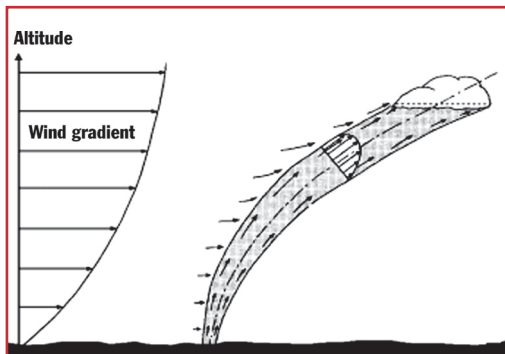


Figure 27: Effect of wind gradient on the slope angle of thermals

### 2.17 Thermal Re-Centering Methods

Now let's take the matter a step further and investigate the best options after losing a thermal. Even very experienced pilots lose concentration, and consequently a thermal, from time to time. This is not a problem as long as we have a fair idea where to find it again.

By now we have come to accept that despite our best efforts we are climbing at least three to four knots slower than the air in the thermal around us. That raises the question as to what practical implications a slower rate of climb has on our positioning within the thermal.

Let us go back to Figure 26 for a minute. Because the thermal is tilted at a significant angle and because the sink rate of our glider does not allow us to keep up with the thermal we need to find out what happens to our glider in this situation.

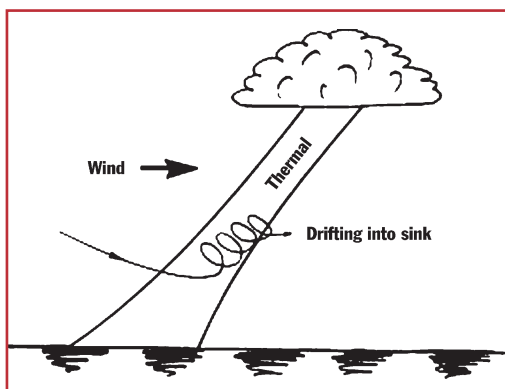


Figure 28: Dropping out at the bottom

Yes, due to the glider's inherent sink rate our aircraft's ascent angle is significantly shallower. Therefore we tend to get left behind by the thermal and drop out at the bottom. Our only chance of intercepting the thermal again is by flying into wind and by applying the thermal centering methods discussed in section 1.2 of this series of articles.

Depending on both the strength of the lift and the strength of the wind we constantly need to reposition our glider to stay in the best part of the thermal. This can vary from a mild correction at every second turn to a major re-centering exercise at every single turn. All of these manoeuvres have one thing in common in that they require us to level the wings just before we are pointing into wind. As soon as we are approaching the core again we roll into it when we feel the vertical acceleration and just before our variometer shows the peak reading. If we wait until the vario peaks it will be too late and we will have passed the core of the thermal. So a good deal of anticipation is required including the use of sensitive nerve endings in our backside. Windy days with weak and broken lift provide ideal opportunities to sharpen our thermalling skills. They give us ample opportunity to implement all the theory and to acquire the skills for mastering the trickiest of soaring conditions.

### 2.18 The Importance of Flying Accurately

Having spent a fair bit of time on the effect of wind on thermals and on resulting thermal distortions it is about time that we put it all into perspective. Not even the very smartest glider pilot in the world can possibly take all these issues into account every time he or she enters a new thermal. Thermal behaviour is by no means an exact science and the issues are just too complex for a detailed consideration of all matters in flight. On the other hand, it is useful to know about these issues as they enable us to understand thermal behaviour and allow us to better predict and assess soaring conditions.

Although almost everyone can soar on days with strong and large diameter thermals it takes a bit of experience and a prompt adaptation to the prevailing conditions to do equally well on tricky days with thermal distortions. Especially in such difficult conditions it is vital that we take note of the changes in seat pressure and quickly adjust our circling position to remain in the core of the thermal. I know, this is the eternal struggle of all glider pilots and much easier said than done, but there is little doubt that it pays dividends to put a good deal of effort into this aspect of our flying. After all, this is what these articles are all about.

Let me cast your mind back to Part 1 of this series of articles where we learned that our backside is the most responsive variometer of all. Lately a fellow coach in WA sent me a note from which I would like to share the most fitting line with you today: *"If God had not intended us to fly he would not have given us bottoms, these give us instant feedback on lift – straighten up in the surge and tighten at the peak."* Doesn't this sum up the issue pretty well and isn't this another good reason for making our backside the prime instrument?

No doubt, when it comes to thermal centering experience plays a very important role and when seasoned glider pilots might require only two or three turns to arrive at an even rate of climb, newcomers often struggle with this all day long.

However, once we are circling at an even rate of climb we can be fairly certain that we have found the core. Here the air is less turbulent and this goes hand in hand with a dramatic improvement in the average rate of climb.

Getting into the core is one thing, but staying there is quite another. All too often we see new pilots working very hard to find the core only to drop out again soon afterwards. If this story sounds familiar to you the most likely question on your mind is: *"How can I stay in the core?"*

The answer is surprisingly simple, we must fly accurately – very accurately, or better still – very very accurately indeed.

Flying accurately simply means that we maintain the airspeed and the angle of bank appropriate for the current thermal. (refer to earlier articles) Not even minor inaccuracies can be tolerated if we want to hang on to the core. As long as we accurately maintain speed and angle of bank we will have little trouble staying in the core where we can extract the maximum rate of climb. However, as soon as we tolerate fluctuations of only five knots in airspeed and five degrees in the angle of bank we run a risk of losing the core resulting in a struggle with the outer fringes of the thermal again.

To highlight the magnitude of the problem let us look at another example together.

For half a turn a pilot is circling at 45° angle of bank while flying at an airspeed of 45kt. For the other half of the turn our pilot allows the airspeed to increase to 50kt while simultaneously reducing the angle of bank to only 40°. How far will the aircraft move away from the centre of its original circle?

To get the answer to this question we must go back to Part 4 of this series of articles where we looked at circle diameters in relation to circling speed and angle of bank. For reasons of convenience the following table is reproduced.



CIRCLE DIAMETER IN METRES									
Speed	Bank angle in degrees								
kt	20	25	30	35	40	45	50	55	60
40	237	185	150	123	103	86	72	60	50
45	300	234	189	156	130	109	92	76	63
50	371	289	234	193	161	135	113	94	78
55	448	350	283	233	194	163	137	114	94
60	534	416	336	277	231	194	163	136	112
65	626	489	395	326	272	228	191	160	132
G force	1.06	1.10	1.15	1.22	1.31	1.41	1.56	1.74	2.00

Figure 29: Circle diameters in relation to circling speed and angle of bank

As we can see a circle flown at 45kt and 45° would result in a circle diameter of 109m, whereby a circle flown at 50kt at a bank angle of 40° would increase the circle diameter to 161m. Not only has the pilot increased the circle diameter by 52 m (or close to 50%) but he has also moved away from the centre of his original circle by as much as 25m.

I let you work out what displacement occurs if the second half of the turn is flown at 55kt and 35° angle of bank and how far the pilot moves away from the centre of his original circle under these circumstances. After completing the exercise you might want to pause for a moment and consider

whether your flying is always accurate enough?

The above sketch clearly highlights that we must accurately maintain our airspeed as well as our angle of bank in order to remain in the core.

The message for pilots

relying on the airspeed indicator for speed control is equally clear – their chances of ever flying anywhere near accurately enough are almost zero. Therefore my advise is emphatic – DO YOURSELF A FAVOUR; look out, fly by attitude and seat pressure and learn to glance at the airspeed indicator and variometer only occasionally. The sooner we get serious about this and the sooner we fly without regular reference to our instruments the better – not only in the interest of a better soaring performance but even more so for the sake of safety.

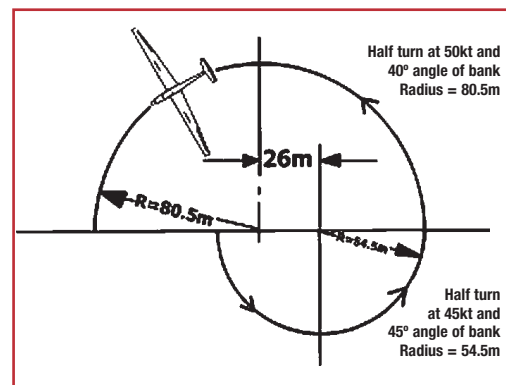


Figure 30: Re-positioning of glider as a result of inaccurate flying

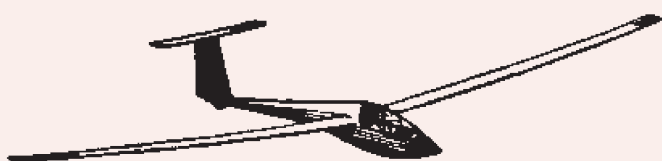
Remember, we want to fly with you for a long time to come.



*to be continued*

*Editor's note: On 15 December, 2002 Bernard completed a 1,000km task from Balaklava in his ASH 25. The flight is believed to be an Australian Record.*

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# CAPTAIN PHIL REMEMBERS

Phil Hodnett (Article courtesy of 'Triker News')

I HAD PULLED OUT OF MY KARRATHA REAL ESTATE OFFICE AROUND 10AM ON THAT FIRST MORNING. I WAS EN-ROUTE TO A PROPERTY APPRAISAL IN BULGARRA AND MY MIND WAS FILLED WITH ALL MANNER OF PROPERTY DETAILS AND COMPARABLE SALES EVIDENCE. WITHOUT WARNING THEY APPEARED FROM NOWHERE, FILLING THE VIEW FROM MY WINDSCREEN AS THEY CUT A LONG, LOW ARC ALONG THE EASTERN EDGE OF TOWN SOME 500 FEET ABOVE ME. IT SOUNDS A LITTLE DRAMATIC NOW, BUT THE SUN WAS BEHIND THEM AND IN THOSE FIRST FEW SECONDS THROUGH THE GLARE, THEIR BLACK SILHOUETTES LOOKED LIKE PREHISTORIC BEASTS GLIDING MENACINGLY ABOVE, WATCHING, AND WAITING.



Phil with his trike

I had to stop the car and climb out for a better look as they disappeared into the distance. I was speechless. I stood wide-eyed and open-mouthed taking in the sight of these incredible flying wings. *"What the Bloody Hell was that!"* I thought, and the guy on the radio answers me like in those horror films where the car radio just starts talking back to the driver who was only talking to himself. The spooky radio guy reads his ad and I learn that my close encounter of the aerial kind had been with Brendan Watts in his Airborne Edge-X 582, the "Hamburger with the Lot," and his instructor Shaun – wait for me! – Wallace in the beautiful custom built Binnacle 503. They were South-West Microlights, embarking on the last leg of their "Much too cold for Bunbury" tour and their six week visit to the Pilbara was about to uncover more than one microlight nut amongst us!

For my own part I was hooked from the very first flight. I coerced Brendan into extending our time in the air to an hour, and once back on the ground I booked up every

spot he had left with a duration longer than an hour and a half! The local interest from Karratha was growing rapidly and the boys were overwhelmed with bookings leading up to Fathers Day. At one stage Brendan wondered if they would ever get through all the bookings in time for their fast approaching departure date.

Meanwhile I would be training every available hour, sometimes training two hours in the morning and two more in the afternoon. I can definitely vouch for this style of intensive training; the learning curve is incredible and I flew those two planes almost as often as they did! Before they left some six weeks later I was fully signed off with my pilot's licence, passenger, radio and extended operations endorsements.

Of course none of these were of any use without an aircraft, so one night over a few cleansing ales in celebration of a successful exam result, I talked Brendan into parting with his big red beast. Yep, I got to keep the "Hamburger with the Lot," Brendan's fully optioned 11-month-old Edge X 582!

So what's it like in the air here? Visually, the Pilbara is heaven on earth for a microlight pilot. Twenty minutes from the town you can take in vast rocky iron ore hills and outcrops interspersed with hard natural salt flats that are level like a sheet of glass. Vast open plains are dotted with wild kangaroos, intricate creek systems, mangroves and fresh water rivers, and the

coastline is teeming with dolphins, turtles, dugongs and all manner of sea creatures.

Anyway, enough of the serious stuff! Back to the story. You remember where we were? Day one? Giant pterodactyls soaring overhead! The guy that owned the house that morning must have thought I was away with the fairies. He kept saying *"Yeah, but what's my house worth, Phil?"* and I would reply with all manner of *"Did you see those? Have you ever? Where do you think? Wouldn't it be great? Wonder if you can?"* and many more that simply escape me now that my adrenaline's back to mere mortal levels. But the one great oddity to me at the time was this guy's apparent total apathy toward the whole earth-shattering experience that was obviously now upon us. I mean, this guy had red blood right? And he was walking upright on his two lower limbs. His brain function appeared normal enough on the surface of things, yet he was barely interested enough to pass an idle gaze skyward when mere moments later the magnificent machines were again upon us from above, right there as we stood, mid appraisal! That's the part I was having trouble understanding right there. How could any normally adjust-

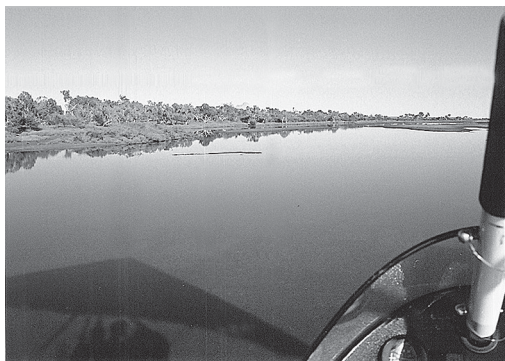


Big puddles, no troubles!





Flying along the river at Karratha Station



ed, intelligent, opposable-thumb equipped homo sapiens not be instantly and forever captivated by these incredible powerful, versatile, fold 'em away afterward, mine's in the garage where's yours, oh I see you have two now, very good, one for the kids, marvel of aeronautical wizardry?

A deep mystery indeed, but one that I have now cracked wide open.

Through constant discussion on the subject with everyone I have met, both day and night since that first day, (yes, of course I still remember lots of other topics and subjects, I just don't want to talk about them anymore, silly...) I have quickly come to learn that there is no middle ground on the topic of flying in a microlight aircraft. People either will, or they won't. They do, or they don't. When push comes to shove and the engine is starting there are two clearly defined factions of people, which for the ease of your further understanding I shall refer to herein as, let's say... Oh, I don't know... Us and Them? Because you see, I've now spoken to literally thou... hundre... lots and lots of people over my illustrious and very

lengthy eight-week microlighting career and the evidence is crystal clear. It seems that when presented with the opportunity for a quick blat in a microlight, the subject in question will either:

- (a) *Be sprinting for the helmet and headset throwing smaller adults and children behind him/her while gasping out "Which seat is mine?"; or*
- (b) *Be yawning in total disinterest like the bloke at my appraisal (crikey, did I ever get back to him?) whilst querying whether I actually ever had a real father and muttering something roughly along the lines of, "Not a chance mate, it goes higher than the kitchen table and they don't serve meals and beer on it!"*

But you know what? I'm growing very comfortable with that. I've now reasoned that it's horses for courses. It's Us and Them, and the bottom line here is that there really are some people that simply shouldn't be up there in either seat. It wouldn't be good for us and it wouldn't be good for them!

And Mother Nature seems to have been so very clever in this regard. In her infinite

wisdom she seems to have imprinted each of our individual us or them selection into our DNA. That's how we know straight away which one we are! Whether we are *us*, or whether we are *them*! Just as soon as we look at the aircraft!

Of course, I'm now a veteran of all aspects of this fascinating new field of personality identification. In fact, having now successfully completed discussion and analysis at three barbecues, two appraisals and an office party, I can now confidently tell who's who straight off the bat. And while I will happily talk with anyone from the Us sector on the subject for days on end non-stop, I don't waste much time anymore answering the "But why would you?" questions from that other crew that are by then firmly grasping the edges of the kitchen table.

I simply tell 'em up front. "If I need to **explain** why – You're never going to **understand** why!"

Thanks again gentlemen, I owe you both **big time**!





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# Geralton Hill Flyers Fly-in

Rick Williams

I DROVE UP TO GERALTON, LYING SOME 400KM NORTH OF PERTH, ONE SATURDAY LAST AUGUST AND MET UP WITH GARY BENNETT AND KEN FEAST. WE ARRIVED AROUND THE SAME TIME, LATE AFTERNOON, AND SETTLED IN AT THE BATAVIA COAST CARAVAN PARK, SITUATED AT THE ENTRANCE TO THE CHAPMAN VALLEY.

Jiri (a paragliding instructor) and students were still there and told us they had flown every day that week, with Geralton turning on some great flying weather. The day we arrived was the first non-flying day for Jiri due to the strong northerly winds ahead of an approaching cold front.

Mike Dufty and others had also arrived the night before. We figured there would possibly be good flying after the change, up at Horrocks, for Sunday or maybe Monday. We all gathered in the caravan park's under-cover barbecue area, next to the pool, for a barbecue dinner and some beer and wine just as a few squall showers went through. We discussed flying plans and met a few of the new students, now almost licensed pilots after flying every day of the last week.

Sunday morning greeted us with light north-east winds, which gradually swung north-west to west, strengthening as they went. Gary and Ken decided to head straight for Horrocks with Mike Annear, Mike Dufty and a few others. Horrocks is a great 300-500ft coastal ridge over 10km long, about a half hour's drive north. I hung back with

Sid, Mole and others, however, after checking the coastal forecast via the caravan park owner's computer. Light westerlies for today, but stronger for Monday were forecast. I didn't like the thought of bombing out on the beach in front of Horrocks in the light winds and having a long retrieval, so decided to leave Horrocks for Monday. Instead we hoped to get a fly at "City View" in the light west winds with the assistance of some possible thermal activity.

Checking out City View we were rewarded by a nice light to moderate westerly with moderate thermals coming through. I launched into a decent thermal and climbed 100ft above launch, but found it difficult to work that low and eventually lost it, proceeding to the bomb out. Setting up again 45 minutes later, a squall out to sea strengthened the wind somewhat. Steve Ewen and Sid both had some nice flying, with Steve climbing out in some light thermals to 500ft above the ridge. Both top landed neatly just behind launch when the squall swung the wind off. Keith Lightbody, for a first fly since last Christmas, launched next, but

was unlucky with the thermals and bombed quickly. I was somewhat luckier and managed a half hour in light thermal and ridge lift, before conditions went south around 4:30pm. While still flying I occasionally heard over the radio Mike Annear flying at Horrocks and Mike Dufty flying at Mt Rennie.

The next day the forecast was still for moderate to fresh westerlies, so the plan was to fly Horrocks. Arriving there around 11:30am we found Gary and Ken all set up, but with rain and squalls approaching. After waiting an hour or so and watching huge whales breaching just off shore, Gary and Ken decided to pack up after towel drying their gliders. Of course this was the sure way to get perfect conditions on launch and for other pilots to arrive. Wayne had driven up from Perth straight to Horrocks, and Russell Creagh and Irena arrived from Geralton simultaneously. The conditions cleared leaving an improving west-north-west wind and a visible line of white caps approaching. Gary's glider came back off the car and Ken's glider sprung open again, as we all rushed to set up for a promising fly.

Several small squalls could be seen approaching out to sea and we figured we had an hour to fly before they arrived. Gary launched first at around 3:30pm in around 18kt. Horrocks is almost a cliff launch and makes wire assisted launching a must in anything over 15kt. After Gary got away cleanly and immediately skyed out, the wind strengthened to 25kt as another squall formed not far off. Gary flew three kilometres north to the Port Denison end of the ridge in an effort to avoid the squall, which seemed like it was going to pass south of us. It passed uneventfully and the wind dropped back under 20kt, but by now the significant squall lines were nearing and Gary popped over the back of the huge sand dunes south of launch for a landing while the conditions were smooth. After waiting another hour, the conditions looked to have set in – strong



Gary Bennett launches at Horrocks



**Photos: Courtesy Rick Williams****Rick Williams launches at Mt Rennie**

from the west – so we all packed up and headed back to Geraldton, stopping off at the 440 Roadhouse for a great meal. We watched the weather on their dining room TV, the forecast looking good for Wozzes in the morning.

We got to Wozzes around 9:30am and set up quickly as conditions already looked good for flying. Gary, perhaps a little over-confident from yesterdays elevator up conditions, launched first, but soon discovered the lift was already broken by thermal activity and soon landed down the bottom. Wayne fared somewhat better a few minutes later, but he too went to bomb-out after six or seven passes on the ridge. Gary assisted him by radio from the bottom to a perfect landing. I stressed to the remaining pilots that to stay up meant staying with the lift, as the ridge in these conditions is primarily a thermal source, and that they should expect very little ridge lift. Working the thermals would be the only way to stay up.

I launched next and quickly found some good lift in front of launch. I circled in it till I was 100ft above, then found a better thermal to the right of launch and with three resident eagles and circled up to 500ft. John Keely and Ken Feast were soon in the air and used the thermals very effectively, both pilots soaring nicely. Sid and Mole arrived just as I top landed and begun setting up their Litespeeds, followed by Russell soon after. After a drink and some food I went to re-launch, but found that Ken and John had landed down the bottom. Conditions still seemed flyable so I re-launched for another twenty minutes of flying in light thermal lift, but found the wind seemed to be swinging off to the south. After top landing this was confirmed by local pilot Steve Ewen on radio, who was back in Geraldton. He mentioned it was probably going to come on at Mt Rennie later as it went south-south-west. By 2:30pm conditions had changed to nil wind and light thermals on Wozzes and while Mole tried his hand in the light thermals, managing a short fly before joining the others down in front, Russ popped his nose on launch losing 30ft to fly straight down for a bottom landing. Sid and I packed up and we all made plans to gather at Mt Rennie after lunch.

We arrived there to find Wayne, Ken and John all set up, with Sid and Mole wanting more breeze before setting up. I too felt a bit doubtful of conditions and thought I'd wait till at least 5pm (as this was the launch



time last year when it came on). Russ was keen and had been practising his launch technique by running with the glider on flat ground (using Wayne's glider) in the top landing area behind launch.

Conditions were tantalising, but it seemed a very long wait, and despite my advice to wait till 5pm it was not enough to stop the gliders being packed up. And of course, just as the gliders were nearly all packed up and Sid and Mole had left for the caravan park, the wind came on to a dead smooth 15-17mph right at 5pm. Russ was still keen, and knowing that conditions would probably not stay on very long, I suggested we all get together to help him for a quick five minute glider set-up and fly. This energised Wayne and John for a launch too, so, some twenty minutes later, we had three gliders set up again... just as the wind started dropping off... Doh!

Wayne was keyed up and on launch first, but would need a good run to launch in the now 12-14mph winds. Unfortunately, after dropping a wing slightly during his launch run, and maybe having the nose of his glider slightly high preventing enough air speed over the wing, he soon found himself sinking into the bushes five metres below launch. A slight bend in the outer leading edge, but Wayne was unhurt and glider retrieval was achieved relatively easily with all helping.

Next off was Russ, who this time sprinted off nicely, but unfortunately didn't quite get the angle of attack right. The glider dived slightly and he felt the tips of a bush on his base bar, but he cleared the hill and flew out to a good landing.

John was not deterred, and his high speed launch was near perfect (something

he mastered back at Noondeening Hill on nil wind days a month before, running on flat ground behind launch). He lost almost nothing on launch and had an uneventful one kilometre glide to land beside the access track west of Rennie, not far from where Russ had landed.

The day finished with lots of conversation back at the caravan park about the day's events.

Wednesday morning saw us kicking a footy and throwing frisbees in the still air on Wozzes ridge for an hour or more before deciding Mt Rennie would probably come on late in the day as it had yesterday. After lunch at the Red Rooster near the caravan park I started heading for Mt Rennie, but found John had been flying at City View and so decided to fly there first. I passed Wayne and Ken on the way up as they were heading back to Geraldton for lunch.

On launch at City View conditions were great and a fast 15 minute set-up meant I was ready to fly just as Russell arrived. Conditions were nice to fly in, but I was forced to top land half an hour later as the wind swung south.

John, Steve, Wayne and Ken were at Mt Rennie and Russ headed over to join them. As it was already 4:45pm, and I still had to pack up, I radioed that I'd see them back at the park. I heard later that John had two flies, top landing after the first and then bottom landing on the next. Russ managed a late bomb-off, and Steve a half-hour soaring with a top landing.

Russ told us how Irena and he went jogging down the beach to burn off the frustration of his bomb out at Mt Rennie, but ended up losing his only set of car keys in the sand somewhere on the beach and





spending ages crawling around on hands and knees in the dark trying to find them by feel. Talk about rubbing salt into the wound! Luckily they found the keys after much searching and were able to laugh about it with the rest of us when we all gathered at the Wintersun Hotel that night.

The forecast sounded like improving weather conditions for the next few days... after an overnight cold front. Indeed, rain on Thursday left us playing cards (500) in the park till around mid afternoon. The clouds then cleared and a nice moderate westerly came in allowing all of us a late half hour's flying at City View. It was nice flying the ridge even with three gliders tailing each other some 200-300ft above in gentle silk air.

Friday brought the best conditions we had seen all week with light to moderate westerlies at City View and lots of nice puffy white clouds. Steve and I set a cross-country task for ourselves to Nabawa, while Russell was joined on the ridge by two other pilots on holiday.

I launched first and found lots of great thermal activity, but not knowing the thermal trigger/characteristics on the ridge that well, found it difficult getting more than around 500ft. In between thermals it was extremely scratchy. After a half hour of working small broken bubbles I could see Steve waiting on launch, so I decided to top land for a rest and watch Steve for a while. Twenty minutes later Steve, who had sat and passed his Advanced rating the night before, and, with 100 of his 383 logged hours just at Geraldton, found a boomer and started climbing out over the back. Unfortunately I was too late to catch the ride by the time

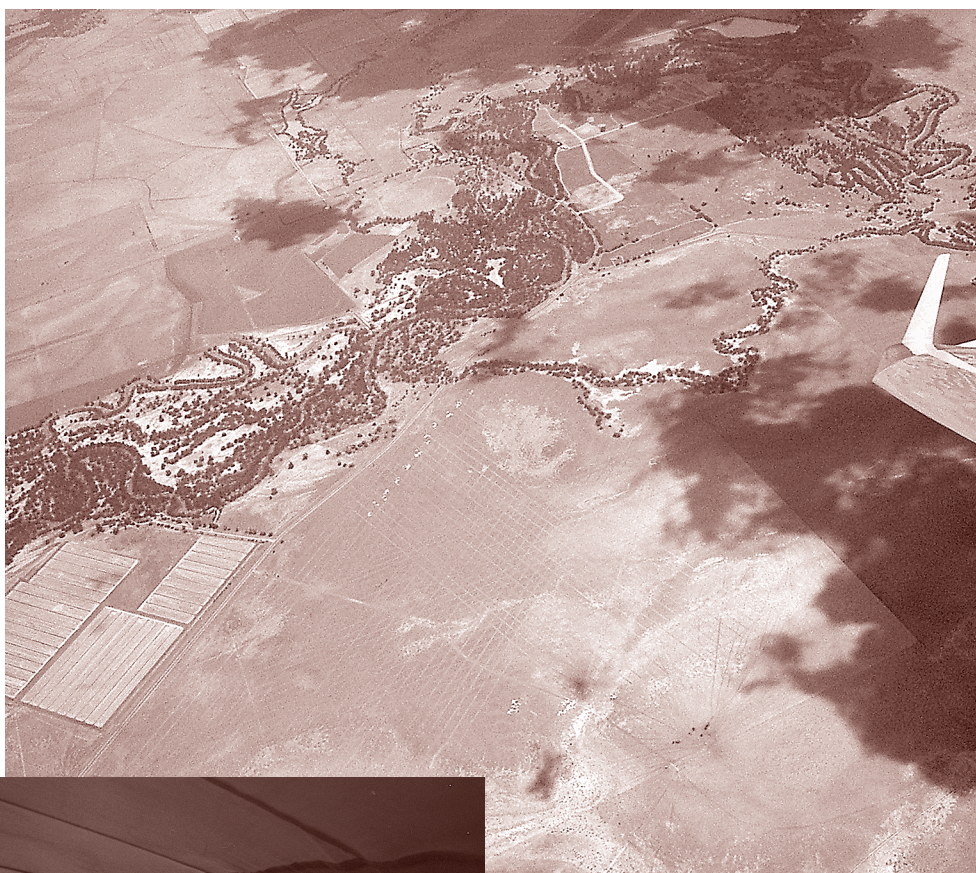
I had re-launched, so had to settle for another half hour of fun ridge thermal flying. I decided I'd retrieve Steve after he radioed his landing position. It turned out to be just in front of Mt Rennie. I drove off to get him while the remaining pilots gathered for a launch.

An hour later we were back on launch at City View with the others, and Steve quickly assessed the conditions as "great" and immediately set up his Litespeed for more flying. It seemed to me conditions had swung somewhat to west-north-west, so I decided to wait and see how he went.

Colin was up flying, but remained low on the small west-north-west face most of

the time, and soon had Steve flying low below him. Conditions had definitely gone west-north-west and were dropping off. Before long both Colin and Steve had top landed and Russ had landed down the bottom. Nevertheless, a very enjoyable day's flying by all.

Saturday was north-west and strong – time for us to head back to Perth. The week had been a relaxing and fun getaway, even if the weather wasn't perfect (certainly not as good as last year's Geraldton trip). We still flew every day – not bad statistics for my log book – but not as good as local pilot Steve Ewen, who seems to fly nearly every day almost all year!



Above: 28 December 2003 – the morning of the last day of the Australian Open Hang Gliding Championships 2003

**Photo: Chris Hostettler**  
– taken from his ASW27 glider

Left: High above the cliffs at Jan Juc, Victoria  
**Photo: Kevin Grosser**



# HGFA News

## NATIONAL SPONSORSHIP FUND FOR AUSTRALIAN PARAGLIDING – National Sponsorship Contacts Wanted!

Do you know someone in a company, franchise, corporate or private that may be interested in sponsoring paragliding in Australia?

We are looking for names and contact details that will give us a "foot in the door" to start our "National Sponsorship Fund for Australian Paragliding". You may know a neighbour or friend who works for a progressive company. You may work or network with a suitable company or business. All we need is:

- Full name of the company
- Web address if any
- Name of your contact
- Relationship of the contact
- Contact details of the contact, ie, email, phone, postal address, etc
- Any other pertinent information, ie, previous contact, response, etc.

We will do the rest!

Our aim is to find suitable long term sponsors who will help build and support Australian Paragliding, the National Paragliding Team and upcoming competition pilots.

We need YOU to get started!

Send details to:  
Karen Sexton,  
<kazbahtoo@aol.com>, Enda Murphy, <endamurphy@ozemail.com.au>, Heike Hamann, <heikehamann@bigpond.com>.

How do you condense 10,000 miles of flying round the coastline of the Australian continent into a 30 minute video? If you think it can't be done, think again. "AroundOz 2002: The Movie" proves the point.

As the story unfolds you begin to appreciate the magnitude of the undertaking; they needed 48 maps! The scenery is stunning and hugely varied. The four cardinal points of Australia are the significant landmarks, and all are excellently photographed from the air. There are some excellent air to air shots, especially the "sun shot" on the last day. You'll know the one I mean when you see it!

AroundOz 2002 is now available at a cost of A\$30. You can order your copy from James Pearce, 5 Fairpiece, Wherwell, Nr Andover, Hampshire. Please send a cheque for \$30 payable to "Leukaemia Research Fund" and a stamped, addressed jiffy bag.

It's well worth it and it's for a great cause.

## FAI NEWS

### FAI World Record Claim

FAI has ratified the following Class O (Hang Gliders) record:

**Claim number 7459:**

**Sub-class O-1 (HG with a rigid primary structure/controlled by weightshift)**

**– General Category**

Type of record: Speed over a triangular course of 100km

Course/location: Mansfield, WA (USA)

Performance: 44.1km/h

Pilot: Martin Henry (Canada)

Hang glider: Combat 2-14

Date: 24/7/2002

Previous record: 40.54 m/h (10/12/00 - Tomas Suchanek, Czech Republic)

**Claim number 7496:**

**Sub-class O-3 (Paragliders)**

**– General Category**

Type of record: Straight distance to a declared goal

Course/location: Edinberg, TX (USA)

Performance: 273.7km

Pilot: Bruce Goldsmith (UK)

Paraglider: Airwave Magic 3 M

Date: 3/8/2002

Previous record: 257.4km (23/12/00, Jacques Coetzee, South Africa)

FAI congratulates the pilots on their splendid achievements.



## NEW PRODUCTS

### AroundOz 2002: The Movie

Jim Pearce and John Cresswell are the two English pilots who circumnavigated Australia in their Mainair 912 trikes earlier in the year. Keith Vaughan also travelled with them as ground support. The purpose of the trip was to help raise funds for Leukemia research. To boost funds, they have produced a very nice video of their adventures.

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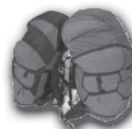
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# LOOKOUT – FOR YOUR LIFE

Tom Claffey

WE'RE GOING TO TALK ABOUT LOOKOUT – AND YOU'RE GOING TO SAY "I ALREADY LOOK OUT – WHAT MORE CAN YOU TELL ME?"

In a period of two years, seven of our fellow glider pilots have been killed in mid-air collisions. Chances are they thought they were looking out too. In many cases there is evidence that one aircraft was blind-spotted from the other, but at least one aircraft would have had a good view. However, people still proceeded to fly into great big 15metre-wide white objects in the sky. What were they thinking? Did they actually have their head in the cockpit, distracted by instruments or radio chatter? Or were they looking outside but focusing on some ground feature, start point, turnpoint or finish line? Or did they have their head up and think they were looking but were just not seeing?

For some time, various sections of the GFA have been concerned with our fairly regular mid-air collisions. As part of a campaign to increase lookout effectiveness amongst all our pilots an investigative meeting was held on Saturday, 7 December 2002. The panel comprised some of the most varied and experienced pilots in Australia with members from the Executive, Operations, Sports and Competition areas, some of whom had been involved in mid-air collisions and probably all of whom have had a close call or two. Attendees were Bob Hall, Henk Meertens, Kevin Olerhead, Daryl Connell, Rob Moore, Peter Gray, Bruce Taylor, Lisa Trotter, Miles Gore-Brown, Harry Medlicott, and Kerrie and Tom Claffey.

Of course, with such a group, there were many views on the problem and so with Henk as Chairperson we began an ordered investigation. Kevin started us off with a breakdown of the most recent accidents and a summary of all mid-air collisions for many years. The most common factors found were pull-ups, turning (combined in joining thermals), and that although one pilot was generally blind-spotted the other should have had a good view! Common factors also were overload, often high experience, competitions and towplanes.

Bob Hall then led us in undertaking a hazard analysis on the different, additional hazards of a lone cross-country pilot, a group

of social pilots and competition pilots in the following scenarios: cruising, streeting, thermalling, thermal entry, thermal exit, launch combination, pre-start (comps or social), final glide and circuit after crossing a finish line. This workshop showed that the most severe hazards involve larger numbers/concentration of gliders so competitions and the circuit were the worst for increasing the primary hazard. However, all flying can have some of the secondary hazards discussed. These include: complacency, physiological factors (dehydration, anoxia, low blood sugar, vision), ergonomics, cockpit instruments, conscious lookout, not looking out while low, skill level/overload and aircraft blind spots.

From this hazard log we assigned mitigators to each situation, vision-lookout, physiology, ergonomics, equipment, tasking, education and awareness, and rules and procedures.

The situations requiring the most mitigators were thermal entry, pre-start and circuit entry.

Thermal entry problems are pulling up, energy management, turning abruptly, lookout fixation on gaggle or instruments, aggression and misjudgement, and right of way confusion.

Pre-start problems are increased traffic density at the top of thermals, random entry direction and aircraft performance differences. From final glide into the circuit requires the pilot to judge their own energy management to make a safe circuit but also lookout for others in a similar situation and slot in where they can. This can cause safety problems other than mid-air collisions.

From all of this we can start to try and find some solutions, to develop more effective scanning training, to change or enforce rules to lessen risk, and to instruct/coach more effectively.

We need to:

- Educate pilots to problem of "looking without seeing"
- Develop a culture of effective lookout. At each competition form a safety committee, report on past accidents,

*brief on safe procedures, and have a confidential reporting system*

- Incorporate safety awareness into coaching programs
- Ensure cockpit designs allow for full head movement (headrests)
- Ensure equipment/ clothing does not obscure view (instruments/ caps)

This will not be the end of the investigation as more research and work will go into this in the future. In the meantime it is up to ALL of us to look at our own actions to make this sport safer. Are you always looking where you are going, or at the vario when you enter thermals? One well-known top competition pilot does not even have a visual vario metre anymore, relying on audio! Are you climbing hundreds of feet through other gliders as you pull-up? Can you move your head and see with your large headrest and hat? Are you aware of the performance of your own and other gliders at pre-start and at the finish line?

Finally here is part of a brief written by Bob Hall:

## LOOKOUT RECOMMENDED PROCEDURES:

1. Lookout should be a conscious effort 100% of the time. That is, except when doing other necessary things, we must be consciously looking and seeing all the time.
2. When gliding use a 'targeted scan'. This is a scan process described in Basic Gliding Knowledge chapter 4 in which we divide the full field of view on each side of straight ahead into about five zones and look specifically at each for something approaching one full second. This scan must start with the eye focused on the horizon and should be made as often as time available will allow. Start with a full scan covering the full field of view including above and below, behind the wing, and then concentrate on a cone 60 degrees to each side of straight ahead.
3. Look in particular for turning gliders indicating a gaggle thermalling ahead.
4. Slow down BEFORE entering an identified area of lift especially if it already contains gliders.



5. *When thermalling, and in the circuit, experience will readily dictate where to look for potentially conflicting gliders so here use a targeted scan rather than a systematic scan.*
6. *In particular, when pulling into a turn remember that you have changed the situation significantly so you need to take primary responsibility for remaining clear of other gliders – particularly scanning*
- back along the track direction when entering a thermal on a day where other gliders are expected on the same track.*
7. *Because gliders around us will sometimes be easy to see and other times will disappear as we look, it is necessary to make a conscious effort to maintain situational awareness – ie, keep track of the gliders around us and what they are doing.*

## PHYSIOLOGICAL EFFECTS:

Finally, be aware of, and allow for, the effects of age, fatigue, low blood sugar/dehydration and mild anoxia.

If you have any of these be sure to concentrate more than usual on a conscious scan.

It is up to ALL of us to prevent accidents by LOOKING OUT more effectively!



# OBITUARY – Ann Welch

20-5-1917 – 5-12-2002

ANN WELSH WAS AN AVIATOR EXTRAORDINAIRE HAVING FLOWN OVER 150 AIRCRAFT TYPES BEFORE TAKING UP THE CAUSE OF HANG GLIDING, PARAGLIDING AND MICROLIGHTING WHICH CULMINATED IN BEING PRESIDENT OF HONOUR FOR ALL THREE FAI COMMISSIONS.

She was a very proficient aviator who worked tirelessly for more than 60 years to promote and encourage all forms of sporting aviation, in Britain and throughout the world. No challenge was too great for her, and she succeeded in her objectives by dint of a very strong personality and strongly-held views.

Ann learnt to fly in 1934, gaining her Royal Aero Club Aviators Certificate and her A licence one month later. In 1937 she attended a gliding camp organised by the Anglo-German Fellowship at Dunstable (London Gliding Club) being the only girl with 16 German and nine British students. The following year Ann founded the Surrey Gliding Club at Redhill. In 1939 she married Graham Douglas who had lent the club the 300 pounds to buy gliders and a winch.

At the outbreak of WW2 she joined the Air Transport Auxiliary, that fabulous collection of pilots which included Mardi Gething and Amy Johnson. Their stories of collecting aeroplanes from factories and delivering them to active airfields reveal how skilled and intrepid they all were at that time.

From an early age Ann excelled in drawing and painting, and she soon developed a fierce love of outdoor activities including sailing and studying the wind and tides.

From these came a keen interest in navigation. This was ultimately rewarded when in 1997 she was elected an Honourary Fellow of the Royal Institute of Navigation.

After the war, gliding became her first love, particularly the training of pilots and instructors. She was chairperson of the British Gliding Association's examining panel for the next 20 years.

Along with Lorne Welch, a former Colditz inmate, she helped restart the Surrey Gliding Club at Kenley before moving to Redhill in 1947 and then again to Lasham in 1951.

This was when I first met Ann having been given a letter of introduction by Derek Reid before leaving to spend two years at RAE Farnborough. She married Lorne in 1953: her marriage to Douglas having been dissolved five years earlier. From then on Ann's achievements and involvements were stupendous. She was a full-time mother and we often heard her ordering her children Liz and Viv to go home and prepare for bed – not unusual except she would be flying the T 21 teaching a student and at the same watching the girls playing on the airfield below. Ann was also a prolific author of books such as the BGA Instructors' Manual

and New Soaring Pilot, which Australian clubs used before our GFA MOSP.

She also played a major role in the running of gliding competitions both at a National and International level. In 1946 she gained her Silver badge and her Gold in 1969. During the world championships in Lezno Ann set a new British Women's distance record of 528km. The British Women Pilots' Association twice awarded her the coveted Jean Lennox-Bird pendant for lifetime service to aviation, but unfortunately she died three days before the second presentation ceremony.

In 1973 Ann was awarded the FAI Lilienthal Medal and in 1980 she received the FAI Gold Medal, and was the first recipient of the Pelgia Majewska Medal.

For many years Ann served as vice-chairperson of the British Gliding Association and formed a strong team with Philip Wills which was able to persuade the British government that the gliding community was better able to understand and regulate its own affairs without outside interference.

Ann was well known to many in the Australian soaring and hang gliding community, having been to this country a number of times for competitions and symposia.

In all, her contribution to British and international aviation was enormous. Not only were her experience and views well respected, but she brought to aviation a level of energy, enthusiasm, and fun that belied

her years. Ann was appointed an MBE in 1953 and advanced to an OBE in 1966. She was a Fellow of the Royal Aeronautical Society. Lorne Welch predeceased Ann and she is survived by her three daughters – Vivienne, Elizabeth and Janet.



*Prepared by Alan Patching with kind permission of The Times, London.*



# UPLIFTING TIMES – 3

Col Vassarotti



Werner and Col in the Long Wing Kookaburra

## FLAGFALL

As a brand new member of the Southern Cross Gliding Club I soon learned the basics of what made a gliding operation come together back in 1958. We new students worked hard for our two five-minute circuits each flying day.

It didn't take long to learn how to hook on the cable, give the launch signals and run the wingtip. We all became experts at mending broken winch wire – there was plenty of practice at this, because the cable broke about every third launch. Slightly higher on the skill ladder was the hazardous job of spreading the launching wire evenly onto the fast-rotating winch drum. This involved standing alongside the furiously revving winch and moving a steel bar which guided the wire backwards and forwards laying it evenly across the drum.

What I really wanted was to drive the cable retrieve vehicle. It was a late 40s' ute – a Dodge I think. For me its attraction was the opportunity for valuable driving practice. It was just a few months before I would be old enough to try for my driver's licence and we had no family car.

Now the ute did have some peculiarities. It was battered and sported body panels of many different colours. What it lacked in some refinements – such as brakes – it made up for in special accessories, the most noteworthy being the red and yellow flag attached to the roof of the cabin by a frame supported on four large suction caps. Nobody ever explained why the flag was necessary. I supposed it was to make the ute more visible on

the movement area of the airfield; a doubtful proposition in my opinion.

As to the suction caps, I discovered their secondary function on my first day as a new club member. At the earliest opportunity I claimed my seat behind the wheel and started retrieving winch cables. All went well for a while. The absence of brakes was not a major problem. It was a simple matter with the cable in tow to shift into neutral and to coast up to the waiting glider at the launch point. That is, it was until I misjudged the roll-out distance slightly and decided to steer under the starboard wingtip of the Kookaburra. There seemed to be plenty of clearance between the roof of the ute and the wing.

KA-LONKKK! The sound of the flag collecting the leading edge of the wing was earth shattering. More ghastly noises followed as the flag and its wooden base clattered and thumped into the tray of the ute.

That was the end of my airfield driving practice. Much chastened, I was relegated to the more humble duties of hooking on, running wingtips and mending cables. There was no damage to the glider, thank heavens. The suction caps, it seemed, had saved the day.

## GOING SOLO

Odd, aren't they, our preconceptions.

Take going solo for example. As a young boy I dreamed, like so many others, of becoming a pilot. In my imagination I pictured many times that joyous day I would fly solo for the first time.

You know the sort of thing. After a perfect circuit and landing, the instructor clam-

bers out of the two-seater, leaving the engine ticking over. With a casual nod to the trainee pilot, he says cheerfully something like 'try one on your own...' Opening the throttle with a confident smile the intrepid fledgling aviator roars off into the wide blue yonder.

The reality for me was rather different.

It wasn't so much that the aircraft was a glider instead of an aeroplane. Nor was it that the take-off power came from a winch rather than an aero engine. And the instructor did, indeed, clamber out of the two-seater. He even said those long awaited magic words about my going solo.

No, all of that fitted reasonably with my well-rehearsed mental script. What was different was that I, too, climbed out of the Short Wing Mark 2 Kookaburra and followed my instructor, Werner Geisler, to the glider I would fly for my first solo – a single-seat Grunau Baby. Why a different glider you might well ask? The answer was simple: Club policy was that the Kookaburra, our only two seater, was too important to the club to be risked on first solos. So we used the Grunau instead.

Both gliders were of wood and fabric construction. Both were painted blue and silver. There the similarities ceased.

The Southern Cross Gliding Club had two single-seaters back in the late '50s. The other was an ES57 Kingfisher. The Kooka and the Kingy came from the same stable, designed and built by Edmund Schneider at Parafield, South Australia. The two even looked alike: the Kingy a smaller, slimmer and shorter winged version of the more bulbous two-seater. Both were fitted with spoilers. These were on the top wing surfaces only and not particularly effective. Sideslipping was the only way to achieve any sort of steep landing approach.

The Grunau was an entirely different proposition. It was almost the ugly duckling by comparison. It looked nothing like the other two club gliders with a box-like fuselage, wing struts and powerful dive brakes which opened top and bottom of the wings. The pilot's view was incredibly good because of the low-cut cockpit.

Seating in the Kookaburra was a staggered side-by-side arrangement. The instructor sat slightly behind and to the right of the student. This made for better communication between the instructor and student than in modern tandem two-seaters. For the trainee pilot, the disadvantage was learning how to fly straight because of the natural tendency to look ahead obliquely over the centre of the instrument panel.

Converting to the Grunau had its challenges. It would be difficult to find a glider of comparable vintage more unlike the





Kookaburra in flight characteristics. With its short wings and big ailerons the Kooka had a fairly rapid rate of roll. The Grunau was agonising slow to respond to the ailerons – about three or four seconds delay between aileron input and the aircraft banking. It flew slower: cruise was about 45mph for the two-seater and around 35mph for the Grunau; stall speeds were about 38mph compared to 29mph (yes 29 – and it was miles per hour not knots). The very effective dive brakes also produced a much steeper approach angle than the Kookaburra could achieve even with full spoilers and maximum sideslip.

Without doubt, the first few seconds of flight on winch launch were the most testing for pilots trained on the Kooka. Because the cockpit sides and instrument panel were so much lower in the Grunau, the angle of climb appeared as spectacularly steep. If this was not enough to set the pulse racing, the Grunau positively leapt into the air by comparison to the heavier two-seater.

It may seem eccentric that we did things that way; but, it all made good sense at the time.

Anyway, my big moment came. I strapped myself into the Grunau and listened attentively to Werner's briefing and got set for take-off. The cable tightened, the Grunau moved forward about three feet and stopped: cable break! Ten minutes later the cable was mended and I tried again; same result, except the Grunau travelled about 10ft forward. A third cable break followed. I was getting plenty of cockpit time at least. Finally, I soared up, up and away, released at 1,200ft and was back on the ground three glorious minutes later. Werner endorsed my logbook "*first solo good flight successful landing*". Ecstasy!

As a solo pilot I now enjoyed new and higher status. No longer was it my lowly role to be the winch driver's assistant – the 'spreader'. I now got to drive the winch: a mixed blessing as I discovered in due course.

I was also reinstated as a driver of the cable retrieve vehicle.

## WINCH DRIVING

One thing I learned about driving the winch was how much I prefer flying gliders to launching them. In my book, tug pilots are very special people who should be nurtured and encouraged by glider pilots in every way possible.

Another thing I learned was the absolute truth of the words of the late Fred Hoinville who wrote of winch launching operations "the — — s are always at the other end of the field" (Halfway to Heaven, 1959, P29).

Communication between the launch point, retrieve vehicle/cable repair and winch crews was difficult. In later years we installed an ancient military field telephone and this helped February 2003



Col and the Grunau Baby

(radios were hardly invented), but mostly we communicated via the retrieve vehicle which shuttled between launch point and winch. Launch signals were wings up and down for "TAKE UP SLACK" and wings level for "ALL OUT". The all-important "STOP" signal was to put the glider wingtip on the ground. The winch driver and spreader needed to be alert for these signals. They also needed good eyesight, particularly in summer when heat haze played tricks with visibility.

Long, boring stints on the winch led to a form of persecution complex. At the winch end you always KNEW the others had forgotten you, were having more fun, that you were missing out on your turn to fly, that THEY had shade, food and water while you were roasting, hungry and thirsty. Worst of all you had no idea of what was causing the interminable delays between launches. Mind you, there was frequent frustration at the launch end on the many occasions gliders were lined up to launch and the cable retrieve vehicle failed to appear, generally because of vehicle breakdown, tangled or broken cable – sometimes all three.

But it was not always uneventful and tedious.

There was, for instance, the day the winch cable broke and whipped past me as I stood beside the winch on spreading duty. The whistling sound of its passage was impressive enough. Even more impressive was the way the steel cable neatly chopped into halves the car battery used to start the winch motor. Not long after that we upgraded to a two-drum winch with automatic spreader. It was fitted to the back of an old "Blitz Wagon" five ton truck. I rather enjoyed driving it – the truck, that is.

Without doubt, though, the day the Kingfisher had a "hang up" was my most exciting experience at the winch end. I rather think John, the pilot, might have found it even more exciting.

I was spreading so I can't say for sure what happened at the launch point. The first inkling Geoff, the winch driver, and I had of

any problem was the sight of the Kingfisher climbing at an impossibly steep angle about a third of the way up the launch.

Evidently during the take-off sequence the Kingfisher overran the cable and the drogue chute got tangled between the nose skid and the wheel of the little glider. It was too late to give the stop signal by putting one wing on the ground because the aircraft was already accelerating and becoming airborne. As there was no radio or telephone link to the winch, all the launch crew could do was watch helplessly as the Kingfisher was dragged upwards.

Geoff had the experience to work out what had happened. He was also quick thinking enough to realise that if he reduced power the glider would stall because of its extreme nose high position. Near the ground this could be disastrous so he kept the launch going until the glider was at about 1,200ft. Then he throttled back, shifted to neutral gear and called out to me to cut the cable. I seized the huge wire cutters, which were generally used when we repaired broken cables, and ran to the front of the winch drum.

The wire stretched up to the Kingfisher which was in a steep dive recovering from the inevitable stall. The wire parted cleanly as the cutters did their work and the glider was no longer tethered to the winch.

Geoff climbed down from the driver's seat and we stood together wordlessly and watched. We knew what the pilot would do now, or so we thought.

'Hang-ups' were part of our training – the theory anyway. We knew the drill: winch crew cuts the cable, pilot does steep turns laying the cable safely within the boundaries of the airfield. Then follows a circuit and landing all within the airfield perimeter, the overall aim being to keep the glider and its trailing cable free from any ground obstructions. The awful result of the cable snagging something and snatching the glider mid-flight into an uncontrollable stall was something that hardly bore contemplation.

So much for theory. After recovering from the initial stall, the pilot for some reason simply flew a normal circuit. It was morbidly fascinating to watch the 2,000ft or so of fencing wire, used as a winch cable, drag away from the winch, across the fence, through the trees, across the creek and back across the fence during the approach. From the winch end Geoff and I couldn't see the actual landing, but it was uneventful. Lucky pilot!

For us long-suffering winch crew it was a timely reminder that in matters aviation the tedium of routine and repetition can transform with terrifying swiftness into mind-focussing emergency.







Flying along the cliffs of the Nullarbor

Photo: Dave Humphrey

# Nullarbor to the Eclipse

Dave Humphrey

STILL AFFECTED BY THE TRAVEL BUG AND WITH NOT A LOT OF WORK HAPPENING, MEANT I WAS ABLE TO GO TO THE ECLIPSE IN CEDUNA. IT ALSO MEANT

ANOTHER CHANCE TO FLY THE CLIFFS ALONG THE NULLARBOR.

A friend who was coming with me opted out, as he was not able to get away from work. So now I had a spare seat. This was easily sorted with a notice at the local backpackers offering a ride to South Australia, stopping off to see the eclipse. I ended up with a dozen calls, but Jamie, a Canadian, was first in and sounded keen for a bit of adventure.

We were on the road with a few days to spare before the eclipse, and so a social call to the Dust Devils of Kalbarrie who are also Nullarbor bound as I write this. The second night we camped right behind a launch on the WA/SA border. A very pleasant night under the stars enjoying the bush TV. The dreams of flying are always present when camped in places like this and this night was no different.

I woke early to the call of nature and the surf below us. It was only six, but the breeze was already in and flyable. I was planning to take Jamie for a tandem on the dunes and maybe a little way along the coast.

By the time we had packed the tent the first white caps were appearing, so the tandem stayed in its bag. We drove on to the east and a little closer to the cliffs.

The spot I had used to launch many years ago seemed nowhere to be found, and the wind was picking up so I started to climb down closer to the water and ended up very close to the bottom. The white caps had now called in some reinforcements; the forecast for moderate winds was a little out, but you get that.

I started to set up with that mixed feeling of anticipation, expectation and fear. Another 15 minutes of watching, a radio

check and then a very easy launch. I went up and up and up a little more. I was now 250m above the water and feeling very excited. The wind was coming in about 45 degrees to the coast from the west, so today I was going east. Jamie's comment on the radio was, "I guess you are going to fly around for a bit?" I suggested a drive along to the next lookout at the start of the cliffs might be the best idea.

It seemed like just minutes and I was there already.

Jamie arrived and said on the radio, "Do you want me to keep going?" I did a check to see how much penetration into wind I had. It was still okay and the speed bar not yet needed. So it was a wave to the crowd of ground walkers below and I was on my way.

Last time I flew here it was a slow out and back of 90km that took five hours. This time I was not coming back.

The cliffs from above were like the teeth on a wild animal and the crashing waves the drool from its hungry mouth. Then again, maybe I was getting too much fresh air?

The wind did not turn, but picked up a little as the day wore on. We were using the truckie channel and got a few strange comments about what we were doing.

After a few hours the road started to leave the cliffs so now I was very much alone.

I told Jamie to drive onwards to the head of the Bight and I would be there or be walking.

A couple more hours and the coast was starting to turn the closer I got to the end and the wind was now nearly coming along the cliffs. I was now jumping along the teeth of the beast, so to speak.

I was now back in touch with Jamie and said, "I think I will be walking soon." I was going very fast along the cliffs but also coming down.

I waved goodbye to the angry ocean and put down on top with very little forward speed. I had missed making it to the end of the cliffs by about 10km, so a bit of a walk under the sunset was in order.

I had only walked about one kilometre when Jamie – the legend – appeared out of nowhere along a sandy track.

The GPS indicated a direct line back to launch of 171km, so not a bad day! Flight time was six hours and two minutes. The wing was an Edel Response, the muesli bars from Uncle Tobies and the water from the tap.

If you're keen for a bit of coast running and want to know more, give me a call on 0418 954 176.

We also got lucky with the eclipse the next day, as the clouds parted just at the right time. It was amazing.







# Review: AEROS ACCENT

Hakim Mentes

## SPECIFICATIONS AND SET-UP

Manufacturer:	Aeros
Model:	Accent 30
Weight in flight range:	85-105kg
Certification:	AFNOR Standard
Speed range:	22-45km/h
Trim speed:	35km/h
Number of cells:	33+8
Harness:	Edel ProLight
Risers separation:	40cm
Weight in flight:	97kg

## CONSTRUCTION

The Accent is a stock-standard beginner glider which employs a four-riser system with split A-risers. Only A and B-risers are colour coded which helps to identify them quickly, but I would prefer all risers to be colour coded. Both surfaces of the upper sail and the ribs are silicon coated, but only the bottom surface of the lower sail is silicon coated. The lines are attached to the risers via the standard triangular shape mallions with O-rings to reduce line movements on the mallions. The difference with the Accent is that there is nylon tubing around the mallions which eliminates the risk of the nuts becoming loose. They also minimise relative movements of lines over the mallions. There are a couple of areas that could have been done a bit better, for example, a reinforcement strip at least on the trailing edge would be a real bonus. The other problem with the demo glider was that one of the brake handle attachment toggles came off the risers.

BECAUSE OF UNFAVOURABLE FLYING CONDITIONS DURING WINTER, I WAS NOT ABLE TO TEST ALL ASPECTS OF THE GLIDER AS I WOULD HAVE LIKED. BUT I DID SPEND A LOT OF TIME PRACTICING GROUND HANDLING. SITES FLOWN WITH THE GLIDER INCLUDE: SUNNYSIDE, THE PAPS (SOUTH-WESTERLY LAUNCH) AND PORTSEA.

## PACKAGING

The Accent comes with repair patches, some spare lines, ruck sack and a big bag.

## TURNS

Response to the brake line input is not bad, but turning with weight shift is a bit slow.

## CONTROL (BRAKE) LINE

The control line force is on the heavy side, but not overly heavy. For a beginner class glider it is on the ball. Brake travel seemed long to me.

## TAKE OFF AND LANDING

Take off and landings are very easy with the Accent. It is the glider I did most ground handling with due to unfavourable flying conditions. Also had plenty of take off and top landing opportunities with the Accent where it shined.

## ASYMMETRIC COLLAPSE

The Accent proves itself to be a very stable glider. It comes out of 50% asymmetric

collapses very quickly with less than 90° turn. It loses a bit of height but does not show any steep diving tendency like some fast DHV 1-2 gliders.

## BIG EARS

Thanks to the split A-risers set up, big ears are in reach of any pilot and easy to initiate. Once released, they gradually come out.

## SPEED SYSTEM

The speed system is soft and easy to use, but travels a long way therefore it needs at least two steps speed system.

## B-LINES STALL

Unfortunately I did not have any flight with sufficient height to test B-line stall safely. My only half-hearted attempt was at Portsea, and that showed it was not difficult to initiate.

## CONTACTS

To test fly Aeros gliders, contact to Ivan Anissimov <aeros@optusnet.com.au> or phone 0412 446 683.







Flying at Southside, Victoria,  
with Bells Beach in the background

Photo: Kevin Grosser







# SKY SAILING

David (MillMan) Phillips

LATE LAST WEEK OUR TEAM AT WORK HAD ORGANISED A SAILING AFTERNOON AS A BIT OF AN END-OF-YEAR-CELEBRATION. A CRUISE AROUND PITTWATER AND CONSUMPTION OF UNSPECIFIED QUANTITIES OF ALCOHOL. SOUNDED PRETTY GOOD, BUT WITH A FAVOURABLE SE FORECAST, AND A DEARTH OF AIRTIME RECENTLY, MY MIND WAS FIRMLY FIXED ON A DIFFERENT FORM OF SAILING ALTOGETHER.

**A**fter traversing Sydney several times, I found myself on launch at Stanwell by mid-afternoon, looking at pretty good conditions. Light, around 10kt, but good direction, with the sun beginning to break through a layer of mid-level stratus cloud. There were only a couple of hang gliders airborne, amid the swathe of paragliders that always appear when the wind is light.

Unlike the last time I had ventured to Stanwell, there were no annoying rigging problems, and I launched easily into the light air at around 3:45pm. I was wearing a fine 1980's fashion statement bright blue ski suit. This would do nothing for my status in the cool-aviator stakes, but I hoped it would ward off the cold for a while.

An easy run up to Governor Game Lookout reaching 1,300ft was all pretty copybook stuff, so I turned south and cruised back towards Mitchell's. I passed over launch at just under 1,000ft, but lost a bit on the way over and arrived over the railway tracks at a little under 600ft. In the light conditions I decided to return to launch rather than commit to a slow climb on Mitchell's.

I arrived back below launch at around 300ft and found no lift.

After several passes, I had worked my way down to 250ft. A premature landing looked imminent. This was not in the plan. Some

serious scratching was needed, lest Millennium and I suffer a serious loss of face (although, with that ski suit, I doubt it could be avoided...).

Slowly, slowly, we worked back to around 300ft, where I was able to widen the search, and after what seemed a long time, looked down on launch again. Phew. It was the first time I had flown the Millennium in so close for so long, and it revealed a couple of interesting things. In the bumps and surges that are close to the hill, you need to be on top of the game to avoid that horrible sideslipping sensation as the glider yaws and rolls, and then slips towards something immovable. In a conventional glider, you need airspeed and a bit of muscle to overcome the yaw-roll coupling and turn the glider away. The extra two metres of span seemed to make the Millennium even more sensitive to the wind gradient close to the trees. However, three-axis control is very positive and I found that by leading aggressively with rudder I could yaw the glider away from the trees first, and then apply aileron to turn away. The yaw imparts extra speed to the hill-side wing, countering the initial roll and also avoids the need for large aileron inputs and the risk of inducing a spin.

With a little altitude safely stored away, I ventured into the valley to consider my next move. Lift was very light, but there was a para-



"Speedy" flying at Widgee mountain, South-east Queensland



glider climbing at the point where convergence lift always seems to concentrate. Sure enough, there was the usual rollercoaster of lift that carried me back to around 1,200ft. It was an easy trip to Mitchell's this time, following the convergence line and arriving at around 900ft. Lift was light and variable, but after a few passes, I was close enough to cloudbase to use cloudsuck to carry on around Coalcliff and off down the coast.

The mid level cloud was much thicker to the south, and as I neared it, the lift became quite strong, in what I suspect was a wind sheer. I ventured as far as Bulli Pass. To the south, the cloud level continued to drop, obscuring the masts at Broker's in a veil of mist. The lift was light and very widespread - it was possible to venture a long way from the ridge, following trails of lift under darker patches of cloud. I like conditions like these - you can fly about almost at will. At one stage I was a very long way out to sea, still at around 1,500ft. Looking back north from this position was quite surreal - all around the landscape was dull under cloud, save for a shaft of sunlight that was bathing Stanwell in bright light. Maybe the gods were smiling on us for once...

I flew back north, following bits of lift and enjoying the different perspective that conditions like these allow. There were quite a few more gliders in the air around launch, and I found myself flying in company with a new Lightspeed/Slick harness combination for a while. This turned out to be Dick Heffer getting some time on his new toy. At the speed we were flying, around 30 mph, there seemed to be very little difference in performance, although I was able to catch up with him during a crossing to Mitchell's.

Sliding forward in the seat is a handy trim adjustment. Fully forward trims out at around 35mph. Pulling on the airbrakes at the same time produces a nice comfortable descent at around 30mph with no stick force. Very handy when it came time to land. For once, it wasn't due to hypothermia - that ski suit had done its job. I'd been in the air for nearly two and a half hours and was still comfortable. I set up a wide approach for another light wind landing that brought an end to a very pleasant afternoon of 'Sky Sailing'.



Photos: Courtesy Danny

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# Narromine Cup Week – November 2002

Photos: Colin Turner

THE ORANA SOARING CLUB HOSTED ANOTHER HUGE SUCCESSFUL NARROMINE CUP WEEK DURING NOVEMBER LAST YEAR. THE EVENT ATTRACTED 54 AUSTRALIAN AND INTERNATIONAL PILOTS. OVERALL WINNER WAS HANS WEISENTHAL FROM GERMANY (FOR THE SECOND TIME IN A ROW), WITH RICHARD VAN GRUSVEN, USA TAKING OUT SECOND PLACE. THIRD PLACE WENT TO GERRIT KURSTJENS, WHO ALSO ADDED ANOTHER 1,000KM FLIGHT TO HIS LONG LIST OF ACHIEVEMENTS. A NUMBER OF PERSONAL BESTS WERE ALSO MADE. MORE IN THE MARCH EDITION OF SOARING AUSTRALIA.



Geoff Sweeney



Relaxation time for tuggie Nick Hunt, Pam Kurstjens, Kerrie Claffey and tuggie Stowe Kentish



The Narromine Aviation Museum complex was officially opened in October last year. This building houses an aviation museum, a function room, the Narromine Aero Club clubhouse and the Orana Soaring Club clubhouse



Nikki, Mark and Beryl Rowe spent most of cup week in the kitchen!



Chef extraordinaire Arnie Hartley with a hungry Ed Marel





The Narromine-based MIG fighter - it hasn't got a towhook on it yet!



Briefing time



Orana Soaring Club member Paul Thompson preparing for a flight in his Stemme  
February 2003



Bob and Marion Musgrave



# Ramping up Coaching

Emilis Prelgauskas

FOLLOWING THE WINTER COACH-TRAINING PROGRAM CARRIED OUT EARLIER LAST YEAR IN SOUTH AUSTRALIA, A NOVEMBER COACH TRAINING CAMP WAS HELD AT WAIKERIE AS 'PERFORMANCE WEEK' UNDER THE AUSPICES OF REGIONAL COACH, CATHERINE CONWAY.

Participating pilots supported (including financially) the import of Bruce Taylor to provide a wider framework and knowledge.

The financial support included a little GFA sports department input, substantial direct contribution by each pilot, and a network of glider pilots working an on-going fundraiser at state level toward building some financial reserve for the regional coach.

As Waikerie International Soaring Centre ran a basic cross-country course during the same period, participants were able to share morning met briefings and a few of the lecture components.

Coaches were able to have a day each in the cockpit with Bruce to watch, be watched

and apply the elements being delivered in the morning classroom periods.

Sailplanes used for this were a Duo-Discus, a Janus and an IS32. Single-seaters on the tasks included a Nimbus (Peter Robinson), an LS4 (Peter Page), a Discus (Syd Nankivell), a Pik20 (Dave Hichins) and a Ventus (David and Catherine Conway). Other gliders flying during the week included a Club Libelle, a PW5, a Hornet, an Astir CS, an ASW19, a Discus, and an LS3.

The lecture, tasksetting, flight arrangement and debriefing were handled in a low-key style which suited both the regional coach and Bruce. I understand the basic course also ran a similar tone.

In South Australia, we are a little removed within the vast continent from some initiatives elsewhere; and we can only drool over the summaries presented on joint gliding trials with the Australian Institute of Sport done by others.

It also leads to practical limitations in such things as pair flying, when in the region there are so few sailplanes of similar commonality, let alone hangared together at a single club.

This was epitomised by the types noted for their diversity rather than by comparable performance at the camp.

A lot of background support is yet to evolve; tendrils of which are appearing through the already-developed winter program and follow-up camp.

By bringing together background material, including Maurie Bradney's 'Flying Faster and Further', and the recently-evolved presentation material from both the winter lecture series and follow-up camp, we are not only getting the core resource materials together, but also are getting a full topic list on the one end, and at the other end we are identifying the gaps in resource material yet to be brought together.

The hope is to place all this progressively somewhere accessible; possibly a public web presence.

The weather at that time of the year gave the full range of experience – from low, scratching days to high cumulus open racing conditions, through to special circumstances such as Bernhard Eckey's Diamond Height climb using thermal, thermal wave and standing wave.

No one says it's going to be easy in either the performance flying, or the steps we have yet to take to get the coaching thing nailed down.

For the moment, we are grateful that the sport is receiving benefits from the sizeable number of people who care enough to give of themselves and develop these things for broad application.



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## CLUB NEWS

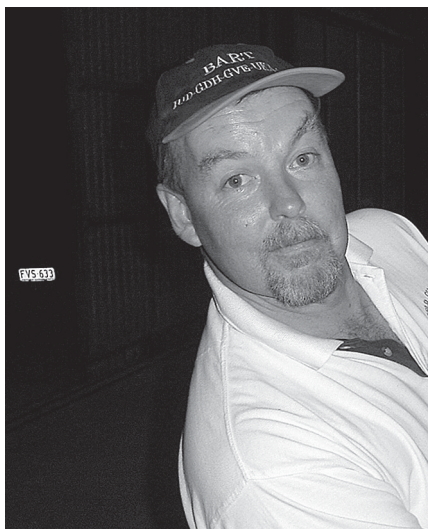
### 60th Anniversary of the Beaufort Gliding Club

Over 80 members and friends of the Beaufort Gliding Club celebrated the club's 60th anniversary in style with a spit roast on 16 November at the Bacchus Marsh airfield.

On 8 October 1942, 35 employees of the Beaufort division of the Department of Aircraft Production at its facility at Fishermen's Bend agreed to form a Glider Club and, as they say, the rest is history. Beaufort is the second oldest surviving gliding club in Australia just behind the Gliding Club of Victoria.

It is the smallest of the three clubs at the 'Marsh' but it has a close-knit group of around 35 flying members and a new breath of fresh life with the membership having grown steadily over the last three years. Edwin Grech-Cumbo is the club president. Many of the members are avid cross-country and competition fliers and the club's average kilometres flown per annum per pilot is one of the highest in Australia.

"Glider Wikipedia" which is at [www.



Mark (Bart) Simpson (GGC)

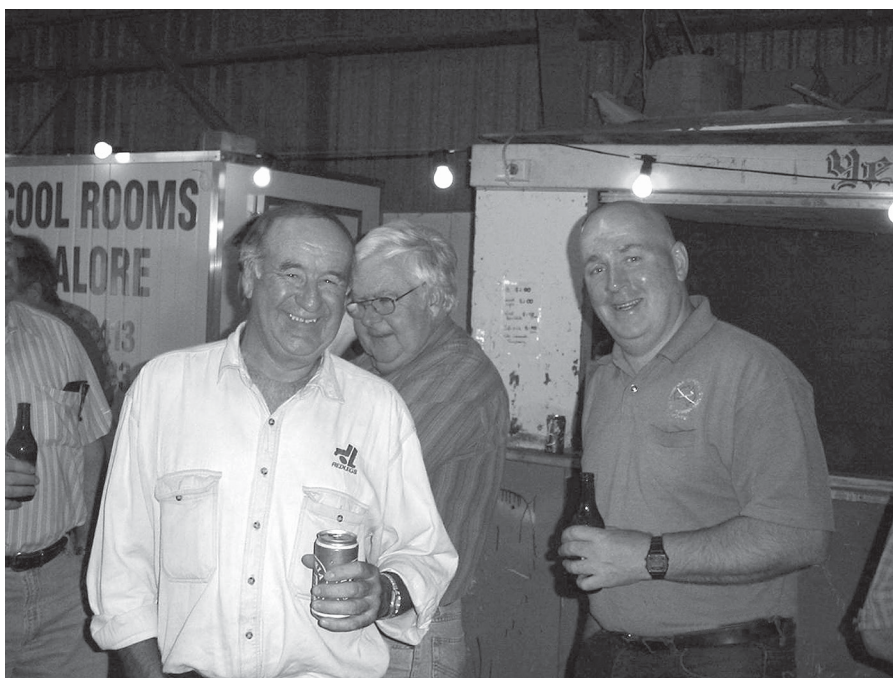


The long and the short of it – left to right: John Buchanan (GGC), John Flanagan (GGC)

## FAI NEWS

Following the unfortunate, but fully justified, decision taken by the New Zealand organisers to cancel the World Class World Gliding Championship originally scheduled to take place early next year in Matamata, owing to lack of entrants, the International Gliding Commission (IGC) Bureau has now decided how to proceed. After taking soundings regarding the likely participation in a re-arranged World Championship in the 2003 Northern Hemisphere summer, the IGC Bureau has decided to accept the offer of the NAC of the Slovak Republic to hold the 2003 World Class World Gliding Championships at the same time and place as the 3rd Junior World Gliding Championships in Nitra, Slovakia. The FAI Sporting Calendar is being amended as a result of this decision.

Max Bishop, FAI Secretary General



Left to right: Keith Willis (Bodertown/Keith GC), Kevin McGowan (GGC), and Terry Cubley (GGC) all enjoying a beer

Beaufort GC photos: David Cleland

## WEB NEWS

### Interesting websites

[www.danb.dircon.co.uk/hg/hg.htm] which has a gliding flight simulator.

Although the background is a bit basic, it is fun to use.

"What is a sailplane" – [http://hem.passagen.se/tkolb/fun/soar/what\_e.htm]

This is an educational site for people who may be interested in taking up gliding and is attractively presented.

wikipedia.org/wiki/Sailplane] and is another educational site about gliding with links to other sites.

"Sailplane cruising polar coefficients and weight limits" which is at [www.winpilot.com/polar.asp]. This site has handy tables to look up popular single-seaters and two-seaters specifications and performance figures.

"Sailplane performance series" which is at [http://perso.wanadoo.es/gggranero/pw5/performance\_pw5.xls]. This site has

input tables to enter the specifications of the glider you are interested in and it will calculate performance in an output table.

*Editor's note: I am grateful to Andrew Evans who suggested that a column naming sailplane-related, interesting websites should be placed in Soaring Australia. Please contact the Soaring Australia GFA editor, Anne Elliott, annell@hwy.com.au if you know of any other interesting sites.*





# Accidents/Incidents – 2002

Kevin Olerhead, Chief Technical Officer – Operations

LISTED BELOW ARE ACCIDENTS/INCIDENTS REPORTED TO HAVE OCCURRED IN 2002.

There were no fatal accidents in 2002, following on from 2001 when there were also no gliding fatalities.

Four accidents/incidents relate to canopies opening or being lost in flight. Usually, when a canopy opens during a flight, it is for one of the following reasons: The canopy latching systems has failed; the pilot (or passenger) has accidentally unlatched it during the flight; the pilot didn't latch it, or didn't correctly latch it, prior to the launch.

It is not hard to imagine an event such as this being the start of a serious accident and perhaps some otherwise unexplained past accidents had their beginnings in this way.

A mid-air collision and several reported near misses are again a reminder that we must be ever aware of this danger and never relax on our lookout procedure.

Another trend of concern is the number of "outlanding accidents" near the airfield.

## ACCIDENTS

Date: 1 January 2002  
State: New South Wales  
Aircraft: Grub 102  
Description: Heavy landing  
Damage: Substantial  
Injuries: Nil

Date: 5 January 2002  
State: Western Australia  
Aircraft: Nimbus 2  
Description: Nimbus veered off the runway during take-off ground run (aerotow) and collided with a Puchacz parked beside the runway

Damage: Nimbus – moderate;  
Puchacz – substantial  
Injuries: Nil

Date: 16 January 2002  
State: New South Wales  
Aircraft: Ventus C – Discus 2  
Description: Mid-air collision. The gliders were competing in the Multi-Class Nationals. The Ventus pilot safely landed and the Discus pilot vacated his glider and escaped via parachute  
Damage: Ventus – substantial;  
Discus – total loss  
Injuries: Ventus – Nil; Discus – serious

Date: 16 January 2002  
State: Victoria  
Description: Pilot selected a suitable paddock for an outlanding, however, ran out of height and landed in a narrow paddock on base leg. The pilot ground looped the glider to avoid hitting a fence  
Damage: Minor  
Injuries: Nil

Date: 30 January 2002  
State: Victoria  
Aircraft: DG 200  
Description: Heavy landing  
Damage: Substantial  
Injuries: Nil

Date: January 2002  
State: New South Wales  
Aircraft: Standard Libelle  
Description: Outlanding accident (details unavailable)  
Damage: Substantial  
Injuries: Minor

Date: January 2002  
State: New South Wales  
Aircraft: Astir CS  
Description: Following a low level cable break (winch launch) the pilot attempted to land downwind back at the launch point. The glider was ground looped to avoid hitting the runway end fence  
Damage: Substantial  
Injuries: Nil

Date: January 2002  
State: New South Wales  
Aircraft: LS 6  
Description: Outlanding accident (details uncertain)  
Damage: Substantial  
Injuries: Nil

Date: 2 March 2002  
State: Victoria  
Aircraft: IS 28  
Description: Glider hit fence while attempting to make it back to the airfield (Air Experience Flight)  
Damage: Total loss  
Injuries: Nil

Date: 3 March 2002  
State: New South Wales  
Aircraft: LS 6  
Description: Glider struck fence when outlanding  
Damage: Substantial  
Injuries: Serious

Date: 5 March 2002  
State: New South Wales  
Aircraft: ASH 25M  
Description: Heavy landing  
Damage: Substantial  
Injuries: Nil

Date: 25 April 2002  
State: New South Wales  
Aircraft: K8  
Description: Miss-handled landing resulting in the nose skid being torn off  
Damage: Minor  
Injuries: Nil

Date: 11 May 2002  
State: Queensland  
Aircraft: Blanik L13  
Description: Four kangaroos moved into the path of the glider after landing – the pilot avoided hitting three of them  
Damage: Substantial  
Injuries: Pilot nil; Kangaroo uncertain (he/she declined offers of assistance and left the scene)

Date: 18 May 2002  
State: New South Wales  
Aircraft: IS 28  
Description: Glider overshot on landing and ground looped into the side boundary fence  
Damage: Severe (write-off)  
Injuries: Nil

Date: 27 July, 2002  
State: Queensland  
Aircraft: Nimbus 2C  
Description: The pilot experienced severe negative G while cruising resulting in his head breaking the canopy. The battery was also displaced during the incident, which prevented the wheel from being lowered for landing  
Damage: Minor  
Injuries: Nil

Date: 2 October 2002  
State: New South Wales  
Aircraft: ASW 24  
Description: Heavy landing when outlanding  
Damage: Substantial  
Injuries: Nil

Date: 27 October 2002  
State: Western Australia  
Aircraft: Astir CS  
Description: Heavy landing  
Damage: Substantial  
Injuries: Serious

Date: October 2002  
Aircraft: HP 14V  
Description: Canopy opened during the ground-run (aerotow), glider ground looped after the launch was aborted  
Damage: Substantial  
Injuries: Nil

Date: 10 November 2002  
State: Queensland  
Aircraft: PW-5  
Description: The pilot attempted a modified circuit following a low level cable break during a winch launch and crashed into trees beside the airfield  
Damage: Major (probable write-off)  
Injuries: Minor

Date: 11 November 2002  
State: Victoria  
Aircraft: IS 28  
Description: An outlanding became necessary during a training flight, the wing struck the ground during the turn on to final and the glider's nose impacted the ground heavily  
Damage: Major (write-off)  
Injuries: 1 severe, 1 serious

Date: 8 December 2002  
State: Queensland  
Aircraft: Standard Cirrus  
Description: Glider was released at low altitude from an aerotow launch. The pilot's attempt to make it back to the airfield was unsuccessful and crashed on landing "off-field"  
Damage: Substantial  
Injuries: Serious



## INCIDENTS

**Date:** 6 January 2002  
**State:** Western Australia  
**Aircraft:** Astir 77 – powered aircraft  
**Description:** Near miss during the running of the WA State Championships – appropriate NOTAMS had been issued and the powered aircraft was not identified  
**Damage:** Nil  
**Injuries:** Nil

**Date:** 19 January 2002  
**State:** Western Australia  
**Aircraft:** IS-28 B2  
**Description:** During a check/orientation flight a spin was conducted and recovery was initiated following two turns. The canopy opened approximately 30 degrees during the recovery phase, recovery was completed and the canopy secured. The glider safely landed back at the airfield  
**Damage:** Nil  
**Injuries:** Nil

**Date:** 28 January 2002  
**State:** Northern Territory  
**Aircraft:** Standard Libelle  
**Description:** Canopy was lost during flight – incorrectly latched  
**Damage:** Minor  
**Injuries:** Nil

**Date:** 3 February 2002  
**State:** Western Australia  
**Aircraft:** Jantar Junior – Std Cirrus  
**Description:** Near-miss when the gliders which had flown opposing circuits (one right, one left) crossed each other's paths on final approach  
**Damage:** Nil  
**Injuries:** Nil

**Date:** 7 March 2002  
**State:** New South Wales  
**Aircraft:** LS 8  
**Description:** Wheel-up landing  
**Damage:** Nil  
**Injuries:** Nil

**Date:** 22 March 2002  
**State:** Victoria  
**Aircraft:** Phoebus  
**Description:** Undercarriage collapsed during take-off ground run – it was later found that the handle was still in the “down and locked” position  
**Damage:** Minor  
**Injuries:** Nil

**Date:** 31 March 2002  
**State:** South Australia  
**Aircraft:** Grob 103, Tug – Mini Nimbus  
**Description:** Near miss - Mini Nimbus returning from a race task came within 100ft of the Grob-Tug towing combination  
**Damage:** Nil  
**Injuries:** Nil

**Date:** 12 April 2002  
**State:** Queensland  
**Aircraft:** Blanik L13 - Tug  
**Description:** At release, the pilot incorrectly used the trim level instead of the release and the glider climbed steeply causing a tug upset. The tug pilot released the glider and safely recovered.  
**Damage:** Nil  
**Injuries:** Nil

**Date:** 26 May 2002  
**State:** Queensland  
**Aircraft:** Puchatek  
**Description:** Pilot experienced restricted forward control column movement shortly after leaving the ground,

released from tow (aerotow) and safely landed. It was later found that the microphone had fallen into the control column “well” during the ground run

**Date:** 15 June 2002  
**State:** Western Australia  
**Aircraft:** Twin Astir - Jabiru  
**Description:** Near miss when the Jabiru flew overhead the Twin Astir with a separation of approx 20ft while the Twin Astir was on downwind leg  
**Damage:** Nil  
**Injuries:** Nil

**Date:** July 2002  
**State:** New South Wales  
**Aircraft:** Astir CS  
**Description:** Canopy opened whilst on tow (aerotow)  
**Damage:** Minor  
**Injuries:** Nil

**Date:** 25 October 2002  
**State:** Queensland  
**Aircraft:** Standard Libelle  
**Description:** Flutter - the pilot suffered a head injury while rigging the aircraft and decided not to fly on that day. The following day he flew the glider and experienced wing flutter, reducing speed stopped the flutter and the glider was safely landed. It was later found that one aileron had not been connected  
**Damage:** Nil  
**Injuries:** Nil



## Obituary – BRIAN DAVID VOCE

The death occurred in Western Australia on 21 November last year of Brian David Voce at the age of 51.

Brian was born in Liverpool, England on 28 April 1951. After leaving school he qualified as a mechanical engineer and worked for Michelin Tyres. Recognising his intelligence, the company trained him as a computer programmer.

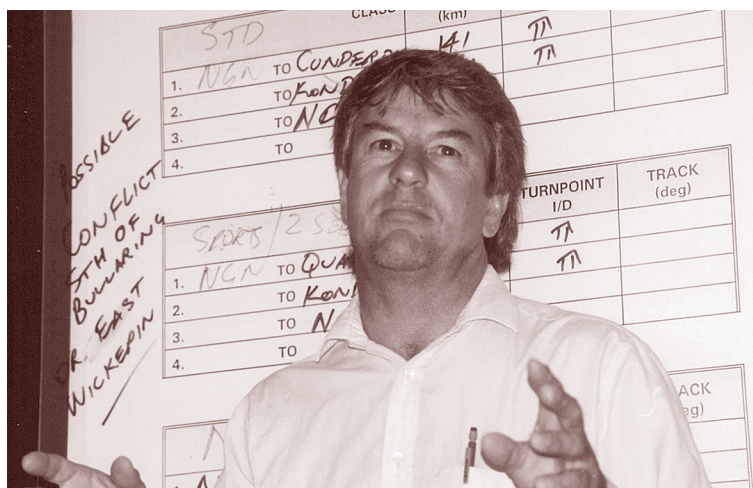
In the mid-70s Brian emigrated to Australia and settled in Sydney. He soon became involved in sailing at weekends and competed in yacht racing. In 1985 he achieved a lifelong dream of sailing in the Sydney to Hobart yacht race and was fortunate enough to win the navigator's prize that year. Other yacht voyages took him to Fiji and to Lord Howe Island.

In 1986 Brian moved to Brisbane where he met Caroline. Following their marriage the couple took up residence in Perth. By this time Brian had taken up gliding with the Beverley Soaring Club. He became heavily involved in the administration of gliding in Western Australia, serving

on both Beverley and Narrogin club committees. At one stage he was elected President of the Western Australia Gliding Association.

In the year 2000 he was awarded an Australian Sports Medal for his service to gliding. This was a one-off award made to commemorate the anniversary of Federation in Australia and Brian was a very proud recipient.

Another trophy which he regarded highly was the Wrong Way Classic of 1993. This was awarded in recognition of his becoming lost during a competition, where he was actually at Dowering when he was supposed to be at Goomalling. Ironical-



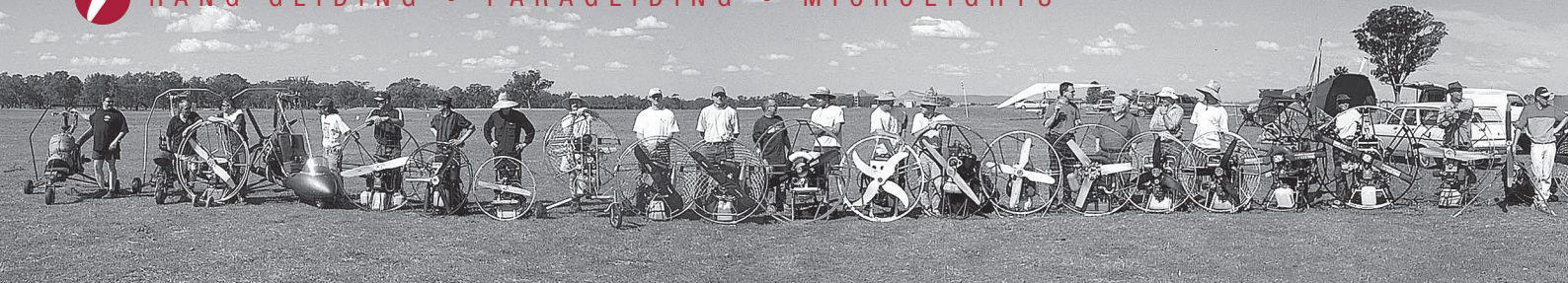
Vale – Brian Voce

indeed, since he had once won a trophy for being the ‘best navigator’ and now had been recognised as being the ‘worst navigator’ of the year!

Brian's tragic passing came as a terrible shock to his family and friends. He will be sadly missed by a great many people whose lives he had touched.







# Picolight Fly-In 2002, Milbrulong NSW

Jos Weemaes

THE BIGGEST ANNUAL  
GATHERING OF PARA-

MOTOR PILOTS IN AUSTRALIA TOOK PLACE 19-23 SEPTEMBER, IN THE SMALL COUNTRY VILLAGE OF MILBRULONG. THIS WAS THE FIFTH TIME THAT JEFF HOFFMAN AND MYSELF ORGANISED THE EVENT. STARTING IN 1998 JEFF AND I WERE THE ONLY ONES, THIS YEAR THE NUMBER HAD INCREASED TO TWENTY-THREE POWERED PARAGLIDERS, FOUR POWERED PARACHUTES, THREE PARAGLIDER TRIKES, ONE POWERED HANG GLIDER AND ONE HANG GLIDER TRIKE (JOHN'S FAMOUS NANOLIGHT).



Paddock seat

**T**he weekend was planned for 20-21 September, but, as usual, the first pilots arrived days before, in order to get some extra airtime and to chinwag with like-minded folk.

They came from all over the place; a large contingent from Melbourne, Sydney, Brisbane, and some all the way from Airley Beach. Most came by car, but some had to steal the show by flying in.

It was great to see all those faces again and to catch up on the latest developments in engines, tuned pipes, prop designs and inventions that people had come up with over time.

Camping was at the Milbrulong sports-ground, which also functioned as the race-track for gliderless paramotor trikes.



Ground handling

Several activities were organised over the long weekend, with the thrust test being one of the most popular events. The test results varied from 36kg (being insufficient to lift the pilot in question off the deck) to 62kg for Andrew's Fresh Breeze. The late arrival of the Walkerjet tandem meant it didn't make the list, but tests on the Sunday afternoon revealed 75kg.

While thrust tests were being done, Liam also measured the noise levels of the

different paramotors. The attached spreadsheet gives a clear indication of the results.

Of course, there was the mandatory "wake-up" Milbrulong early morning flight and the assault on Lockhart. This must have been rather frightening for the sedate population of Lockhart, having such a large contingent of low flying aircraft descending on the town. Refuelling was on the Lockhart airstrip and those with equipment malfunctions were transported back to base on the back of the ute.





More pilots turn up each year to the Picolight Fly-in

Equipment failure was as usual during fly-ins: exhausts giving way, props shattering, spark plugs dropping out, etc. Nothing dramatic, and for the pilot with the most damage there was the annual trophy.

During the night motors were rebuilt and equipment patched up to be ready for the next day.

It was, again, an excellent weekend. Sure, a bit noisy at times, but hey, what do you expect? It was a weekend full of camaraderie, flying, tall stories and a great time was had by all.

Next year, same place, same weekend and a big THANKS to Jeff for making the paddock available.



## “Ol’ Eagle Eyes” Flight Glasses

From North Coast Avionics Pty. Ltd.

ABN 61003732492

PO Box 741 Byron Bay NSW 2481

Phone / Fax (02) 6685 6287

email [cummings@nor.com.au](mailto:cummings@nor.com.au)

Check out our web page

<http://www.nitroaustralia.com.au/eagleeyes.html>

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**Steve Blenkinsop - SA**

**International Dealers**

**Nixon Beltrao - Brazil**

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**Hiroshi Mamiya - Japan**

**Dealer inquiries Welcome**



Name and motor	Full revs (RPM)	Noise @ full revs (dB)	Thrust @ full revs (kg)	Revs @ 40kg thrust (RPM)	Noise @ 40kg thrust (dB)	Weight of motor (kg)	Power to weight factor (thrust (kg)/weight (kg))
MIKE FORWOOD Airfer Tornado 2001		104.8	57		100.8	32	1.78
LIAM GARDNER Airfer Tornado 2001		106.6	55	6,450	100.5	32	1.72
PAUL BORONDI Airfer Tornado 2002		106.2	56	6,350	102.3	32	1.75
RICK CLARKE Rick/Mike Custom (Solo 210)	7,300	100.3	42	6,500	99.5		
JOS WEEMAES Whisper Custom (Solo 210)	6,070	97.3	36				
PAUL BORONDI Airfer Tornado with custom props	6,200	99.8	52	5,800	97	32	1.63
ANDREW POLIDANO Freshbreeze (Solo 210)	6,325	100.1	62	5,200	92.8	28	2.21
JEFF SANDERS Solo 210 Custom		98.2	44	5,740	96.4		
JEFF HOFFMAN Dk Whisper GT	6,250	101	46	5,700	97.2		
ANDREW McCARTHY Dk Whisper GT (Bigger Prop)		104.7	47	5,810	100.7		
STEVE MARSHALL DK GT Prop on Homebuilt	4,800	94.8	35				
GRAEME SUTHERLAND Fly Products Power 115	6,600	99.1	39			25	1.56
ROB VAN LISSE Pap Top 80	9,470	102.9	50	8,690	97.4	28	1.79
CHRIS DRAKE Adventure F2 Quad			37				



# An Advanced Thermalling Technique

Graham Sutherland

THIS IS MY PERSONAL EXTRA TECHNIQUE FOR THERMALLING. I DEVELOPED IT THROUGH SUBCONSCIOUS SEAT OF THE PANTS FLYING. WHEN PEOPLE STARTED ASKING ME WHY I SEEMED TO MOVE AROUND SO MUCH WHEN THERMALLING AND STILL OUTCLIMB THEM I WAS PROMPTED TO TRY TO WATCH WHAT IT WAS I WAS DOING, AND DEVELOP A THEORY AS TO WHY IT WORKS. I CAN'T BE SURE THAT MY DESCRIPTION OF WHAT I DO IS ONE HUNDRED PERCENT ACCURATE AS SOME OF IT MAY BE STILL BE SUBCONSCIOUS. THE THEORY IS JUST WHAT BEST SEEMS TO FIT MY EXPERIENCE.

**W**hat a sailplane pilot might see as a thermal with a few bumps in it, paraglider and hang glider pilots see as multiple cores that shift and change. Even though our sink rate is much worse than that of a sailplane we can still outclimb them because the radius of our turns is so much smaller. So we can stay right in the strongest parts of the cores.

We all know that thermal cores tend to join up at altitude. This theory explains just how this comes about and how to harness the process to find stronger cores near to the one you are currently in.

## BERNOULLI'S PRINCIPLE

Bernoulli discovered that when a fluid is accelerated it exerts less pressure on its surroundings. This is how the low pressure area forms in the accelerated air passing over the top of a wing. With respect to thermals, it means that the fast moving air in a thermal is at a lower pressure than the slower moving air around it. This explains the in-suck that we experience just before we enter a good thermal. Paragliders experience this in-suck as what becomes a familiar forward surging of the canopy just before we hit a good thermal. This effect is so recognisable that when we feel the characteristic surge and resultant forward acceleration we think "here we go!" even before we have hit the rising air. This in-suck also acts to make thermals stick to steep slopes, ie, thermals want to suck in from all sides. If there is a mountain on one side then since the thermal can't pull the mountain into itself, it is itself pulled towards the mountain. Any wind pushing the thermal towards the slope also helps. It is this in-suck that causes thermal cores to coalesce. They pull each other towards themselves.

Figure 1 shows my vision of just how this coalescence happens. When the two cores get close the in-suck from the stronger core will overpower that of the weaker core. So the adjacent side of the weaker core will be bled off horizontally into the stronger core. The opposite side of the weaker core may initially at least continue on relatively vertically. If we can feel this horizontal movement as soon as it begins we can quickly move over into the stronger core. If instead we just keep circling the core will appear to get weaker and may appear to evaporate. Either that or we will be drawn into the stronger core along with the far side of the weaker core. So if we don't recognise this horizontal movement of air we will either lose the core or be drawn into the new core much later than the pilot that moves to it as soon as the horizontal flow begins. Either way the skilled pilot

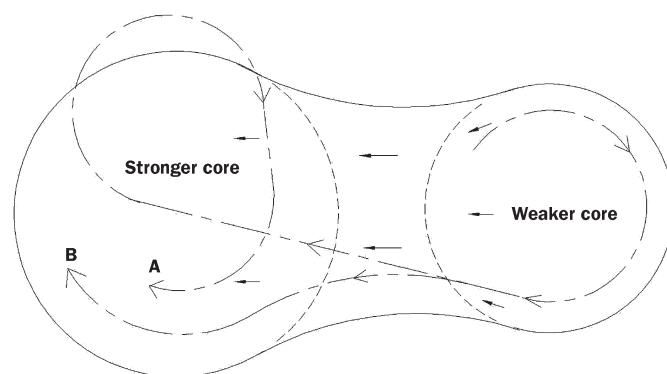


Figure 1: Horizontal airflow between adjacent thermal cores showing two different flight path options.

A – Straigten up to go roughly through centre of new core

B – Risk losing the thermal by trying to guess exactly where the new core is

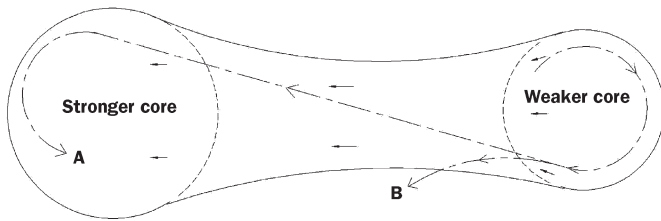
outclimbs the less skilled one. On a difficult day it can make the difference between getting away and ending in the bomb-out.

So how do we sense this horizontal movement? Paragliders are particularly sensitive to it in pitch, ie, the canopy surges forward and we feel some forward acceleration. When I am coring a thermal and the canopy surges forward or I feel some forward acceleration without any decrease in lift, then I will open up my turn in the same way as I would if the lift gets stronger.

Sometimes quite a long bridge seems to form between widely separated cores and I will fly straight for quite some distance. Once I have levelled out I am operating very much on my inertial sense. Unless I am close to the ground it is not ground speed I am watching. So long as I feel I am being drawn forward I will often continue. If the lift starts to drop, the wing pitches back ever so little, I feel as if I have slowed down, or I am unsure then I close up the turn again. The idea is then to do another 360 to find which side has the strongest lift or if there is still some horizontal movement on one side of the turn. If I have followed a particularly long bridge then I will often turn the other way to my previous 360s (see Figure 2).

The figures are very much idealised and simplified representations of thermals. Thermal cores tend to shift about and change shape dynamically, but it still seems to work to open up the turn (maybe for only a few seconds) when the canopy surges forward or you feel some accel-





**Figure 2: Bridge between non-adjacent thermal cores (occurs occasionally)**  
 Following the A path as in Figure 1 may require changing turn direction in the new core  
 Following the B path as in Figure 1 may result in losing the thermal

eration without any loss of lift while in a 360. It is a very different feeling to the surge you can get when you fall out of a thermal.

This is a technique for experienced pilots, as if you get it wrong you can easily lose contact with the core you were in and not find your way back to it. A GPS on map page can be useful to find your way back to a core that you erroneously flew out of.

Because paragliders fly so slowly and we are so far below the wing we are probably most able to sense these horizontal air movements, although I know that good hang glider pilots also use horizontal movements of the air to find cores. Whether sailplane pilots notice anything at all of the incredible complexity and beauty of multicore thermals and horizontal air movements I don't know.



THE SUMMER SEASON BRINGS  
 A MARVELLOUS MIX OF HOLIDAY  
 ADVENTURE AND FLYING  
 OPPORTUNITY FOR HGFA PILOTS.

Right: A post-flight beer at camp

Below: Andrew Wicks comes in for a sunset  
 landing at his camp on Teewah Beach

Photos: Natasha Wicks





# HGFA General Manager's Report .....

Craig Worth

**trust you have found the time to update your Operations Manual by now. Though the manual is not meant to be read like a novel, it does serve as a valuable resource when it comes time to upgrade your rating, to clarify an operational requirement or to gain an endorsement. If you are short of some bedtime reading, it is worth scanning through Section 6 – it contains our operating rules.**

## Control of Operations

Whilst talking operating rules, there have been several instances recently where I have needed to assist clubs in flexing some “compliance muscle”. Given the added legal pressure placed on each of us to comply with requirements these days and the added public scrutiny of our operations at sites and airfields, there is a greater than ever need to fly safely. In seeking compliance, the role of the clubs in controlling sites has recently been questioned. This is covered in several places in the manual. Section 2.1.2 and 5.4.2 state that among other things, it is the role of clubs to appoint Safety Officers to assist with the supervision and control of operations at sites. Sections 6.2 and 6.3 outline criteria for the control of operations at sites and airfields. Pilots are required under the privileges of their pilot certificates (as outlined in Section 7) to operate in accordance with requirements and any limitations imposed by a Duty Pilot or Safety

Officer, the owner of a site and/or the Safety Committee of a Club.

## Microlight Fatality

A report is just to hand of a fatal accident which occurred north of Melbourne involving a microlight registered with the AUF. Indications are that the microlight became uncontrollable when some large floats being transported on the trike apparently shifted in-flight. The floats had been strapped to the undercarriage of the trike base. This accident highlights the dangers of carrying any items anywhere on the trike other than in stowage compartments.

## Site Evacuation Plans

The following accident report provided by Peter Bowyer mentions the actions taken to allow ambulance paramedics access to the site. At Mt Spring this entailed having someone unlock a gate and wait to show the ambulance crew the quickest way to the accident victim. Action plans should be developed for each site and discussed with club members. Not only are clubs required to do this (as per Section 5.4.2.1(f) of the Operations Manual), but having such a plan could well save a life.

## Paragliding Accident

I provide the following report as received from Peter Bowyer with some minor editing (I have removed the injured pilot's name and have called him “the pilot”; he is an intermediate rated pilot). It appears that the primary cause was flying the glider in a

manner beyond the skill level of the pilot in conditions not suited to the manoeuvres being attempted. Peter's report:

*“Launch height is 2,909ft asl (886m asl). The conditions at the time were a combination of dynamic lift and large smooth thermals. Pilots in the air at the time were experiencing climbs of 1.5- 2m in widespread lift. There were eight other pilots in the air flying at the time, three of which were ACTHPA safety officers (Peter Crosswaithe, Warren Appleby, Brett Robinson). At approx 9:45am I informed my student pilots that were still on the hill that the day was now too strong for them and asked them to pack up their gliders. While packing up the gliders I maintained interest in the other pilots in the air at the time, what they were doing and the conditions. At approximately 9:55am (in my capacity as senior safety officer and chief flight instructor) I made an announcement to all pilots that the wind conditions were strengthening (actual wind meter was recording 16 and gusting up to 25mph) I informed all pilots to fly well in front of the hill and for some of the lesser experienced pilots I then singled them out and instructed them to head out and land. Warren Appleby and Brett Robinson had just performed some nice wing overs in front of the hill (each of these pilots were flying actively and dynamically performing well controlled wing-overs.) The pilot was flying at the left of launch in the region of our house thermal in front of the windsock out on the point. From where I was (on launch) he was not*

*much higher than launch height but appeared to have good horizontal clearance from the hill. I should point out that the hill is very steep at this particular point.*

*I would say that he had approximately 130-135m vertical clearance from the hill. At just before 10:04am I witnessed his glider in a steep wing over and saw his inside wing completely unload and tuck approximately 40%. The wingtip cravatted and the glider immediately went into a steep spiral dive. The pilot appeared not to react to the cravat. I witnessed three full 360° turns of the spiral before he disappeared below my horizon and estimated he had at least 1- 1½ more full 360's before impact. I immediately called 000*



Photo: Courtesy Lee Scott





Brendan Watts and Shaun Wallace high over Coral Bay

Photo: Courtesy P. Coffey

for medical assistance. He threw his reserve seconds before impact although it had no chance of opening due to his late deployment. I should point out that I did not witness the reserve throw as he was below my line of sight. The place of impact was a rocky outcrop at Mount Spring approximately 130m from the top of the hill. After finishing my phone call

I then radioed two other pilots David Lamond (medical practitioner) and Ky Whittich (Army advanced medic) who were in the air at the time and asked them to land immediately to assist the injured pilot. They were both already landing to assist. At the same time I was running down toward the accident site. I then had to turn back as I remembered to get my first aid from my Landrover. At the same time Ky Whittich was also getting his comprehensive army medical backpack from his car and running up to the accident site from the landing paddock. I had also arranged to have the gate to Mt Spring landing paddock unlocked and a club member located at the gate to escort the ambulance/paramedics to the accident site. I then had UHF radio contact with Dave Lamond who was by then at the accident site (within approximately five minutes from initial impact) and he asked me to arrange with Hall ambulance service for an immediate air evacuation. By the time I arrived at the accident site after my 000 phone calls and radio communications on our UHF channel, Brett Robinson,

David Lamond, Peter Crosswaithe and Paul Daniel were all on site. The injured pilot was in a state of unconsciousness. Ky Whittich arrived shortly after with his comprehensive army medical kit. By the time the paramedics had arrived at the bottom of the hill approximately 15-20 minutes later Dave Lamond with Ky Whittich assisting had already removed and cut away the pilot's helmet and harness, assessed his injuries and treated his only obvious external injury of a broken leg (femur and lower leg) as best they could. They had space blankets covering him and were monitoring his vital signs and communicating with the paramedics and hospital via mobile phone. He was in fluctuating levels of consciousness and when conscious was very obviously in pain and was increasingly becoming very agitated. Charles Palmer at this stage was helping the paramedics up the very steep rocky slope by giving them a much appreciated lift as far as he could in his 4WD. Once they arrived on site they administered some Morphine and approximately 10 minutes later the Southcare helicopter arrived and a crew of another two paramedics abseiled down to assist. One of them had a portable fold up stretcher, the other oxygen and drug supplies. Everybody helped to prepare the injured pilot for his flight and assisted the helicopter crew with a quick clearing away of any loose equipment and then a prompt departure from the accident site."

Fly safely, Craig Worth



# WILD TURKEY ADVENTURES

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The cost of the tour will be around 1250 Euro which includes; transportation (in Turkey), retrieve, food and accommodation.

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For booking and detail please contact us.

## WEEKEND PARAGLIDING TOURS (IN VICTORIA)

As long as the weather permits, we will be flying somewhere around Melbourne every weekend. The distance to the site dictates the duration of the trip; day trip or weekend trip. The trips especially suits to novice pilots who don't know where to go or how to go. Cost of a day trip is \$15 or weekend trip for \$50. Visit our web page for further details.

Contact: Hakim Mentos

Mob: +61 (0) 412 617 216

Email: [info@WildTurkeyAdventures.com](mailto:info@WildTurkeyAdventures.com)

Web: [www.WildTurkeyAdventures.com](http://www.WildTurkeyAdventures.com)



# Letters to the Editors



## LAKE KEEPIT

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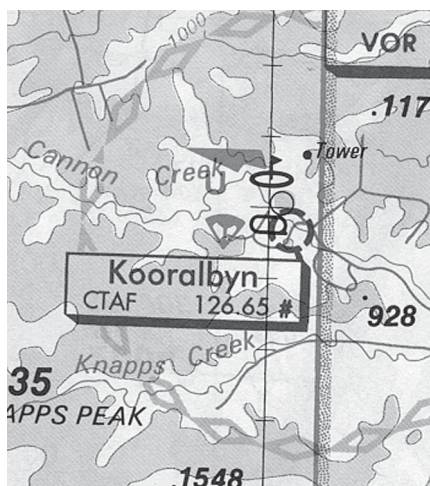
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Ph: (02) 6769 7514

Fax: (02) 6769 7640

Email: [keepitsoaring@bigpond.com](mailto:keepitsoaring@bigpond.com)

[www.users.bigpond.com/keepitsoaring](http://www.users.bigpond.com/keepitsoaring)



Kooralbyn

### Incident Report

The Australian Parachute Federation recently received an incident report of a (very) close encounter with a glider over the Kooralbyn parachute operation in Queensland.

On a jump from 10,000ft agl, the jump pilot had made the usual broadcasts and received no responses, the jumpers had looked down as normal and seen nothing

in the area, but at 6,500ft in freefall they passed within 50m of a glider which had been working under a small cloud with a ground speed of 25kt towards the DZ.

Kooralbyn is marked on the VTC as a parachute operation, operates seven days a week and is particularly busy on weekends. While the parachute symbol on the maps does not preclude overflights, pilots should be aware that an aircraft below is very hard to see, particularly when broken cloud is around. It is also almost impossible for another pilot to see skydivers in freefall.

Because of this, parachutists are relying more on the radio to check the airspace since it is mandatory that they broadcast before each drop.

Aircraft without radio would be well advised to avoid known parachute operations. A glider in the UK last year ventured under a drop zone and the pilot and a parachutist were killed when they collided.

It's a big sky: the trick is not to use the same bit at the same time as someone else.

John Chapman, APF Technical Officer

## Annex A – 1 October 2002 Edition

Bob Henderson, Chairman, Annex A Group

THE LATEST EDITION OF ANNEX A, DATED 1ST OCTOBER 2002, IS AVAILABLE ON THE FAI WEBSITE. THE ANNEX HAS UNDERGONE AN EXTENSIVE REWRITE FOLLOWING THE 2002 IGC PLENARY MEETING.

### WHAT ARE THE CHANGES?

Key amendments to the Annex are:

- The contents have been revised into Parts that provide a more logical flow of information and to group the information into blocks so that a reader does not have to flip back and forth through the Annex to find all the applicable rules.
- Various definitions have been added or clarified.
- The complete Part covering Tasks has been rewritten for clarity.
- The Task names have been changed to plain English to reflect the nature of the Task. There are three types of Task - Racing, Speed and Distance. The Racing Tasks are around 0.5km turn points.

*The Speed Tasks and Distance Tasks are set using either Assigned Areas or Pilot Selected Turn Points.*

- Definitions of what a pilot must do to win the Task are included.
- Organisers are provided with clearly identified options for Tasks, Starts, Finishes and Scoring.
- Text that was explanatory only has been extracted from the "Rules" and clearly identified as information, and extra information has been added to assist organisers in the use of the rules and the understanding of the rules.

### USING ANNEX A

Please remember that future Championships must use Annex A – without changes – as the rules for running an IGC sanctioned Championships. The only variations permitted are to the choices of task, start, finish, and scoring procedures. This means that there are no separate "Rules" for a Championship to be proposed to the IGC Plenary for approval.

The procedures for such things as the grid, the radio frequencies, weighing, finishing and landing procedures, etc, are all defined in the Local Procedures. The Annex A Group must approve the Local Procedures before they are published.







# Feedback Forum



Viv Drew

**H**ello High Flyers!  
Thanks to everyone for your queries and comments to Feedback Forum over the last few months.

**This has enabled the Executive and Secretariat to understand various matters of concern to the membership and to respond accordingly.**

As Feedback Forum is through the medium of email, there have been a number of times that a response has bounced where the email address is not recognised by the service provider to the enquirer and it has been found that the email address is different. Please check your email address so that we can get back to you.

Also, if you have any suggestions for the website, you can email the Webmaster direct by going to the bottom of the Home Page.

## GFA Membership Renewals

One of the main areas causing confusion to come to light is the aspect of GFA membership renewals.

Please note everyone – Membership of GFA is the member's responsibility. An invoice for renewal is sent from the GFA Secretariat and thereafter, you are responsible for its payment. You also need to ensure that any changes to your details, ie, address, telephone, etc, are sent to the office.

Also, with the move to centralise all changes to members' details back to the GFA office it is now essential that in the first instance members and secretaries forward any changes to ownership, membership contact, qualification details or changes to club fleet, pricing, etc, to the office for inclusion in the membership database and reflection on the website where necessary. Routine changes to the website are now done by the GFA Secretariat and can be emailed direct to <secretary@gfa.org.au>.

GFA web records of membership are maintained and updated weekly by the office. This task is done in conjunction with membership renewals, membership detail changes, etc.

The problem of memberships is that members can be a member of multiple clubs, but unless it is the first membership, they pay their GFA fees directly. This means the only sure way of checking if a member is a GFA-paid member is to scan the membership list by member surname not club. This can be done by going to the website under GFA Information\GFA Membership lists then search by surname. The status of whether they are paid or not is in the last column. The date of expiry is also provided along with the primary, but not all clubs of which they are a member.

The whole membership database is under review at this time as there are problems and limitations with the software we use. It is expected that this review will make some decisions by April this year.

We hope this helps with your queries, but GFA would entertain any information on a better system which could be proven and provided in an HTML form for upload and service to members.

## Advertising on the GFA Website

A number of members have queried providing a web page to advertise aircraft and equipment for sale.

Advertising on the GFA website has been on the drawing boards for some time and we believe an initial policy regarding how this would interrelate with the magazine has been achieved. We are some way from having the money, firmware and systems to handle internet sales (e-commerce) and we must develop policies which support, not compromise, advertising revenue from the magazine.

The current Web Master has dual Soaring Australia advertising mirroring on his list of things to do at present. It is hoped to have a progress report about this shortly. So, be assured that this suggestion has not been unheeded, and in fact steps have been taken to address it.

## Soaring Australia

The name change of the combined GFA and HGFA magazine to Soaring Australia has been implemented. It is intended to progress the implementation of a joint entity to manage the magazine as well as advertise and appoint a joint advertising manager responsible for the promotion and management of all advertising for the magazine.

## Regional Visits by the GFA President – Bob Hall

At the recent Executive Meeting held on 9 and 10 November last year, it was confirmed that the president would embark on a programme to visit regions in the near future, and a programme for such visits would be implemented.



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# GFA Development Officer's Report

Terry Cubley

## Success breeds success

### Communication

Communication, or the lack of it, seems to get the blame for most things in our society. In many discussions, both at work and in our sport, when trying to identify causes of the problems one of the major items raised is 'poor communication'.

Communication is actually a two-way operation. It is up to one group to provide the relevant information in a form that is easily accessed and understood by the people to whom it is aimed. It is up to the target group to look for, and access, the provided information. If either party does not play their part then the information is not communicated effectively and a problem may arise.

Gliding clubs have this problem, as does the Gliding Federation of Australia and its members.

It is frustrating for the committee of the club. They are generally volunteers and believe that they are communicating to their members via a newsletter or notices on the noticeboard, or even through direct contact at the field. Next thing they are criticised by the membership for their lack of communication. The result is that a few people have to run around for a period of time telling people things they may not need to know before eventually returning to normal, waiting for the next crisis.

What is usually missed in this discussion is the question to the member about what they have done to find out what is happening in the club. There is a responsibility when you are a member of an organisation to stay in touch and to seek information. This could be through dropping on to the airfield, reading the newsletter, phoning your friends, speaking to the secretary, etc.

### What works?

**Newsletters:** Newsletters are a common form of communication around the country. The size and format depend greatly of the size of the club. A club of 12 members only needs a small news sheet a couple of times per year. A club with 120 plus members will probably have a more professional magazine, colour, many articles, etc.

The best newsletter that I have seen is 'Cloudbase', the official newsletter of the Gliding Club of Victoria. This comes out as regular as clockwork, and has many pages, many photos, technical and 'how I dun it' articles, and is a colour production. The magazine is issued via an email attachment

to all members who have access this way. Other members can receive a hard copy but this is obviously not as timely.

I think that email distribution is better than just publishing on the web page. The web page relies on the members to take a positive action to review the web, whereas an email just arrives and reminds you to have a look. It still requires the member to open the attachment and read it, but at least the member has been prompted by its arrival.

Finding a newsletter editor is not an easy task. The editor has to put a lot of effort into getting articles from members, and on time. Many newsletters fail because the editor waits for articles to arrive and quite often this just doesn't happen. The more successful newsletters involve the editor/assistant chasing up common article writers, chasing up articles on primary activities, specific club officers, etc. The major point is that once you have a good newsletter editor, make sure that you look after him/her well. If the committee takes the editor for granted and doesn't provide the support that is needed, you may well end up with no newsletter at all.

### Web chat groups or email groups:

A number of clubs have established email groups so that interested members can communicate on a regular basis. For most people their involvement simply means reading the emails that arrive to find out what is planned for the club over the next week or few months. Those members with something to ask or promote can get their message out to quite a few fellow members.

My experience of gliding is that a vast majority of members are computer literate and have regular access to email, even if only at work. There are still a number of members who don't have access and this creates some tension. Do you avoid using the new technology because some members do not have access? Are these members any worse off if the club uses electronic communication in addition to the normal mail? Are the majority of members disadvantaged if the club refuses to use the new technology?

**Club meetings:** A number of clubs have regular forums for members to get together to find out what is happening and have input to club decisions. Some open up committee meeting every few months so that members can join in. The Canberra club has a weekly instructors' meeting (good bars in Canberra?) and also invites members to a meeting once per month. Other clubs have quarterly social events where the committee can give feedback and members can have input to the decisions. These social events

may also encourage partners of members to attend and therefore increase their involvement in, or acceptance of, the club.

It is important to see what will work with your membership demographics.

**Noticeboards:** Okay, provided that they are kept up to date and have some interesting items to encourage people to actually look at them. Probably the least effective because not everyone reads a noticeboard within a regular time period.

**Face to face:** Certainly the best form of communication with active club members. The more opportunity that you provide, the greater the impact. People communicating on a regular basis results in increased enthusiasm and therefore greater activity.

### Who is responsible?

I see that it is the responsibility of the committee to discuss and agree on a communication process that involves the membership as much as possible. The committee needs to provide the information required and set up processes so that other members can swap information.

It is the responsibility of each member to seek out information from the club. What have you done recently to ensure that you know what is happening?

### How many flights do you get?

In my trips to a variety of clubs I have made the effort to ask trainees how many flights they would get in a typical day of flying. As you would imagine, there is some variety in response but typically people mention two to three flights.

The team at Tocumwal (Sportavia) recommend in their courses that people get four to five flights in a day. Certainly my own experience in instructing is that five is about the limit before the trainee becomes overloaded with information, yet flights four and five allow quite a lot of progress to be made.

I know that it depends on the length of the flight, type of launch, height of release, etc. However, if you are only getting a couple of flights in your day's program then it is probably taking you a long time to learn the skills of our sport.

Techniques to allow a greater number of flights include

- *An earlier start – a number of clubs don't get flying to early afternoon. Some clubs commence their training program at 8am which gives four to five hours extra flying time.*
- *Trainees book a spot for the day they are flying. Through this technique the club can limit the number of trainees per glider on any one day. This is done*



through a single contact person or via an email contact.

- Five day courses with a limited number of participants. Allocating one two-seat glider for those participating in the course.
- Passenger flying only at selected times or days.
- Cross hiring of two-seat gliders. Not every club owns multiple two-seat gliders, however there are a number of two-seat gliders available for hire at reasonable rates. Even if the club doesn't make dollars from the hiring of the glider, income can still be derived from launching, and more importantly, your members are happier and more likely to retain their membership.
- Increased launch rate. If you can improve the turnaround time, the extra flight per hour certainly adds up over the day.

I encourage trainees and other members to discuss with your instructors' panel methods for increasing the number of flights flown each day. If we can get people to progress faster through their early training, and assuming that the training encourages involvement in soaring flight, then we should see an increase in people wanting to continue their involvement.



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## GFA BADGES & CERTIFICATES

### FAI Report – January 2003

#### B CERTIFICATE

Moham-Wild, Jonas	10697	RAAF Richmond
Smith, Aaron Mark	10750	NSW Air TC

#### A & B CERTIFICATES

Airey, Douglas Phys	10769	Central Qld
Marshall, Trevor James	10774	Kingaroy

#### C CERTIFICATE

Neale, Richard Charles	10715	Southern Cross
Slater, Christopher John	10546	NSW Air TC

#### B & C CERTIFICATES

Allen, Keith		Darling Downs
Gothard, James Anthony	10561	Southern Cross

#### A, B & C CERTIFICATES

Moller, John Kerry	10765	Caboolture
Demasi, Michael Joseph	10764	SA Air TC
Sameilenko, Victor	10766	North Qld
Bowtell, Stephen Robert	10767	Caboolture
Lee, Anthony John	10768	Darling Downs
Ferguson, David Peter	10770	Darling Downs
Thompson, Graeme H	10771	Orana
Heaslip, Si Nicholas	10772	Port Augusta
Bertok, Attila	10773	Orana

#### SILVER C

Seret, Dirk	4438	Adelaide Uni
Mitchell, Pearce Ross	4439	Caboolture
Musto, Henry Allan	4440	R.A.N.G.A.
Wilkinson, John Philip	4442	Harden
Wilson, Kevin Joesph	4443	Southern Cross
Ning, Frances Alexandra	4444	Darling Downs
Cant, Phillip Graeme	4445	Central Coast
Bertok, Attila	4447	Orana
Vasiliadis, George	4448	GCV

#### GOLD C

Gray, Nigel	1558	Bathurst
Lee, Anthony John	4441	Darling Downs
Hughes, David Michael	1559	Darling Downs
Musgrave, Robert	1560	Beauford
Stuck, Gerhard	1561	Lake Keepit
Shorter, David James	1562	Lake Keepit
Rowe, Mark Brenton	1563	Orana

#### DIAMOND GOAL

Gray, Nigel	Bathurst
Bailey, Brian Lawrence	Bathurst
Hughes, David Michael	Darling Downs
Musgrave, Robert	Beauford
Morgan, Mark David	Waikerie
Bertok, Attila	Orana

#### DIAMOND DISTANCE

Musgrave, Robert	Beauford
Wade, Brian	Caboolture
Bennett, Russell	Darling Downs
Tuit, Craig Philip	Kingaroy
Bull, Richard Philip	Bathurst
Bertok, Attila	Orana
Tuit, Malcolm Brandt Arthur	Kingaroy

#### 750 KILOMETRE DISTANCE

Morgan, Mark David	103	Waikerie
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Claims for all badges and certificates to:

FAI Certificates Officer Beryl Hartley

PO Box 275, Narromine NSW 2821

Ph: 02 6889 2733 (w), 02 6889 1250 (h)

Fax: 02 6889 2933, Email <[hartley@avionics.com.au](mailto:hartley@avionics.com.au)>

Decentralised Competition entries to:

Chris Stephens

PO Box W48 Wanniasa ACT 2903

Ph: 02 6231 4121, Email <[poboxw48@dynamite.com.au](mailto:poboxw48@dynamite.com.au)>



# Contact Addresses

## GFA

### NSW Gliding Association (NSWGA)

#### Australian Air League

NSW Gliding Wing, 1 Perry St,  
Kings Langley NSW 2147.

#### Australian Soaring Centre

PO Box 1315, Byron Bay NSW 2481.

#### Bathurst Soaring Club

PO Box 1682, Bathurst NSW 2795.

#### Byron Power Gliding Club

PO Box 815, Byron Bay NSW 2481,  
02 66847627, 0428 847642.

#### Canberra Gliding Club

PO Box 1130, Canberra City ACT 2601,  
02 64523994, 0428 523994.

#### Central Coast Soaring Club

PO Box 1323, Gosford South NSW 2250, 02  
49772740.

#### Cudgegong Soaring Pty Ltd

PO Box 352, Frenchs Forest NSW 1640,  
02 94522777, 02 94530777.

#### Forbes Soaring & Aero Club

PO Box 267, Forbes NSW 2871,  
02 68523845.

#### Goulburn Gliding Group

57 Munro Rd, Queanbeyan NSW 2620.

#### Grafton Gliding Club

11 Lighthouse Crs., Emerald Beach NSW  
2456, 02 66561979, 02 66561979, 0428  
244614.

#### Greenethorpe Gliding Club

Weerona Young Rd, Grenfell NSW 2810,  
02 63431375, 02 63431375.

#### Harden Gliding Club

78 Badenoch Crs., Evatt ACT 2617, 02  
62585554, 02 62578280, 0418 670291,  
[users.bigpond.com/richard.hart/hgc/default.  
html], Sec: Richard Hart 02 62585554.

#### Hunter Valley Gliding Club

PO Box 9, Newcastle NSW 2300.

#### Kentucky Flying Club

The Hill, Kentucky NSW 2354.

#### Lake Keepit Soaring Club

PO Box 152S, South Tamworth NSW 2340,  
02 67697514, 02 67697640.

#### Leeton Gliding Club

PO Box 607, Leeton NSW 2705,  
02 6953 6970.

#### NSW AIRTC Gliding Club

41 Simpson Ave, Forest Hill NSW 2651,  
02 69227526.

#### NSW Police Gliding Club

27 Bourne St, Wentworth Falls NSW 2782,  
0427 592744.

#### Orana Soaring Club

PO Box 240, Narromine NSW 2821,  
02 68892733, 02 68891229.

#### RAAF Richmond Gliding Club

RAAF Base, Richmond NSW 2755.

#### RAAF Williamtown Gliding Club

C/o Mr AJ Lee, 10 Federation Dr.,  
Medowie NSW 2318.

#### Royal Australian Naval Gliding Association

PO Box A37, Naval Air Base, Nowra  
NSW 2540.

#### Scout Association NSW Gliding

Dr Reg Mitchell, 15 Harrison Ave,  
Eastwood NSW 2122, 02 93519660,  
02 93519540.

#### Soar Narromine Pty Ltd

PO Box 56, Narromine NSW 2821,  
02 68891856, 02 68892488.

#### Southern Cross Gliding Club

PO Box 132, Camden NSW 2570.

#### Sportavia Soaring

PO Box 78, Tocumwal NSW 2714,  
03 58742063.

#### Summerland Gliding Club

PO Box 820, Lismore NSW 2480,  
Sec: David Wright, 02 6621 6495 (w), email:  
<wrights@nor.com.au>

#### Sydney Gliding Inc. (Concordia GC)

PO Box 633, Camden NSW 2570, 0412  
145144.

#### Temora Gliding Club

PO Box 206, Temora NSW 2666,  
02 69772733.

#### Turnut Gliding Club

PO Box 112, Turnut NSW 2720,  
02 69471148.

#### Wagga Wagga Gliding Club

25 Beauty Point Ave, Wagga Wagga  
NSW 2650, 0427 205624.

#### Wee Waa Gliding Club

(formerly Warrumbungle Gliding Club)  
PO Box 586, Wee Waa NSW 2388,  
02 67954333.

### Queensland Soaring Association (QSA)

#### Boonah Gliding Club

PO Box 107, Boonah QLD 4310,  
07 54630190.

#### Bundaberg Soaring Club

PO Box 211, Bundaberg QLD 4670,  
07 41553158.

#### Caboolture Gliding Club

PO Box 920, Caboolture QLD 4510,  
0418 713903.

#### Central Queensland Gliding Club

PO Box 953, Rockhampton QLD 4700,  
07 49371381.

#### Darling Downs Soaring Club

PO Box 584, Toowoomba QLD 4350,  
07 46637140.

#### Gympie Gliding Club

PO Box 103, Gympie QLD 4570,  
07 54867247.

#### Kingaroy Soaring Club

PO Box 91, Kingaroy QLD 4610,  
07 41622191.

#### Moura Gliding Club

PO Box 92, Moura QLD 4718,  
07 47733542.

#### North Queensland Soaring Centre

PO Box 5790 Townsville Mail Centre  
QLD 4810, 0500 811011.

#### No. 229 Squadron Australian Air Force Cadets

3 Hedlow Court, Carindale QLD 4152,  
07 33989745, 0148 984752.

#### Southern Downs Soaring

PO Box 144, Warwick QLD 4370,  
07 33781717.

#### Tarwan Soaring

PO Box 34, Wandoo QLD 4419,  
07 46274080.

### SA Gliding Association (SAGA)

#### Adelaide Hills Soaring Group

PO Box 1, Bridgewater SA 5155.

#### Adelaide Soaring Club

PO Box 94, Gawler SA 5118,  
08 85221877, 08 85223177.

#### Adelaide Uni Gliding Club Inc., Adelaide Uni Sports Association

The University of Adelaide, SA 5005,  
08 88262203.

#### Alice Springs Gliding Club

PO Box 356, Alice Springs NT 0871,  
08 89526384.

#### Balaklava Gliding Club

PO Box 257, Balaklava SA 5461,  
08 88645062.

#### Barossa Valley Gliding Club

PO Box 123, Stonefield via Truro  
SA 5356, 08 85640240.

#### Blanchetown Gliding Club

C/o 12 Altola Rd, Modbury SA 5092.

#### Bordertown Keith Gliding Club

PO Box 377, Bordertown SA 5268.

#### Gawler Gliding Club

PO Box 135, Cockatoo Valley SA 5351.

#### Millicent Gliding Club

PO Box 194, Millicent SA 5280.

#### Murray Bridge Gliding Club

PO Box 1277, Victor Harbor SA 5211.

#### Northern Australian Gliding Club

PO Box 38889, Winnellie NT 0821.

#### Port Augusta Gliding Club

PO Box 272, Port Augusta SA 5700,  
08 86436228.

#### Renmark Gliding Club

PO Box 450, Renmark SA 5341,  
ph/fax 08 85951422, mob 0417890215.

#### SA AIRTC Gliding Club

PO Box 2000, Salisbury SA 5108.

#### Waikerie Gliding Club

PO Box 320, Waikerie SA 5330,  
08 85412644, 08 85412761.

#### Whyalla Gliding Club

PO Box 556, Whyalla SA 5600,  
08 86404432, 0413 127825.

### Victorian Soaring Association (VSA)

#### Albury Corowa Gliding Club

PO Box 620, Wodonga VIC 3689.

#### Beaufort Gliding Club

116 Tennyson St, Elwood VIC 3184.

#### Bendigo Gliding Club

62 Lawson St, Bendigo VIC 3550.

#### Corangamite Soaring Club

Kurweeton, Derrinallum VIC 3325.

#### Geelong Gliding Club

PO Box 197, Bacchus Marsh VIC 3340.

#### Gliding Club of Northern Tasmania

12 Delungra Rd, Trevallyn TAS 7250,  
03 63346594.

#### Gliding Club of Victoria

PO Box 46, Benalla VIC 3672,  
03 57621058, 03 57625599.

#### Grampians Soaring Club

PO Box 468, Ararat VIC 3377,  
0417 514438.

#### Latrobe Valley Gliding Club

PO Box 625, Morwell VIC 3840.

#### Mangalore Gliding Club

PO Box 80, Avenel VIC 3664.

#### Mount Beauty Gliding Club

44 Roper St, Mount Beauty VIC 3699.

#### Murray Valley Soaring Club Ltd

PO Box 403, Corowa NSW 2646.

#### RAAF East Sale Gliding Club

C/o Gary Mason, 9 Weir St, Sale VIC 3850.

#### Soaring Club of Tasmania

C/o Bruce Thompson, 34 Clinton Rd, Geilston  
Bay TAS 7015, 03 62552191 (h), 03  
62252561 (CFI).

#### South Gippsland Gliding Club

PO Box 475, Leongatha VIC 3953.

#### Southern Riverina Gliding Club

PO Box 78, Tocumwal NSW 2714,  
03 58742063, 03 58742705.

#### Stawell Gliding Club

20 Jones St, Stawell VIC 3380,  
03 53582713.

#### Sunraysia Gliding Club

PO Box 647, Mildura VIC 3500.

#### Swan Hill Gliding Club

PO Box 160, Nyah VIC 3594.

#### Tumbarumba Gliding Club

Mundaroo, Tumbarumba NSW 2653.

#### Victorian Motorless Flight Group

GPO Box 1096J, Melbourne VIC 3001, 0402  
281928, 03 98486473.

#### Wimmera Soaring Club

PO Box 158, Horsham VIC 3402.

### WA Gliding Association (WAGA)

#### Beverley Soaring Society

PO Box 136, Beverley WA 6304,  
0407 385361.

#### Gliding Club of Western Australia

356 Abernethy Rd, Cloverdale WA 6105,  
08 92774148, 0409 683159, 08 96351023.

#### Morawa Flying Club

PO Box 276, Morawa WA 6623.

#### Narrogin Gliding Club

PO Box 232, Narrogin WA 6312, 0407  
088314 or 08 98811795 (weekends).

#### Stirlings Gliding Club

C/o Post Office, Lower King WA 6330.

#### WA Squadron Australian

#### Air Force Cadets

Headquarters, RAAF Base, Pearce,  
Bullsbrook WA 6084, 08 95717800,  
08 95717877.



## HGFA

All correspondence, including changes  
of address, membership renewals, short  
term memberships, rating forms and other  
administrative matters should be sent to:

### HGFA National Office and

#### General & Operations Manager

PO Box 157, Hallidays Point NSW 2430. Ph:  
02 6559 2713, fax: 02 6559 3830, <office@  
hgfa.asn.au>.

**Craig Worth:** 0418 657419, <general\_  
manager@hgfa.asn.au>.

### Board Members

#### Keith Lush (President)

**Unit 1/35 Coode St, South Perth WA 6151,**  
**08 93673479, 0405 476857, <keith.lush@**  
**iinet.net.au>.**

#### Rohan Grant (Vice President)

188 Bathurst St, Hobart TAS 7000,  
03 62334405 (h), fax: 03 62243598,  
<President@hgfa.asn.au>.

#### Rohan Holtkamp (Secretary)

RMB 236B Western Highway, Trawalla VIC  
3373, ph/fax: 03 53492845, 0409 678  
734, <Rohan\_Holtkamp@hgfa.asn.au>.

#### Rob Woodward (Treasurer)

38 Addison Rd, Black Forest SA 5035,  
08 82325405, 0408 808436, fax: 08  
82237345, <rob\_woodward@ultimate  
positioning.com.au>.

## GFA MEMBERSHIP FEES 2002-2003

Membership:	Normal	Family
NSW/WA/QLD	\$171	\$135
Victoria	\$172	\$136
South Australia	\$175	\$139

Student Membership:	Full	Family
NSW/WA/QLD	\$106	\$70
Victoria	\$107	\$71
South Australia	\$110	\$74

Short-term Membership:	1 Month*	3 Month*
NSW/WA/QLD/VIC	\$24	\$36
South Australia	\$33	\$45

\*Note: Once only purchase to Australian residents, thereafter 12 month membership to be purchased.

International postage for Soaring Australia to be  
added to membership fees:

Zone One	Zone Two	
New Zealand	\$54	Singapore \$60

Zone Three	Zone Four	
Japan, Hong USA, Canada,		
Kong, India	\$60	Middle East \$66

Zone Five	
UK, Europe, South America,	
South Africa	\$72



**Stewart Dennis** PO Box 118, Dickson ACT 2602, ph/fax 02 62470008, 0429 158721, <sdd20@telstra.com>.

**Nigel LeLean** 11 Mullaway Rd, Lake Cathie NSW 2445, ph/fax 02 65854723, 0419 442597 (m).

**Bill Moyes** 173 Bronte St, Waverley NSW 2024, 02 93875114, fax: 02 93693342, <Bill\_Moyes@hgfa.asn.au>.

**John Reynoldson** 68 Teddington St, Hampton VIC 3188, 03 95970527, fax: 03 95981302, <John\_Reynoldson@hgfa.asn.au>.

**Mark Thompson** 40 Hovia Terrace, Kensington WA 6151, 08 94912417 (w), 0428 729028, <mark.thompson@team.telstra.com>.

#### Microflight Public Relations

**Paul Haines** ph/fax: 02 42941031.

## INFORMATION

about site ratings, sites and other local matters, contact the appropriate State associations, region or club.

#### States & Regions

##### ACTHGPA

PO Box 3496, Manuka ACT 2603; Pres: Steve Foggett 0417 313589 <stephen.foggett@bigpond.com>; Sec: Mark Elston 0428 480820 <mark.elston@defence.gov.au>; Trs: Tony Davidson 0500 883322 <td@silktel.com>; Committee members: John Chapman, Michael Porter, Peter Kestel, Rene Sedlmaier, SSO: Peter Bowyer 0412 486114. Meetings: 1st Tue/month 7:30pm, Yamba sports Club, Phillip.

##### Hang Gliding Association of WA

PO Box 82, South Perth WA 6151; <hang\_gliding\_association\_wa@hotmail.com>. Admin: Richard Williams 08 92943962, <rickandalice@hotmail.com>; HG Rep: Mike Thorn/Sam Blight 08 92988174 & Steve Hoefs/Dave Wellington 08 93977250; PG Rep: Mike Duffy 08 93823036, Dave Humphrey 08 95745440; Trike/HGFA Rep: Keith Lush 08 93673479 (h), 08 93679066 (w).

##### NSW Hang Gliding Association

Sec: Steve Hocking, 19 Gladswood Gardens, Double Bay NSW 2028, ph/fax: 02 9327 4025, <nswhga@s054.aone.net.au>.

##### North Queensland HG Association

12 Van Eldik Ave, Andergrove QLD 4740; Pres: Graeme Beplate 07 49552913, fax: 07 49551122, <sitework@mackay.net.au>; Sec: Ron Huxhagen 07 49552913.

##### South East Queensland HG Association

Pres: Greg Hollands <greg.s.hollands@transport.qld.gov.au>, PO Box 61, Canungra QLD 4275 07 38448566.

##### South Australian HG Association

1 Sturt St, Adelaide SA 5000, ph: 08 8410 1391, fax: 08 82117115; Pres: Stuart McClure 08 82973452 (h), <stuart.mcclure@csiro.au>; Sec: Mark Tyminski 0411 414 816, <marknjan@senet.com.au>; Trs: Robert Woodward 08 82977532 (h), <rob\_woodward@alternatopositioning.com>.

##### Tasmanian Hang Gliding Association

19 Christella Rd, Kingston TAS 7050, [www.thga.net]; Pres: Anthony Mountain 03 6229 9011, <anthony.mountain@hydro.com.au>; Sec/Trs: Mico Skoklevski 0418 398624.

##### Victorian HG and PG Association

PO Box 544 Northcote Plaza Northcote, VIC 3070, [www.vhpa.org.au/]. Pres: Geoff Tozer 03 97583250 (h), <gtozer@bigpond.com>; Sec: Adam Dixon 03 96895739 (h), <dna@smartchat.com.au>; SSO: Rob Van Der Klooster 03 52223019 (h). Site weather-boxes: Three Sisters 0409 864700, Buck-land Ridge 0407 356295, Mt Buffalo 03 57501515, Ben More 0417 112062.

#### Clubs

##### New South Wales

##### Blue Mountains HG Club Inc.

Pres: Peter Burkitt 0418 435204, <artisan@sia.net.au>; Sec: Jim Grant 02 47588625; Trs: Allan Bush 02 47738037, <fairallan@pnc.com.au>; SSO: Dave Petrie 02 47871610, <petrie@lisp.com.au>; Allan Bush 02 4773 8037, <fairallan@pnc.com.au>; Newsletter: Alan Bond 02 98995351, <skybond@primus.com.au>; Meetings: 3rd Wed/month, 7:30pm, Blue Cattle Dog Tavern, Mamre Rd, St Clair.

##### Byron Bay Hang Gliding Club Inc.

PO Box 1903, Byron Bay NSW 2481, [http://bbhg.tripod.com/]. Chairperson: Andrew Polidano 02 66843510, <info@poliglidge.com>; V-Pres: Brett Cook 02 66876907; Sec: Brian Rushton <byronair@optusnet.com>; Trs: Brian Braby 02 66280983, <bbraby10@scu.edu.au>; SSO (HG): Brian Rushton 0427 615950; SSO (PG): Lindsay Wooten 02 66847318. Meetings: 1st Wed/month 7pm, Byron Golf Club.

##### Dusty Demons Hang Gliding Club

PO Box 1003, Fyshwick ACT 2609. Pres: Leeroy Patterson 02 64561590, 0427 220764, <leeroy@dustydemons.com>; V-Pres: Tove Heaney 02 48494516, 0419 681212, <tove@dustydemons.com>; Sec: Scott Hannaford <scott@dustydemons.com>; Trs: Joe Fussell 02 42943942, 0419 635045, <joe@dustydemons.com>; SSO: Grant Heaney 02 48494516, 0419 681 212, <grant@dustydemons.com>; Editor: Kath Kelly 02 64561590, 0427 220764, <kath@dustydemons.com>.

##### Hunter Skysailors

Pres: James Thompson 0418 686199, <james.b.t@hunterlink.net.au>; Sec/Trs: Neil Bright 0412 689067, <enzobright@bigpond.com>; SSO: James Thompson 0418 686199.

##### Illawarra Hang Gliding Club Inc.

Pres: Mark Ryan 0412 424760; Sec: Tim Causier 02 42948110, <timcau@ozemail.com.au>; SSO: James Nathaniel 02 4262 7677, 0413 737077.

##### Kosciusko Alpine Paragliding Club

[www.homestead.com/kapc]; Pres: James Rylie 02 62359120, <rymicalago@netspeed.com.au>; V-Pres: Nigel Hack 02 64576452, <freexoz@snowy.net.au>; Sec: Charles Palmer 02 62925664, <palmerc@charlespalmer.net>; SSO: Heinz Gloor 02 64567171.

##### Manilla SkySailors Club Inc.

[www.mss.org.au]. Pres: Brian Shepherd 02 67852182; Sec/Trs: Felix Burkhard 02 67751050, <felixb@xyon.com.au>; SSO (HG): Patrick Lenders 02 67783484; SSO (PG): Godfrey Wenness 02 67855645, Trikes: Willi Ewig 02 67697771.

##### Mid North Coast HG Association

HG contact: Trevor Kee 02 65871213 or 0418 569 660; PG/WM contact: Lee Scott 02 65598655, 0429 844961.

##### Newcastle Hang Gliding Club

PO Box 64 Broadmeadow NSW 2292; Pres: Mick Hurley <fly176@hotmail.com>, 02 49432903; Sec: Adam Donaldson <adsnic@rivernet.com.au>, 02 49472466; Trs: Brad Cootes <hugest@bigpond.com>, 02 4952 1428; SSO: Al Giles 02 49430674 & John O'Donohue 02 49549084, Scott Alder 02 4951 4581 & Jason Turner 0419 997196. Meetings: Last Wed/month, Souths Leagues Club.

##### Northern Beaches HG Club Inc.

Pres: Kerry Bradley; V-Pres: Mark Robertson; Trs: Jim Gaal; Sec: Nils Veski; SSO (HG): Glen Salmon 02 99180091; Wayne Fitzgerald 02 99827094; SSO (PG): Mike Brandt 02 99812391; Wayne Fitzgerald 02 99827094. Meetings: 1st Tue/month, 7pm, Mona Vale Bowling Club.

##### Stanwell Park HG and PG Club

PO Box 258 Helensburgh NSW 2508; Pres:

Robert Lepre 0411 082642, <pepielepre@ozemail.com.au>; V-Pres: Shannon Black 0414 344363; Sec: Darryl Millington, 0413 978784; Trs: Andrian Le Gras 0417 027 771; SSO: Rob Lepre (HG), Martin Wykoski 0410 575025 (PG). Editor: Nick Purcell 0414 779191, <nurcell@ihug.com.au>.

##### Sydney Paragliding Club

PO Box 225, Helensburgh NSW 2508, [www.sydneyparagliding.com/club/], <sydneyparaglidingclub@yahoo.com>. Pres: Enda Murphy 0412 445741.

##### Queensland

##### Cairns Hang Gliding Club

Pres: Bernie Zwahlen 07 40965593, <zwahlen@ledanet.com.au>; V-Pres: Joe Reyes 07 40555553, <reyes@ledanet.com.au>; Sec: Lance Keough 07 40912117, 31 Holm St, Atherton QLD 4883; Trs: Nev Akers 07 40532586, <nevjoy@ozemail.com.au>.

##### Canungra Hang Gliding Club Inc.

PO Box 41, Canungra QLD 4275; [www.triptera.com.au/canungra]. Pres: Jon Durand Snr <durand@ausinfo.com.au>, 07 5533 3596; V-Pres: John Ripley <rip\_ripley@hotmail.com>, 07 32898275; Sec: Karen Sexton 07 55277636, 0410 433711, <kazbahtoo@yahoo.com.au>; Trs: Shirley Lake <chgcetrees@mac.com>, 07 5543 4047; SSO: Andrew Horchner <afactor@gil.com.au>, 0412 807516.

##### Central Queensland Skyriders Inc.

915 Yeppoon Rd, Iron Pot QLD 4701. Pres: Bob Pizzev 07 49387607; Sec: Grant Suthers 07 49361790; SSO: Geoff Craig 07 4992 3137, <gicraig@tpg.com.au>, Paul Barry 07 49922865, <prbarry@tpg.com.au>.

##### Conondale Cross-Country Flyers Inc.

Pres: Peter Buch 07 54949579, <buchy9@bigpond.com>; V-Pres/SSO (PG): Graham Sutherland 07 54935882, <grahamsu@mail.cth.com.au>; Sec: Sue Buch, 343 Commissioners Flat Rd, Peachester QLD 4519, 07 54949579; Trs: Kim Hodson, 16 Gizeh St, Enoggera QLD 4051, 07 3354 1910; SSO (HG) & ML instructor: Russell Groves 07 54450084.

##### Dalby Hang Gliding Club Inc.

27 Van Gogh Pl., Mackenzie QLD 4152; Pres: Daron Hodder 07 38762133; Sec: Rod Flockhart 07 32193442, 0412 882639, <flockhartrod@hotmail.com>; SSO: Damien Gates 07 39017401; Trs: Cameron McNeill 07 38913457.

##### Mount Isa Soarers

John Ennis 07 47494834, 07 47433847 (w), 0409 591701, <ennisfamily@bigpond.com>. Visitors must contact John before flying local site.

##### Sunshine Coast Hang Gliding Club

PO Box 227, Rainbow Beach QLD 4581; <intheair@ozemail.com.au>. Pres: Phil Lewis 07 54840464; Sec/SSO (PG): Jean-Luc Lejaille 0418 754157; Trs: Michael Powell 07 54425568; SSO (HG): David Cookman 07 54498573.

##### Townsville HG Association Inc.

Pres: Clint Smith 07 47747650; Sec: David McMahon, 07 4772 3858, PO Box 103, James Cook University, Townsville QLD 4811; Trs: Graeme Beplate 07 47732913; SSO: Graham Etherton 0427 831797.

##### Victoria

##### Dynasoarers Hang Gliding Club

Pres: Darren Brown 03 5222 8625, 0417 377292, <dbrown@berrymaloney.com.au>; Sec: Dale Appleton 0408 382635; Trs: Greg Holt 0418 516058; SSO: Rob Van Der Klooster 03 52223019, 0408 335559; Publicity Officer: Harry Buckle 03 5221 4544, <monument@pipeline.com.au>. Meetings: 1st Fri/month, venue see: [vhpa.org.au/dyna].

##### Melbourne Hang Gliding Club Inc.

PO Box 8057, Camberwell North VIC 3124;

[www.vhpa.org.au/melbourne/], <melbourne@vhpa.org.au>. Pres: Andrew Medew 0425 702957; Sec: Vanessa Sparke 03 9458 3780; SSO: Geoff Tozer 03 97583250, Kevin Grosser 0419 022225. Meetings: 3rd Wed/month at 6:30pm at the Palace Hotel, 893 Burke Rd, Camberwell.

##### North East Victoria HG Club Inc.

[www.home.aone.net.au/gilbert/nevhc.htm] Pres: Horst Wimmer 03 57501075; Sec: Garrit Verway 03 57551074; Trs: John Coulton 0427 300656; SSO: Karl Texler 03 57501733. Meetings: 1st Thu/month, Alpine Hotel, Bright.

##### Sky High Paragliding Club

[www.skyhighparagliding.org]; Pres: Geoff Guest, <president@skyhighparagliding.org>; VPs: John Styles, Alister Johnson; Trs: Clinton Arnall, <membership@skyhighparagliding.org>; Sec: Malcolm Marker, <secretary@skyhighparagliding.org>. Meetings: 1st Wed/mth 8pm, Retreat Hotel, 226 Nicholson St, Abbotsford.

##### Southern Microlight Club

Pres: Kel Glare 03 94395920 (h), 0421 060706; V-Pres: Ben DeJong 03 97898970; Sec: Ian Rees 03 97621364; Trs: Dianne Pierpoint. Meetings: 2nd Tue/month 8pm, The Manningham Club, 1 Thompsons Rd, Bulleen.

##### Western Victorian Hang Gliding Club

Pres: Stephen Norman 03 98536554, <ursula@starnet.com.au>; V-Pres: Glen Bachelor 0419 324730; Sec: Nathan Grieve 03 53673106; <nathan\_grieve@yahoo.com>; Trs: Phillip Campbell 03 53313812, <campbell@giant.net.au>; SSO: Rohan Holtkamp 03 53492845. Meetings: Last Sat/month, The Golden Age Hotel, Beaufort.

##### Northern Territory

##### Alice Springs HG and PG Club

Pres: Brett Lewis 0411 677705.

##### Western Australia

##### Albany Hang Gliding Club

Pres & SSO: Simon Shuttleworth 0407 950 536; Sec: John Middleweek 08 98412096, fax: 08 98412096.

##### Cloudbase Paragliding Club Inc.

Message bank 08 94875253; Pres: Mark Wild, 0411 423923, <mark@gastech.com.au>; V-Pres: Robin Rankin, 0407 441463; Sec: Mike Duffy, 16/3-5 Geddes St, Vic Park, WA 6100, 0417 923741, <mikeduffy@graduate.uwa.edu.au>. Trs: Colin Brown 08 94594594, <cobrown@bigpond.com>. Meetings: 2nd Wed/month 8pm, Rosie O'Grady's Pub, South Perth.

##### Goldfields Dust Devils Inc.

9 Broadarrow Rd, Kalgoorlie WA 6430. Pres: Murray Wood 08 90215771, Sec: Mark Harrop 08 90225828, Trs: Peter Harris 08 90219234, SSO: Mark Stokoe.

##### Hill Flyers Club WA

Pres/SSO: Rick Williams 08 92943962, 0427 057961, <hillflyers@hotmail.com>; Sec/Trs: Dave Longman 08 93859469. Meetings: Last Wed/month, 7:30pm, venue announced on the HGAWA hotline 08 94873258 weekend prior to meeting.

##### South West Microlight Club

Pres: Brian Watts 0407 552362; V-Pres: Don Wilson 08 97641007; Sec: Paul Coffey 08 97251161; CF: Brendan Watts 0408 949004.

##### Western Soarers Hang Gliding Club

<wshgc@hotmail.com>, PO Box 483, Mt Hawthorn WA 6915, [www.iinet.net.au/~navi]; Pres: Mark Thompson 08 93684497, <mark.thompson@team.telstra.com>; V-Pres: Paul Blachford, <pcblachford@bigpond.com.au>; Sec: Phil Wainwright, <phil@iqpc.net.au>; Trs: Graeme Sharp 08 94457044, <GSharp@stothoare.com.au>; SSO: Mark Stokoe 08 9581 3572; Events & Promotion: Krista Gaunt <kristagary@wn.com.au>. Meetings: 1st Wed/month 7:30pm, The Irish Club, 61 Townshend Rd, Subiaco.





# Classifieds

## GFA

### NOTICE TO ALL GFA ADVERTISERS

All advertisements and payments can be sent to  
Angel Administration at the following:  
The Gliding Federation of Australia/Advertising  
PO Box 1163, Penrith BC, NSW 2751.  
Ph: 0407 593 192 Fax: 02 4739 0185.  
Email: <frowe@optusnet.com.au>

Advertisements may be emailed in high resolution (300dpi at 100% size) using TIF or EPS formats. Photographs may be provided in either photo print or slides. Disk photographs are not suitable. Photographs, slides or disks may be returned. Please include a self-addressed and stamped envelope for the return of any promotional material.

All GFA advertisements must be paid for prior to publication. (Payment by cheque, money order or credit card). Don't forget Classifieds deadline is the 25th of the month, for publication five weeks hence.

## Single-Seater Sailplanes

SZD32A - FOKA5 complete with registered trailer, parachute, etc. Current Form 2 & flying at Boonah. Ph: 07 32166363, <dgataylor@itconnect.net.au>.

H201B GBA 3,000 hrs life extension completed 10 hour ago. Brand new mecocplex canopy. A1 mechanically, flies beautifully, average appearance. Fresh Form 2. Enclosed trailer. Located Darwin. \$13,500. Ph: 0412 599193, <smcgrath@justinternet.com.au>.

IS29 D, VH-GWI, only 240 hrs, excellent condition, one person rigging equipment, excellent trailer, parachute, wing stands, tow-out gear, etc. Ph: 02 48218251. (h), <pcmm@goulburn.net.au>.

JANTAR 2 VH-KYV, 20.5m Open Class, paint finish no gelcoat problems, three time proven 1,000k machine, Cnav computer, AH, oxygen, ELT, ground handling equipment, removable hinged canopy & solid tandem trailer, GPS & Slimpack parachute, 1/3 share of a real hangar with doors that open 30m. Will sell hangar separately. Ph: Tom Savage 03 97760262 or 0418 336598 or Ron Grant at Benalla.

JANTAR ZSD41A, Standard, TT 1,699 hrs, radio, GPS, nose & belly hooks, modified canopy, encl. trailer & tow-out gear. \$24,500. Ph: John 03 93282536, <johnhrobinson@bigpond.com>.

STD JANTAR 2, IZT, Low hrs, excellent condition, always hangared, always privately owned & based at Gulgong, full panel, ground handling gear & trailer, LS4 performance for 1/2 the price. \$30,000. Ph: Neil Bennett 02 47394900, 0438 761472.

PIK 20E, self-launching, low hrs, in top condition. Peschages instruments. Ph: 02 60769471.

CLUB LIBELLE GJJ, excellent condition, Borgelt varios & computer, roomy cockpit, flies beautifully. Enclosed trailer & tow-out gear. Dual batteries. \$18,500. Ph: John Callahan 03 52366290, <johnthcallahan@bigpond.com>.

PW5 VH-GKP, 860 hrs. Excellent condition. Basic instr. plus B40 vario & Dittel ATR720 radio. Incl. trailer, tow-out gear, etc. \$22,500 ono (all reasonable offers considered). For details ph: Bob Gray 03 5762 1058 or <glidingbla@cni.com.au>.

STD CIRRUSS GOT at Nowra. 900 hrs. Fully encl. trailer with all tow-out gear. \$18,000. Ph: Graeme 02 44231635, <ghawkins@shoal.net.au>.

STD JANTAR 41A KYX, 1,750 hrs. Winglets. One piece canopy. Perfect condition. Complete with Slimpack, trailer, tow-out gear. \$21,500. Ph: Graeme Stewart 03 98261930.

## Two-Seater Sailplanes

SCHEMPP-HIRTH JANUS VH-GWY, 1975, first flown 1976. TT 3,400 hrs, 5,600 landings. \$65,000 ono. For full details visit: [www.geocities.com/janus\_sale] or ph: Igor Vavrica 0409 030987.

## Motor Gliders

DG-400 VH-XJD. Tinted canopy, Slimpack chute, good trailer & ground handling gear. Just been fully refinished by Roger Bond. Immaculate condition. Ph: 02 44717223.

DG400 Based at Camden, own T-hangar complete with all ground handling equipment, trailer & parachute. Well equipped with low engine & airframe hrs. Rare opportunity to buy a 1/4 share in a good syndicate. \$29,000 ono. Ph: Terry 02 46477734, 0418 868 727 or <terryoxborough@mpx.com.au>.

STEMME S10. Share for sale in one of the best self-launchers in the world. Based at Camden airport near Sydney. Own T-hangar. Komet trailer. All the good gear. Ph: Tom Gilbert 02 46557079, <tnjgilbert@bigpond.com>.

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## Wanted

Trailer, suitable for Blanik L13. Prefer enclosed tandem but open to offers. Ph: John 03 97426663 (w), 03 97413142 (h), <salto@netspace.net.au>.

## Instruments and Equipment

WALTER DITTEL FGS71M VHF Comm - New stock - In stock - Call Arnie at Airborne Avionics 02 68892773 or email: <hartley@avionics.com.au>.

MICROAIR 760 transceiver harness & Boom mic at special price. ave you test flown a CAMBRIDGE 302/303 system recently - there are 4 twin-seaters round Australia fitted with Cambridge. <iankmcphree@bigpond.com>. Ph: 02 66 (mob 0428) 847642.

CANOPIES - Australian made to order. Fully moulded as per the original. Std Libelle, Twin Astir rear. Blanik front. Clearview windows. Pop out vents. Many types to come. UV proof (clear) and tints available. Enquiries: <aamoulds@senet.com.au>, ph: Ian/Cecilia Linke 08 82513780.

## General

Partially built kit sailplane. Includes, materials, red'g trailer. Reluctant sale. Ph: 0408 744013.

## Gliding Publications

AIRBORNE MAGAZINE: Covering all facets of Australian & New Zealand modelling. The best value modelling magazine. Now \$60pa for six issues. Plans & other special books available. PO Box 30, Tullamarine, VIC 3043.

AUSTRALIAN HOMEBUILT SAILPLANE ASSOCIATION: James Garay, 3 Magnolia Ave, Kings Park VIC 3021. Ph: 03 93673694, [www.geocities.com/cape canaveral/hangar/3510].

FREE FLIGHT: Bi-monthly journal of the Soaring Association of Canada.

A lively record of the Canadian soaring scene & relevant international news & articles. \$US26 for one year, \$47 for two years, \$65 for three years. 107-1025 Richmond Rd Ottawa, Ontario K2B 8G8 Canada, email: <sac@sac.ca>.

NZ GLIDING KIWI: Official magazine of Gliding New Zealand. Edited by John Roake. Read world-wide with a great reputation for being first with the news. A\$52 pa. Personal cheques or credit cards accepted. Write: NZ Gliding Kiwi, 79 Fifth Avenue, Tauranga, New Zealand. Email: <gk@johnroake.com>.

SAILPLANE & GLIDING: The only authoritative British magazine devoted entirely to gliding.

52 A4 pages of fascinating material & pictures with colour. Available from the British Gliding Association, Kimberley House, Vaughan Way, Leicester, England.

Annual subscription for six copies £17.50.

SAILPLANE BUILDER: Monthly magazine of the Sailplane Homebuilders Association. \$US29 (airmail \$US46) to 21100 Angel St, Tehachapi, CA 93561 USA.

SOARING: Official monthly journal of the Soaring Society of America Incl., PO Box 2100, Hobbs, NM 88241 USA. Foreign subscription rates (annually): \$US43 surface delivery; \$US68 premium delivery.

TECHNICAL SOARING/OSTIV: Quarterly publication of SSA containing OSTIV & other technical papers. Annual subscription: 70DM. OSTIV c/- DFVLR, D82234 Wessling, Germany.



## HGFA

Classifieds are free of charge to HGFA members up to a maximum of 40 words. One classified per person per issue will be accepted.

Classifieds are to be delivered directly to the sub-editor, by email or post, not by phone. The deadline is 25th of the month, for publication five weeks hence. Submitted classifieds will run for one issue. For consecutive publication, re-submission of the classified must be made, no advance bookings.

When submitting a classified remember to include your contact details (for perspective buyers), your HGFA membership number (for verification) and the State under which you would like the classified placed. (Note that the above does not apply to commercial operators. Instructors may place multiple classified entries, but will be charged at usual advertising rates.)

## Hang Gliders & Equipment

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AIRBORNE CLIMAX 14 adv, only one season new, flown 55 hrs fully logged, most inland. All original, even DTs. Well looked after. Dream to launch & land. \$6,200. Ph: Alan 0408 470544; 02 98995351.

AIRBORNE SHARK 144 adv, 160 logged hrs, well kept glider in GC, well priced at \$1,700 ono, incl. spare DT. Great value for buyer! Ph: Kerry 0414 475803; <kerrybrad@yahoo.com>.

ATOS - RIGID WING HANG GLIDER. Good condition. Great XC performance. Blow away your topless flexwing mates, 19:1 glide & good sink rate. Easy to fly & lands like a floater. Weighs 36kg so can be managed by one person. Set-up time about same as high performance flex wing. Selling to help fund a sailplane. Save many thousands off new price. \$11,000 or near offer. Ph: Paul 0404 851876; 02 96997720 (h); 02 82323853 (w); <hunt@ozemail.com.au>.

MOYES LITESPEED 4 adv, brand new, 3 hr test fly only, silver/blue US with Zoom A-frame, carbon fibre basebar, spare DT, \$7,500. Also, Matrix harness, brand new, never even been clipped into glider, suit 178cm pilot, \$1,500. Ph: Mark 0438 728800.

### VICTORIA

AIRBORNE STING 154 int, 60 hrs, Moyes harness (ideal set-up for new pilot). \$2,900. Ph: Peter 0411 127335.

### QUEENSLAND

AIRBORNE FUN 220 TANDEM, red/gold/white, new, flown twice inland, 2 spare DTs, \$3,500. No silly offers please. Ph: Stan (Sunshine Coast) 07 54459185; 0408 459185.

MOYES SX4 adv, 130 hr PX10/PX20 mylar sail (same type as Litespeed), flies straight & in great condition. Ideal first adv glider before spending big on a new glider. \$2,200. Ph: Rod 07 5545 0969; 0428 132215.



# Soaring Calendar

## AUSTRALIA

### Horsham Week

1-8 February 2003

After more than 30 years, Wimmera Soaring Club members have retired from hosting Horsham Week! But it's still on, being organised by the regulars. As usual, camping available on site.

All classes. Please let us know if you'll be flying. Contact: Noel Vagg (Snake) ph: 03 9743 6830 or <noeljanvagg@primus.com.au>.

### Australian National Multi-Class Championships

2-15 February 2003

Benalla, VIC. Gliding Club of Victoria. Contact Gary Brasher for more info, <brash@eisa.net.au>.

### NSW HG State Titles 2003

10th Anniversary

15-22 February 2003

Manilla, NSW. Registration at the Royal Hotel 14 Feb. This is an A grade comp, using GPS verification (no photo verification will be available). Pilot requirements: int rating with inland experience. Entry fee: \$120, includes

T-shirt and presentation dinner. Contact: Billo 0412 423133, <william.olive@telstra.com>.

### 2003 Bright PG Alpine Championships

15-22 February 2003

Bright, VIC. Final Rego 14 Feb, Bright Community and Entertainment Centre. Entry fee: \$190 (\$150 before 1 Jan). CIVL Cat 2, HGFA AAA. As with last year, a large range of day prizes and overall prizes in various categories. Max entry of 120 pilots. Min pilot level is int with inland experience. Enter online at [http://home.netc.net.au/

~alpcmp/BrightOpen2002/] or to PO Box 428, Bright. Sorry, no credit cards. Contact: Karl Texler 0428 385144, <brightvt@netc.net.au>.

### WA State Soaring Competition

22 February – 2 March 2003

Wyalkatchem, WA. The Western Soarers host the WA State Soaring Competition in 2003. The comp is open to HG and PG pilots. The venue is Wyalkatchem, 200km north-east of Perth, and will be a towing comp (ground and aero). Entry fee: \$100 before 1 Feb, with a \$10 late fee after this date. The comp will be a GPS scored comp using the GAP 2000 system. To cater for all pilots a mixture of difficult, moderate and easy tasks will be called to ensure the experienced pilots are challenged and the new pilots have a chance to make goal. A reserve parachute, helmet, UHF radio and approved GPS are mandatory equipment. Pilots must have an appropriate tow endorsement and current HGFA membership. For more detail visit [http://members.iinet.net.au/~navi/] or email the Comp Director <mark.thompson@team.telstra.com>.

### NSW State Gliding Championships

1-8 March 2003

Cudgong Soaring Club will host the NSW State Gliding Championships at Gulgong from 1-8 March 2003. All classes catered for including Club and Sports Class. Enquiries to Christine Meertens Ph: 02 9452 2777 Fax: 02 9453 0777 email: meertens@ozemail.com.au

### Australian PG Open

1-7 (reserve day: 8) March 2003

Manilla, NSW. Final rego on Friday, 28 Feb at Manilla Town Hall HQ. Entry fee: \$160 before 1 Jan (\$180 after). CIVL Cat 2, HGFA AAA. Over A\$5,000 worth of prizes in various categories. Max entry of 120 + five wild cards. Min pilot level is int with inland experience. Enter online via [www.flymanilla.com]. Credit Cards accepted.

### New Zealand PG Nationals

9-15 March 2003

Manilla, NSW. Final rego on Friday, 28 Feb and

Saturday, 8 March at Manilla Town Hall HQ. Entry fee of \$150 before 1 Jan (\$170 after). CIVL Cat 2, HGFA A. Over A\$3,000 worth of prizes in various categories. Max entry of 120 + 5 wild cards. Min pilot level is int with inland experience. Enter online via [www.flymanilla.com]. Credit cards accepted.

Pilots entering both above comps receive an entry fee discount – two comps for A\$280 (Euro140) if paid before 1 Jan. Note: These are some of the last FAI/CIVL Cat 2 comps that count for PG Worlds Team size in 2003 and as a result we expect them to be full. Early entry registration is advised to ensure a place. For more information on both above comps refer to the comp web site or email Godfrey Wenness, Manilla Competitions Organiser, on <skygodfrey@aol.com>.

### National Gathering of Trikes

3-4 May 2003

Wangaratta Airfield, VIC. This will be an event of social flying and flying activities such as day trips in the local area, informative seminars and skills improvement exercises. Contact: Ian Rees 03 97621364.

## OVERSEAS

### Third Junior World Gliding Championships 2003

5-19 July 2003

Nitra, Slovakia. Preliminary entries for the event will close on 15 January 2003 and final entries must be made by 31 March 2003.

If you are interested in taking part in the event contact: Tim Shirley 0417 268073 or <tshirley@bigpond.net.au> for further information.

## Paragliders & Equipment

### ACT

EDEL ATLAS DHV1, nov canopy (60-80kg), 2 hrs, blue/white, EC, \$2700. Scorpio harness, excellent back protection, as new, \$650. Kiwi full-face kevlar helmet (small), \$120. Edel Quantum, nov canopy (65-80kg), 40 hrs, yellow, with simple harness, \$1500. Ph: Shaun 0410 574286.

### VICTORIA

PG HARNESS SKY WIT, with front-mounted reserve container, one year old EC, \$450. Ph: 0414 332737; <jstipek@pacific.net.au>.

### SOUTH AUSTRALIA

Edel SUPERSPACE II DHV 2, 1993 Model, purple, 85-110kg, 2nd owner, approx. 110 hrs usage, used mainly in Europe, VGC, must sell due to upgrade, \$900 ono. Ph: 08 83676801; <Maciek@picknawl.com.au>.

### NORTHERN TERRITORY

PARAMOTOR AIRFER TITAN, 110cc, less than 10 hrs old, good basic unit for starting out, suit pilot up to 75-80kg, \$5,000. Ph: Paul 0418 875057.

## Trikes & Equipment

### NEW SOUTH WALES

AIRBORNE EDGE EXEC 582 T2-2696, electric start, quiet kit, aerotow kit, 173 hrs, VGC, \$12,500. Ph: 02 67765906 (h); 02 67765858 (w).

EDGE T2-2612, 582 (100 hrs), (503 TT), Westac EGT's, CHT, Water, lcom VHF, (many extras). No training/towing! Nil damaged. Meticulously

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## General

### SPORT WINDSOCKS:

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**Phone Godfrey Weness on:**  
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